

THE ANNUAL
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1871
AND
CARSMAN'S MANUAL

of the

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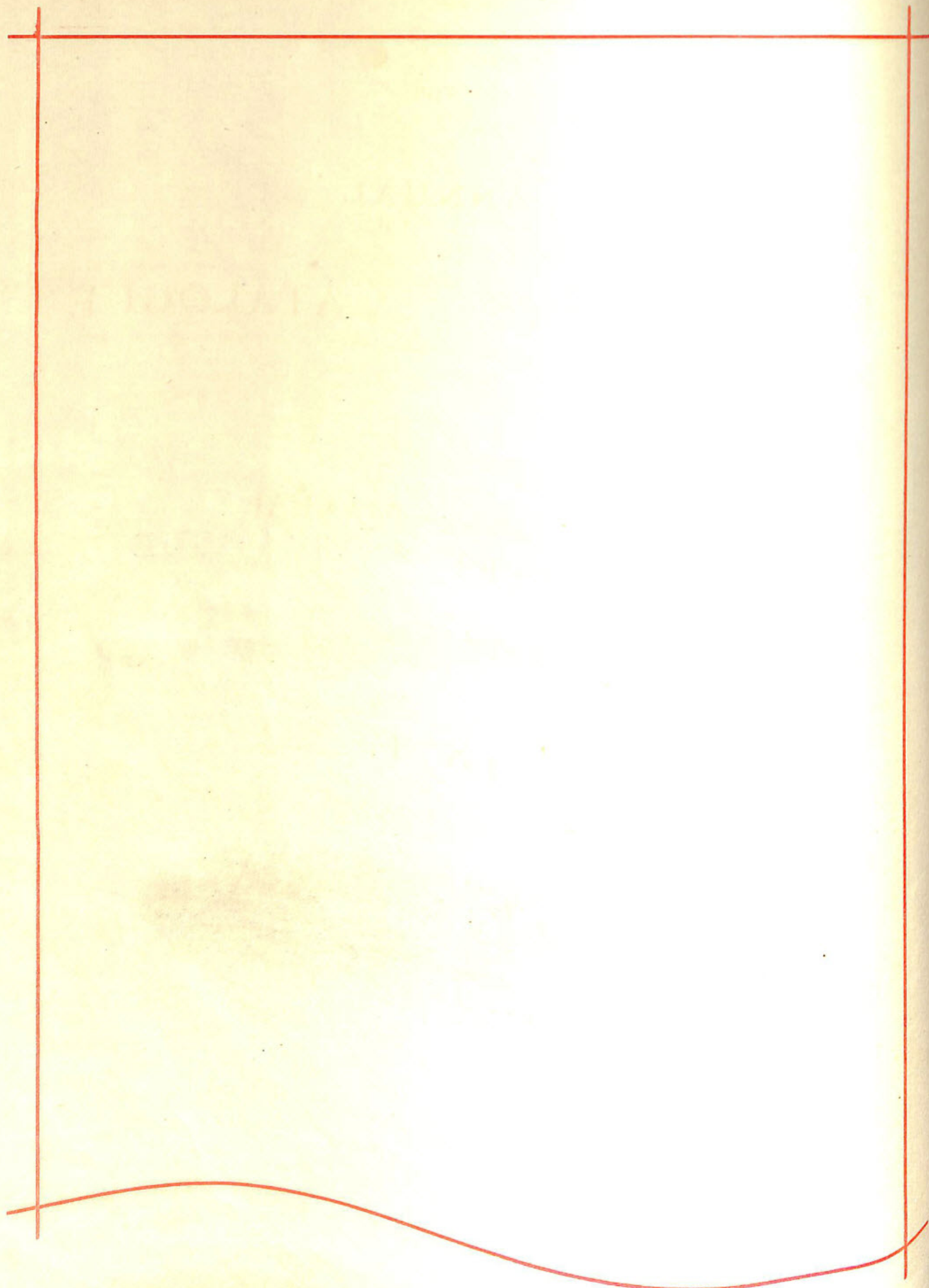
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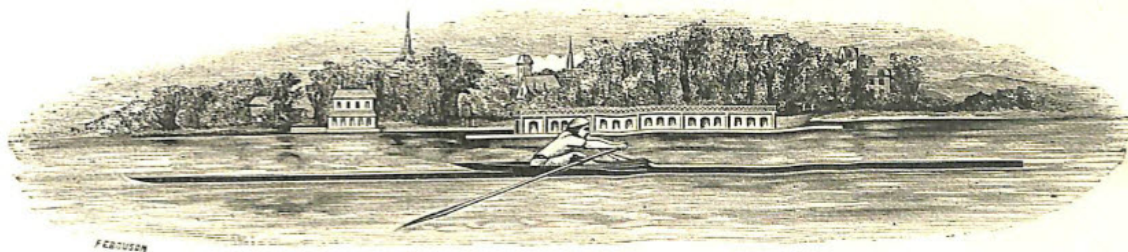
JOHNSON'S MANUAL FOR 1871.



THE
ANNUAL
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FOR
1871.



TROY, N. Y. :
PUBLISHED BY WATERS, BALCH & CO.

Patent Paper Boat Builders.

1871.

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PREFACE.

N presenting to our rowing friends this long-promised work, a few words of explanation seem necessary to account for the protracted delay in its publication, occurring, as it does, at the close of the year announced in the title, instead of at its commencement, as originally designed.

When, in August, 1870, we gave notice of our intention of publishing an Illustrated Catalogue of our manufactures, our plan embraced a volume of some two hundred pages, which should contain woodcuts of the principal varieties of boats we were prepared to build, accompanied by detailed descriptions of each, which, in connection with working drawings of such as were types of the rest, would enable rowing men to compare our boats with others with which they were familiar.

In order to make the volume more permanently useful, it was proposed to add some hints on the organization of boat clubs; a list of the races won in paper boats to the close of 1870; reports of the races or regattas in which the public were specially interested, such as the annual races between the Harvard and Yale Crews, those of the Oxford and Cambridge Crews, and the regattas of the most prominent rowing associations in the United States; a list of the Boat, Rowing, and Sporting Clubs of the United States and British Provinces, giving a variety of interesting details in regard to each; and, lastly, plans and estimates of a few boat-houses taken from those actually in use, for the benefit of clubs contemplating building. Had this outline of subjects been strictly adhered to, we should have fulfilled our promise to issue the book early in 1871. During the preparation of the text, however, we were constantly in receipt of numerous letters from all parts of the country asking for information respecting a multitude of details of rowing, training, books of reference, the best time on record for all kinds of races, to reply to which involved in the aggregate such an expenditure of time and so voluminous a correspondence, that the best and only way of relieving ourselves from the burden thus imposed, seemed to be to touch as briefly and succinctly as possible, in the appropriate place, on the most important points thus brought to our notice; for these letters were not only evidences of the

rapidly growing interest in rowing, but indicated at once the kind of information most needed by this class of enquirers.

Actuated by a desire of meeting the wants thus made known, we were led by degrees not only to amplify the matter originally prepared, but to introduce several chapters on rowing and training, compiled from the best authors, and to entirely revise the record of the more important races with a minuteness of detail far beyond our original design, until, from the two hundred pages at first proposed, the text had swollen to nearly five hundred. These changes in, and additions to, the original plan, worked out as they have been in time snatched from the cares of business, and involving very serious practical difficulties in the printing of the work, have caused the vexatious delays of which our friends, to whom the book has been so long promised, so justly complain; but we feel assured that the additional value of the text will in the end more than compensate for our shortcomings in point of time.

Throughout the volume, our aim has been to present to the reader a comprehensive view of the whole subject of rowing in the light boats of the day, as now practised in this country and in England, and to supply both to the beginner and to the amateur in the same volume a mass of technical information not to be found in any other single work—information collated from a great variety of sources, both printed and unpublished, many of which are comparatively inaccessible to the general reader.

The Directory of the Clubs, while by no means as complete as we could desire, is, even in its present form, a novelty which, we feel assured, will find favor with oarsmen; and, although many of the officers may have been changed since the dates named in the report, we apprehend that no difficulty will be experienced in reaching their successors through the medium of the addresses given. In any event, the systematic and uniform manner in which the record of each club is presented must prove valuable for reference. We take this opportunity of returning our thanks to the officers of the clubs through whose kindness we have been supplied with the details we present.

In the preparation of the chapter on the general principles governing the best forms for racing-shells, and also of those relating to rowing, coaching, and training, we are largely indebted to the works of Mr. Scott Russell, Mr. Maclaren, and "Argonaut"; from the last two authors we have quoted at length, omitting only that portion of their remarks on these subjects which were of a local rather than a general nature. We have hesitated less in introducing to our readers the views of these writers, because their works are comparatively unfamiliar to rowing men in the United States, and hence, in acknowledging our obligations to them, we shall be happy if in our turn we can, through the medium of this volume, give to

their sound and well-digested views that wide circulation in this country which they have attained abroad, and to which their solid merits so justly entitle them. With these remarks, we offer the book to our friends, well aware of its faults and omissions, but in the hope that what is presented will prove useful, and that in their hands it will be found as its title implies—*A Manual for Oarsmen*.

TROY, N. Y., October, 1871.

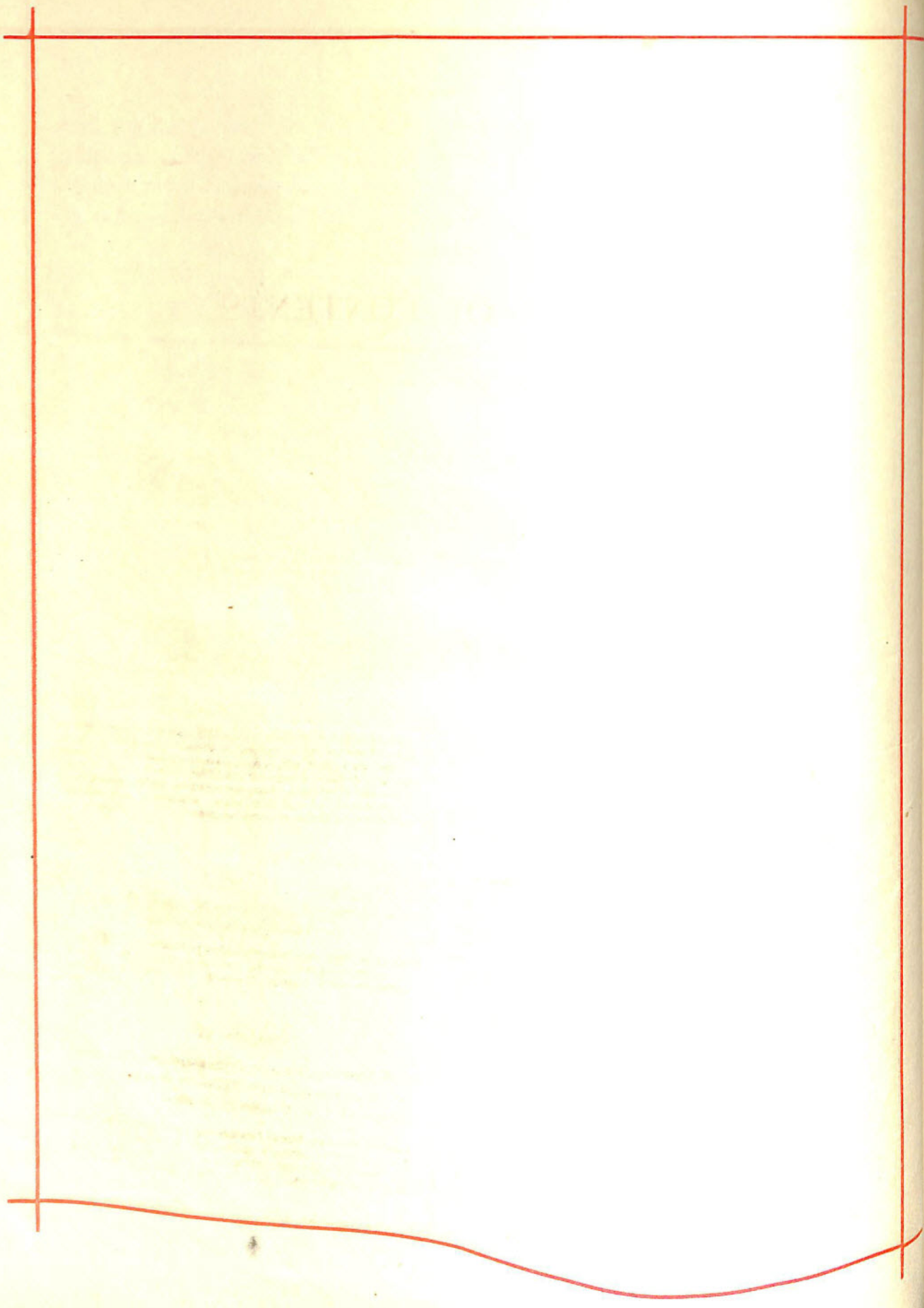


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- Page 16, 12th line, *for* of athletic sports, *read* of our athletic sports.
 " 120, 10th line from bottom, *for* prepared, *read* proposed.
 " 141, 22d line from top, *for* I allude, *read* we allude.
 " 145, 7th line from bottom, *for* I may mention, *read* may be mentioned.
 " 161, 2d line from top, *for* I have stated, *read* we have stated.
 " 219, 6th line from top, *for* Where this disparity, *read* Where the disparity.
 " 223, The race of the Leary Crew in Citizens' Regatta Worcester, Mass, now classed under
 " Straight-away Races for four-oared shells," should form the first line under the
 head of " Three miles turning Breast Races for four-oared shells."
 " 240, 10th line from bottom, *for* ours, *read* oars.
 " 338, *for* Taltnell Boat Club, *read* Tatnall Boat Club.

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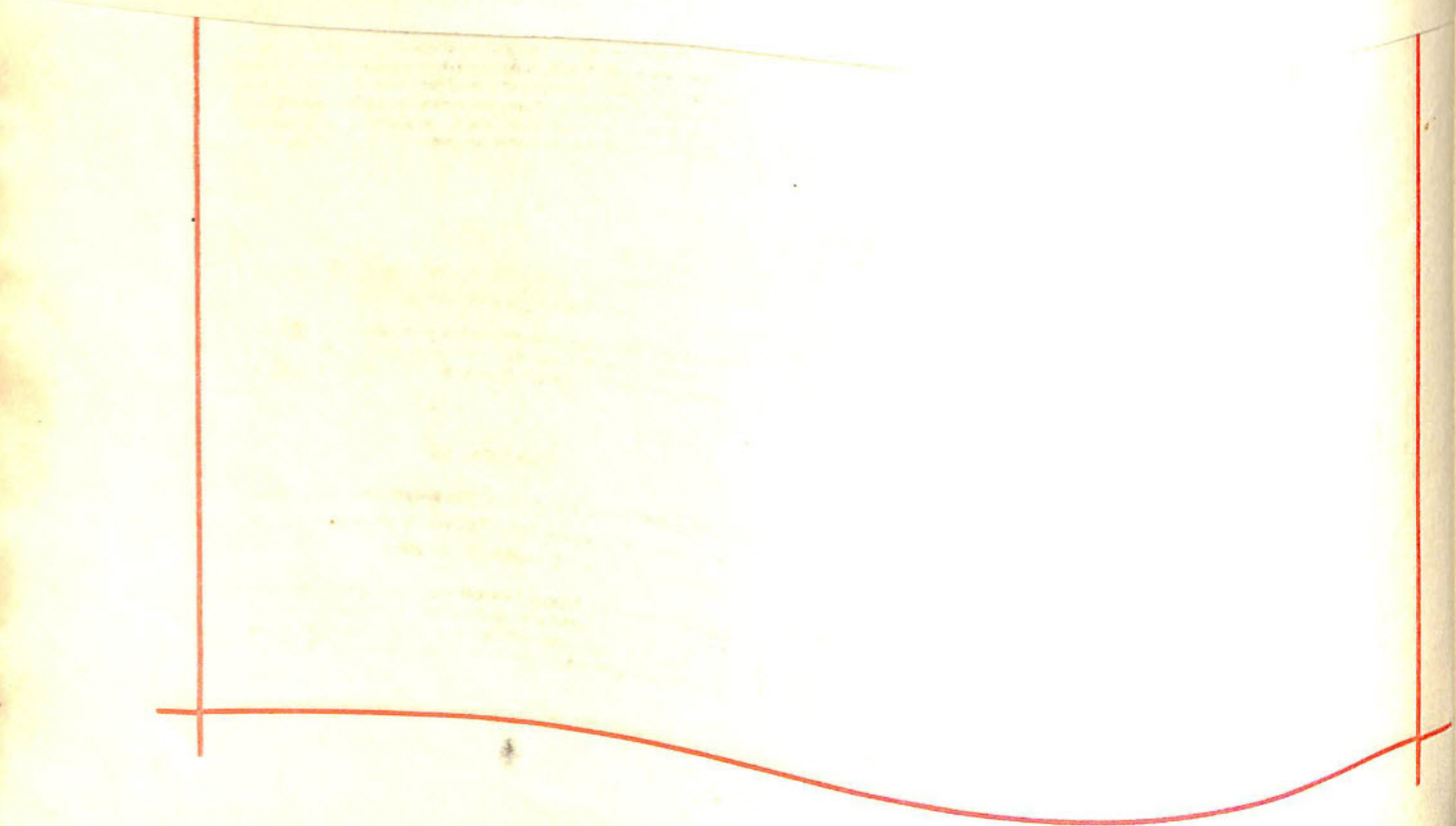
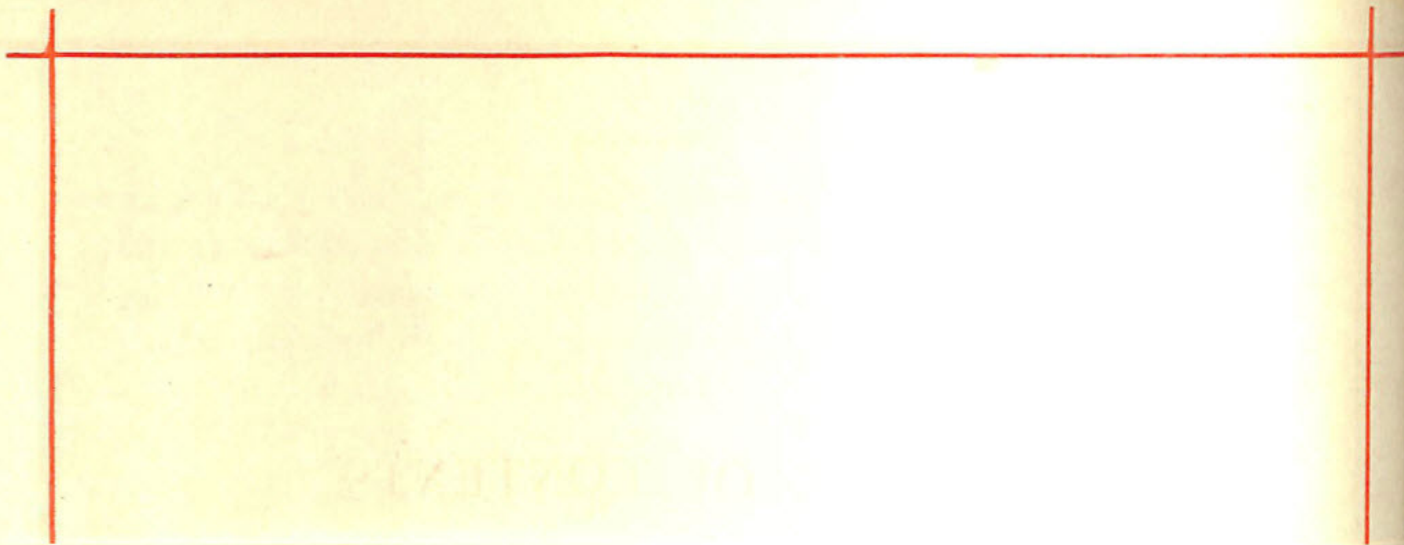


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PART FIFTH.

THE CONSTRUCTION OF BOAT-HOUSES.

CHAPTER I.

General Observations on the Location, Size, Style, and Construction of Boat-Houses.

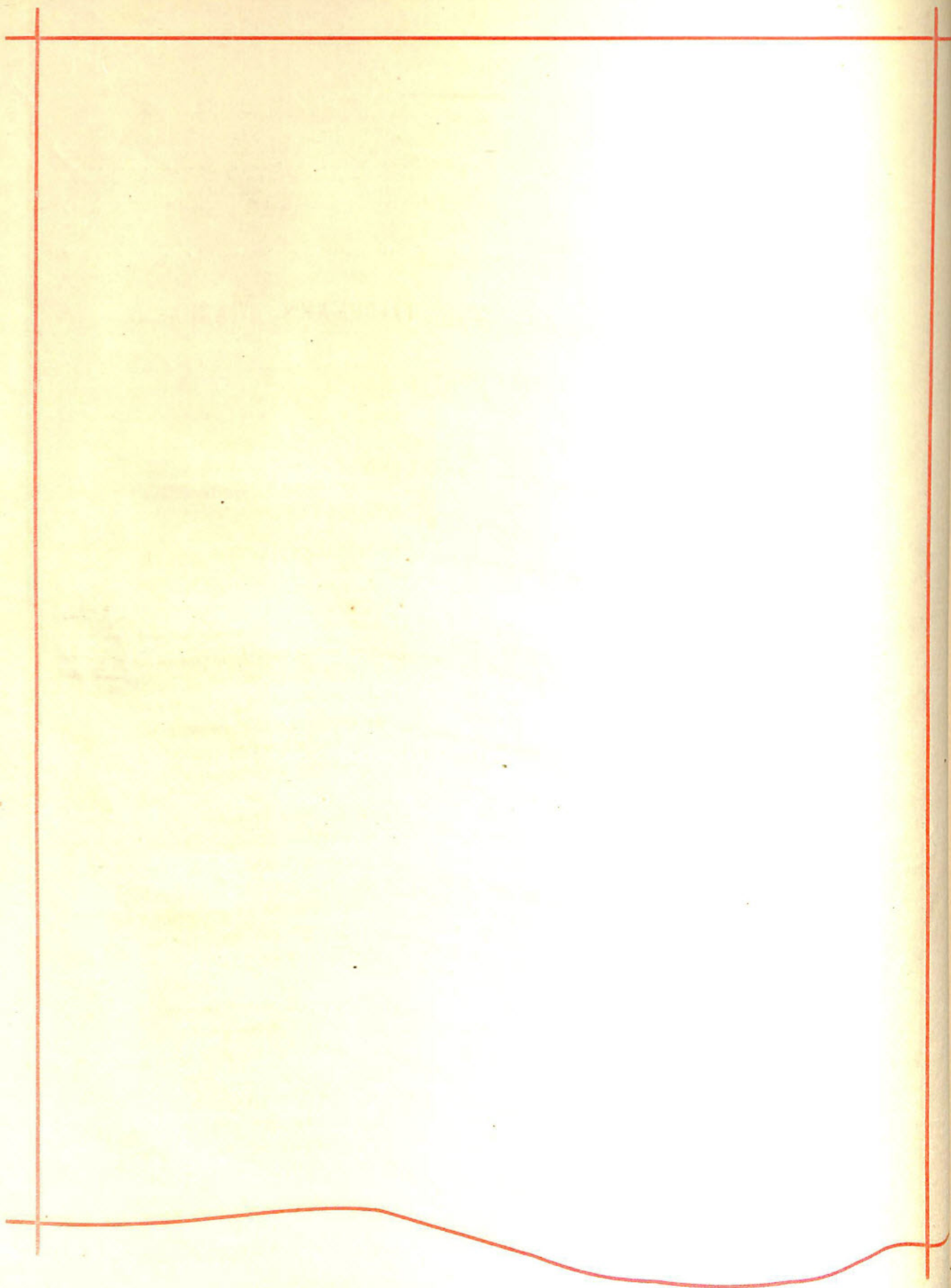
Importance of boat-houses for the purposes of shelter and protection—Considerations influencing the selection of a proper site—Should not be near gas or chemical works—The boat-house should be adapted to the peculiarities of the situation—In northern latitudes, boat-houses should not be exposed to the effects of ice—Influence of the introduction of the light outrigger shell-boats—After the site, the next points to be decided are the size and style—An estimate of the cost of the smallest structure needed should be made—Estimates for larger accommodations can next be made—Construction—Building materials—Aspect—Drainage—Foundations—Floats—Floating houses—Work should be thorough—Design in offering plans and estimates,

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THE ANNUAL
ILLUSTRATED CATALOGUE AND OARSMAN'S MANUAL
FOR 1871.

INTRODUCTION.

CHAPTER I.

THE PAST AND PRESENT CONDITION OF ROWING IN ENGLAND AND AMERICA IN ITS
RELATION TO PHYSICAL EDUCATION.

HE age in which we live is emphatically one of progress in all that affects the best interests of humanity, and, among all the great promoters of such interests, popular education in the broadest sense has long claimed, and has for the past fifty years received, at least in this country, a large share of the public attention. Public opinion, that gauge of advancing civilization, has in few things indicated greater progress than in the changes which have taken place during the period named, both in England and in the United States, respecting the popular estimate of physical training as an element of the highest education. These changes, especially within the past twenty years, have been radical and progressive. It may not be uninteresting to examine briefly their history.

Change of public opinion in England and the United States on the relation of physical training to general education.

In England, fifty years ago, education, as we understand it, was confined almost exclusively to the great middle and aristocratic classes of society, and, if we may judge from contemporaneous literature, training in the popular field-sports of the day, with a view to intellectual development, was very far from being a well-recognized element in the education of even these classes. On the contrary, rowing, boxing, and ball-playing were considered as the amusements only of the vulgar herd or of mere boys.

In England.

Prominent among those who early in the period named recognized the value of physical development as an auxiliary in the mental and moral training of English boys was Dr. ARNOLD, of Rugby, whose intellectual superiority and noble virtues have been so faithfully and lovingly recorded by "Tom Brown." He was one of the first of the great educators of his time who perceived and appreciated the fact that the active vital forces of youth must have an outlet; that what nature has deeply and for most wise and beneficent purposes implanted and made a very instinct of our being, may be trained and guided to good results, but is by no

Influence of Dr. Arnold's system.

means to be suppressed or ignored. Most wisely did he act upon this belief: in his hands the sports of the day became most important forces in moulding the intellects and the morals of his pupils, and in such hands they became elevated and ennobled.

The seeds thus sown among the rising generation of that day bore their appropriate fruit. Gradually, the higher classes of society began to question the expediency of abandoning the whole range of athletic sports to growing boys, to the burly prize-fighter, and to the brawny bargemen of the period, and the studious and even the polite world asserted their claims to muscular as well as intellectual or social development.

Rowing recognized at the universities.

Dr. Arnold's boys passed into the great universities, carrying with them the ideas and habits his teachings had inculcated, and the folly of attempting to attain high intellectual development with brains alone, unassisted by a sound and healthy body, became through their presence and influence more and more apparent. Forty years ago, with the improvements in boating, arose the great University contests in rowing. The step produced its social effect: rowing, taken up by the learned, came to be recognized as a legitimate means of bodily training, was rescued from the hands of the vulgar, and henceforth received from the highest social authority both encouragement and support.

Present state of the question of physical education.

To-day, all over England, the whole range of athletic exercises receives its due share of public attention, and is cultivated by all classes and conditions. Rowing, especially at the universities, the colleges, and the great public schools, has come to be almost as much a feature of the course of education as the study of the languages or of mathematics. And thus, at last, it has come to be perceived by the great public in England that mind and muscle are not necessarily antagonistic; that a man may be a good oar, a good pedestrian, a good horseman, or even an adept at boxing, and yet take the highest honors at the university, or believe in and practise all the moralities and amenities of the highest social station. This revolution of sentiment finds in the "muscular Christian" of the day its highest and best developed type.

In the U. S. a different condition of society arrives at similar views by other methods.

Turning now to our own country, we find a mixed race, differing in temper, in habits, and in many essential characteristics from the English people; an entirely different state of society, in which the middle class, so-called, largely predominates, and which embraces but few of the extremely rich or the very poor; a people who brought to the great work of subduing a new country, of building cities, of establishing commerce and accumulating wealth, all the resistless energy, untiring will, and indomitable enterprise of their national character; a self-governing nation, whose very existence has depended on the general diffusion of intelligence and the education of the whole body politic.

These conditions have produced their legitimate results, during the past fifty years, in a wonderful progress in general intelligence and knowledge.

In a young nation thus situated, which has been forced not only to subdue the face of nature, but also to establish a government, every man has, from the very nature of the case, been a worker. We have not had, as in England, any great hereditary and distinctive class, the product of centuries of growth, embodying within itself the learning, the wealth, and the governing powers of the nation, and able by its decrees

to change the habits and to mould the tastes of the mass of the people. Here, public opinion has been formed and directed by the progressive condition of all the individual members who compose the State. Hence, to a people, the majority of whose avocations involved a superabundance of bodily labor, it was more necessary to offer intellectual stimulants than to incite them to physical development.

But within the last twenty years the rapid accumulation of wealth, the increased importance of the learned professions, the transfer of so many from the dead level of physical toil to a range of pursuits which tax the intellectual more than the physical powers—all have been calling for a clearer and heartier recognition of the claims of physical training as an element in our national education.

Although the influence of our colleges in shaping the opinions of society compares but feebly with that of the English universities, still the modifications of opinion and practice at these institutions are indicative of that general change of opinion which we are now considering. Plenty of middle-aged men of the present day, who have been educated at some one of these numerous institutions, can testify to the fact that study was the Alpha and Omega of the whole college life. As a rule, physical exercise was little encouraged, and its advantages rarely, if ever, presented; on the contrary, it was constantly reiterated that time spent otherwise than at the desk, or in pursuit of book knowledge, was wasted. This system, an outgrowth of the combined seriousness and energy of the American mind, after wrecking many a life, is at last going out of favor.

Change of views on the claims of physical education at our seminaries of learning.

The prevalence of hazing, fagging, devilling, and all the various forms of petty tyranny, often descending to a mere exhibition of brutal and cowardly force, which have disgraced the undergraduate life at so many institutions of learning, may be directly traced to this vicious, high-pressure system of mental culture and its corresponding neglect of physical wants. If no better outlet than this is provided in the curriculum for the overflow of animal life and spirits which nature has given youth, then hazing, fagging, and all their concomitant evils will be the natural and inevitable result; but by providing such recreations as involve muscular effort, and plenty of it, at proper times and seasons, duly regulated by an enlightened experience and a proper public sentiment, this superfluous energy can be turned into legitimate and useful channels, and the practices alluded to will no longer disgrace the name of undergraduate or cadet.

Its effects on hazing, etc.

At all our principal colleges some form of bodily exercise is now recognized and its practice encouraged. Harvard, Yale, Brown, Amherst, Princeton, Rutgers, Lafayette, the naval and military academies at Annapolis and West Point, all have their gymnasiums and their boat clubs, with the approval of the authorities; while at Dartmouth, Williams, Cornell, Ann Arbor, and some others, although the progress made in this direction has not been as rapid, yet the importance of this branch of education is fully recognized, and time only is needed to have it carried out in practice.

It is a curious illustration of our entire neglect of this subject as a people, that at the United States Naval Academy, where it might be presumed that so essential a part of a seaman's education as rowing would be taught, this art has not, until within five years, been practised as such by the cadet midshipmen, and it is only within three years that they have been exercised in the light racing-boats of the day. We have to thank Admiral Porter for the correction of this anomaly, and for having elevated row-

ing as an exercise and recreation at the Naval Academy to the importance it deserves.

Influence of
this change of
opinion on so-
ciety in general.

The change of opinion thus developed at our seats of learning has not been without its effect on the public at large; it has at least led a part of the educated and refined class of the community to look with favor on what, if considered at all, has been distasteful because of its associations. With many others of this class, the change of view has come about through a broader conception of the term "education;" through the influences of English example, due to, or greatly promoted by, the facilities for reading and travel enjoyed at the present day, and the necessities developed in the search for health. The views thus held have reacted, by the mere force of example, on that portion of the public who neither read nor travel, and such is the natural fondness of American youth of all ranks and conditions of life for games and manly sports, that it seems as if it had only needed such a recognition and its stamp of respectability to give this kind of training an impetus.

No one can for a moment doubt this statement who reads the newspapers, or who resides in any town of considerable size. If his attention has not been arrested by a direct demonstration of the general interest in some public exhibition of skill, the numerous reports of base-ball matches, games of cricket, or rowing contests in the summer months, and the popularity of skating in the winter season, must at least attract his notice, and convince him that the youth of this country are growing up in an educational atmosphere far different from that which their predecessors breathed.

Hunting, horsemanship, fishing, ball-playing, skating, and rowing are thus all recognized by the mass of our people as legitimate and useful exercises; and although there are still many persons who hold to the old theories of study and constant application in one direction and channel, unvaried by any of these forms of relaxation, yet the majority believe, and they make converts every day, that the new theory and practice are the most judicious and the best, and that a practical application of the old Latin maxim of *a sound mind in a sound body* is, after all, the truest philosophy.

Healthy body
defined.

How, then, to make the body healthy, and how best to maintain it in that state, is the problem before us.

And the first question is, What is a healthy body? We reply, It is one in which all the physical powers are in a condition to perform most perfectly, and with maximum results, all the functions assigned them by nature.

Chief agents
of health.

The ordinary and principal agents of health are exercise, diet, sleep, air, bathing, and clothing.

Training as
an art.

Training, considered in a strictly technical sense, is a system of bodily preparation for some special effort or exertion which has to do with all these agents. Its office is to place the body under their influence, and to so administer and regulate them that singly, or in combination, they will ultimately enable it to meet extreme or exceptional demands on its energies and powers.

This general definition of training will suffice for our present purpose. Its fuller consideration belongs more appropriately to another part of this work. We pass, therefore, at once to the discussion of exercise as one of the principal agents in building up and maintaining the physical forces.

Principal
physical exer-
cises and sports.

Of the different forms of athletic exercise directly conducive to the highest condition of bodily health and mental vigor, and of which walking, running, driving, horse-

back riding, calisthenics, or the more trying *régime* of the gymnasium are the elements and groundwork, shooting, fishing, ball-playing, and rowing rank among the foremost and best.

In the term *shooting*, taken in its widest application, we include the use of the gun, and all marsh, river, and forest hunting of small birds, wild water-fowl, deer, and other large game. So considered, it is a pastime which, actively pursued for any of these purposes, comprehends the practice of some, if not all, the kinds of special exercises mentioned in the greatest and most beneficial degree, since it adds to the exertion of every bodily member a constant and unremitting activity of the senses, and the exercise of some of the most valuable of the intellectual powers. Shooting.

The use of boats being usually required in hunting wild fowl, the benefits of rowing are here added to its other advantages. The proper and complete enjoyment of this pastime, however, demands of the sportsman, first, a strong natural taste for active field life; next, a considerable expenditure of money for the requisite outfit; again, time to pursue it, untrammelled by care or the engagements of business; and, lastly, a more or less extended and diversified knowledge of technical details, and of the habits of the animals pursued. Without these, he may fail in that success which is to him the crowning reward of all his efforts. These are conditions which necessarily debar all but a very limited number of persons in the community from the practice of this sport.

Sea, lake, or rod and fly fishing are also sports which give to the body and mind a training somewhat similar in kind, but usually less arduous in degree than shooting; but as these sports can be practised to advantage only on the sea, lakes, or inland rivers, or along mountain streams and country brooks, it is apparent that it also must be restricted to the comparatively few whose residence is conveniently near such places, or whose time and means will permit their making the necessary journey to reach them. Fishing.

Ball-playing, which has of late years grown so much in public favor and importance as one of the principal out-of-door sports in this country, calls into play a great variety of muscles, and most admirably schools the eye, the ear, the hand, and the perceptive powers. Ball-playing.

The excitement and attractions particularly of the game of base-ball seem to be peculiarly congenial to the tastes of our people, and hence no field-game at the present time is more popular among all ranks of social life. Aside from its characteristic merits, it recommends itself to the mass of the people by its being comparatively an economical form of recreation; the uniforms, implements, and accessories are obtainable at a moderate expense, the only local necessity being a smooth and accessible plot of turfy ground.

But of all the pastimes we have mentioned, the art of rowing, as practised at the present day, combines more completely than any other the best features of the special forms of physical training just enumerated. Its pre-eminent value as an exercise consists in its bringing into play a great number of muscles and bodily organs, thus imparting vigor to the whole frame; and since the art is acquired only by long-continued and assiduous practice, it is the more susceptible of being influenced by a judicious system of bodily preparation and training. In comparing the relative merits of different kinds of sports as regards their effects on the mind as well as on the body, we can safely assume that that one is the best which affords the amplest scope for the em- Rowing.

ployment of the greatest number of the highest faculties, and which, while calling into play the full measure of muscular strength and physical endurance, still leaves the body perfectly subordinate to, and a quickly responsive and willing instrument of, the mind.

Tried by such a test, rowing stands exceptionally high, particularly when we consider it under the aspect of its use in racing; for here, where success is to be striven for in vigorous and excited competition, not only are strength and endurance needed, but also plenty of that high moral quality known in the vernacular as "pluck"; and not least, though last, a correct and delicate appreciation of the best time and method of applying, utilizing to their utmost, and perfectly controlling the forces employed. Just here the mental faculties will find ample scope.

The modern improvements in racing-boats have reduced the rowing of the present day to more of a fine art than ever before, rendering it still less the rude contest of force it was in the early days of racing-boats, of which we shall presently speak, when such contests were commonly mere exhibitions of uncultivated powers, propelling heavy bulks by main strength.

Popularity of
rowing in Eng-
land.

Before leaving this subject, a few remarks in regard to the popularity of rowing in England may not be uninteresting.

Although rowing and boat-racing are practised at the present day all over the United Kingdom, principally by the younger portion of the middle and upper classes, yet it is at the great universities of Oxford and Cambridge, and their feeders, the schools of Westminster, Eton, Radley, Rugby, etc., that it is most popular, and receives the greatest attention.

At Oxford
University.

No better idea of the extent of boating at these universities can be given than is furnished by the facts concerning it. At Oxford, there are eighteen distinct college rowing clubs, and one university club. Twelve of these clubs have barges fitted up as boat-houses, on the river Isis, one of the branches of the Thames; the others store their boats at private yards. Yet such is the demand for racing and training craft during the rowing season, and so inadequate are the boats of the clubs to meet this want among the fifteen hundred undergraduates of the university, that one of the two large boat-building establishments of Oxford, that of the Messrs. Salter, keep constantly on hand three hundred and fifty boats of all kinds for hire (among which are forty "eight-oared outriggers" and forty "four-oared outriggers"), principally outriggered and racing boats, and in addition build an average of three boats per week to replace the wear and tear of their stock alone.

At the Uni-
versity of Cam-
bridge.

At Cambridge, there are nineteen college boat or rowing clubs, and one principal or university club. In 1864, when the college crews were in training, with a view to select from the best eight-oared crews the "University Crew" with which to meet Oxford at Putney, a contemporary writer states that the college "eights" were formed for practice in three divisions, of twenty boats each, thus making sixty eight-oared outriggered cutters, or nearly five hundred oarsmen in practice on the Cam at the same time, day by day. In view of these evidences of the great popularity of this exercise at Oxford and Cambridge; of the large number of undergraduates, who willingly undertake all the training, toil, and self-denial demanded of those who take part in the competitive contests between the respective college crews for a position in the university crew; and considering the abundant resources and high social position of the participants and their friends, we cannot be surprised at the intense public interest, oftentimes

partaking of a national character, which is excited by the annual struggle for the palm of victory in a public contest between the selected eight-oared crews of these universities.

This race, which is the great rowing event of the year in England, usually takes place in the month of March or April. It is rowed on the river Thames, a short distance above the city of London, from Putney to Mortlake, on a somewhat tortuous course of four and three-eighths miles in length.

Popular interest in their annual contest for the championship.

To that portion of the British public interested in rowing, these trials of skill are what the Derby day is to the devotees of the turf in England, or our own Harvard *vs.* Yale contests are to our countrymen. A vast concourse of people line both banks of the river for four and a half miles. The only bridge which spans the river at this part of its course, that at Hammersmith, and under which the rival boats must pass, a massive structure, with two high towers connected by great chains, from which the roadway is suspended, is festooned with masses of people, while the government has to interpose its authority to regulate the throngs of water-craft which cover the river.

It is estimated that, during each of the last two or three years, not less than from three hundred to five hundred thousand people have been brought together on these occasions. As a further evidence of the national interest taken in such affairs, it is only necessary to allude to the international four-oared race between the Harvard College and the Oxford "fours" in August, 1869, on which occasion the London *Times* reported that no less than one million of people witnessed the race.

In 1869, the boat and rowing clubs of the United Kingdom numbered about four hundred and fifty, and it is presumable that this number has slightly increased since that time. Large as this number is, and important as it proves the rowing interest to be, the only data published in relation to these clubs are to be found in the "Rowing Almanac," where the name and locality only are given. No such voluminous details as are presented in this volume in regard to American boat-clubs have ever before been given to the public, either in England or this country.

Number of boat clubs in the United Kingdom.

From the facts thus presented, we can the more readily appreciate how and why it is that there occur annually in the United Kingdom no less than one hundred and twenty established regattas and meetings for rowing, at which prizes of gold and silver plate, and other articles, varying in value from ten to five hundred dollars, are offered, and each and all vigorously and stoutly contended for.

Annual regatta.

In the United States, owing to the causes to which we have already briefly alluded, rowing may be said to be as yet only in its infancy. The activity and energy which are national characteristics of the people, and the enthusiasm with which our youth engage in any species of bodily training which adds to real advantages in a sanitary point of view, an opportunity for the exercise of friendly rivalry, have already made, and will continue in a much greater degree to make, rowing one of the most popular pastimes in all localities where any opportunities are afforded for its practice. And in this respect, no country in the world is more favored than this, where the face of nature is dotted in every direction with ponds and lakes, the sources of a vast network of streams and mighty rivers, and whose borders are washed by two oceans, and a chain of the largest fresh-water lakes in the world.

Rowing in the United States.

Natural advantages offered.

The exercise of the taste for rowing already developed is by no means confined to peculiarly favorable localities or to any special class. On the contrary, our records will

Taste for rowing found among all classes.

show that some of the largest and most active organizations have grown up under great disadvantages of locality, while at other points, where nature has done everything to invite the oarsman, the sport is, perhaps, entirely neglected or unknown. Striking examples of this remark will occur at once to any one at all familiar with the history and practice of the art among us. The record further shows that, so far from rowing being confined almost exclusively, as in England, to certain classes of society, here, so far as the taste for it has been developed, it has reached all classes. Taking the clubs as the types of classes which compose them, we find the laboring and industrial pursuits, the professions, the schools, and the haunts of business all represented; and we are confident that the time is not far distant when, wherever in this broad country there is a harbor, river, lake, or stream fit to float a boat, there rowing will become what it well deserves to be, one of the most attractive, as well as the principal, of athletic sports.

Rowing at
Harvard and
Yale Colleges.

Among our colleges, Harvard and Yale were the first to recognize rowing as a regular exercise; and at these it was first introduced in the years 1843 and 1844 respectively. It has been steadily practised with a continually increasing interest ever since, and now forms an essential part of the means of physical training at these institutions.

Although there has not been at either college a continuous and systematic organization kept up during this period, yet still to them must be accorded the honor of maintaining the oldest rowing associations now in existence in the United States. Their annual contests, dating only as far back as 1852, were of an intermittent character until 1864, but since then have taken place every year. They now excite more general interest than any other similar event during the current year, and are the standards of comparison to which, by common consent, all similar contests are referred.

Boat Clubs of
America.

The only records by which we can ascertain and accurately measure the increase of interest in this pastime in this country, as shown by the number of clubs organized especially to practise and promote it, is the work published by Mr. Peverelly, of New York, in 1868,* and the statistics presented in Part Fourth of this volume.

In 1868, the whole number of boat and rowing clubs in the United States was fifty-three, and in the British Provinces three. Our record shows that, on the 30th of November, 1870, these numbers had increased to two hundred and forty-seven, being an increase in two and a half years of nearly five hundred per cent.

If rowing received the same attention here which it does in England, in proportion to our population, there should not be less than eight hundred clubs within the limits of the United States alone, and we think another decade will see this number exceeded.

* Peverelly's "American Pastimes." New York, 1868.

CHAPTER II.

BOATS CLASSIFIED—HISTORY OF MODERN RACING-BOATS.



HE term *boat*, in its most general sense, comprehends all small open or partially decked water-craft, used for the transportation of persons or freight over moderate distances, in sheltered, or occasionally in exposed, waters, and propelled either by paddles, oars, sails, steam, or a combination of these forces. Term boat defined.

Thus defined, the varieties of boats are as numerous as the services for which they are employed. Few other mechanical constructions, the different forms of which are known by a common name, exhibit such diversities in size, shape, material, methods of construction, or use. And this diversity of feature adds greatly to the difficulties of their accurate classification, since we may separate them according to any of the characteristics named, or to the kind of power used and the method of its application, or, lastly, to their nationality.

For our present purpose, however, we shall consider them with reference to but three of these characteristics, namely, those of use, method of construction, and means of propulsion. Boats classified.

As to use, boats may be divided into three general classes: As to use.

FIRST. All such as are employed for the general purposes of transportation in peace or war, or are used in the prosecution of some special trade; in short, boats for business, embracing the largest, strongest, and most seaworthy craft. This class comprises those boats with the forms and dimensions of which the public are most familiar, such as the dingys, jolly-boats, yawls, cutters, gigs, pinnaces, barges, long-boats, and launches used as tenders to the great naval and merchant marine; the luggers, cobs, herring-boats, whale-boats, and similar craft in which fishermen pursue their occupation the world over; the life-boats of the coast service; and, lastly, the gondolas, wherries, punts, skiffs, flat-boats, and large canoes, usually employed for the transportation of passengers. For business.

SECOND. Those used for hunting, exercise, or pleasure, including boats of much more limited size and capacity than those assigned to the preceding class. This class comprehends, therefore, *first*, all boats especially adapted to the wants of sportsmen for wild-fowl shooting, hunting large game in lake districts, and for pleasure-fishing—such as hunting-skiffs in all their variety according to locality, the boats of the Adirondack region, the gunning-punts of the English water-fowl sportsman, and the endless forms of “fishing”-boats used on inland waters; and, *second*, those boats built and arranged for pleasure-rowing or travel, such as gigs, skiffs, shallops, punts, barges, the “Rob Roy,” birch-bark, and similar canoes, in which speed is of less importance than safety, and convenience and lightness than strength and stability. Hunting or pleasure.

THIRD. Those used exclusively for racing and training, embracing only the lightest, most delicate, and fastest of all. Racing.

To this class we assign racing-barges, outriggered gigs, whiffs, funnies, and the whole family of racing-shells, from the single sculling-boat with its solitary occupant to the eight-oared outriggers of the Universities.

As to construction,

Considered *in regard to their construction*, boats may be divided into two general classes :

Shaped from the solid trunk.

FIRST. Those made from a solid trunk of wood by shaping the exterior to the desired form, and hollowing the interior to correspond, in which the thickness of the sides and the strength of the material perform the office of a frame and its covering.

Examples of this class are the common *dug-outs* of the inland rivers and lakes of the United States and Canada; the single canoes of New Zealand, made from the trunks of the Kawrie or Kaikotia pine, often of a size sufficient to carry one hundred men; the swift and large canoes of the natives of the northwest coast of America, frequently one hundred feet in length, carved from the enormous shafts of the yellow or Douglass fir; and, lastly, the carefully modelled and outriggered canoes of the Georgia and Carolina coasts, ranging from thirty to forty-five feet in length, made from the cypress-tree, and much used for racing in that part of the country.

Composed of a frame and skin.

SECOND. Those composed of a frame-work of wood, metal, or bone, covered by and supporting a sheathing or skin of wood, metal, the prepared skins of animals, bark, cloth, or paper.

Wooden frame and wood sheathing.

In civilized countries, where skilled labor can call to its aid the numerous ingenious tools necessary to use wood to the greatest advantage, the most common method of constructing boats is to cover a properly shaped frame of wood with a sheathing of plank, which serves at once to enclose the frame-work, and to bind the several parts together.

Carvel.

Of this style of building, there are three important varieties :
Carvel built, in which the sheathing-planks range fore and aft, the edges meeting, but not overlapping.

Clinker.

All large wooden vessels range fore and aft, the edges meeting, lower edge of each plank overlapping the sheathing-planks range fore and aft, the edges meeting, but not overlapping.

Diagonal.

Clinker or *lapstreak built*, in which the sheathing-planks range fore and aft, the lower edge of each plank overlapping the upper edge of that below it. Outriggered gigs, whale-boats, the wooden "Rob Roy" canoe, and other boats where lightness, speed, and roominess are to be combined, are thus built.
Diagonal built, having, as the term implies, their planking running diagonally, the line of direction of the planks on the outside of the frame being at an angle with that on the inside. In both the inner and outer sheathing, the edges of the plank meet, but do not overlap.

Metal frames and skin.

Boats with metal (usually iron) frames and skins are also necessarily the product of civilized labor, since a high degree of skill and costly machinery are required in their manufacture. An example of such craft is the "Francis metallic" life-boat, so-called, in which the skin is of corrugated and galvanized iron. One or more boats of this kind are to be seen on almost every passenger steamer in the United States.

Bone frame and covering of skins.

Of boats with frames of bone, covered with the skins of animals, we have remarkable illustrations in the Kyack, or single boat, and the Oomiak, or woman's boat, of the Greenland Esquimaux, and the Bidarka of the Aleutian Islands.

Their frames are composed of pieces of whale or other suitable fish bone, the several parts firmly held together by fastenings of seal, so skilfully sewed together as carefully prepared skins of a certain species of sinew, and covered with the to present a perfectly impervious surface to the water.

The birch-bark or Indian canoe so common in the State of Maine, about the waters of Lake Superior, and in the British Provinces well illustrates the plan of a wooden frame covered with bark.

Wooden frame with bark skin.

Over a frame composed of slender cedar inwales, and wale pieces embracing the ends of the broad, thin ribs which define the shape of the model, are bent wide sheets of the bark of the white birch-tree, arranged along the rounded form of the model as they grew on the tree. The upper edges of the bark along the wale pieces are sewed to them with delicate roots of young spruce, while the seams are luted and rendered water-tight with gum. No boats in the world, except those of paper, combine such extreme lightness with suitable strength as do these canoes.

Of frames covered with cloth, we have the canvas, india-rubber, or other styles of folding-boats for travelling, numerous forms and plans of which have been devised and brought into notice both in this country and in England within the past twenty-five years.

Frames with cloth skins.

Finally, we come to the latest novelty in boat construction, where the enveloping surface is of paper. The details of this method we shall presently describe.

Wooden frame with paper skin.

Classed according to the *propelling force* employed, boats may be divided into those using the paddle, the oar, sails, steam, or a combination of these motors.

According to propelling force.

The *paddle* is at once the simplest and most primitive means of propulsion. It is used almost exclusively in the whole family of canoes, from the fragile "birch-bark" to the ponderous "dug-out" of the Northwest coast and the war-canoes of New Zealand.

Paddle.

The great variety of forms used may all be grouped under two heads—those with a single blade and those with a double blade. The single-bladed paddles are most generally used, but the "Rob Roy" canoe is an example of the use of the double-bladed paddle.

By the use of the *oar*, manual force can be more advantageously applied to the rapid and easy propulsion of a boat than by the use of a paddle, but since its proper application requires a higher degree of mechanical skill than the latter, it is only among nations well advanced in the arts that we find it in general use. In some of its forms, it is the principal means employed to propel almost all the varieties of boats which have been named, except the canoe, and, even where sails are the prescribed motor, the oar is invariably retained as an important and reliable auxiliary.

Oar.

Boats using oars are classed as *single* or *double banked*, according as one or two oarsmen sit on a thwart.

Racing-shells, gigs, dingys, skiffs, and the smaller whale-boats are examples of single-banked boats.

The wider and heavier boats, such as cutters, barges, and launches, are double-banked.

Under the general head of *sailing-boats*, or those in which motion is due to the action of the wind on sails of suitable form and dimensions, a great variety of craft are included; since we can apply this power to almost all the forms of boats, except those used exclusively for speed with the oar, but even in these boats, as already mentioned, the oar is almost indispensable.

Sails.

Steam.

Steam, as a moving power for boats, is of comparatively recent date. The larger navy launches are now fitted with the screw, and both in England and in this country it is being introduced in pleasure or passenger boats of considerable size.

It will be observed that in these classifications the same variety of boat appears under two or more of the subdivisions given. This arises from the fact that the characteristic features of some sorts of craft fit them for very general uses, according to their size and appointments; but it is none the less true even of such boats that their special adaptations render them less useful for other purposes, and thus, though bearing a common name, the boats themselves in the different divisions may and do differ essentially.

A critical examination of boats of all kinds much needed.

It is not our present intention to enter into even a brief description of all the kinds of boats mentioned in the foregoing classifications. At some future time we may find it desirable to examine critically those of different countries, with their numerous diversities, due to peculiarities of geographical position or climate, to local wants, to poverty in materials or skill, or to an advancement in the art of building; and to trace in the variety and even in the grotesqueness of their forms the underlying principles of construction, which, divested of the traditions and prejudices of ignorant builders, carefully observed and faithfully followed, have borne their proper fruit in the compactness of form, strength and stiffness of frame, graceful outlines, and high speed which are exemplified in the best boats of the present day.

Such an examination, setting forth in the light of the principles and best practice of the art of boat-building the advantages and the defects of each variety of lines, shape, or build, would fill a void in the current technical literature of the period, and meet a want constantly experienced by the student in this branch of the arts.

Scope of this work.

A more restricted view of the field indicated will, however, suffice for our present purpose. We will, therefore, take up, first, the subject of racing-boats, and, secondly, that of the gigs, canoes, hunting-skiffs, and similar small boats, in which the improvements we have introduced within the past three years have been principally made, and which form the subject-matter of the first part of this work.

English racing-boats of 40 years ago.

The boats used for racing up to about forty years ago, both in England and in the United States, differed as essentially from those now in use as the stage-coach of that period from the modern express train. While the former were wide at the beam, comparatively short, and full forward, the latter are extremely narrow, long, and sharp. In the old style boat, a proportion of breadth to length of one to six was considered the very acme of attenuation for speed. Now, a proportion of one to twenty, one to thirty, and even one to forty, are the standards for the best lines.

In England, fifty years ago, a boat of 6 feet ² inches beam, 35 feet long, and weighing 700 pounds, after being "greatly reduced," was considered, to use the language of the description, "a beautiful specimen of boat-building for racing." The motive power was in keeping with the ample dimensions of the craft.

Robust keelmen of two hundred pounds weight were in demand for oarsmen, and any under that weight were rejected. It was a common practice for such boats to carry

two spare men to act as ballast and assist at the oars, while the popular opinion as to what constituted a good boat, the best oarsmen, and proper physical training was, to our notions, equally burlesque and ludicrous.

To-day, four athletes, of 150 to 160 pounds weight each, propel a shell of 17 inches beam, 41 feet long, and weighing but 94 pounds, at the rate of nearly nine miles per hour over a six-mile course, and single-sculling boats of 9½ inches beam, 31 feet long, weighing 25 pounds, and carrying a single oarsman of 140 pounds weight, are driven with comparative ease at the rate of eight miles an hour in smooth water. Yet so nicely are these boats proportioned, so carefully are the dimensions of each part calculated to do the work assigned it, and so accurately are the fittings adjusted, that even with skins and decks of paper such boats stand the strains of these tasks for several years without any essential deterioration.

Of the present day.

As England has always been pre-eminently distinguished for the skill and enterprise of her people in maritime affairs, it was natural that there the arts of boat-building and rowing should have been greatly fostered and encouraged, and hence it is there that these arts have been brought, by years of valuable experience, to their present degree of excellence and perfection. It is to English builders that we owe the simple mechanical contrivance, the introduction of which marks the line of separation between the old-time racing-boat and the modern shell.

Introduction of the outrigger.

This is the *outrigger*, by means of which we are enabled, on a narrow boat, to obtain a greatly increased leverage, and thus avail ourselves of the corresponding increase of power due to the use of longer and more powerful oars.*

In the old style racing-boats, as in those of the present day used for business or pleasure, the oars rested either in notches cut in the gunwale, or in rowlocks fitted to and supported by them; hence, to obtain even a moderate leverage, the gunwales of the boat must not be less than three feet apart, and from that up to seven feet.

The light iron frame-work of the outrigger, bolted to the timbers of the boat, obviates this necessity, and as the hull of the boat can by its use be made of such a width and length only as will give just the required displacement for the estimated load, and no more, there follows at once a great reduction in the size and weight of the hull.

Strictly speaking, the term *outrigger* applies simply to the iron frame-work which supports the oar and its rowlock; but custom has sanctioned its more extended application, either to the boats themselves on which the frame is used, and which are known in common parlance as "outriggers," the different kinds being distinguished as "pair-oared outriggers," "four-oared outriggers," etc., or to indicate the kind of boat, as an "outriggered gig" or an "outriggered skiff."

Extended application of the term.

The first outriggers used in England on racing-boats were invented by Anthony Brown, of Ouseburn on the river Tyne, in the year 1828.

First invented.

A match had been agreed upon between two boats, the "Fly," of Scotswood-on-Tyne, and the "Diamond," of Ouseburn. As great rivalry existed between the opposing parties, each made it his business to get his boat into the best condition.

At Mr. Brown's suggestion, Ridley, a boat-builder of that day, fastened to the side of the "Diamond" various pieces of wood, now known as false outriggers.

* By the term *outrigger*, we understand something which is fitted or rigged out beyond the gunwale of the boat as a support for the oars.

The advantage which this arrangement gave to the "Diamond," rude though the contrivance appears to have been, gave her an easy triumph in the race, and at once established the merit of the invention.

In the same year (1828), Frank Emmet, of Dent's Hole on the Tyne, matured a similar but more perfect plan, and in 1830 brought out the "Eagle," fitted with *iron outriggers*, the first, it is said, ever applied to any boat in the United Kingdom.

From this beginning, outriggered craft gradually came into general use for racing on the rivers Tyne and Wear in the north of England.

Such, however, were the effects of old prejudices that it was not until 1844, when Harry Clasper, in a four-oared outriggered gig of his own construction, won the £50 prize at the Thames National Regatta, that the merits of the outrigger were acknowledged on the London river and in the south of England generally, and the revolution in racing-boat building fairly commenced.

The outriggers of that day were, however, quite unlike those at present in use. In the four-oared gig spoken of in which Clasper won his race, they were but eight inches long.

As the advantages of lighter boats were gradually admitted, and the beam narrower, the spread of the outrigger increased, and its importance as an auxiliary became better understood, until experience has brought it to its present form and dimensions.

It has been claimed that to Clasper is due the honor of this invention. Contemporary history does not bear out this assertion; but it is nevertheless true that to no racing-boat building than to Harry Clasper.

The perseverance with which he battled the prejudices of the day, and by which he overcame the obstacles in his path, the clever handiwork in which his advanced ideas were embodied, finally received their reward in the triumphs of the results of his skill, and in the general adoption of the principles he had so strenuously advocated.

Taking the racing-boats of the period as he found them, broad, heavy, and inferior in speed, the outrigger short and its merits comparatively undeveloped, the oars of prodigious size, clumsy in shape, and loaded with lead at the loom end, he first dared to produce the substance of the boat to the limit of lightness and fine workmanship, improved the outrigger beyond any of his contemporaries, and gave to the oar the present form of scoop wash, which added a new and hitherto unknown value to its propelling power.

A sculling outrigger, or as called in the United States a single shell, appears to have been built at Putney, near London, in 1844, from a single width of plank, precisely as such boats are now constructed, but, for want of mechanical skill and experience in fitting the thin plank in place, it soon split.

In 1845, a four-oared outrigger shell was built by W. Biffin, of Hammersmith—his first attempt at this kind of craft. In her he rowed for and won the Landsman's prize, at the Thames National Regatta of that year.

The improved form of racing-boats now became generally adopted. They were, however, at first built with keels, and with skins made up of three or more streaks; gradually the keels were dispensed with, the skins were made of a single streak, and the style of the present day was established.

The picked crews of the great universities of Oxford and Cambridge rowed their first match in outriggered boats in 1846; but it was not until 1857 that the present style

Improvements
made in racing-
boats by Harry
Clasper.

First single
shell.

Outrigger
shells first used
by the universi-
ty crews.

of eight-oared outriggers without keels was adopted. Since that date, at the hands of the most distinguished English builders, such as Searle & Sons, the Salters, Biffin, Jewett, and Messenger, these boats, as constructed of wood, have reached a degree of perfection never before attained.

The modern form of racing-boats was not introduced into the United States until several years after its use in England had become general. James McKay, of New York, claims the honor of being the first to bring them to the notice of American oarsmen, and to build them in New York.

First introduced in the United States.

Once introduced, however, their use has gradually increased, until the outfit of no club is considered to be complete unless it includes one or more boats of this description.

CHAPTER III.

DESCRIPTION OF THE MODERN WOODEN RACING SHELL-BOAT—ITS MERITS AND DEFECTS CONSIDERED.

N order the better to convey to the reader a clear idea of the points of difference between the wooden racing-boats, as now built, and those in which the skin is made of paper, we will first describe the construction of wooden shells in detail; but, before entering into the technicalities of the builder's art, it is proper to explain the different terms used in England and in this country, to describe this class of boats and their essential parts.

Terms used in England to distinguish the different kinds of racing-shells.

In England, all racing-boats built with one streak or sheathing-plank, with or without keels, are known as racing-boats, or "outriggers," the different kinds being distinguished as follows: Those for one oarsman, as "first-class sculler's boats, outrigged," or, in briefer phrase, "sculling-boats," or "sculling outriggers;" for two oarsmen, each using an oar, "two-oared racing-boats," or "pair-oared outriggers;" for four oarsmen, "four-oared racing-boats, outrigged," or "four-oared outriggers;" for eight men, "eight-oared racing-cutters," or "eight-oared outriggers."

All the oared boats are built to carry coxswains; and this rule is so universal that we believe the contest between the champion Tyne crew and that of St. John, N. B., which took place at Lachine, Canada, on the 15th of September, 1870, was the first instance on record where an English four-oared crew did not carry a coxswain in a matched race.

Synonymous terms used in the United States.

In the United States, all light outrigged boats for racing, built with a single streak or smooth skins, are called "shells." Those for one oarsman are termed "single shells;" for two men, each using a pair of sculls, a "double scull," or "double shell" (pair-oared outriggers being as yet but little used with us); for four oarsmen, "four-oared shells," and for six, "six-oared shells." No eight-oared shells are at present used in this country. Crews of more than six men use an outrigged gig or barge. For racing, particularly in the Northern States, four and six-oared shells are generally rowed without coxswains, the steering being done by the feet of the bow oarsman acting on an arrangement technically known as the traveller.

Synonymous terms for certain principal parts.

As regards the principal parts of these boats,* we will first take the covering of the frame, technically known as the *skin* of the boat. This is made up of *streaks* or *straiks*, a streak being the name given to a single one of the sheathing-plank forming the covering. Where half the bottom and one side are formed of one width of thin plank, it is said to be a single-streak boat.

In England, the word *straike* is used, but we prefer to follow Webster in the use of *streak* in this connection. In England, that portion of a single shell in which the

* For engravings illustrating these parts, see PART FIRST.

oarsman sits is called the *box*, while in oared boats it is named the *body*; in this country, this part, whether for singles, doubles, fours, or sixes, is generally known as the *cock-pit*.

The light vertical boards attached to the hull, and forming the sides of the box, or cock-pit, are known with us as the *washboards*, or *coamings*, while in England the term washboard is applied only to the forward or pointed part resting on the forward deck, while the sides and after-end receive the name of *breakwaters*. The terms *stem*, or *bow*, and *stern* are common in both countries; but the metal trimmings frequently placed on these parts in wooden boats to strengthen and protect them, and which are always used in and form an essential feature of the paper shells, are called in England *clamps*, and by us bow or stern *tips*.

To English oarsmen, the covering of the boat, fore and aft, beyond the box, is known as the *canvas*, with us as the *decks*, while the longitudinal strip sustaining each deck along its middle line is called by them the *rising-piece*, and by us the *ridge-piece*.

As we write for American readers, we shall in our pages use the phraseology which custom has sanctioned among American oarsmen, except where a better and more expressive term can be borrowed from our English friends.

In the wooden single-streak racing-shell, the essential parts are the *hull* and the *iron outrigger*. Principal parts of a shell.

The hull consists of the *frame*, the *skin* or exterior covering, the *washboards*, the *decks*, the *thwarts* or *seats*, the *stretchers* or *foot-boards*, and the *rudder*. Component parts of the frame.

THE COMPONENT PARTS OF THE FRAME ARE: The *kelsons*, square timbers extending the length of the boat along the lowest part of the inside of the hull, comprising a *lower* or *main kelson* of pine, resting on and firmly attached to which is an *upper kelson* of the same material of a suitable depth, rising highest under the thwarts, to which it is fastened; thence tapering off fore and aft, and forming with the lower kelson a vertical beam or backbone for the boat. Kelsons.

Two *inwales** of pine, which (with the lower kelson) extend the full length of the boat, and by their horizontal contour determine the shape of its top lines. Inwales.

Ribs, or timbers, of oak, ash, or frequently hackmatack, which, strongly fastened to the lower kelson and the inwales, at equal distances along their whole length, attach these parts to each other. Larger or outriggered timbers are inserted at the points where the feet of the outrigger frames rest, and to those the latter are fastened. Ribs.

Deadwoods—solid pieces at the stem and stern, of pine, oak, or mahogany, into which the main kelson and the inwales are framed, and which, being made fine and sharp, determine the shape of these parts. Deadwoods.

The *cross-beams*—small pieces of ash, oak, or pine, which are placed horizontally across the boat, beyond the bulkhead, and serve to hold the inwales together, preventing their spreading, and preserving the contour of their top lines, and to which they are firmly notched or dovetailed. Cross-beams.

The *posts*—small cylinders of wood placed vertically under the middle of each cross-beam, and connecting it with the upper kelson, on which they rest, and serving to stiffen and keep these parts in place. Posts.

The *rising-piece* or *ridge*—a thin, narrow piece of pine, resting on the cross-beams Rising-piece.

* *Wales* are planks extending along the sides of a vessel throughout her whole length, at different heights, serving to reinforce the deck and hold the timbers together.

directly over the posts, rising a little above the inwales on either side, and extending from the bulkheads forward and aft to the stem and stern deadwoods respectively.

Bulkheads.

The *bulkheads*, of pine or cedar, which extend across the hull, rising perpendicularly, and are attached to the kelson and inwales. They limit the length of the cockpit at either end, and divide the hull into three parts.

The skin.

The *SKIN* is made of one or more pieces of pine, cedar, or mahogany, builders in the United States preferring the Spanish cedar.

It is prepared in the form of thin plank, worked perfectly smooth, which when ready for use are of a uniform thickness of from one-tenth to three-sixteenths of an inch, according to the size of the shell. The planks are steamed before being shaped and fitted in place.

For single shells, two planks, each of a width equal to one-half the girth of the boat, and of a length equal to the distance between the deadwoods, are often used. The two side-pieces meet in the centre of the boat, directly over the middle line of the keel, to which they are securely attached by copper fastenings; the edges of the plank are brought closely together, forming a flush joint.

Even in single shells, and always in large ones, owing to the difficulty of obtaining plank of the requisite thickness the full length of the boat, the plank must be scarfed together in order to make up the length required. These scarfs, from the extreme thinness of the plank, and their liability to be split, have to be made with much care and skill; the laps are usually from four to eight inches long, and the two faces, being brought accurately together, are secured to each other by means of shellac varnish and copper rivets. There are usually two scarfs on a side, so arranged that they will not come opposite each other, the entire skin thus being made up of six pieces.

Washboards.

The *WASHBOARDS* are of pine, cedar, or bay-wood mahogany, a light wood being preferable. They vary a little in width, according to the lightness demanded in the boat, or the character of the water in which it is to be used.

Along the sides of the cockpit, they are firmly screwed to the inwales and the timbers which rise above the latter to carry the outrigger frame. By their vertical position, and the manner in which they are secured to the frame, they add very sensibly to its strength and stiffness.

The two sides meet forward of the bow-thwart, and form a flaring joint resting on the forward deck, which not only presents the least resistance to a head-wind, but serves quite effectually to keep moderately broken water or a swell from dashing into the cockpit. At the stern this protection is simply carried directly across the hull, and rests on the after bulkhead.

Decks.

The *DECKS*, or "canvas," are usually made of exceedingly thin plank of mahogany or pine, placed over that part of the hull beyond the bulkheads, and securely nailed to the inwales, presenting a smooth rounded surface, and effectually closing the part of the hull it covers.

Where great lightness is desired, oiled linen or silk is used as a substitute for the covering of wood. The fabric is stretched tightly over the ridge, and nailed to the inwales, a finish being given to the nailed edge by covering it with a half-round beading of wood running fore and aft. Both the wood and linen covers are varnished to protect them from the action of the water.

It is commonly asserted and believed that the spaces thus enclosed are air-tight;

but, as provision must be and is made for slight leakages by a small hole in the deck or bulkhead to let off the water which penetrates the compartment, they are really nothing of the kind, as we shall presently show.

The THWARTS derive their name from their being placed athwart or across the boat, and the term is applied to the cross-boards on which the oarsmen sit. They are made of ash, walnut, or oak in large, heavy boats, but in those for racing are usually of pine or cedar. Strictly speaking, the thwart is the cross-plank, which, resting on the keelson, and firmly attached thereto, binds the boat at this place, and forms with the other parts a rigid system of braces.

Thwarts.

It is now the practice to place on the thwart what is properly termed the *seat*, being a thin plank of hard wood, made very smooth, the grain running parallel to the length of the boat, just wide enough to receive the seat of the oarsman, and long enough to admit of his sliding back and forth several inches on it in rowing.

The thwarts, therefore, perform two offices—that of binding the sides of the boat together, and of supporting the oarsman when in position for his work.

The STRETCHERS, or FOOT-BOARDS, are the supports against which the feet are pressed when rowing. The term “stretcher” is applied to such supports in the heavier kinds of boats, they being only short pieces of hard wood, large enough to fill the hollow of the foot, resting in wooden racks attached to the floor of the boat, the notches in which are cut to suit the different length of leg.

Foot-boards.

Foot-boards are used only in racing-shells. They are made of pine or walnut, sufficiently large to permit the heel and sole of both feet to rest against them, and are secured to the inwales by a contrivance known as the rack, fitted with brass thumb-screws, and made adjustable to the stretch of leg required.

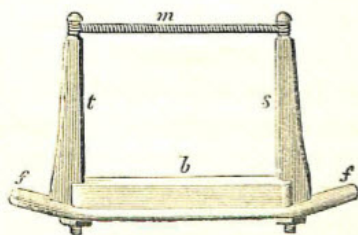
The feet are held in place on the foot-board by a leather strap fastened to the board, and passed over the feet at the base of the toes. The use of the strap enables the oarsman to bring his body up quickly, without bearing on the oar or scull too much.

RUDDERS are used in four, six, and eight-oared racing-boats, but not in single or double sculls, or pair-oars. They are made of some hard, durable wood, such as oak or mahogany, as they are subject to strains and blows. They are attached to the stern-post in such a manner as to have a hinge-motion about the pin which holds the parts together.

Rudder.

Across the top of the rudder is a metal or wood cross-piece, called the yoke, to each end of which are attached the yoke-lines held by the coxswain, or the steering-wires which connect it with the “traveller,” or the apparatus by which the bow-oarsman in American boats usually steers, operating it with his feet.

FIG. 1.



Having now described in detail the essential parts of the hull, the outriggers only remain to be spoken of.

Component parts of the outrigger.

THE COMPONENT PARTS OF THE OUTRIGGER are the *rowlock*, the *frame*, and the *braces*.

The ROWLOCK, Fig. 1, is that part which holds and supports the scull or oar, resting on the frame, *f*. It is composed of the thowle, or thowle-pin, *t*, the stopper, *s*, the bed, *b*, and the mousing, *m*.

Rowlock.

The *thowle* is made of wood or iron, or both; it is fitted with a square shoulder at the lower end, so as to rest firmly in the frame in a vertical position, and is the part against which the oar is pressed when the oarsman exerts his power to move the boat forward. The *stopper* is in form and material like the *thowle*, and is placed a few inches aft of it for the purpose of preventing the oar or scull from sliding off the rowlock when it is pushed forward to take the stroke.

The *bed* is usually a block of wood, but sometimes a surface of metal, on which the oar bears as its sides press alternately against the *thowle* or *stopper*.

The *mousing* is a guard, either of cord or, better, of copper wire, passing above the oar, and connecting the tops of the *thowle* and *stopper*, to prevent the oar from bounding out of the rowlock when pressed upwards, as is the tendency in very light boats. This *mousing* is frequently formed of a solid piece of iron, joining the *thowle* and *stopper*, and welded to them at the top. In short, we may say that the space in which the oar rests is bounded in front or forward by the *thowle*, in rear or aft by the *stopper*, below by the *bed*, and above by the *mousing*.

In England, and latterly, in some instances, in this country, the racing-boat *thowle* and *stopper* are composed of a vertical wedge-shaped piece of beach or oak, cased on the back and sides with iron, but presenting a surface of wood to the friction of the oar, the wooden bed being covered with leather. It is a more common method, however, among builders in the United States, to make both *thowle* and *stopper* of iron, with pieces of suitable width for the oar to bear against, as is shown in Fig. 1, and to apply the leather to the oar instead of placing it on the bed.

Frame.

The FRAME, formerly made of square rods of iron, and now composed of round ones, consists of two arms connected together in a V-form by a narrow piece of flat-iron called the bed-plate. The ends are firmly bolted to the upper ends of the outrigger timbers of the hull.

Most builders use solid rods, but, since the introduction of hollow tubing for this purpose on the "paper" boats, they have been adopted by several builders of wooden boats.

Braces.

The BRACES, two in number for each outrigger, sustain the rowlock and frame, and transfer the pressure of the weight of the oar to the side of the boat; one end of each brace being bolted to the frame under the bed-plate by the lower ends of *thowle* and *stopper*, which, having a screw cut on them, serve to assemble the frame and braces together; the other end resting against the outer face of the washboard, and being bolted securely to the outrigger timbers and the inwales. As we have described the frame, its two arms are the longest of the four rods which go to make up the outrigger, the two braces being the shortest.

The usage of English boat-builders is to make the frame by joining the shortest rods together by the bed-plate, bolting their inboard ends to the top of the outrigger timbers, and bracing with the long rods. The plan first described is used on the paper racing-shells, and in these presents some advantage over the English plan, especially that of avoiding the use of cross-stays inside the boat to take up and transfer to both sides of the hull the strain due to the action of the after-arm of the frame. However these cross-stays may be arranged, they always interfere more or less with the movements of the oarsmen, and as placed

in some boats offer a dangerous obstacle to the easy removal of the feet from the foot-board in case of an overturn.

The advantages possessed by the wooden racing-boats of the present day over those of fifty years ago, already alluded to, or to boats of the present time of similar build, are due to two causes.

The first, a better appreciation among builders of the leading principles which influence speed in this class of boats. The second, improved methods of construction.

Prior to the introduction of the outrigger, it had for a long time been a well-ascertained fact that long and narrow boats were as a rule faster than short and wide ones; but until its introduction the principle on which this experience was based could not be fully applied.

To use the oar to advantage when resting on the gunwale, considerable width, not less than twice and usually three times that of our present racing-boats, had to be given to the beam or widest part of the hull. If then the boat were made as now, in length, ten, twenty, or thirty times its width, it became at once both unwieldy and unmanageable; experience therefore had fixed the limit of length at five times the beam.

The application of the outrigger enabled builders to reduce the beam of these boats to very narrow limits, and to obtain the displacement required it was only requisite to increase the length of the hull.

Hence it is that now the length of this class of boats ranges from twenty to forty times their width at the beam.

As will be presently shown, this change has the advantage of reducing the opposing force of the water or the head resistance to the minimum limit—a very great desideratum.

The change in the manner of laying up the skins of these boats, by reducing the streaks to two, made continuous, with but one joint along the middle line of the keelson as already described, is a very important improvement, and is the result of increased skill in the builder's art, aided by modern appliances and machinery.

By this plan, the joints or seams in the skin are reduced to the least number possible, the liability to leak is lessened, and for equal thickness of plank a much greater stiffness and strength is imparted to the frame.

The smooth unobstructed surface which is presented to the water enables us, by the use of varnishes and blacklead or other lubricants, to reduce the surface-friction or skin-resistance due to the action of the water to the very least amount possible.

Fully aware of the importance of lightness, much ingenuity and skill have been displayed by modern builders in perfecting these boats in this respect.

By a careful estimate of the work each part is called on to perform, and a knowledge of the strength of the materials used, each component has been reduced in bulk until it is of dimensions just sufficient to sustain the maximum strain and no more. The more perfectly this relation between the size of the parts and the work they have to perform can be adjusted, the less is the amount of superfluous load to be carried.

There is a popular fallacy among many oarsmen that extreme lightness in a boat is an absolute disadvantage, since it lessens its momentum when under head-

Advantages of the modern shell.

The use of the outrigger permits of narrowing and lengthening the hull.

Single streak for skin.

Their lightness.

Fallacy of the idea that heavy boats are the best for speed.

way. If this were really true, it would be shown in practice by the heavier boats defeating their lighter opponents in closely contested races; experience and philosophy both prove the contrary, however.

The decrease of a few pounds in the weight of the boat, which is usually only about sixteen per cent. of the load carried, has a very trifling effect on the momentum of the mass even when at its highest speed; whereas at the close of a long pull, when the oarsman's powers are more or less exhausted, a single pound weight more or less to be propelled, may decide the day; and hence it is that among experienced oarsmen extreme lightness is in demand, when it is possible without sacrificing some other essential quality.

Defects of
wooden shells
as now built.

But if great advances have been made in perfecting the class of wooden racing-boats under consideration, on the other hand experience has proved that as now constructed they have very serious defects, so serious, indeed, that they sensibly affect their speed, render them troublesome to repair, expensive to maintain, and hasten their deterioration and decay.

Such defects are worthy of careful examination. They may be classed as those of the model, those of the skin, and those of the compartments.

The best
forms and lines
can only be ap-
proximated.

We have already remarked that, by means of the improved methods of construction in use, builders are enabled to approach in practice more nearly than ever before to the forms of hull which experience has shown to be the best. Why in these boats they are not able to attain the exact forms or models which are the best will be first explained.

Elaborate and costly investigations by the most eminent naval architects and builders have shown that certain forms for the hulls of all craft propelled by the oar or steam are far superior to all others where speed is the main object. These forms owe their superiority to the correct development of the wave-line principle in the lines which define them. The forms in which this description of lines is found will be fully described in the course of our discussion on the general subject of length, shape, beam, and depth of racing-boats; it is sufficient for our present purpose to say, that they present contours in which the concave surfaces of the bow and stern gradually pass into the convex surface of the middle body. How, then, are the wooden skins to be made to conform to these surfaces, and give us the lines we require for the highest speed? Three methods of making up the skin present themselves—the carvel build, the clinker build, and the smooth, single-streak skin of the racing-shell. In the first two plans, the streaks are long and very narrow, and their narrowness compared to their length is such that they can be laid on the frame with the facilities afforded by the steaming process, and be made to take the most perfect shape desired.

Objections to
carvel and
clinker built
shells.

But in so small and yet so elongated a body as a shell-boat, experience has shown that the carvel build requires too strong a frame to be compatible with the lightness demanded, and presents too many seams for the action of the water, which cannot, from the extreme thinness of the streaks, be calked as in larger craft. The clinker or lap-streak build, though much used in gigs and similar boats, is here very objectionable, on account of the weight which must be put in the frame to give the required stiffness, and the obstacle offered to the smooth passage of the skin through the water by the edges of the laps.

To gain lightness in the frame and smoothness of surface, and since the frame

derives, as we have shown, an increased stiffness from the use of a wide streak extending from the keel to the inwale, this form of skin is selected; but here a new difficulty is presented.

If we take a wide plank of wood, no matter how thin, limiting ourselves to a thickness suited for the skin of these boats, no process to which it can be subjected will enable us to compress the wood laterally in one part of its length so that it will conform to a hollow or concave surface, and extend it laterally to conform to a convex surface immediately growing out of and connected with the concave surface, without a rupture of the fibres, or producing cracks along the grain. We can twist the plank so that the lines of the ends will point in opposite directions while lying in parallel planes, its face forming, mathematically speaking, a warped surface; but we can neither compress nor extend it laterally. Hence it is that in the adoption of this form of covering for the frame, wooden-boat builders are reduced to the following alternative: If, on the one hand, they decide to make their lines as near the best standards as possible, the wooden skin must be reduced to a thinness which at once sacrifices its durability, and materially diminishes its value as an adjunct in strengthening and stiffening the frame; if, on the other, they prefer to retain durability and strength, the fineness of the lines must be sacrificed, owing to the impossibility of making the wide and thicker plank take the quick turns such fine shapes require.

One of two alternatives must be adopted for the skin.

There are so few occasions where it is essential or desirable to sacrifice permanent strength to fineness of shape, that as a rule builders accept the latter horn of this dilemma, and build for service, foregoing the nicer lines, since few oarsmen appreciate the difference in lines, and all can readily tell a stiff boat from a weak one.

A striking example of the first case, where everything was subordinated to correct lines, is the boat used by the Tyne crew in their race with the St. John men, in September, 1870, at Lachine, Canada.

Example of all other qualities subordinated to correct lines.

In this boat, the lines are very fine, and conform closely to the best standards, but to attain them its skin had to be worked down to about one-twelfth of an inch in thickness. The hull is a marvel of lightness, her model beautiful for the excellence of its lines; but although used but a few times before the race, yet this use, and the trial it was put to in the six-mile race, so strained the frame that the lines were not only much distorted, but six large cracks were produced in the skin. The distortions due to these strains cannot be remedied, and the cracks can only be prevented from extending by careful repairing. The boat did the work assigned it, but was practically destroyed in the effort.

For the skin, light woods, such as cedar or pine, are generally employed; but even when so close-grained and strong a wood as mahogany is used, there is a constant liability to crack, due to excessive strains exerted on some part of the surface, such as carelessly placing the foot on the bottom when getting into the boat (a fruitful source of leaks and repairs), striking it with the handle of the oar, or rowing into some obstruction. These cracks in the skin, even in new boats where the wood is sound, are constant annoyances, weakening the boat, increasing leakage, and being particularly, when under the deck, difficult to repair. The usual method of repair is to lay over the crack a narrow piece of cedar called a tingle, to which its edges are firmly attached by means of small copper tacks, driven from the outside surface of the skin and clinched in the tingle; the proximate faces of the tingle and skin being covered

Defects of wooden skins.

with shellac varnish. A few repairs of this kind weaken the skin and greatly deface its inner surface.

Wood absorbs water.

All wooden boats, even when protected by varnish, owing to the porous character of the material used, absorb more or less water, and thus gain weight by use; this, in a light boat, is an important point. A single shell of thirty-five pounds weight will absorb from three to five pounds of water after a month's use, or, say, twelve per cent., and in larger boats the percentage of increase will be the same.

And shrinks.

Another serious fault in these boats is the liability of the parts to shrink if kept out of the water for a few weeks. The unequal shrinkages of corresponding parts, such as the inwales, twist the frame and distort the shape, the skin cracks, and thus, after being housed for the winter, or after a few weeks' disuse in hot weather, they are more or less disabled, and must be overhauled and perhaps revarnished.

Deficient in stiffness.

The extreme length of these boats as compared to their width and depth renders the question of their stiffness a most important one, as on this quality depends their ability to preserve the shape designed by their builder. If there is a choice of shapes, if one form is manifestly better than another for speed, it is most important that the form selected should be preserved when the boat is doing its work under all conditions of service. To do this, it must be constructed with special reference to this point, and hence it is that the deep upper keelson is introduced, which, acting in conjunction with the lower keelson and the thwarts to which it is securely fastened, forms a rigid beam or "backbone," through which the strains along the cock-pit due to the load and the racking motion of the oars are uniformly distributed throughout the whole frame and length of the hull.

The number of pieces a source of weakness.

Since the frame is necessarily made up of a great number of pieces artificially fastened together, it is evident that any defect or loss of supporting power in one, due to the loosening of a fastening, must throw increased work on the other parts; and each being constructed to bear only a maximum legitimate strain, this additional duty must tell on all the rest. If the parts of the frame could form a united system similar to that which the branches form with the trunk of the tree, then nothing could be more perfect, but unfortunately we cannot attain such perfection, and with all our art we find that the more pieces and parts there are, the more liable are they to wear and injury.

Hence, in these boats the strains they are subjected to rapidly wear the wood about the heads of the fastenings, and as this wear increases, the rigidity of the frame rapidly diminishes. This wear is particularly noticeable in old boats in the copper fastenings of the skin to the ribs, due to the "working" of the sheathing, the wood about the head is gradually worn, the fastenings loosen, water enters, decay follows, and then the boat soon passes into an irreparable condition.

Compartments neither air nor water tight.

The compartments forward and aft of the cock-pit are often spoken of as air and water tight, but in reality, from the very nature of the material used, are not, nor can ever be either.

These spaces are separated from the water by the wooden skin, and are covered in on top with wood or oiled silk. This wooden skin must necessarily be damp even where it does not leak, and, if this dampness is confined there, decay certainly results. This, however, is a favorable case. Usually the dampness amounts to a positive leak, very slight perhaps, but sufficient to injure the wood. So well

are these difficulties understood that most builders make small openings, either in the wooden deck or the bulkhead, through which this leakage can escape. These openings, if not plugged, permit the passage of air; but, even if plugged, the working of the skin and deck consequent on the variety of forces at work, such as the undulatory lateral motion due to the pressure of the outriggers when rowing, and the force of the waves, so affects the tightness of the seams and joints that the air in the compartments can escape. It is thus practically impossible to make them *strictly air-tight*.

When, therefore, the bow of the boat is pressed down on the stroke and the stern on the recover, the confined air, in the forward and after compartments respectively, readily escapes, and owing to this loss renders their rising to a condition of equilibrium much slower than if the air had been strongly held therein. That is to say, the boat whose compartments are not air-tight buries more easily, recovers more slowly, and is by no means so lively and "floaty," particularly in a sea-way, as one in which the air in the compartments cannot possibly escape.

Hence, boat
not as floaty as
it should be.

To sum up this matter, then, these considerations show that, even in the best wooden racing shell-boats, we cannot combine the finest lines or models with maximum strength or stiffness. One or the other must, to a certain extent, be sacrificed.

Conclusions.

From the nature of the wooden skin, it is constantly liable to crack by use, by accident, or by ordinary drying when stowed away. It absorbs water by use, and this adds materially to the dead-weight to be moved. The working of the frame gradually loosens the fastenings; it becomes more or less "shaky," and the water, acting on the exposed parts about the head of the fastenings, produces decay.

If the compartments are made air and water tight, injury ensues ultimately, owing to the dampness which is present within them; but, as they usually are neither the one nor the other, the buoyancy or "floaty" property of the hull is sensibly diminished, and in a degree corresponding to the extent to which the air can escape. These are, indeed, serious defects. That they can be either avoided or remedied, we will proceed to show in describing the paper boats.

CHAPTER IV.

PAPER BOATS—THEIR HISTORY, METHOD OF CONSTRUCTION, ADVANTAGES AND DISADVANTAGES—EVIDENCES OF THEIR EXCELLENCE AND SUCCESS.

First inception.



IN March, 1867, George A. Waters, of Troy, New York, being engaged in the manufacture of paper boxes, and having occasion to repair a wooden single shell, undertook to do so by covering the cracks in the skin with sheets of stout paper firmly cemented on the wood, and then finishing the surface so formed with water-proof varnishes. The success of this attempt led him, assisted by his father, Mr. Elisha Waters, to undertake the experiment of making the entire skin of a light boat, of paper. Accordingly, one was built, by taking a wooden shell, thirteen inches wide and thirty feet long, as a mould, and covering the entire surface of its bottom and sides with small sheets of strong manila paper, glued together, and superposed on each other so that the joints of one layer were covered by the middle of the sheet immediately above, until a shell of paper had been formed one-sixteenth of an inch in thickness. The fabric thus constructed, after being carefully dried, was removed from the mould, and fitted up with a suitable frame, consisting of a lower keelson, two inwales, the bulkheads; in short, all the usual parts of the frame of a wooden shell, except the timbers, or ribs, of which none were used, the extreme stiffness of the skin rendering them unnecessary. Its surface was then carefully water-proofed with suitable varnishes, and the work was complete. Trials proved that, rude as was this first attempt as compared with the elegant craft now made, it had marked merits, among which were its remarkable stiffness, the symmetry of the hull with respect to its long axis, and the smoothness of the water-surface.

Patented.

Steps were accordingly taken to procure a patent, which was issued to Messrs. Elisha and George A. Waters, on the 30th of June, 1868. Subsequently, when time had further developed the value and extent of the invention, a reissue was obtained on the 11th of May, 1869.

The "Experiment."

In June, 1867, the first boat was built (a single shell), in which the sheets of paper forming the skin extended in an unbroken piece from stem to stern, and of which the decks were also made of paper. This boat, the "Experiment," is still in a serviceable condition after four seasons of hard service. During the fall of that year, three other single shells were constructed on a similar plan. In one of these, John McKiel, of Cold Spring, N. Y., rowed against and was defeated by Henry Coulter, of Pittsburg, on the 30th of October, 1867. This boat is now owned by the Pittock Boat Club of that city. All these boats were experiments, however. The art as compared with its present condition was yet in its infancy.

The expression "paper boat" is, strictly speaking, a misnomer, since paper only enters as one of the materials employed in building them; but as this is the name by

which the boats manufactured under the patent mentioned are now known in this country, it is perhaps best to retain it, with the understanding that it comprises all those craft in the construction of which paper enters as a most essential part.

The process of building the paper shell-boats is as follows: The dimensions of the boat having been determined upon, the first step is to construct a wooden model or form, an exact *fac-simile* of the desired boat, on which to mould the paper skin. For this purpose, the lines of the boat are carefully drawn out of the full size, and from the drawings thus made the model is prepared.

Present method of construction.

It is built of layers of well-seasoned pine, securely fastened together to form one solid mass, which, after having been laid up of the general outline required, is carefully worked off, until its surface, which is made perfectly smooth, exactly conforms to the selected lines, and its beam, depth, and length are those of the given boat. During the process of its construction, suitable rabbets are cut to receive the lower keelson, the two inwales, and the bow and stern dead-woods, which, being put in position, are worked off so that their surfaces are flush with that of the model, and forming, as it were, an integral part of it. It being important that these parts should in the completed boat be firmly attached to the skin, their surface is, at this part of the process, covered with a suitable adhesive preparation.

The model is now ready to be covered with paper. Two kinds are used, that made from the best manila, and that prepared from pure unbleached linen stock, the sheets being the full length of the model, no matter what that may be. If manila paper is used, the first sheet is dampened, laid smoothly on the model, and securely fastened in place by tacking it to certain rough strips attached to its upper face. Other sheets are now superposed on this and on each other, and suitably cemented together, the number depending upon the size of the boat and the stiffness required. If linen paper is used, but one sheet is employed, of such weight and dimensions that, when dry, it will give just the thickness of skin necessary. Should the surface of the model be concave in parts, as in the run of boats with square sterns for instance, the paper is made to conform to these surfaces by suitable convex moulds, which also hold the paper in place until, by drying, it has taken and will retain the desired form. The model with its enveloping coat of paper is now removed to the dry-room. As the paper skin dries, all wrinkles disappear, and it gradually assumes the desired shape. Finally, when all moisture has been evaporated, it is taken from the mould, an exact *fac-simile* of the model desired, exceedingly stiff, perfectly symmetrical, and seamless.

Shell-boats.

The paper is now subjected to the water-proof process, and the skin, with its keelson, inwales, and dead-woods attached, is then placed in the carpenter's hands, where the frame is completed in the usual manner as described for wooden boats. The paper decks being put on, it is then ready for the brass, iron, and varnish work. As the skins of these boats (racing-shells) vary from one-sixteenth of an inch in the singles to one-twelfth of an inch in the six-oared outriggers, the wooden frame becomes necessary to support and keep them in shape.

In applying this invention to gigs, dingys, canoes, and skiffs, a somewhat different method is adopted. Since these boats are subjected to much hard service, and must be so constructed as to permit the occupant to move about in them as is usual in such craft, a light and strong frame of wood is prepared, composed of a suitable number of pairs of ribs, with stem and stern pieces cut from the natural crooks of hackmatack

Gigs, skiffs, canoes, etc.

roots. These are firmly framed to two gunwales and a keelson extending the length of the boat, the whole forming the skeleton shape of the desired model.

The forms for these boats having been prepared as already described for the racing-shells, and the frame being let into this form, so that the outer surface of the ribs, stem and stern pieces will conform with its outer surface, the paper skin is next laid upon it.

This skin, manufactured from new, unbleached linen stock, is carefully stretched in place, and when perfectly dry is from one-tenth to three-sixteenths of an inch thick. Removed from the model, it is water-proofed, the frame and fittings completed, and the boat varnished. In short, in this class of boats, the shape, style, and finish are precisely that of wooden ones of corresponding dimensions and class, except that for the usual wooden sheathing is substituted the paper skin as described.

Advantages considered.

The advantages possessed by these boats over those of wood are:

Any degree of fineness of form or lines can be attained.

By the use of this material for the skins of racing-shells, where experience has demonstrated the smooth bottom to be the best, under-water lines of any degree of fineness can be developed, which cannot successfully be produced in those of wood, even where the streaks are so reduced in thickness that strength, stiffness, and durability are either wholly sacrificed or greatly impaired. In the finer varieties of "dug-outs" equally fine lines can be obtained, but so delicate are such boats, if the sides are reduced to three-sixteenths of an inch or less in thickness, that it is found practically impossible to preserve their original forms for any length of time. Hence, so far as this point is concerned, it only remains for the builder to select those models which science guided by experience points out as the best.

The skin has no laps or joints.

The paper skin, after being water-proofed, is finished with hard varnishes, and then presents a solid, perfectly smooth, and horny surface to the action of the water, *unbroken by joint, lap, or seam.* This surface admits of being polished as smooth as a coach-panel or a mirror. Unlike wood, *it has no grain to be cracked or split, it never shrinks*, and, paper being one of the best of non-conductors, no ordinary degree of heat or cold affects its shape or hardness, and hence these boats are admirably adapted for use in all climates.

Does not crack, split, or shrink.

Gains no weight by use.

As the skin absorbs no moisture, *these boats gain no weight by use*, and, having no moisture to give off when out of the water, they do not, like wooden boats, show the effect of exposure to the air by leaking. They are, therefore, in this respect *always prepared for service.*

Compartments are absolutely air-tight.

The compartments in these boats are strictly air and water tight, and the oarsman who uses them has the full benefit of this most valuable quality. The decks are made of one thickness of very tough paper, secured to the inwales by melted shellac, perfectly water-proofed, and varnished. The best evidence of their absolute tightness is the fact that, when used in the hot sun, the rarefied air under the decks, having no means of escape, causes them to swell outwards.

The effect of this absolute tightness in a sea-way, or under the downward pressure of the stroke, is obvious. All the air being retained in the compartments, when they are pressed down by a wave or in the act of rowing, it can exert its full elastic force to restore them to a state of equilibrium when the force pressing them down is removed. But, if a large portion of the air has been forced out by this downward action, there must of necessity be a corresponding want of elastic power

to cause a reaction. Hence these boats are remarkably buoyant and "floaty," and rough water has much less effect in diminishing their speed than it has upon wooden ones. Should the cockpit fill with water, there is cubic air-space sufficient in the compartments to sustain the load, and hence these boats are in this sense *life-boats*. Great advantage of this tightness.

The strength and stiffness of the paper shells are most remarkable. To demonstrate it, a single shell of 12-inch beam and 28 feet long, fitted complete with its outriggers, the hull weighing 22 lbs., was placed on two trestles eight feet apart, in such a manner that the trestles were each the same distance from the centre of the cockpit, which was thus entirely unsupported. A man weighing one hundred and forty pounds then seated himself in it, and remained in this position three minutes. The deflection caused by this strain, being accurately measured, was found to be one-sixteenth of an inch at a point midway between the supports. If this load, applied under such abnormal conditions, produced so little effect, we can safely assume that, when thus loaded and resting on the water, supported throughout her whole length, and the load far more equally distributed over the whole frame, there would be no deflection whatever. Remarkable strength.

No wooden shell with a hull weighing thirty pounds could stand this test equally well. This quality of stiffness is a most important one, when we consider the absolute necessity of preserving the under-water lines chosen for the boat when it is loaded and at its work.

Lightness, as combined with a proper stiffness and strength, being a very desirable quality, it is here that the paper boats far excel their wooden rivals. If two shells are selected, the one of wood and the other with a paper skin and deck, as has been described, of *the same dimensions* and *equally stiff*, careful experiment proves that the wooden one will be *thirty per cent. the heaviest*. If those of the *same dimensions* and *equal weight* are compared, the paper one will be found to exceed the wooden one in stiffness, and in capacity to resist torsional strains in the same proportion. Comparative lightness.

Frequent boasts are made that wooden shells can be, and are, built much lighter than paper ones, and, if the quality of lightness *alone* is considered, this is true. Yet, when the practical test of *use* is applied, such extremely light wooden boats have always proved, and will continue to prove, failures, as here this quality is only *one* of a number which combine to make the boat serviceable. A wooden shell whose hull weighs twenty-two pounds, honest weight, is a very fragile, short-lived affair. A paper shell of the same dimensions, and of the same weight, will last as long and do as much work as a wooden one whose hull turns the beam at thirty pounds.

The facility with which these boats can be perfectly repaired, even when seriously injured, has been well illustrated during the past three years. They have had holes stove in their hulls by running upon rocks, have had their outriggers twisted, and the brass tips at the bow and stern torn off by collisions with other boats, and in all cases have been repaired with ease, and made as serviceable as before. Easily repaired.

An instance of their remarkable strength is shown in the following case: In the summer of 1870, a single shell, while being rowed at full speed, with the current, on one of our principal rivers, was run into the stone abutment of a bridge. The bow struck squarely on the obstacle, and such was the momentum of the mass that the oarsman was thrown directly through the flaring bow of the cockpit into the river. Wit-

nesses of the accident who were familiar with wooden shells declared that the boat was ruined; but after a careful examination, only the bow-tip was found to be twisted in a spiral form, and the washboard broken at the point by the oarsman as he passed through the sides. Two dollars covered the cost of repair. Had it been a wooden shell, the shock would have crushed its stem and splintered the skin from the bow to the waist.

Objections to
their use.

When these boats were first introduced, owing to a lack of experience as to the best manner of preparing and manipulating the paper, and of proportioning its thickness and strength to the strains to be endured at various important points, numerous defects were developed, and the reputation of the boats was much injured in localities where they were tried. These very defects, however, showing, as they did, the points to be strengthened and the errors to be guarded against, have been the means of perfecting the boats in these particulars, and thus of bringing good out of evil.

Principal dis-
advantages.

The chief disadvantages developed have been the occasional softening of the paper where it has been punctured or rent by a heavy blow, and the difficulties of making small repairs, such as patching punctures in the decks or hull, due to a lack of practical knowledge in regard to working paper, cement, varnish, and other materials used in construction. As to the first of these difficulties, it is no longer to be apprehended, as the great advances made in the construction of the boats enables the builder to guard against such a contingency very effectually, and, even where the water-proof process is shown to be defective, the plain directions given will prevent any serious trouble arising from it.

In case the oarsman lacks the mechanical skill and knowledge to make any necessary repairs himself, the printed directions supplied with each boat are so plain that some mechanic can always be found who with their aid can easily execute the work. No exceptional tools are wanted, and the appliances of any ordinary carriage-maker's shop, and the supplies kept on hand by most painters, will meet every want.

Proofs of ex-
cellence and
success.

We turn now to the tangible evidences of the excellence and success of these boats, which, so far as the great public are concerned, who cannot personally satisfy themselves of the accuracy of *ex-parte* statements, are the chief testimony upon which they must depend. These evidences are presented in two forms: first, the record of the races won in these boats during the three seasons they have appeared in opposition to their wooden rivals; and, next, the unsolicited testimony of those who have used the boats, and who speak of their merits and defects from personal experience.

Races won in
these boats.

In Part Third of this work are given the details of ninety races won by paper shells during the years 1868, 1869, and 1870. But fourteen of these were in 1868, the next year shows twenty-six, while in 1870 the number has increased to fifty. This record proves not only that the demand for these boats has doubled year by year, but also that they were even more successful in 1870 in maintaining their superiority in speed than they had been in the previous year. It will be observed, also, that the races were rowed in all parts of the United States and of Canada, and that the names of the most prominent oarsmen appear among those who have won their races in these boats.

Individual
testimony.

To those who are sceptical on the question of the relative merits of the two kinds of boats under consideration, we recommend a careful examination of the details of these

racers. In 1868, the midshipmen at the U. S. Naval Academy purchased their first paper boat, a four-oared shell. The naval clubs now own four large boats of this kind, and prefer them to those of wood for training and racing. Among the letters presented in this connection, we take pleasure in referring to one written by a young naval officer to the author of "Rowing in America," * and published in that work, in which this gentleman gives at length the results of his experience with paper boats.

Individual
testimony.

We give with it a few extracts from letters received from time to time by us on this subject :

ANNAPOLIS, MD., November, 1870.

ROBERT B. JOHNSON, Esq., Milwaukee, Wis. :

DEAR SIR: Your letter enquiring in regard to paper boats is received. . . . This class of boats has every advantage over the cedar-built shells, while, to my knowledge, not a single objection exists. Their advantages over cedar shells are, by far greater strength, less weight, and greater durability; they require hardly any care, never leak, and never warp. They can be moulded into any shape whatever to suit the designer's lines, which wooden shells cannot; so that any fineness of both extremities is easily produced. Their great beauty and parlor finish are also not to be overlooked. Our oldest shell is nearly three years old, has seen very rough usage, and is as good as new. The chances are in favor of its lasting another three years. The only expense we have had during this time has been about \$1 worth of copal varnish, with which we have given her a couple of coatings. At the same time, another club possess a wooden shell; she is now nearly broken up with age (three years old), and hardly a foot of her is to be seen that has not been patched in some way or other. In last year's (1869) race, our four-oared paper shell beat a six-oared cedar shell by long odds, although the crews were pretty well matched, making the three miles in eighteen minutes thirty-five seconds. I would regard the purchase of a wooden shell as waste of money. The firm which manufacture paper boats (Waters, Balch & Co., of Troy, N. Y.) also supply splendid oars with their boats. It may be some time before they come into general use, as there is always some prejudice against anything new. The Academy boats are all built to pull without a coxswain, but the manufacturers make them to pull either with or without, just as those ordering them prefer. And before closing, I would say that I advise persons wishing to purchase boats to get paper boats *by all means*.

Yours, etc.,

C. P. KUNHARDT,
United States Naval Academy.

MESSRS. WATERS, BALCH & CO. :

U. S. NAVAL ACADEMY, May 29, 1870.

DEAR SIR: I send you a few lines to ask you about a paper single scull that I want to take to Europe with me next month. I pulled bow-oar in our recent race with the "Quaker City" Club, and was so well satisfied with the behavior of our boat (a paper one from your establishment) in such rough water as the race was pulled in that I concluded at once to get a boat from you to take to England. . . .

Yours respectfully,

J. ARTHUR POST,
Midshipman, U. S. Navy, Annapolis, Md.

NEW HAVEN, CONN., July 1, 1870.

MESSRS. WATERS, BALCH & CO. :

GENTLEMEN: In accordance with your request, I send you an account of the race of June 28, for the Southworth Cup, in which I used your paper shell. In this race I came out well ahead of all competitors, making my two miles in fourteen minutes eleven and a half seconds. I am very glad that I followed your advice as to the dimensions of the boat, for, without any diminution of speed, she runs exceedingly steady. As to her strength, I will say that she was rowed five miles on the harbor in a severe blow, with the waves

* "Rowing in America." By Robert B. Johnson, Milwaukee, Wis. 1871. 1 vol. 12mo.

Individual
testimony.

curling over the cockpit, and now one end plunged two feet under water, and now the other, and sometimes resting on the ends on two waves—and all this with no further damage than the wrinkling to a slight degree of the deck—a thing which all boats are subject to. Once more, then, I am particularly obliged for your judicious advice as to boat and also the oars.

Very truly yours,

EDWARD T. OWEN,
Yale College.

From the President of the CHICAGO ROWING CLUB, Chicago, Illinois.

CHICAGO, ILL., November 14, 1870.

WATERS, BALCH & Co., 303 River St., Troy, N. Y.:

GENTLEMEN: . . . If my plans all work well, I shall be in Troy next July or August, and have a boat built under my own eye. I have quite a fleet now, and can get along until then; viz., 2 paper boats, 10 and 13-inch; 1, 10-inch, built by Walter Brown; 1, 12-inch, built by J. Roberts; 1 double scull, 18-inch, built by J. Roberts; 1 single scull, 12-inch, built by F. Fearon. I think I can worry along with this equipment until next season. My wooden boats are all, of course, leaky, and warped, and split, and cracked, and generally useless. I have really only my two paper boats which are ever ready and in running order. . . .

Yours, etc.,

W. B. CURTIS.

CHICAGO, ILL., January 15, 1871.

WATERS, BALCH & Co., Troy, N. Y.:

GENTLEMEN: . . . I am, you will see, just where I was last June, in want of a faster boat than my old and lame-backed 13-inch paper, *and I want a paper boat; don't want a wooden one under any circumstances or at any price.* My position now is this: I want that paper boat, either now built or to be built, in which I can pull three (3) miles faster than in any other boat. I do not care how long, or how broad, or how deep, or how homely, or how crank, or how uncomfortable she is. I have a whole fleet of boats now, some handsome, some comfortable, some both; but I want a fast boat. . . .

Yours truly,

W. B. CURTIS.

OFFICE OF FORT WAYNE GAS-LIGHT COMPANY,
FORT WAYNE, IND., March 18, 1871.

WATERS, BALCH & Co., Troy, N. Y.:

DEAR SIR: . . . In regard to your hunting-skiff (Stannard model), I would not be without that boat for twice its price. I have owned three punts and two Bond section iron boats, and though the latter are much cheaper and very serviceable boats, yours is so much superior that I consider it worth twice the difference. I am much surprised at the endurance and perfection of the surface of the boat. I had imagined that dragging around among flags, sedge, and such tough, cutting weeds, that the surface would be injured; but not so. Except where an expressman burned the paint off by laying the boat against a stove, it is not touched. I am habitually careful with a boat, however, and don't consider it boatmanlike to jam and tear a boat around, as I have seen many do while shooting. . . .

Yours,

H. H. EGERTON.

ALLEGHANY CITY, PA., March 28, 1871.

MESSRS. WATERS, BALCH & Co., Troy, N. Y.:

DEAR SIR: . . . I recently received a letter from a member of the Neptune Boat Club, of Binghampton, N. Y., asking my opinion of the respective merits of the different kinds of boats, that is, of wooden or paper. I immediately sent him an answer to the effect that the paper boats were far superior to the boat of the model of the English boat which won the great international race at Lachine, Canada, in which the St. John crew were defeated. . . .

Yours truly,

HENRY COULTER.

OFFICE OF HAZARD & BLOODGOOD,
37 WEYBOSSET ST., PROVIDENCE, R. I., April 14, 1871.

Individual
testimony.

MESSRS. WATERS, BALCH & CO.:

GENTLEMEN: Will you please send me a price-list of your spoon-oars, suitable for one of your nine-inch boats? The boat which I have is the first nine-inch boat built by you. She is in the best condition, and likely to last for years.

Yours respectfully,

W. B. BURRINGTON.

WASHINGTON, D. C., April 17, 1871.

MESSRS. WATERS, BALCH & CO.:

GENTLEMEN: Having disposed of my wherry, I have but one boat, and as I must have another, I order one of you. I intended getting a cedar boat, but, being in New York last week, was convinced that these light cedar boats are rarely very durable. My nephew and I were rowing, I in the boat you have just made for him, and he in a new cedar boat of Elliott's, when one of his rowlocks broke, and we nearly had a shipwreck in the family. Again, the other day he ran the brass point of his paper shell deep into a stationary sail-boat, extracting it with great difficulty, without injuring his boat at all, except in bending the point a little. So I am convinced that even your lightest boats are very strong, and as you have already made me a heavy boat, I now order a light one, and wish you would make me a $9\frac{1}{2}$ by 31, of 25 lbs. weight. . . .

Respectfully yours,

W. WINTHROP.

We might add other letters of the same import, but these are sufficient to show the opinion of those who, having used both wooden and paper boats, are perfectly competent to judge of the relative merits of each.

CHAPTER V.

TECHNICAL TERMS USED TO DESCRIBE THE DRAWINGS OF BOATS—ESSENTIAL POINTS REQUIRED IN RACING-SHELLS.

BEFORE entering upon a discussion of the principles essential to be observed in the construction of racing-shells, it is necessary to define certain technical terms used in this branch of the subject. If we take the model of a boat, and cut slices of uniform thickness from the sides, the bottom, the top, or perpendicularly across it, the edges of these slices will represent its *lines*.

The lines of any water-craft, therefore, are the intersections with its bounding surfaces, of planes passed parallel or perpendicular to its length, and further limited by being parallel or perpendicular to the horizon.

They are classed as top, load, and under-water lines; deck, sheer, and buttock lines; and body-lines.

To lay down lines is to represent these intersections on any flat surface, such as a floor or a sheet of drawing-paper. To designate the representations or drawings thus made, certain specific names are given to each.

Breadth plan.

The *breadth plan* represents the intersections with the bounding surface of the hull of planes passed parallel to its length and to the horizon, projected on a surface parallel to the cutting planes: it therefore shows the longest and widest level sections of the boat, as we should see them looking down from above, or upwards from below.

The *load-line* is that one of these intersections which is made by the surface of the water when the boat is loaded.

The *top-lines* are the projections on the surface of the outer and upper edges of the inwales of shell-boats, or the top edges of others.

The intersections of planes passed below the load-line represent the *under-water* lines. Since the lateral halves of all boats and vessels, with a few rare exceptions, are symmetrical with respect to their long axis, it is usual to give merely a half-breadth plan; but, in illustrating the shell-boats in the accompanying drawings (see Plates I. to III.), we have given their full breadth in the plans, on account of their extreme attenuation in proportion to their length.

Sheer plan.

The *sheer plan* represents similar intersections, by planes passed parallel to the length of the boat, and perpendicular to the horizon, projected on a plane surface parallel to them. It gives, therefore, the entire outline of the boat, as we look at her sidewise, being the deepest longitudinal section.

The *sheer-line* is the projected representation on this plane of the top edge of the inwale or the gunwale, while the *buttock-lines* are the intersections of planes beyond the keel.

Body plan.

The *body plan* shows the projections in a similar way of the intersections with the

skin of the boat of planes passing across it perpendicular to its length and to the horizon. The intersections are the *body-lines*, and hence the body plan describes the vertical and athwartship sections of the boat, from the largest to the smallest.

The *midship section* is that one which is situated just half-way between the two extremities of the boat.

The *beam* is that point of the middle-body where the boat is the widest, and at which the beam section is taken. It must be borne in mind that, though it is frequently the case, these two sections are not necessarily coincident.

For purposes of definite description, the forward, middle, and after parts of the hull are designated respectively as the *fore-body*, *middle-body*, and *after-body*. In the body plan, the right-hand half gives the body-lines of the fore-body, and the left-hand half those of the after-body. Such of the body-lines of the middle-body as are forward of the midship section will be in the right-hand half, and those aft of it will be in the left half.

The *shoulders* are those parts of the sides of a ship or boat just above and below the water, and which, as she rolls, are first out of and then under the water. If we take away from the body of the boat the two shoulders, one on either side the hull, the remaining portion under the water-line is known as the *under-water body*.

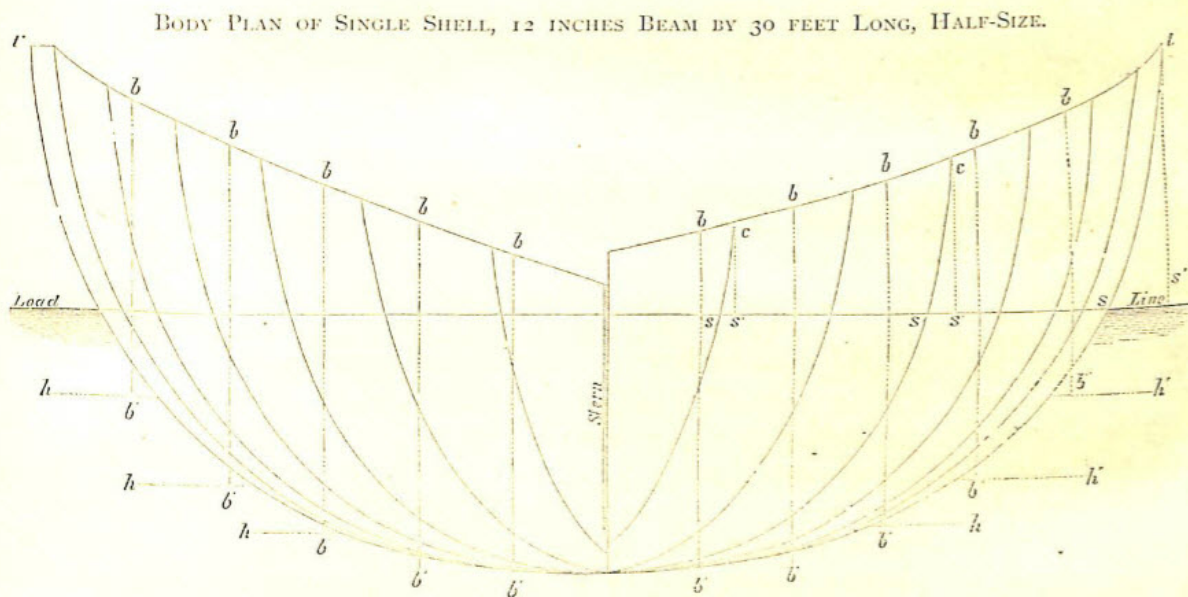


FIG. 2.

To illustrate: Fig. 2 represents the body plan of our new 12-inch single shell, 30 feet long. The curved lines are the intersections of vertical planes cutting the boat at right angles to its length, and indicate its exact shape at these points. The exterior curved line, *b, b, b, t*, is the beam section; *b, b, b*, are the projections of the top-lines; the load-line is marked; *h h*, are the projections on the paper of the horizontal planes which cut out the under-water lines, shown in full length in the breadth plan; *b b, b b*, are the projections of the vertical planes, which, in like manner, cut out the buttock-lines, given

full size in the sheer plans (Plates I. to IV.), while *s, s, s*, mark the middle points of the shoulders.

Essential qualities of a racing shell.

The essential qualities demanded in a racing shell-boat are: first, speed; next, stiffness; then buoyancy and lightness; and, lastly, durability.

Speed.

Since speed is the prime object for which the boat is designed, as a rule all other qualities, no matter how important in other craft, are in this class subordinated to this single one. Hence it first merits our attention. We place stiffness next, because speed is more largely affected by its presence or absence than by that of any other single quality.

Stiffness.

Buoyancy.

By buoyancy, we understand the property of keeping above the water, so that, when the boat is pressed down by any sudden force, it quickly recovers its normal position, when the force is withdrawn or its effect is expended. Upon this feature depends the dryness of the boat, that is, its capacity to throw off the water rather than be buried under it, or take it into the cockpit, or well—an important point when the comfort of the oarsman is considered.

Lightness.

Lightness is of essential importance, as will frequently appear, but still it is to be subordinate to strength and stiffness, with which it is difficult to harmonize it.

Durability.

Lastly comes durability, a most important quality, it is true, and one to which is ordinarily given the first place; but here, with the single object we have in view, entitled only to the last, provided the other conditions are fulfilled in the order given.

It is not, however, to be understood that durability is incompatible with the other qualities named; on the contrary, it can be made entirely compatible with them, but to make it so, we must not be limited in our choice of material. We must not be confined entirely to wood, for then the qualities named will surely be found to be incompatible; but with such a combination of wood and paper as we have seen, a boat can be built which shall combine them all. The question of how the attainment of these qualities affects the art of construction; by what steps modern builders have been led to the adoption of the general model on which this class of boats are now built; and wherein, by a better appreciation of the lessons of experience, or the advantages of a new and more suitable material, we have been enabled to improve this model, leads us directly to the discussion of the beam, length, depth, shape, and lines best suited for racing-boats.

CHAPTER VI.

GENERAL DISCUSSION OF THE BEAM, DEPTH, LENGTH, AND LINES OF RACING-SHELLS, CONSIDERED IN THEIR RELATION TO BUOYANCY, STABILITY, DISPLACEMENT, AND THE RESISTANCE OF THE WATER.

IN seeking such a combination of form and dimensions as shall give the highest speed, the problem to be solved by the builder is this: Having a fixed weight of load, a single method of propulsion, and ordinarily smooth water given, what form of boat shall be selected, in order to drive this load through the water by means of the given power, at a maximum speed, with a minimum expenditure of force?

Now, the load to be moved is made up of these elements: the weight of the oarsmen, that of their oars, that of the coxswain, if there be one, and of the boat and its fittings.

Composition of the load.

We will suppose the oarsmen to have been reduced to the minimum of weight, and brought to the maximum of effective strength and endurance, by a proper course of training. Their weight in this state, added to that of the other components, which can be exactly fixed, gives in pounds the whole load, and the exact measure of the displacement required.

The motive power is the muscular strength of the oarsmen, acting through the medium of the oar. Considered during the brief period it is exerted, this force *cannot be increased*; on the contrary, every exertion will diminish it. And hence, this power is not a constant quantity, but one which gradually lessens as new efforts are put forth, and which can be completely exhausted if these efforts are sufficiently prolonged. But while the motive force is thus gradually diminishing as the given load is moved, the load itself remains unchanged. Neither the oarsmen, the oars, nor the boat has become lighter; indeed, if any water has been shipped, the load is increased. The load, therefore, unlike the power, is a constant quantity.

Nature of the motive power.

In view of these facts, it is very apparent how essential it is to reduce the load at the outset to the least limit possible, without impairing effectiveness. The less dead-weight there is to be propelled, the longer will the fixed amount of strength and endurance with which the crew entered the contest hold out, and the further or faster can the load be driven. Look at it as we will, the men are but machines of limited powers, though highly trained; but training only teaches how best to use power, and cannot create it. Now, in reducing the weight of the load, we cannot take an ounce off the weight of the men, but we can, perhaps, take pounds from that of the oars and the boat. Hence we see how important it is that, without impairing other qualities, the boat should *be as light as possible*, to the end that every exertion of the oarsmen's strength should *be applied solely to useful effort*.

Load should be reduced to a minimum.

It is the full realization of this point which has led American oarsmen to dispense

with the services of a coxswain in four and six oared racing-boats, and has prompted builders to make such efforts to reduce the weight of their racing-shells.

In order the better to investigate the effects of buoyancy, stability, displacement, and the general phenomena due to the resistance of the water, in determining the form of the hull, we will divide the latter into two distinct parts at the load-line, namely, the *out-of-water body*, which lies above, and the *under-water body*, lying below this line.

Relation of
under-water
body to buoy-
ancy and stabi-
lity.

And, first, as to the relation of the under-water body to buoyancy and stability.

In conformity to the general law, that fluids which are non-elastic, like water, press equally in all directions, the floating power, or buoyancy, of water is due to the constant upward pressure it exerts against the surface of bodies immersed in it; and this pressure rapidly increases as the depth of immersion is increased. While it is due to this power that bodies are sustained in the water, it is also the force which tends to upset them; but by a judicious selection of forms we can use this same force to right the body and give it stability.

Stability.

How, then, is this to be accomplished? How are we to control this power, which seems quite opposed to stability, so that it shall give us this essential quality in our boat?

Let us assume that the centre of gravity of the boat and the centre of its figure or form are coincident. So long as this is the case, since the water presses equally against the bottom and sides for equal depths, the forces engaged will all be in equilibrium, and there will be no tendency to upset.

But if we disturb this relation of the centre of the figure to the centre of gravity, another law must be taken cognizance of, namely, that when in floating bodies these centres do not coincide, the centre of the figure will at once revolve about the centre of gravity, and a tendency to upset will be developed. The measure of this tendency can, in accordance with the above law, be accurately measured on the principle of the lever. Hence, if there is the least change in the relative positions of these centres, due to a change of position of the load, to the blow of a wave, or to the pressure of the wind, the boat will revolve about its centre of gravity, the relation of the surface of the under-water body to the pressure of the water is disturbed, and, as regards the keel, becomes unequal, and the boat rolls over on its shoulder. But as the boat rolls, and, instantly responsive to the change of position, the upward pressure of the water is constantly and steadily transferred to that side which is about to fall, and by giving a constantly increasing pressure upwards corresponding to the increased weight to be supported on this side, and to the form of the shoulder, the revolution is gradually stopped, equilibrium is restored, and the boat is brought to a state of rest.

Under-water
body tends to
upset; should-
ers to right.

The under-water body, therefore, on which the water is steadily pressing, tends to upset, while the measure of the righting power exerted by the same pressure lies in the shoulder.

How to make this under-water body, this upsetting part, large enough to carry the load, and yet give it the least power for harm, and how to make the shoulders and out-of-water body small, and yet give them the largest sustaining power, is the problem to be solved in connection with stability.

Shoulders
considered.

This leads us to the consideration of the shoulders, the importance of which, as an element in the form of the boat, is very great, since upon them in a large measure depends its steadiness. For not only are their sustaining powers required when

the boat rolls, but they are of essential value in resisting the intermissive downward pressure on the hull due to the force exerted by the oarsman in taking the stroke and making the recover. If we closely observe a racing-shell when in motion, we shall notice that there are two distinct downward impulses given to the boat by the action of rowing. As the oarsman swings himself towards the stern of the boat, reaching over his toes with his hands on the *recover*, the force of the pressure which he imparts to the after-body depresses the stern as if it had been struck by a blow from above. On the *stroke*, his body is thrown forward, and the bow is depressed, though not in as great a degree, as here the arc measuring the path of the body beyond the perpendicular is not as great as that measuring the recover.

The effect of these two motions rapidly succeeding each other is to alternately bury the stern and bow, and to produce a bobbing motion of the boat very destructive of useful force. This motion can only be ameliorated or entirely obviated by extreme stiffness in the boat and well-developed shoulders.

BODY PLAN OF SINGLE SHELL, 12 INCHES BEAM BY 30½ FEET LONG, HALF-SIZE.

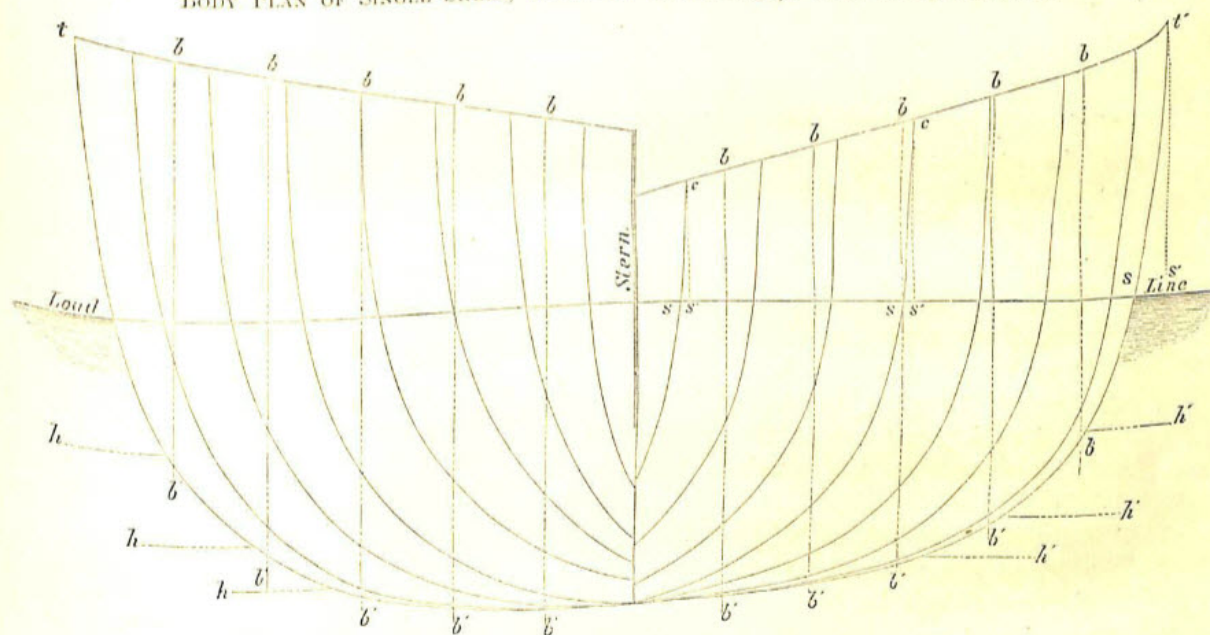


FIG. 3.

In Figures 3 and 4, we have the body plans of two single shell-boats, each of twelve inches beam, built on two quite different models, and which well illustrate the principle of a full and of a defective shoulder. Referring to the body-lines in these two models, it will be readily observed that the greater their inclination is, where they cross the water-line, that is, the greater the slope of the shoulders, the more breadth will they present above the water-line to resist the downward pressure just alluded to, the steadier will be the boat, and the less will be the loss of useful effort. The geometrical measure of this resisting power will be proportionate to the length of the projection of the curves, *s c*, on the plane of the water-lines, represented in both drawings by *s s'*.

Examples of good and defective shoulders.

BODY PLAN OF SINGLE SHELL, 12 INCHES BEAM BY 30 FEET LONG, HALF-SIZE.

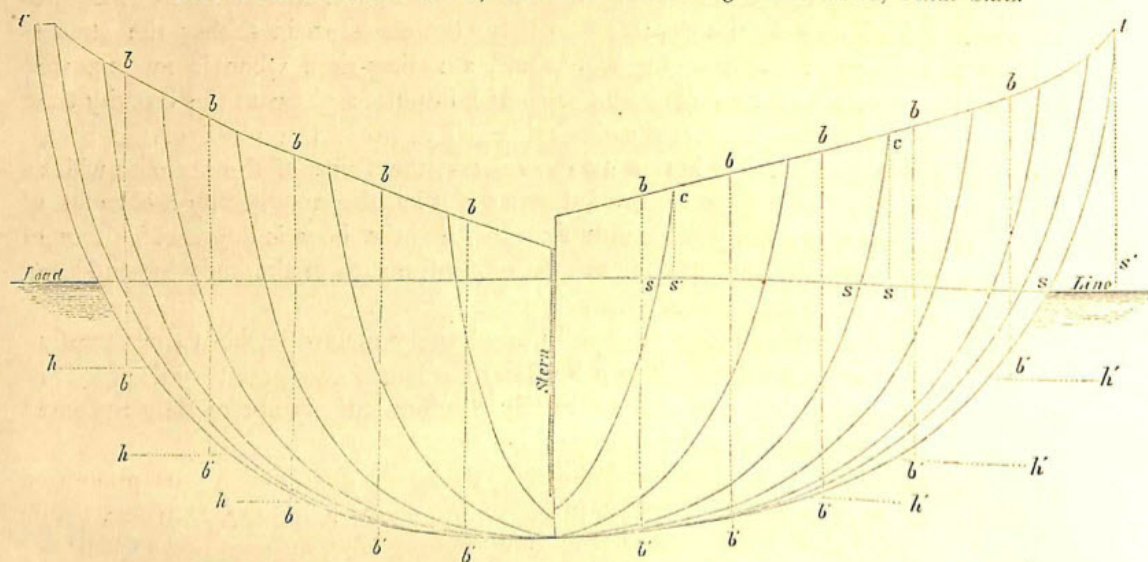


FIG. 4.

It will be noticed that in the new model twelve-inch shell, Fig. 4, this distance, s s' , is, at the beam section, nearly double in length the corresponding distance in Fig. 3.; midway towards the bow three times, and two feet from the bow about double, the corresponding distance in Fig. 3. Hence the new model is the steadier boat of the two, particularly in rough water.

The manner in which this quality of suitable shoulder is combined with the required displacement and the best selection of lines becomes an important measure of the excellence of a shell-boat, and it is herein that the difference lies between our new models for 1871, as described in Part First, and our old models, in which we had followed to a great extent the practice of the builders of wooden boats—a practice well illustrated in the models built by Walter Brown, as given in Plates I. and II.

Displacement.

By displacement, we understand the amount of water it is necessary to remove in order to give place to a floating body of a certain bulk. Bodies designed to float in the water must be so formed that when placed in it they will float at the depth intended and no more. In order that the body shall float at this fixed depth, its weight must be exactly that of the water it displaces; that is, the displaced bulk of water and the immersed bulk of the body, or the weight of the floating body and the weight of the water whose place it occupies, must be identical.

It must be steadily borne in mind in this connection that the floating power of any body has nothing whatever to do with its *shape*, but is entirely due to its size or bulk. This principle is absolute; and, although it is hard to believe that no possible variety of shape can give a body the power of greater or less buoyancy than is measured by the exact quantity of water which it displaces, yet such is the case.

The practical value of the principle lies in its admirable simplicity and perfect exactness. To illustrate: If we take a box two feet long, one foot wide, and one foot deep, and, after placing it in a trough of fresh water, load it so that the united

weight of the box and the load shall be sixty-two and a half pounds, we shall find that the box is immersed to a depth of exactly six inches, that is, one cubic foot of the box is below the surface of the water, and a corresponding cubic foot of water, the weight of which is sixty-two and a half pounds, has been pushed aside or displaced.

Applying this principle to the under-water body, we find that its *bulk* must be exactly equal to the load to be sustained, or, in other words, the cubic contents of the immersed portion of the boat multiplied by the unit of weight—a cubic foot of water—must be equal to the sum of the weight of the oarsmen, the oars, and the boat.

Having now determined exactly the bulk of the under-water body, the question of its form or shape is next to be considered.

Before deciding on this form, let us briefly examine the nature of the resistances which oppose the motion of a floating body.

Nature of the resistances to be overcome by the boat.

These resistances may be reduced to two: primarily, that due to the opposition presented by the water to the direct motion of the body in a given direction; and, secondarily, the friction of the sides of the body against the particles of water immediately in contact with its surface. The first is technically known as the *head-resistance*, the latter as the *skin-resistance*.

Consider for a moment what takes place when a floating body, a boat, for example, is set in motion.

The boat floats by virtue of the upward pressure of the water on its bottom and on its inclined sides, and, since the pressure on one side exactly counterbalances that on the opposite one, so far as these forces are concerned, it remains in a state of rest. If, now, we wish to impart motion, it must be done in one of two ways, either by removing the water from before the boat, excavating a channel for it, and thus removing the pressure in front, so that the pressure on the stern will drive it forward, or to press the boat so hard from behind that it will itself push the water out of the way.

Analysis of its work.

Whichever we do, the water in front must be removed and a channel excavated. The boat must open a passage and clear the water away from its course. The problem is, what to do with the water which resists this force. It cannot escape downwards, for other layers of water oppose, and they in turn are opposed by others below. It must, therefore, be heaped up, as it were, in front of and along the sides of the boat, and gradually flow off over the surface of the surrounding water, and, thus diffused, return to a state of equilibrium. It is this opposition, so to speak, of the water, which constitutes the *head-resistance*.

Accurate experiments have determined that for bodies of equal weight the law of this head-resistance is that it increases directly as the area of the surface opposed, or the *immersed section*, is increased.

Measure of head-resistance for equal weights.

We have spoken of the water being piled up, as it were, in front of the boat. The resistance of this water to the progress of a square-fronted body has also been carefully measured and is accurately known. Its height depends on the velocity with which the boat moves, and the pressure on the surface of the immersed section due to this velocity has been found to be directly proportional to its square. Thus, with a square-fronted body moving at the rate of 8 feet per second, the height of this

In terms of the velocity.

column of water will be twelve inches, and the head-resistance will be 8^2 , or sixty-four pounds on each square foot of surface; for a speed of 16 feet per second, the height of the column will be 4 feet, and the resistance 16^2 , or 256 pounds to the square foot; and for a speed of 32 feet per second, or about 20 miles per hour, the head of water will be 16 feet, and the resistance 32^2 , or 1,024 pounds per square foot. It follows from this that, by reducing the dimensions of the boat athwart the direction of motion, we rapidly reduce the head-resistance, and hence the most usual method of reducing the resistance of the water to a boat or ship is to diminish the area of her immersed beam section by reducing the breadth and depth at the expense of adding proportionately to her length.

Immersed beam section should be a minimum area.

It became, therefore, a matter of the highest importance, in determining the dimensions and shape of the fixed bulk we have to deal with, that we reduce the immersed or beam section of the under-water body to the least practical limit.

Practical limit of width.

In a racing-boat propelled by one man, the least limit of width is that of the seat he can occupy and do his work to good advantage. This has been found by experience to range from nine to thirteen inches, according to his weight, height, and size.

In boats with crews, this limit of convenience of work is found to be from fourteen to seventeen inches. These dimensions, therefore, are taken by boat-builders as the minimum limits of breadth for racing-shells.

To complete the determination of the area of this beam section, the width of which is thus ascertained, we need to know the character of the bounding curve and the height.

Form of its bounding curve.

Careful experiments have shown that surfaces in which the athwartship sections are bounded by curved lines present less resistance to the water when the surfaces are in motion than those where the sections are broken lines; and that among all the variety of curves of which these sections may be composed, and from which we may select, arcs of circles are the best.

Its height.

Regarding the height of the immersed section, this is a variable, depending on the form adopted for the given bulk; but practice shows that with the best forms of hull this height may be taken at a little less than one-third the width of the immersed beam section at the water-line.

Its position.

The shape of the largest immersed section being determined, its position must now be located approximately. Since in this class of boats, to apply the power to the greatest advantage, its centre of effort must be at, or as near as may be, the centres of displacement and of gravity of the hull, and since these centres will be found at or near that part of the hull where the width is the greatest; the fixed area selected for the beam section will accordingly be placed in the vicinity of the midship section, and may be coincident with it. Returning now to the consideration of the head-resistance in the case of a flat-fronted body, we have given a measure of this resistance in terms of the area of the immersed cross section and the velocity, and have shown how, by reducing the width and depth of our boat, at the expense of length, this resistance can be greatly diminished and transformed into skin-resistance, which, as we shall presently show, is of much less importance as a consumer of power.

Here the question is suggested, whether there is not some other method by which we can still further diminish this resistance, and thus directly, and perhaps largely, increase the working value of our motive power. There is such a way directly at hand. By giving our boat a tapering entrance, by sharpening the bow, and connecting it by smooth-flowing curves with that part of the boat where the greatest immersed cross section is formed, we can very greatly diminish this resistance, even to making it from one-tenth to one-fiftieth of that due to the reduced form of beam section.

Method or still further reducing head-resistance.

Correctness of shape, therefore, is most essential, and the attainment of this desirable quality has long been a study among the most distinguished naval architects. In investigating the question of the best shape for the different parts of our boat, we can do little more than allude to their labors, which, on this one point alone, have been arduous and prolific of results.

Philosophy has taught, and experience has confirmed the principle, that, to attain this desired perfection of form, all tendency to angularity of shape or abruptness of entrance must be avoided. The shape must be sinuous, made up of gentle curves, so devised that the boat shall, as it were, insinuate its form among the particles of water, press them gently out of the way with its sides as they advance, and, by such methods, the more smoothly and quickly accomplish the work of making its way.

Sinuous and gently curved forms must be adopted.

The consideration of the form of the *fore-body*, and the character of its lines, first demand our attention.

Best form for fore-body.

Here the first question which arises is, What shall be the shape of the bow? Shall it be that of a wedge, to cleave the water, piling it up and pushing it out of the way on either side? Shall it be a wave-line, insinuating itself between the particles of water far more delicately than any wedge? Or shall it be convex, and have a tendency to slide or ride over the surface of the water? Whichever form we select, it must be such as will enable us to accomplish our work easily, and with the least disturbance of the fluid particles; for it must be constantly borne in mind that every effort expended in doing unnecessary work, in removing, piling up, or disturbing in any way water which need not be removed, piled up, or disturbed, is just so much useful effort subtracted from our resources, and which, if properly used in a race, may decide the fate of the day.

Nature of its work.

The nature of the work to be done is this: In order to move our boat through the water, a channel for it is to be excavated; this done, and the boat having ceased to occupy it, it is to be filled up. To excavate this channel economically, there must be no waste of effort. We must move no more water than is wanted; we must not move it faster than is wanted, nor further nor oftener than is wanted. The water must be pressed aside just far enough to admit of the passage of the middle-body, and no more. Now, to press the water aside, the bow must be wedge-like, and the thinner and more delicate it is, the easier will it penetrate between the particles of water, and impart to them the beginning of that lateral motion which they must take in order to get out of the way of the boat, and thus open the desired channel.

How best performed.

The perfection of this motion of the fluid particles will be that which, taking a particle of water at a state of rest when met by the bow, will, after the sides of the bow

have passed along it and the commencement of the middle-body has been reached, then leave it in the same state in which it was found.

To attain this perfection of lateral outward motion, after the particle has been moved from a state of rest by the bow, it must be pushed aside by the under-water body, as the latter moves forward, with a uniformly accelerated motion, until it has arrived at such a point that from this point to the end of the fore-body it will, by the action of a uniformly retarded motion impressed on it by the peculiar form of the side, be there left in a state of rest. Now, the curve which will impart this motion to the water in contact with the sides of the fore-body has been found by experiment, and is known as the curve of versed sines, or, better, as a wave-line curve, deriving its name from the fact that it represents the curve of a wave of translation, or a wave of the first order.

It is not necessary that we should here enter into a discussion of the merits of this peculiar curve in this position, or point out the defects of the wedge-shaped under-water fore-body. It is sufficient to say that many experiments have demonstrated, and modern practice has confirmed the fact, that, to insure the highest speed combined with the least expenditure of force, the lines of the fore-body must be of this character, but, of course, modified in their application to suit each case that arises.

Form of after-body.

The problem presented in the case of the after-body is quite different from that of the fore-body. We have seen how the channel is to be excavated. We now come to the phenomena of its being filled up, and the restoration of the water to its normal state.

Nature of its work.

The bow met the water in a state of rest, the after-body finds it more or less in motion; and it here becomes the question, What shapes or curves shall be given to this part of the boat, in order that no obstacle may be presented to the water filling up according to natural laws the cavity left after the passage of the middle-body? This point has been most carefully studied, and while many builders still adhere to the old rules with regard to a clean run and the "cod's head and mackerel-tail" model, or, in other words, a full fore-body and a long, thin, and wedge-shaped after-body, yet the results of the experiment of modern science and of the best modern practice are in favor of the use in this part of cycloidal lines, belonging to the same family of curves as the curve of versed sines used in the fore-body. The proper use of these curves enables us to give a full and roomy after-body to the boat, a fine, clean run for the proper escape upwards and laterally of the water to fill the cavity, and, by its conforming in general outlines to the form of a wave as it rolls onward to fill a void, harmonizes the shape of the stern with the shape of this wave according to nature's laws.

Upward curving of bottom at bow and stern.

Before leaving this part of the subject, we will remark, in regard to the shape of the lower bounding line of the largest vertical section of our boat, taken through its long axis, and the question how far it is best to curve this line upward from the mid-ship section both to the head and stern, that both theory and practice show that positive good results from curving the bottom of the boat upwards towards both head and stern. The character and amount of this upward curve is well illustrated in the sheer plans of the various shell-boats shown in Plates I., II., and III. Bearing in mind what has been said in regard to the cycloidal curves of the stern, it is only necessary to remark that all the buttock-lines must partake of this character, since in shallow-draft boats it

is these vertical curves which are the most important. In reconciling these buttock-lines with the keel and top-lines, care must be taken that the conditions imposed on the horizontal lines are not overlooked.

Among many builders of wooden boats a prejudice exists against what they call hollow lines. In some cases this arises from ignorance, in others from the more significant fact that with wood as now used for the skins of racing-shells, with the utmost exercise of their art, the peculiar shapes and advantages due to the use of the wave-lines cannot be attained. Where single streaks are used, and all joints and seams are done away with, paper is the only material with which it is possible to attain these lines in all their perfection, and this fact will yet, by the triumphs of the paper boats, overcome the stubborn opposition which many builders exhibit towards their introduction and use, and cause them finally to admit their superiority.

The cross-section of the immersed middle-body being fixed, its length is determined by the amount of bulk we desire, containing as it must all that is needed of the given amount required, after deducting the contents of the fore and after bodies as ascertained from the data presented by the foregoing discussion. In the racing-boat it is usually short. We have only further to observe that, in moulding its lines, those of the fore and after bodies should pass gently into and be reconciled with them, so that the horizontal lines as they sweep from stem to stern shall be continuous, with no angles or imperfections to mark where the limits of one body passes into those of the other.

The effect of sharpening the bow and moulding the shape of the under-water body with suitable lines is illustrated in the diminished resistance offered to the progress of the boat.

With the wedge-bow, an example of which is shown in the single shell of nine and a half inch beam, modelled by W. Brown in 1868 (Plate I.), the reduction of the head-resistance due to the immersed cross section, representing the latter by 75, is from 27, where the half-angle at the bow is 30° , to 23, where the half-angle is 12° . Below this angle, that is, where the bow is finer, the gain is scarcely appreciable—a half-angle of 6° —only reducing the proportionate number to 21.

For convex arcs, that is, where the bows and fore-body lines are made up of gentle convex curves, the reduction of head-resistance varies from one-third to one-fifth that due to the square-ended resistance, while for wave-lines it varies from one-ninth to one-thirty-sixth, as the length of the entrance is from five to ten times the breadth; while where it is thirty times the breadth the resistance is about one-ninetieth.

By *skin-resistance*, we understand the effect of the friction of the water along the surface of the under-water body or wet skin. This resistance as compared with the head-resistance, even when the latter has been diminished by suitable form of body, is small; but still, when we increase the length of the boat to the limits indicated for racing-shells, it becomes an element of loss of force by no means to be overlooked.

For large bodies, such as ships, whose sides are composed of plank, unprotected, or painted, or coppered, this surface-friction has been carefully ascertained; and for these the coefficient of friction varies from .016 for unplanned plank to .007 for clean copper. For such surfaces as are used on shell-boats, like smoothly varnished wood

Prejudices
against wave-
lines.

Length of
middle-body.

Comparative
effect of differ-
ent lines in di-
minishing head-
resistance.

Skin-resist-
ance.

or paper, no experiments are recorded; but it is evident that for such surfaces, and especially for the polished bottoms of paper shells, this coefficient must be even less than for clean copper.

We propose to investigate this subject during the coming season, and hope to present some results on the point in our next annual issue.

Form of out-
of-water body.

In fixing the dimensions of the under-water body, we were careful to give it exactly the amount of displacement required by the load to be borne by the water. Had we nothing else to consider, and were the power of the oars applied horizontally, without any downward component whatever, the whole hull might be limited in size to that of this under-water body; but there are other essential conditions to be fulfilled, which require that we shall have an out-of-water body of nearly as much bulk as we have below the water-line.

Our boat must under all circumstances, whether pressed down by the action of the oar or of the waves, keep this out-of-water body above the surface of the water, and we must also make suitable provision for the convenience and comfort of the oarsman, that his power may be applied to the best advantage. In determining the best form and the most suitable lines for this part of the boat, the following essential points must be considered: Just as little surface should be exposed above the surface of the water as is consistent with buoyancy and dryness, in order that the exposed parts above the water-line shall present the least amount of surface to the resistance of the air and to the action of the waves, particularly when this resistance is increased by a high wind.

The longitudinal and body lines must be so disposed as to give wide shoulders and all the righting power possible, as on them will depend in large measure its power to resist the burying force of the stroke and the recover, its dryness and ease in a sea-way, and its general stability. Further, these lines must be of such a character that they can be easily reconciled with those of the under-water body.

Height of hull
at midships.

The height of the boat at midships and along the limits of the cockpit depends on the manner in which the power of the oar is applied. The lower the oarsman can sit in the boat, the more horizontal will be his oar, the more perfectly can he immerse its blade, the lower will be the centre of gravity of the boat and its load, and consequently the more stable will it be; but as it is necessary that the knees should be cleared as the hands move back and forth with the stroke, and as most oarsmen can apply their maximum effort better when sitting high than low, there is a practical limit fixed for the seat, which is found to be from four and three-quarter to six inches above the skin of the boat at the keel.

To give the scull or oar its best slope when in position, the beds of the rowlock are, for both single shells and oared boats, from nine to nine and a half inches above the surface of the water. These dimensions, therefore, fix the height of the hulls along the cockpit, for single shells at five and three-quarters to six and a half inches, and for oared boats at from seven to eight and a half inches.

Height of hull
at bow and
stern.

There being no necessity for having this height extended to the bow and stern, on the contrary there being several reasons why it should not be, the hull at the bow is made to rise from one-half to one and a half inches above the water-line, and at the stern from one-quarter to one-half inch. All we need at the bow is enough rise to

keep the stem always out of water, and at the stern enough to keep the water just off the deck, so that there will be no dead-water to carry.

Height of hull
at bow and
stern.

The heights of the stern and midships being thus fixed, the sheer-line joining these points is usually a right line, sloping perceptibly fore and aft from the middle-body, as is illustrated in the sheer plans, Plates I., II., and III. By this plan, every particle of superfluous material and every square inch of unnecessary surface is removed, and both lightness and minimum resistance to the wind and waves are attained. Experience has likewise determined the height of the washboards, and fixed their top edges at from seven to seven and a half inches above the surface of the water.

CHAPTER VII.

PRACTICAL HINTS ON THE SELECTION OF BOATS FOR RACING, HUNTING, AND EXERCISE—GENERAL DIVISIONS OF THE BODY OF THE WORK.

IN the foregoing general discussion, we have merely indicated the principles which should govern the construction of racing-boats. In a work of this character, space will not permit the elaboration of many points of interest connected with the subject; but we hope in future issues to present, from time to time, monographs on the most important principles of the art of boat-building.

Points to be
observed in the
selection of rac-
ing-shells.

Lines.

We may thus summarize what has been said of racing-boats, and apply it to the selection of those best suited for this purpose.

As regards lines, select boats with round bottoms, whose body-lines are arcs of circles, the form of the middle-body tapering gracefully and gently from midships towards the bow and stern by well-defined convex surfaces; the longitudinal out-of-water body-lines convex, especially the top-lines, and those carefully harmonized with and gradually melting into the wave-line bow and cycloidal stern-lines of the under-water body, as is shown in the plans in Plate III.

For large boats, and, indeed, for any boats, it will be well to require the builder to furnish cuts or drawings of the body, half-breadth and sheer plans, as are herewith given of the paper boats, in order that comparisons may be instituted between those of different builders, or different boats by the same builder, particularly in cases where the speed and good qualities of some standard boat have been well ascertained and recorded.

Shoulders.

Observe the slope of the sides at the water-line and above it, and notice particularly the form of the shoulder. Wall, or straight-sided shells, with little or no bearing, will be dull boats in rough water, and row under; while boats with good shoulders, like our new models of 1871, will stand up well under the oar or the roughest waves.

The centre of gravity of the boat and the point of application of the power should be as close together as possible. This will make the boat work, trim, and turn easily, because the centre of gravity of the load and the centre of motion will nearly coincide.

Stiffness.

The stiffer the boat is, the better. Its stiffness can be ascertained by placing it on trestles, and slowly twisting or turning the bow and stern alternately. If the whole hull responds quickly to any change of inclination of the ends, it shows that the frame is strong, firm, and stiff. If, on the contrary, the middle of the boat does not respond, or is at best but slowly, the boat is weak, and the straightness of its length will be more or less affected by every passing swell and by the motions of the crew.

See that the two sides of the hull are symmetrical, and that the centre-line along which the keel is usually placed is straight.

The boat should be well stayed and braced laterally, so that the thrust of the outriggers caused by the strain of the oar may be caught up by the solid frame-work of the seat and keelson, and through them distributed over that part of the boat. By no means have stays crossing the boat just over or in front of the foot-boards, as they are always in the way, and in case of an upset the feet may get caught in them. The traveller, rudder-yoke, and rudder should be neatly and strongly fitted up, so that they will work easily and yet stand heavy blows, as any giving way of these parts in a race may be attended with serious consequences, and perhaps result in defeat.

Stays.

As regards lightness, we have already remarked that while this is a most valuable quality, yet it should be considered of less importance than good lines, good workmanship, and stiffness. If to these essentials lightness can be added, it is an important gain.

Lightness.

For large boats to be used in salt water, all the bolts should be of copper, and the trimmings of copper or brass; for fresh water, iron bolts and fastenings are all that is necessary.

As for stability, it will be readily seen from the character of the cross section of these boats, and the height of the centre of gravity of the body of the rower above that of the hull, that they must necessarily be exceedingly unsteady. If at rest, the least deviation of these two centres from the same vertical plane will have an instant tendency to upset the boat. The oarsman, therefore, must depend almost entirely for steadiness on the spread of the sculls or the oar, which, reaching far beyond the hull, and with the blades lying flat on the water, at once arrests this upsetting motion.

Stability.

When the boat is in motion, however, particularly if it is rapid, the forces which tend to upset, such as the swaying of the body, and the action of the wind or waves, are so small, compared to that which drives the boat forward, that their effect is scarcely perceived. It is for this reason that these boats are much more steady when under way than when at rest.

The boats used for hunting wild fowl are usually either skiffs or canoes. They may be partly decked or entirely open.

Requirements in sporting-boats.

Under the head of skiffs are included all small water-craft whose beam at the gunwale varies from one-fourth to one-fifth of their length, with broad, flat bottoms of a width a little less than at the gunwales, sloping sides, ordinarily composed of a single flat streak, well flared at the bow and stern, and rising considerably higher at the ends than at midships. Passenger skiffs usually have square sterns, for greater roominess in seating the load; but hunting-skiffs are invariably sharp at both ends. Canoes have rounded hulls, are long and narrow, and sharp at both ends. Both ends are alike, and rise usually well above the waist, in order the better to ride over and to throw off the waves. On the model of his boat necessarily depends much of the hunter's success and enjoyment. In a boat best suited for such purposes, the essential points are: *Roominess*, to carry comfortably and conveniently the man, his guns, ammunition chest, blind, pole, and miscellaneous traps. *Steadiness for good shooting*, consistent with speed and lightness. *Dryness in rough water*. The least expenditure in rowing, paddling, or poling. The greatest speed from the sportsman may often be caught on a lee-shore in a blow, or encounter heavy waves in coming out of protected channels and creeks; at such times he does

Roominess.

Steadiness.

Dryness.

not want a boat dull to the stroke of the oar, or one which will readily ship a sea.

Lightness.

The utmost lightness and least draft attainable, provided the preceding qualities are not sacrificed. The quality of lightness is of peculiar value where these boats have to be dragged or pushed through a heavy growth of reeds or grass, when the mud is deep and affords only an insecure foothold, as such work is most exhausting. In such situations, every additional pound tells rapidly in wearing out the strength. Further, by means of a very light boat and little draft, game can often be reached which would otherwise be quite unattainable.

There are often large sheets of water, from one to three inches deep, to which wild fowl resort, which are entirely unapproachable in heavy boats. A light draft of one or two inches gives access to them, and greatly enlarges the sporting-field. In all sporting-boats, the bottom must rise well at the bow and stern; but in those used for night work, care must be taken that this rise does not exceed the draft of the boat, as this will cause the striking of the water-ripple or small waves against the exposed upward curve of the bow to give out a "clucking" sound which frightens the birds.

Further details relating to this class of boats will be found in Part First, under the head of "Skiffs."

Boats for exercise or pleasure.

For pleasure-rowing or exercise, a great variety of boats may be used. The accomplished oarsman usually prefers, even for this purpose, the light racing-shell to all other craft, since he has in it the least amount of weight to propel, and he can, with a moderate expenditure of strength, slip rapidly over the water.

Should be wide and steady.

The great majority of persons, however, who row for the above objects need much wider and steadier boats. The wider the boat, the more sloping its shoulders, and the greater breadth of flat floor it has, the steadier it will be; but its speed will be correspondingly diminished. About three feet wide, and thirteen or fourteen feet long, with a flat bottom, is as small a boat as a person unfamiliar with rowing should commence in, and a large one, if it can be procured, is much better. This is particularly the case where the beginner desires to learn to row correctly and well, as his whole attention should be given to his oar in the elementary lessons; and to do this, he must sit in a wide, heavy boat, where he will feel perfectly safe and at his ease.

Minimum size.

For pleasure or exercise, we would recommend the larger skiffs, the different kinds of gigs, or, to those who can use it, the "Rob-Roy" canoe. A little familiarity with boats will soon teach even the most inexperienced what kinds or styles are best suited to their needs, and with experience will come a more careful discrimination of the merits or faults of each.

Points to be observed in selection of boats for these objects.

The principal points to be noticed in the selection of such boats are, if of wood, that the frames are sound and strong; that the sheathing is well fastened to the timbers, and its joints tight; that the fittings, such as thwarts, floor-boards, stretchers, rowlocks, or thowle-pins, staples and rings for attaching the painters (or rope by which the boat is secured at the bow), rudder-yoke and lines, a cup for bailing water, are all complete and in good order; and that the woodwork is well painted and protected.

If the boat is to be used in shallow water, as, for instance, on broad marshes

or sands, where the ebb and flow of the tide alternately floods and leaves bare broad flat reaches, then flat-bottomed skiffs should be used, in order to have as little draft of water as possible.

If the water is deep, such as in lakes or channel ways, particularly if much exposed, round-bottomed boats, with deep keels and high sides, are to be preferred.

In the first chapter of this Introduction, we briefly considered the change which has taken place in public opinion in England and America during the last fifty years on the subject of athletic sports in general and rowing in particular, and gave some statistics illustrating the present condition and increasing popularity of this exercise.

Recapitulation of subject-matter of this Introduction.

In Chapters Second, Third, and Fourth, we have classified boats according to their use, method of construction, and means of propulsion, limiting our detailed descriptions of boats to those of racing-shells, hunting-skiffs, canoes, and gigs, in which the improvements due to the use of paper have been principally introduced; have traced the history of racing-boats for the last forty years, and given a detailed account of the introduction of the outriggers; have described the construction of modern racing-shells of the present day, and set forth their advantages and defects; have given a detailed account of the manufacture of paper-boats; explained the advantages and disadvantages attending their use, and presented some of the evidences of their excellence and success.

In the fifth and sixth chapters, we have explained the technical terms used in describing the drawings of boats, noted the essential points required in racing-shells, and discussed the subject of stability, displacement, and the resistance of the water, in their relations to the length, depth, beam, and shape of racing-boats. In this chapter, we have applied these principles, and pointed out the essential features required in boats for racing, hunting, or exercise respectively.

General divisions of the body of the work.

It only remains now to indicate the general divisions into which we propose to separate the remainder of our work for convenience of reference.

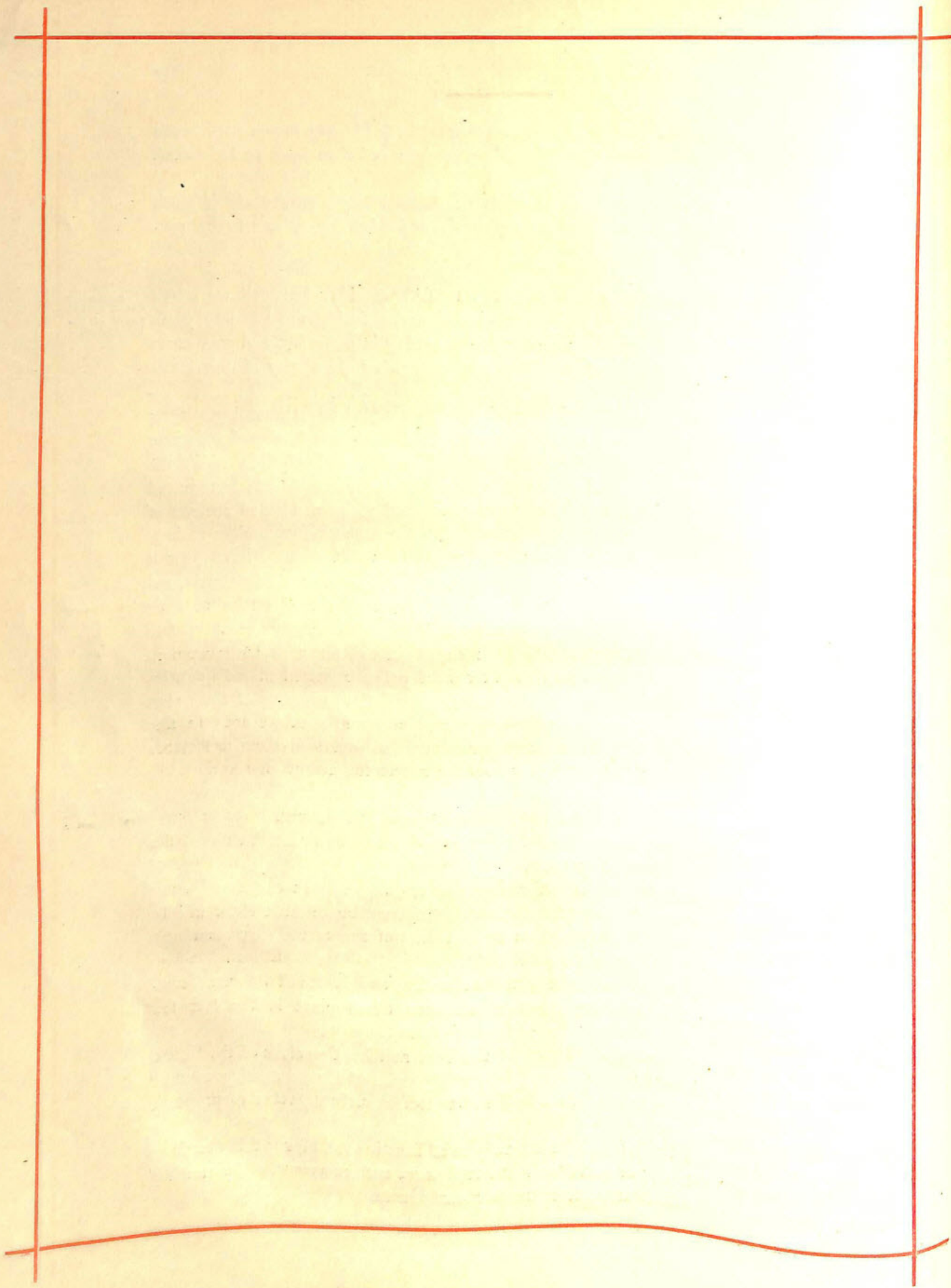
PART FIRST will contain a general description of the boats we build, with all the fittings which usually accompany them.

In PART SECOND, the subject of racing and training will be considered, some practical suggestions on the organization and administration of boat clubs will be presented, together with the constitutions and by-laws of five of the most prominent clubs in the country, as guides for new clubs.

PART THIRD will relate exclusively to boat-racing, and in it will be given summaries of the most interesting races which have taken place in the last few years.

PART FOURTH will contain a list of all the boat and hunting clubs of the United States and Canada, together with a very interesting mass of details relating to their officers, organization, constitution and by-laws, boat-houses, boats, value of property, and the courses used for rowing.

PART FIFTH will be devoted to the subject of boat-houses, giving full details of five different ones, ranging in cost from \$500 to \$5,000, each accompanied by carefully drawn plans and elevations taken from actual measurement.



PART FIRST.

DESCRIPTIONS AND ILLUSTRATIONS OF BOATS AND FITTINGS.

CHAPTER I.

DETAILED DESCRIPTIONS OF SHELL-BOATS.

 UNDER the head of shells are classed the lightest forms of boats used for racing, extremely long and narrow, the hulls barely showing above the water-line, the cockpit, or well, just large enough to contain the crew, the remaining portion of the hull decked, invariably fitted with the outrigger, and the skin composed of a single streak. Shells defined

Before passing to a special description of each boat of this kind we are building this season, a few general remarks on their finish, style of fittings, and the most suitable adjustments for the outrigger and foot-boards for different heights and weights of oarsmen will be in place. Style of finish

All the single and double shells have washboards of fine Spanish cedar or bay-wood mahogany. The washboards of the four and six oared boats are made of clear white pine, which is a lighter wood than the cedar, and can be procured in lengths sufficiently long to avoid the scarfs which must be resorted to if cedar is used. Considerable additional strength is gained by having these sideboards in one continuous piece. The thwarts of all the boats are made of pine, and are narrow. The seat proper rests on them, attached by screws, and thus admitting of easy adjustment. These seats, from twelve to seventeen inches in length, are made of cherry, a fine, close-grained wood, susceptible of a high polish, and admirably adapted to this purpose, especially where the oarsman wishes to slide on the seat in rowing.

All the wood-work is thoroughly protected by varnish, and every boat is finished with the most scrupulous care.

Each boat is numbered, and bears on the after-face of the well-coaming our trade and patentee mark.

The boats are usually built of the average weight, which is that given in the table accompanying each description; but we build them lighter or heavier where parties for special reasons desire something out of the ordinary course.

Outriggers.

Since the centre of gravity of the oarsman must coincide with, or be in the same vertical athwartship plane with that of the boat and oars, in order that it may trim on an even keel, the position of the oarsman must necessarily fix that of the thwart on which he sits; and this determines the point of application of the power, or the thowle. Hence, the after-edge of the thwart is usually taken as the fixed line, to which is referred the position of the thowles and of the stretchers, or foot-boards.

Reach

The distance of the after-face of the thowle from the after-edge of the thwart depends on the length of body and arm of the rower, or, in other words, on his reaching capacity. It varies from nine to thirteen inches in boats fitted for sculls, ten to ten and a half inches being the usual distance, and the one we advise, where individual experience has not best determined what it shall be. In oared boats, the usual distance is thirteen inches.

Height of work.

The height of work, or the height of the bed of the rowlock above the bottom of the boat, is another somewhat variable element. This height is directly dependent on the draft of water, since the main object is to so arrange the rowlock that, with the oarsman in position, the blades of his oars or sculls shall take the water at the best angle and to the greatest advantage. For wooden single shells, this height is taken at thirteen inches; for the lighter paper ones, it is twelve and three-quarter inches, which gives, for the usual drafts, nine and a quarter to nine and a half inches for the height of their rowlocks above the water.

For oared boats of wood, the height of work is from sixteen to seventeen inches; but in our paper four and six oared shells, owing to their less draft, this height is about fourteen and a half inches, or, if the seat is taken at six inches above the inside face of the skin of the boat, the height of the bed of the rowlocks above the seat will be six and three-quarter inches and eight and a half inches for the single shells and oared boats respectively.

Spread.

Open-hand sculling.

Over-hand sculling.

Cross-hand sculling.

In single and double shells, *the spread of the outriggers*, or the horizontal distance between the inner faces of the rowlock-beds, depends on the method of using the sculls. For *open-hand* rowing, or where a slight space of say one-half an inch to an inch is left between the ends of the handles of the sculls when in position, this spread should be five feet, rarely more, as the effect of so much outboard weight strains the outrigger-timbers too much. For *over-hand* rowing, or where one hand lies over the other as the stroke is made, the spread is four feet ten inches. This is the usual width, and suits the average of oarsmen best. For *cross-hand* rowing, or where one of the wrists lies over the other on the stroke, four feet eight inches is frequently used. These widths are the standards, and require that the length of the sculls should be ten feet, ten feet two inches to ten feet three inches, and ten feet four inches to ten feet six inches respectively.

For oared shells, where the beam varies only between the limits of seventeen to twenty-four inches, the distance from the inner face of the rowlock-bed to the axis of the keelson varies from twenty-four and a half to thirty inches, usually twenty-eight to thirty, and this whether the oarsmen sit in a line directly over the keelson, or alternately along the side of the boat, between the middle and the ends of the thwarts.

Seating crews in oared boats.

As regards these two methods of seating the crews of fours, sixes, or eights, each has its advocates. If the men are on a line in the middle of the boat, the inequalities of weight in the respective members can be more easily arranged, and have less effect

in impairing the steadiness of the boat than if the crew are arranged the other way. The strain on the frame is not so great, and the power is more equally applied. On the other hand, this plan requires a shorter oar, and hence a less effective stroke. To give the arms full play, the thwarts must be not less than four feet apart (from aft-edge to aft-edge), thus diffusing the power of propulsion when it is better to concentrate it.

By seating the crew alternately on either side of the boat, the maximum length of oar can be used, and the most effective use of the power can be made; the thwarts can be brought more closely together than by the other plan, and the power be better concentrated; but, if not properly paired as to weight, it is much more difficult to trim the boat, and the strains due to the action of the oar are sensibly increased. For powerful, well-paired, and trained crews, this plan is the best; for less disciplined and unequal-weighted crews, the other is most suitable.

Foot-boards.

The distance of the foot-boards from the after-edge of the thwart must be such that in the recover the hands shall just clear the knees, and must necessarily vary according to the height of the oarsman and the length of his legs. The metal fastenings which attach the foot-board to the keelson and inwales are so arranged as to permit its adjustment in three positions, one inch apart. The middle one being adjusted to the average distance corresponding to a given height, a reach one inch shorter, and another one inch longer, can in this way be obtained, thus meeting all ordinary demands for that height. *In single and double shells*, our practice is to place the middle holes in the metal fastenings, which give this average position of the foot-board as follows: for heights of 5 feet 6 inches, 5 feet 7 inches, and 5 feet 8 inches, the distance of the bottom edge of the foot-board to the aft-edge of the thwart is 27 inches; for heights of 5 feet 9 inches and 5 feet 10 inches, 28 inches; for heights of 5 feet 11 inches and 6 feet, 29 inches; over 6 feet, 30 inches. *For four and six oared boats*, these distances are slightly increased, usually one-half inch to one inch. The different kinds of foot-boards used are fully described under the head of "Boat-Fittings" in Chapter III. of this part.

Method of describing each boat.

In the following descriptions of the boats we build, we have endeavored to give the reader all the information it is possible to convey by means of engravings, tables, and letterpress. Those who are familiar with boats, and particularly with shells, will find in them all they desire to enable them to purchase understandingly. Those who are not familiar with water-craft may find, after careful reading, many points not touched upon, and that these pages leave much to be desired. To such we would say that nothing but actual experience with and the use of boats will give them that familiarity with details which they now feel the need of; and that, so far as the specialties treated of in this work are concerned, nothing like it has ever before been attempted by any builder.

The description of each boat comprehends the following data: A body plan of its hull (or of a boat of its class), given on the same page with the text, for convenience of reference.

In these plans, a strict uniformity of drawing and lettering is preserved. The full-curved lines, as already explained, show the intersections of the buttock-planes with the skin. The vertical lines, *b b*, are the projections of the buttock-lines, which are shown in their full length in the sheer plans, Plates I. to IV.; *h h* are the projections of planes which cut out the under-water lines, as

shown in the breadth plans; *s s'* gives the measure of the value of the shoulders. In the large plates, I. to IV., the breadth and sheer plans of the principal boats, and which are also types of their class, are given on a scale sufficiently large to exhibit fully and clearly every essential point.

The exact dimensions of the hull of each boat are noted, so that all its distinguishing features are known. The details of its capacity are accurately calculated for both fresh and salt water, and the drafts of water corresponding to various weights of crew are set forth.

The most suitable weight of oarsman for each boat is given, and, in the selection of a boat, this recommendation should be observed. The price of each boat is also noted.

Lastly, under the head of "Remarks," such details are presented as pertinent to each case, and which go to illustrate the merits, capacity, or model of the particular boat described, as compared with some other.

Specific data
to be supplied
when shell-
boats are or-
dered.

IN VIEW OF THE FOREGOING REMARKS, PARTIES ORDERING SHELL-BOATS SHOULD FURNISH WITH THEIR ORDER THE FOLLOWING INFORMATION:

The height and training-weight of each oarsman.

The height of seat above skin of boat to which each is accustomed, or which each prefers.

The reach, or perpendicular distance between after-edge of thwart and after-face of thowle.

If a single shell is wanted, state whether the oarsman rows open, over, or cross handed.

*If an oared shell is wanted, give the exact position each man is to occupy in the boat, his weight and height; whether the crew are to be seated in the middle of the boat over the keelson, or alternately along the sides, and whether the stroke is to be rowed on the starboard or port side.**

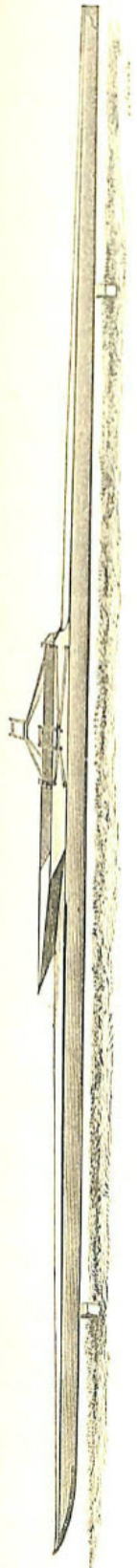
Nickel or sil-
ver plated
work.

Where parties desire an extra-finished boat, the metal trimmings may be either nickel or silver plated. We would particularly recommend the nickel-plated and polished work. It is much harder than silver, is not oxidized or tarnished by salt water, wears well, and is less expensive than silver. The following are the prices for this kind of work:

Outriggers, nickel-plated, per pair extra.....	\$6 00
“ nickel-plated and polished, per pair extra.....	14 00
“ silver “ “ “ “	23 00
“ all the iron work drawfiled and polished, no plating, per pair extra,	7 00
Nickel-plating and polished trimmings of single shells	6 00
“ “ “ double shells.....	12 00
“ “ “ four-oared shells.....	16 00
“ “ “ six-oared shells.....	23 00
Silver-plated and polished bow and stern tips, for single and double shells.	6 00
“ “ “ “ four and six oared shells....	7 00

* The starboard is the right side of a vessel when looking from aft forward. The port side is the left side when looking in the same direction.

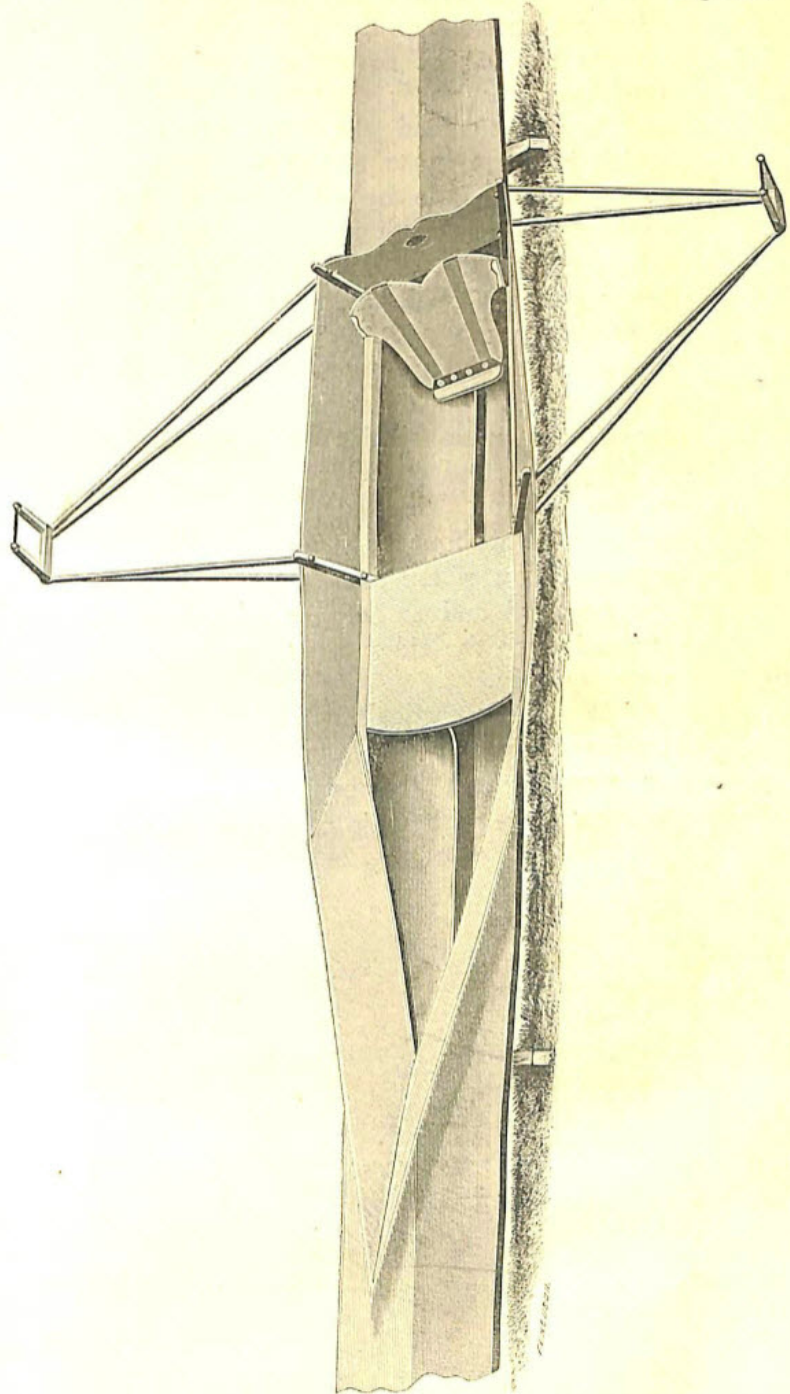
FIG. 5.



SINGLE SHELLS. — We present herewith, in Fig. 5, a side view, and, in Fig. 6, an inside view, of a single shell as now built by us, with all our latest improvements in fittings. These engravings are exact reproductions of the original photographs, and hence convey the most accurate representation possible of this class of boats. In consequence of their great length, compared to their height and width, it is difficult to make a side view large enough to represent clearly all the little details; but even those the least familiar with these boats will perceive the accuracy of the sketch, which conveys a good idea of the relation of the cockpit to the whole length of the boat, as well as to that portion of it which is decked, and of the small height of the hull proper and the well-coaming in comparison with the length. The darkened parts at the bow

FIG. 6.

Single shells.



and stern are the metal tips protecting the ends, and which are shown on a large scale in Figs. 46 and 47, Chapter III. When the boat is loaded, the most of the hull is below the water-line; hence it will be apparent that there is scarcely anything exposed to the effects of wind

Single shells. but the sides of the well-coaming. The resistance from this source is, therefore, the least possible.

In Fig. 6, the cockpit and its several parts are clearly presented. We have the thwart, which is supported along its middle by the rising or upper kelson, and serves to bind the sides of the boat together; the four outrigger-timbers, which in these boats are also made to serve as braces, two attached to the seat and two attached to the bulkheads; the foot-board, hung on the inwales by ingenious metal fastenings, with its metal heel-plate for supporting the oarsman's heels, the whole shown in detail in Figs. 51, 52, and 53 of Chapter III.; the kelsons, the lower one too small to be distinguished in so diminutive a drawing, the upper running the length of the cockpit, rising under the seat, and acting as a backbone for the boat; the outriggers, firmly screwed to the braces, and, in this boat, having a spread between the inner faces of the rowlock of fifty-eight inches. The seat for sliding upon, which is supplied with these boats, is not represented; it is simply screwed on to the thwart, the grain of the wood running in the direction of the kelson. This seat is shown in Fig. 58, Chapter III. The foot-board is represented without its strap, to avoid confusing the engraving; it is given in the representation of the foot-boards in Chapter III.

Forward and aft of the cockpit is shown a small portion of the decks tightly strained over the ridge-piece, thus forming a sloping surface for throwing off the water quickly.

It will be particularly observed that there are no ribs or obstructions along the inner face of the skin. This adds greatly to the ease and rapidity of cleaning or sponging out the boat, and will be appreciated by those who have used the wooden boats with their numerous timbers and dirty corners.

BODY PLAN OF SINGLE SHELL, $9\frac{1}{2}$ INCHES BEAM BY 31 FEET LONG—
NEW MODEL OF 1871.

Single shells.

ONE-HALF FULL SIZE.

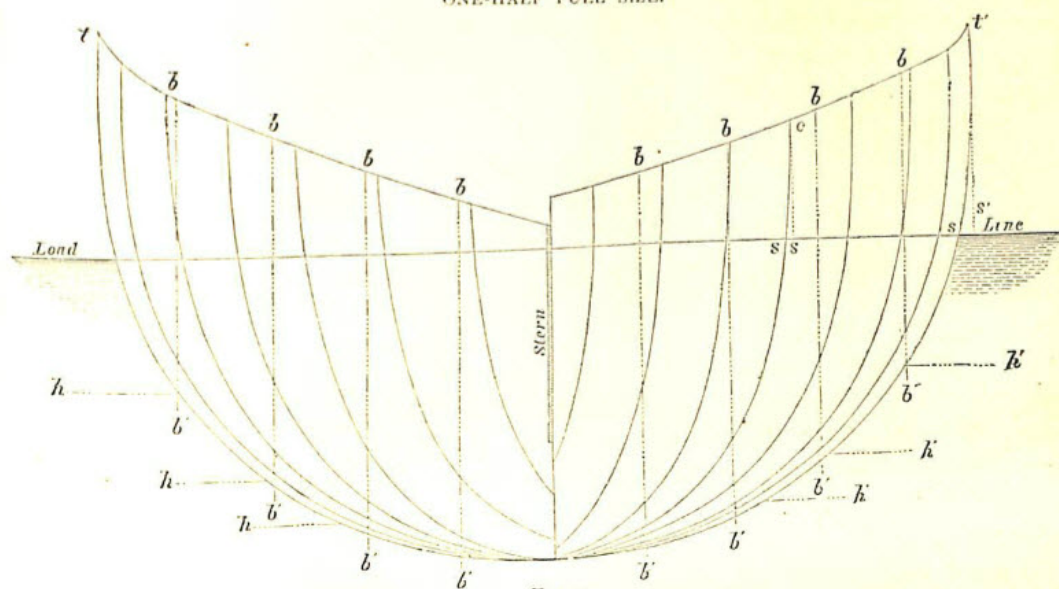


FIG. 7.

For Breadth and Sheer Plans, see Plate I.

DIMENSIONS OF HULL.

Length, 31 ft.

Beam, $9\frac{1}{2}$ in.Height at Bow, 4 in.; Midship, 6 in.; Stern, $3\frac{3}{4}$ in.

Length of Fore-body, 15 ft.

Middle-body, 1 ft.

After-body, 15 ft.

CAPACITY.

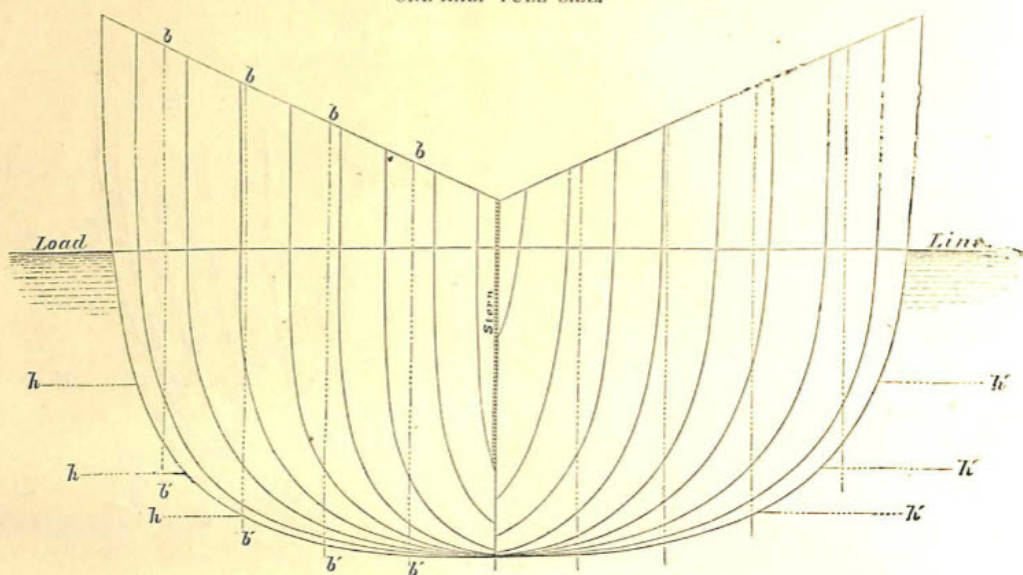
FOR A DRAFT OF	THE DISPLACEMENT IS FOR		DISPOSITION OF THE DISPLACEMENT FOR THESE DRAFTS.							
			IN FRESH WATER.				IN SALT WATER.			
	FRESH WATER.	SALT WATER.	Boat.	Oars.	Crew.	Total Weight.	Boat.	Oars.	Crew.	Total Weight.
3 inches.	162 lbs.	166 lbs.	30	6	126	162 lbs.	30	6	130	166 lbs.
$3\frac{1}{4}$ "	176 "	180 "	30	6	140	176 "	30	6	144	180 "
$3\frac{1}{2}$ "	194 "	199 "	30	6	158	194 "	30	6	163	199 "

The most suitable weight of oarsman for this boat is from 125 to 140 lbs.
PRICE.—With outriggers and foot-board complete (no sculls), \$100.

REMARKS.—In so narrow a boat, it is very difficult to obtain much stability or a good shoulder; everything is subordinated to a minimum immersed under-water body and fine lines. This model, however, presents good shoulders, as will be seen by comparing it with the $9\frac{1}{2}$ -inch on next page. It consequently behaves well in rough water for weights up to 140 lbs. Its moderate length for the beam causes it to turn easily, and in smooth water it is an exceedingly fast boat. This model is an example of the modified use of the wave-lines in the under-water body, joined with convex top-lines. Well shown in the breadth plan.

Single shells.

BODY PLAN OF SINGLE SHELL, $9\frac{1}{2}$ INCHES BEAM BY 33 FEET LONG—
MODEL BY W. BROWN, 1868.
ONE-HALF FULL SIZE.



For Breadth and Sheer Plans, see Plate I.

DIMENSIONS OF HULL.

Length, 32 ft. 10 in. Beam, $9\frac{1}{2}$ in. Height at Bow, 4 in.; Midship, $6\frac{1}{2}$ in.; Stern, $3\frac{3}{4}$ in.
Length of Fore-body, 16 ft. 5 in. Middle-body, — ft. — in. After-body, 16 ft. 5 in.

CAPACITY.

FOR A DRAFT OF	THE DISPLACEMENT IS FOR		DISPOSITION OF THE DISPLACEMENT FOR THESE DRAFTS.							
			IN FRESH WATER.				IN SALT WATER.			
	FRESH WATER.	SALT WATER.	Boat.	Oars.	Crew.	Total Weight.	Boat.	Oars.	Crew.	Total Weight.
3 inches.	170 lbs.	174 lbs.	30	6	134	170 lbs.	30	6	138	174 lbs.
$3\frac{1}{4}$ "	184 "	188 "	30	6	148	184 "	30	6	152	188 "
$3\frac{1}{2}$ "	201 "	207 "	30	6	165	201 "	30	6	171	207 "

The most suitable weight of oarsman for this boat is from 130 to 150 lbs.

PRICE.—With outriggers and foot-board complete (no sculls), \$90.

REMARKS.—This has been a favorite boat for the last three years, and is one of Walter Brown's best models. In rough water it is not as dry a boat as the new $9\frac{1}{2}$ -inch, but in smooth water it is very fast. This boat was used by the winners of the Championship of the Bay of Toronto and Canada, August 7, 1869; Championship of Junior Oarsmen of Canada, August 7, 1869; Champion Cup, Union Boat Club, Boston, Mass., May, 1870; by T. Loudon in his race with Berry, October 24, 1870; and in a number of other minor matches in 1869 and 1870. This model is an example of wedge-lines, in both under-water and out-of-water body.

BODY PLAN OF SINGLE SHELL, 10 INCHES BEAM BY 30 FEET LONG—
NEW MODEL OF 1871.

Single shells.

ONE-HALF FULL SIZE.

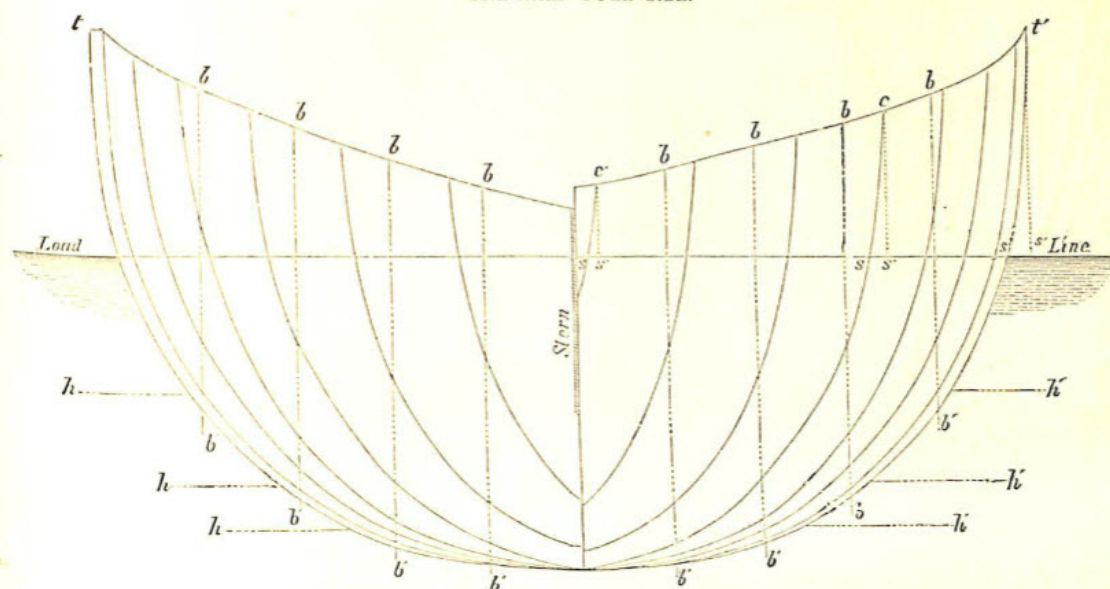


FIG. 9.

For Breadth and Sheer Plans, see Plate I.

DIMENSIONS OF HULL.

Length, 30 ft. Beam, 10 in. Height at Bow, $4\frac{1}{4}$ in.; Midship, 6 in.; Stern, 4 in.
Length of Fore-body, 14 ft. 5 in. Middle-body, 1 ft. After-body, 14 ft. 7 in.

CAPACITY.

FOR A DRAFT OF	THE DISPLACEMENT IS FOR		DISPOSITION OF THE DISPLACEMENT FOR THESE DRAFTS.							
			IN FRESH WATER.				IN SALT WATER.			
	FRESH WATER.	SALT WATER.	Boat.	Oars.	Crew.	Total Weight.	Boat.	Oars.	Crew.	Total Weight.
3 inches.	171 lbs.	175 lbs.	30	6	135	171 lbs.	30	6	139	175 lbs.
$3\frac{1}{4}$ "	185 "	189 "	30	6	149	185 "	30	6	153	189 "
$3\frac{1}{2}$ "	202 "	207 "	30	6	166	202 "	30	6	171	207 "

The most suitable weight of oarsman for this boat is from 135 to 150 lbs.
PRICE.—With outriggers and foot-board complete (no sculls), \$100.

REMARKS.—This boat has excellent shoulders ($s s'$, $s s'$) for one so narrow, and is well adapted to a man of medium height and weight, who is a little too large to sit with ease in the $9\frac{1}{2}$ -inch. Being but 30 feet long, and with a bottom well rounded up fore and aft, as is shown in the sheer plan, she will turn both easily and quickly.

Single shells.

BODY PLAN OF SINGLE SHELL, $11\frac{1}{2}$ INCHES BEAM BY 31 FEET LONG—MODELLED
AFTER A BOAT BUILT BY R. JEWETT, OF DUNSTAN-ON-TYNE, ENGLAND, IN 1870.

ONE-HALF FULL SIZE.

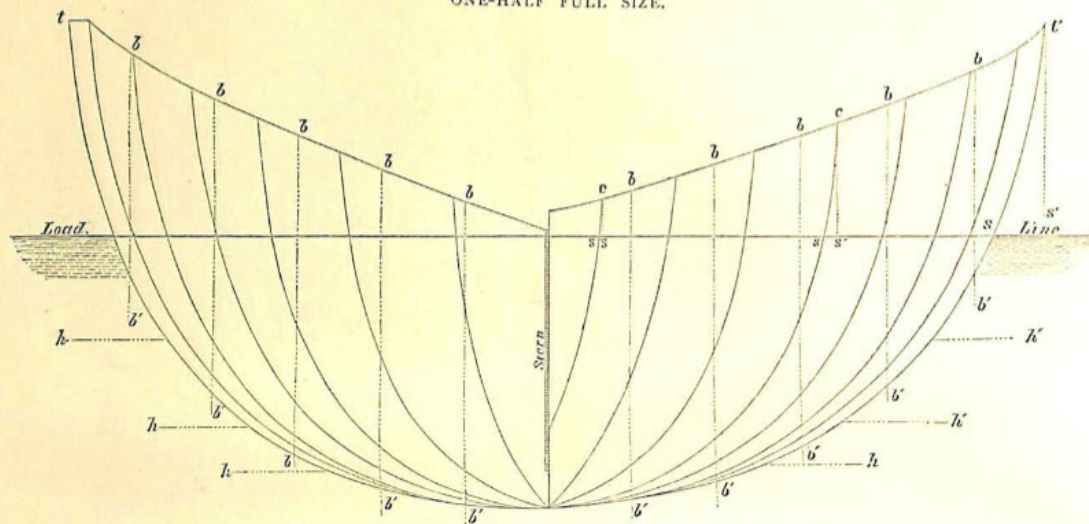


FIG. 10.

For Breadth and Sheer Plans, see Plate I.

DIMENSIONS OF HULL.

Length, 31 ft.

Beam, $11\frac{1}{2}$ in.Height at Bow, $3\frac{3}{8}$ in.; Midship, $5\frac{3}{4}$ in.; Stern, $3\frac{3}{8}$ in.

Length of Fore-body, 15 ft.

Middle-body, 2 ft.

After-body, 14 ft.

CAPACITY.

FOR A DRAFT OF	THE DISPLACEMENT IS FOR		DISPOSITION OF THE DISPLACEMENT FOR THESE DRAFTS.							
			IN FRESH WATER.				IN SALT WATER.			
	FRESH WATER.	SALT WATER.	Boat.	Oars.	Crew.	Total Weight.	Boat.	Oars.	Crew.	Total Weight.
3 inches.	185 lbs.	188 lbs.	32	6	147	185 lbs.	32	6	150	188 lbs.
$3\frac{1}{4}$ "	201 "	205 "	32	6	163	201 "	32	6	167	205 "
$3\frac{1}{2}$ "	220 "	225 "	32	6	182	220 "	32	6	187	225 "

The most suitable weight of oarsman for this boat is from 145 to 160 lbs.

PRICE.—With outrigger and foot-board complete (no sculls), \$100.

REMARKS.—We selected these lines from which to build a model both on account of their intrinsic excellence and the high reputation of Mr. Jewett as a builder, and are confident that our friends will find in this boat many excellent qualities combined; such as buoyancy, due to well-developed shoulders, particularly at midships; dryness, and speed. We invite a careful examination of her lines.

BODY PLAN OF SINGLE SHELL, 12 INCHES BEAM BY 28 FEET LONG—MODEL OF 1870. Single shells.
ONE-HALF FULL SIZE.

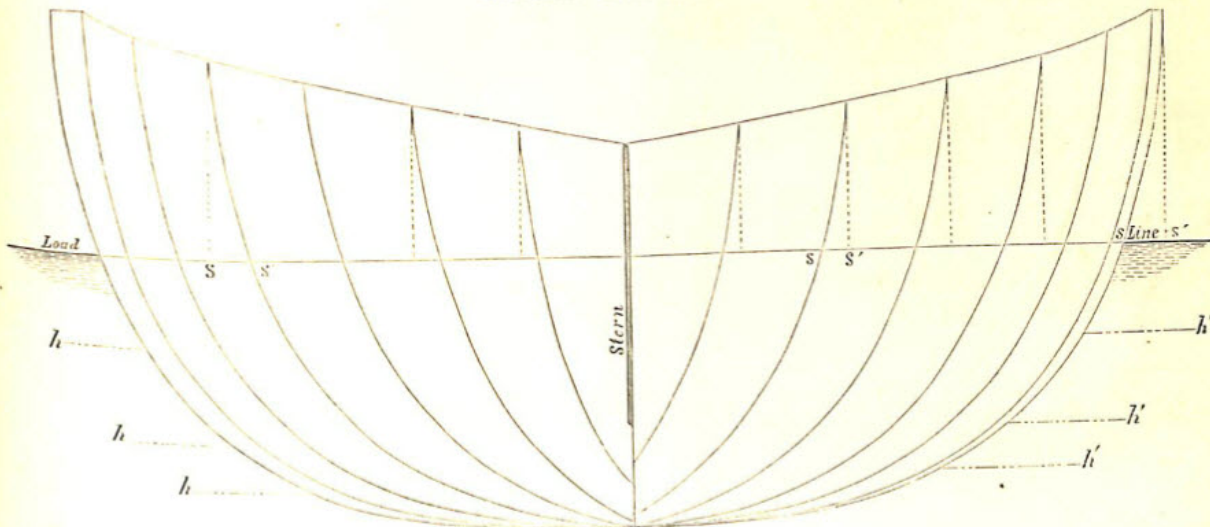


FIG. 11.

The Breadth and Sheer Plans are not given.

DIMENSIONS OF HULL.

Length, 28 ft. Beam, 12 in. Height at Bow, $4\frac{1}{4}$ in.; Midship, $5\frac{3}{4}$ in.; Stern, $4\frac{1}{4}$ in.
Length of Fore-body, 13 ft. Middle-body, 1 ft. After-body, 14 ft.

CAPACITY.

FOR A DRAFT OF	THE DISPLACEMENT IS FOR		DISPOSITION OF THE DISPLACEMENT FOR THESE DRAFTS.							
			IN FRESH WATER.				IN SALT WATER.			
	FRESH WATER.	SALT WATER.	Boat.	Oars.	Crew.	Total Weight.	Boat.	Oars.	Crew.	Total Weight.
3 inches.	180 lbs.	184 lbs.	30	6	144	180 lbs.	30	6	148	184 lbs.
$3\frac{1}{4}$ "	198 "	202 "	30	6	162	198 "	30	6	166	202 "
$3\frac{1}{2}$ "	219 "	224 "	30	6	183	219 "	30	6	188	224 "

The most suitable weight of oarsman for this boat is from 130 to 145 lbs.

PRICE.—With outriggers and foot-board complete (no sculls), \$100.

REMARKS.—This boat is an example of the best form of convex lines, in which the centre of the figure of the under-water body is nearly coincident with the midship section. We have introduced this plan in order that our readers may be enabled to make a direct comparison between it and the wave-line model, 12 inch by 28 foot shell, Fig. 12, and the wedge-shaped bow and stern combined with the cod's head and mackerel-tail principle, as shown in Walter Brown's 12-inch shell, Fig. 13. This boat was very popular last season, and for a light or medium weight is very comfortable and speedy.

Single shells. BODY PLAN OF SINGLE SHELL, 12 INCHES BEAM BY 28 FEET LONG — NEW MODEL OF 1871.
ONE-HALF FULL SIZE.

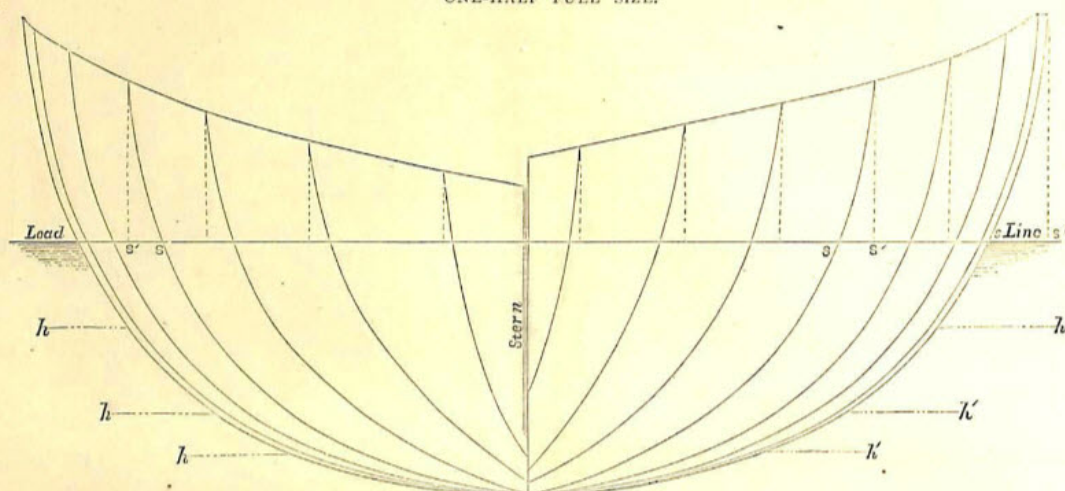


FIG. 12.

DIMENSIONS OF HULL.

Length, 28 ft. Beam, 12 in. Height at Bow, 4 in.; Midship, 5 $\frac{3}{4}$ in.; Stern, 3 $\frac{3}{4}$ in.
Length of Fore-body, 13 ft. Middle-body, 3 ft. After-body, 12 ft.

CAPACITY.

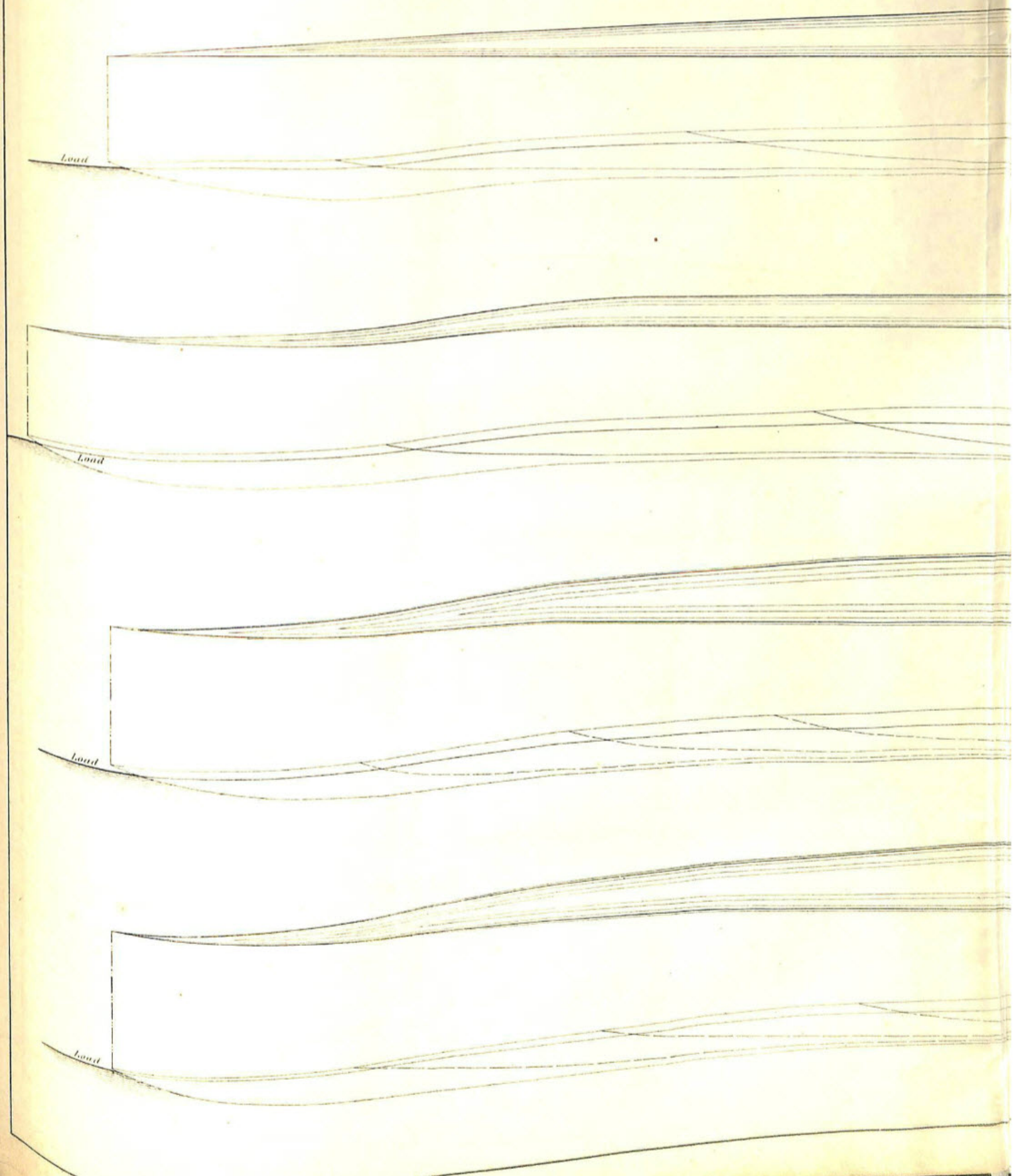
FOR A DRAFT OF	THE DISPLACEMENT IS FOR		DISPOSITION OF THE DISPLACEMENT FOR THESE DRAFTS.							
			IN FRESH WATER.				IN SALT WATER.			
	FRESH WATER.	SALT WATER.	Boat.	Oars.	Crew.	Total Weight.	Boat.	Oars.	Crew.	Total Weight.
3 inches.	171 lbs.	175 lbs.	28	6	137	171 lbs.	28	6	141	175 lbs.
3 $\frac{1}{4}$ "	188 "	192 "	28	6	154	188 "	28	6	158	192 "
3 $\frac{1}{2}$ "	214 "	219 "	28	6	180	214 "	28	6	185	219 "

The most suitable weight of oarsman for this boat is from 130 to 145 lbs.

PRICE.—With outriggers and foot-board complete (no sculls), \$100.

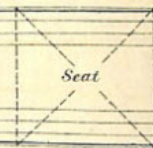
REMARKS.—This is one of our latest single-shell models, and is built with very fine lines. It presents an excellent example of a modified wave-line, under-water body entrance, a full and rather long middle under-water body, with well-developed cycloidal lines in the under-water after-body. No breadth or sheer plans of either this or the convex-line 12 inch by 28 foot shell, Fig. 11, could be prepared in time for this edition; but we shall, in our 1872 issue, present them both in juxtaposition on one plate, and we hope to be able to give also some recorded results of this season's experience with the two boats, which shall assist in determining the question as to which are the best lines.

LINES.



INES.

9½" beam x 31' long. New Model
Breadth Plan



Sheer Plan

9½" beam x 32' 10" long. Model of
Breadth Plan



Sheer Plan

10" beam x 30' long. New Model
Breadth Plan



Sheer Plan

11½" beam x 31' long. New Model
Breadth Plan



Sheer Plan

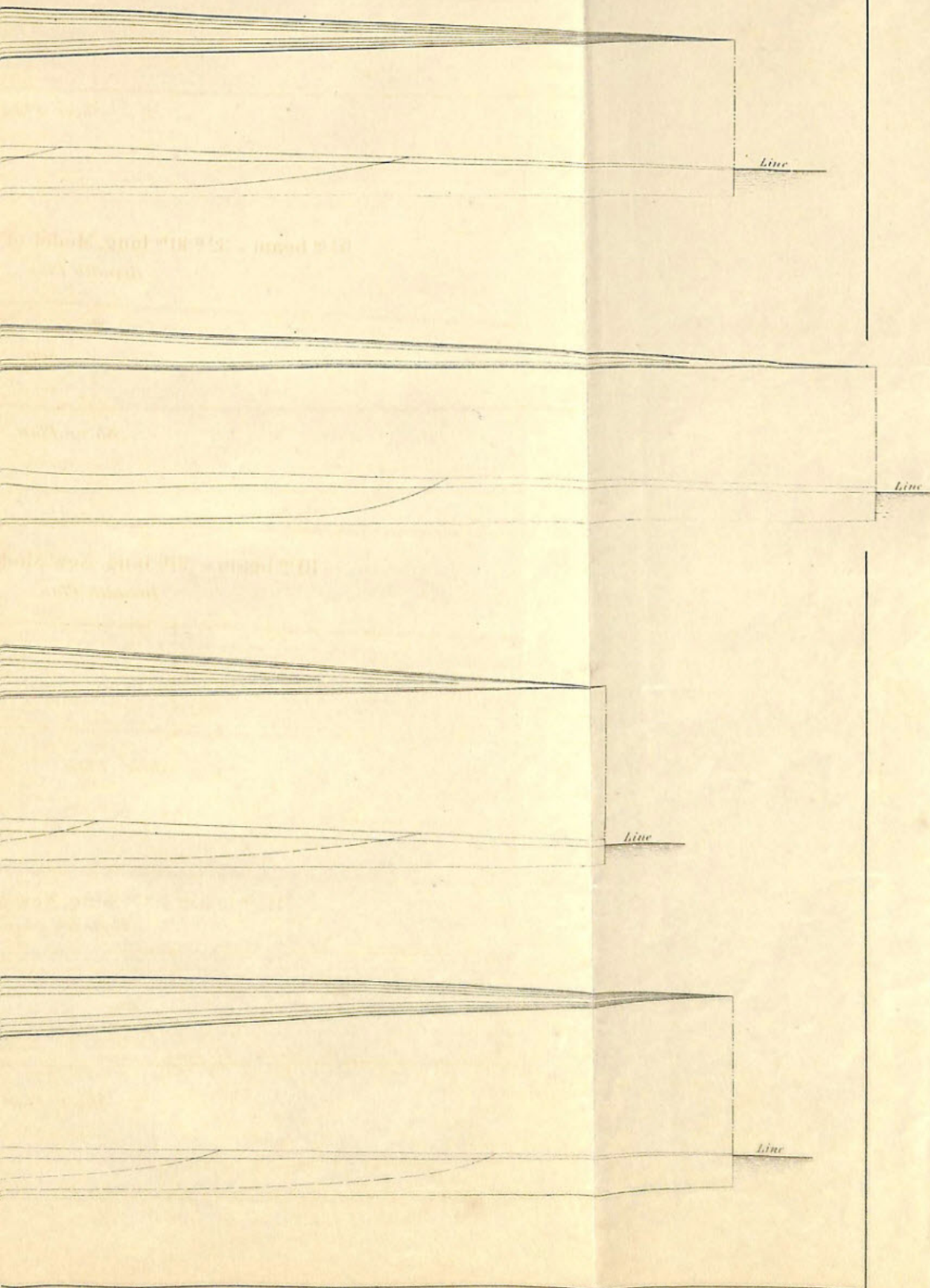
1871.

wn 1868.

71.

1871.

SINGLE SHELLS OR SCULLING BOATS.



BODY PLAN OF SINGLE SHELL, 12 INCHES BEAM BY 30 FEET LONG —
NEW MODEL OF 1871.

Single shells.

ONE-HALF FULL SIZE.

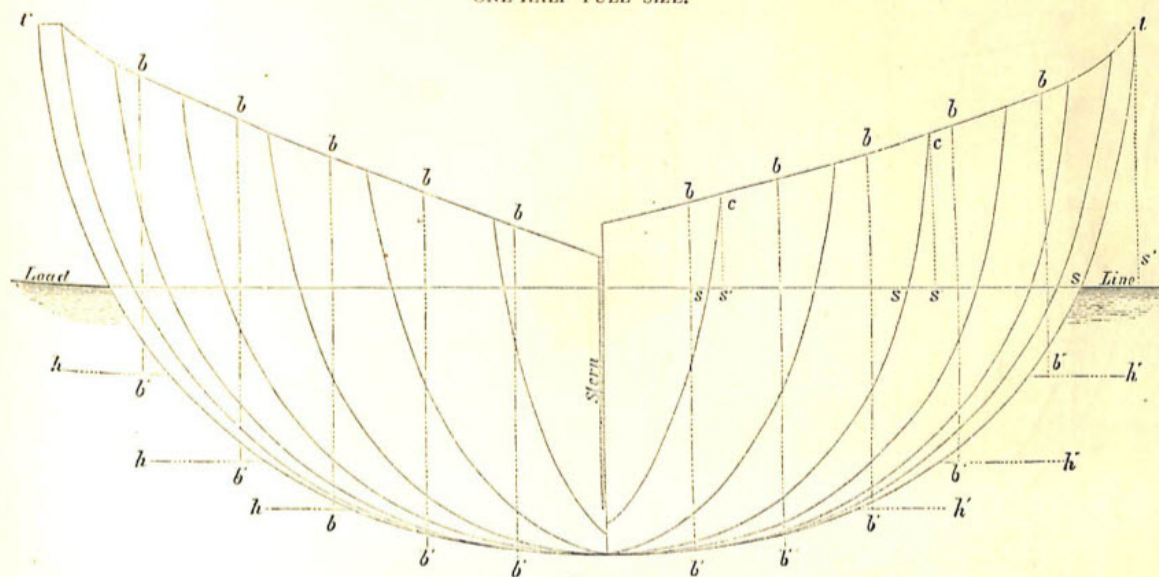


FIG. 13.

For Breadth and Sheer Plans, see Plate II.

DIMENSIONS OF HULL.

Length, 30 ft. Beam, 12 in. Height at Bow, $3\frac{1}{4}$ in.; Midship, 6 in.; Stern, $3\frac{3}{8}$ in.
Length of Fore-body, 14 ft. Middle-body, 2 ft. After-body, 14 ft.

CAPACITY.

FOR A DRAFT OF	THE DISPLACEMENT IS FOR		DISPOSITION OF THE DISPLACEMENT FOR THESE DRAFTS.							
			IN FRESH WATER.				IN SALT WATER.			
	FRESH WATER.	SALT WATER.	Boat.	Oars.	Crew.	Total Weight.	Boat.	Oars.	Crew.	Total Weight.
3 inches.	191 lbs.	196 lbs.	33	6	152	191 lbs.	33	6	157	196 lbs.
$3\frac{1}{4}$ "	213 "	219 "	33	6	174	213 "	33	6	180	219 "

The most suitable weight of oarsman for this boat is from 145 to 165 lbs.

PRICE.—With outriggers and foot-board complete (no sculls), \$100.

REMARKS.—It will be observed by the table that this boat has a remarkable capacity, sustaining a given load on one-fourth of an inch less water than the 12-inch shell described on the next page, which is six inches longer. This boat has excellent shoulders, is very buoyant, dry in rough water, steady, turns easily, and for the weights given above is a most comfortable boat, has fine lines, and in good hands can make quick time.

Single shells.

BODY PLAN OF SINGLE SHELL, 12 INCHES BEAM BY 30½ FEET LONG —
MODEL BY W. BROWN, 1868.

ONE-HALF FULL SIZE.

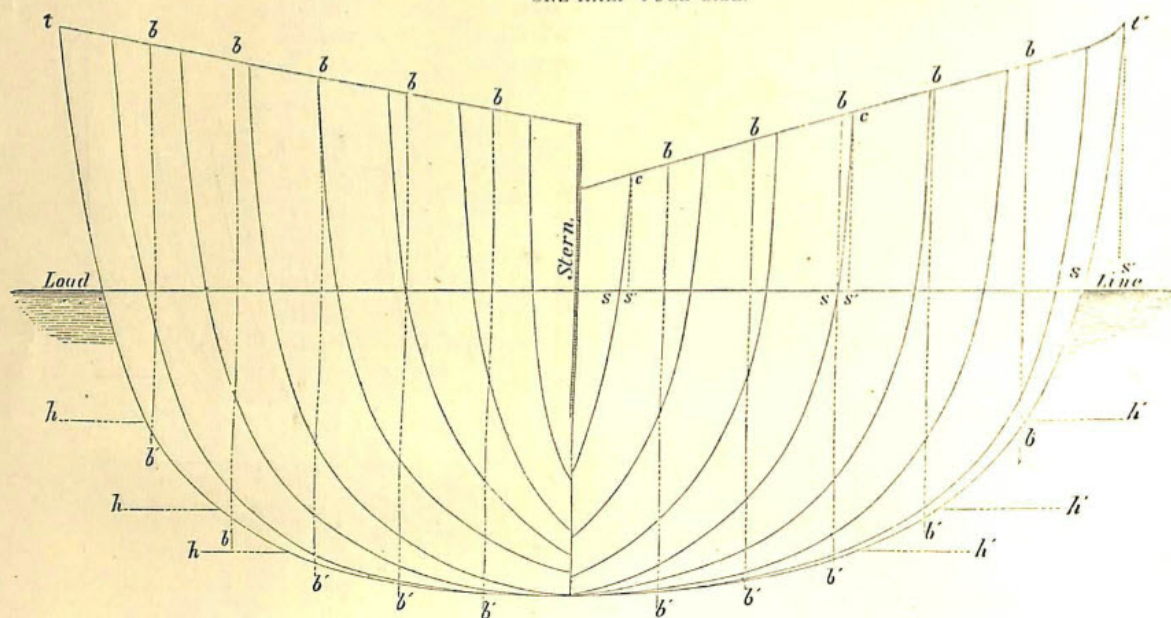


FIG. 14.

For Breadth and Sheer Plans, see Plate II.

DIMENSIONS OF HULL.

Length, 30 ft. 6 in. Beam, 12 in. Height at Bow, 4½ in.; Midship, 6½ in.; Stern, 5½ in.
Length of Fore-body, 15 ft. Middle-body, — ft. After-body, 15 ft. 6 in.

CAPACITY.

FOR A DRAFT OF	THE DISPLACEMENT IS FOR		DISPOSITION OF THE DISPLACEMENT FOR THESE DRAFTS.							
			IN FRESH WATER.				IN SALT WATER.			
	FRESH WATER.	SALT WATER.	Boat.	Oars.	Crew.	Total Weight.	Boat.	Oars.	Crew.	Total Weight.
3 inches.	164 lbs.	168 lbs.	33	6	125	164 lbs.	33	6	129	168 lbs.
3¼ "	187 "	192 "	33	6	148	187 "	33	6	153	192 "
3½ "	207 "	212 "	33	6	168	212 "	33	6	173	212 "

The most suitable weight of oarsman for this boat is from 140 to 160 lbs.

PRICE.—With outriggers and foot-board complete (no sculls), \$100.

REMARKS.—We have records of thirty-five matched races, which have been rowed during the past three seasons in boats made from this model. It is, as will be observed, deficient in shoulder, but this is overcome and somewhat compensated for by the high bow and unusually high stern, which it is almost impossible to bury with any ordinary racing-stroke. This boat presents an excellent example of the wedge-shaped bow and stern, and is one of the best types of Walter Brown's models and his treatment of lines.

BODY PLAN OF SINGLE SHELL, 13 INCHES BEAM BY 30 FEET LONG—
NEW MODEL OF 1871.

Single shells.

ONE-HALF FULL SIZE.

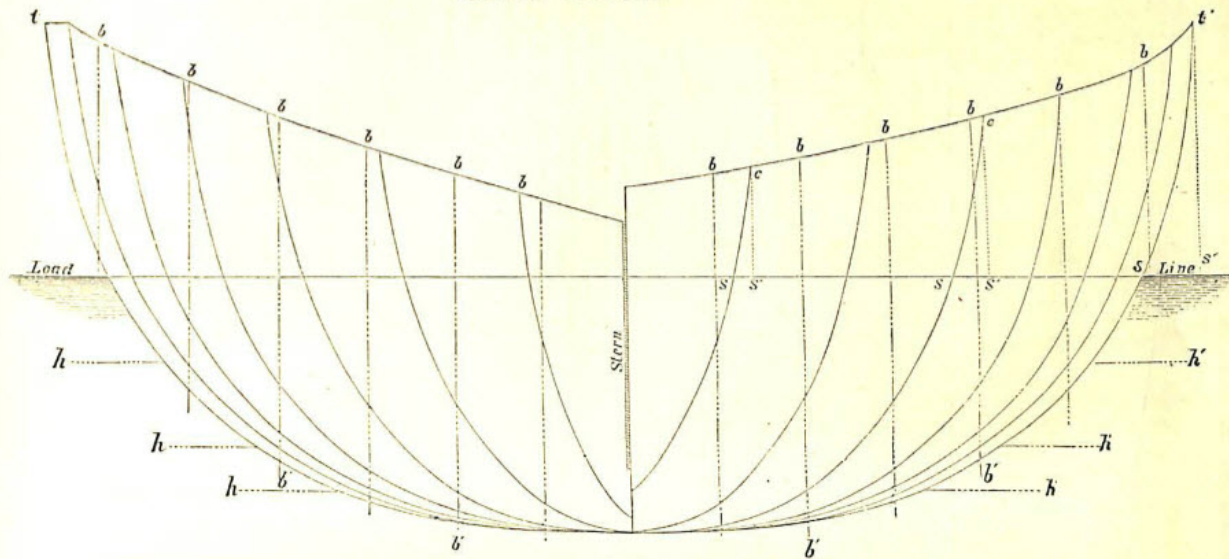


FIG. 15.

For Breadth and Sheer Plans, see Plate II.

DIMENSIONS OF HULL.

Length, 30 ft.

Beam, 13 in.

Height at Bow, 4 in.; Midship, 6 in.; Stern, 3 5/8 in.

Length of Fore-body, 14 ft.

Middle-body, 2 ft.

After-body, 14 ft.

CAPACITY.

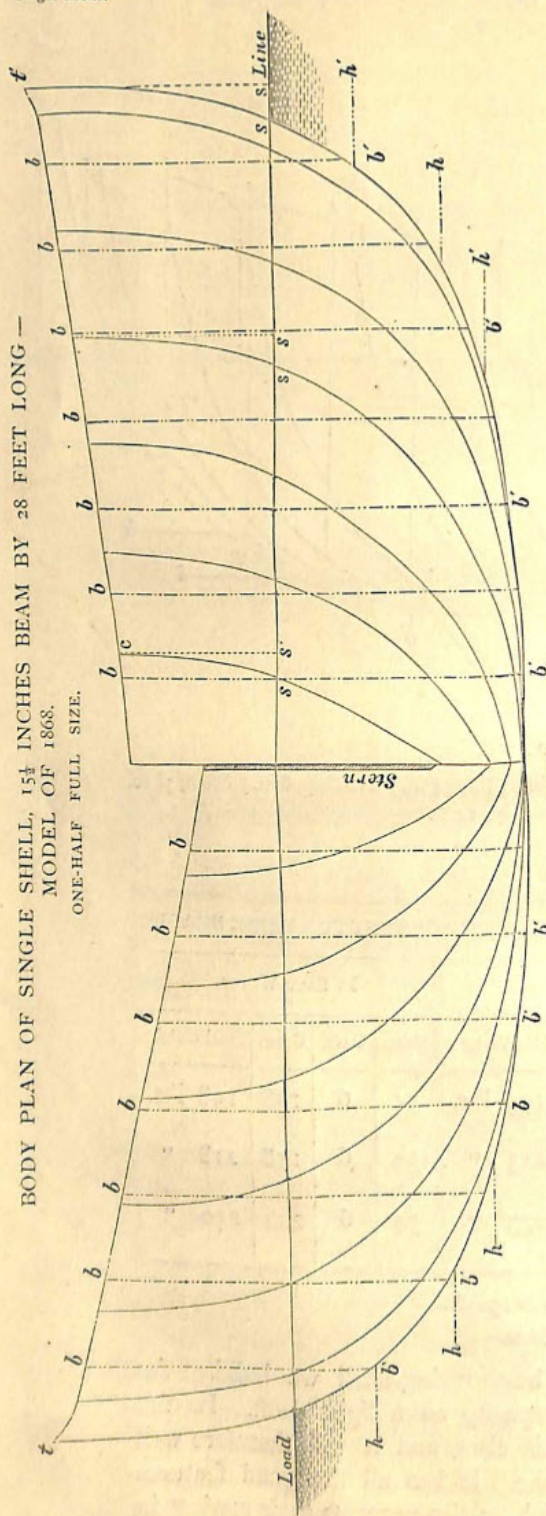
FOR A DRAFT OF	THE DISPLACEMENT IS FOR		DISPOSITION OF THE DISPLACEMENT FOR THESE DRAFTS.							
			IN FRESH WATER.				IN SALT WATER.			
	FRESH WATER.	SALT WATER.	Boat.	Oars.	Crew.	Total Weight.	Boat.	Oars.	Crew.	Total Weight.
2 3/4 inches.	193 lbs.	198 lbs.	34	6	153	193 lbs.	34	6	158	198 lbs.
3 "	213 "	218 "	34	6	173	213 "	34	6	178	218 "
3 1/4 "	235 "	240 "	34	6	195	235 "	34	6	200	240 "

The most suitable weight of oarsman for this boat is from 160 to 190 lbs.
The most suitable weight of oarsman for this boat is from 160 to 190 lbs.

PRICE.—With outriggers and foot-board complete (no sculls), \$100.

REMARKS.—For heavy weights, this is the best racing-shell we build. An examination of the table shows its remarkable capacity on a light draft. Its full shoulders indicate great stability for a boat of this class, and it will therefore well sustain and be very steady under a powerful stroke. It has all the good features of the narrower boats adapted to the use of men whose size prevents their rowing in shells of less beam.

Single shells.



For Breadth and Sheer Plans, see Plate II.

DIMENSIONS OF HULL.

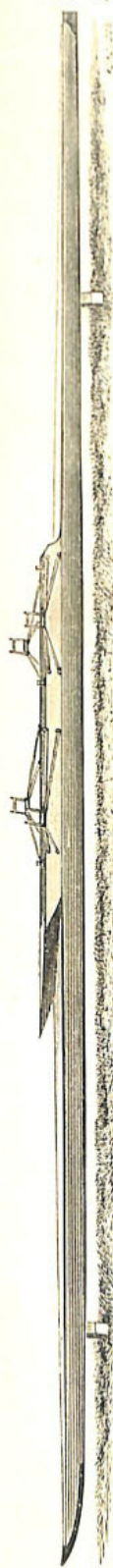
Length, 28 ft. Beam, 15½ in. Height at Bow, 4¼ in.; Midship, 6 in.; Stern, 3¼ in.
Length of Fore-body, 13 ft. 11 in. Middle-body, — ft. After-body, 14 ft. 1 in.
CAPACITY.

FOR A DRAFT OF	THE DISPLACEMENT IS FOR		DISPOSITION OF THE DISPLACEMENT FOR THESE DRAFTS							
	FRESH WATER.		IN FRESH WATER.			IN SALT WATER.				
	FRESH WATER.	SALT WATER.	Boat.	Oars.	Crew.	Total Weight.	Boat.	Oars.	Crew.	Total Weight.
2½ inches.	168 lbs.	173 lbs.	38	6	124	168 lbs.	38	6	129	173 lbs.
2¾	193	198	38	6	149	193	38	6	154	198
3	216	221	38	6	172	216	38	6	177	221
3¼	242	247	40	6	198	242	40	6	203	247

This boat is adapted to oarsmen of all weights from 130 to 200 lbs.
PRICE.—With outriggers and foot-board complete (no sculls), \$100.

REMARKS.—On account of its beam and stability, this boat is a great favorite with those who desire steadiness, ease, and comfort in rowing. It is well suited for those who, having acquired the elements of the art, desire to exercise in a light boat. Nevertheless, in the hands of a powerful and skilful oarsman, it is a fast boat, as the records of the numerous important races won in it will testify, among others that on Lake Saltonstall, Conn., June 28, 1870, where it was rowed by the winner of the "Southworth Cup," valued at \$300. (See Mr. E. T. Owen's letter, in Chapter IV. of Introduction.)

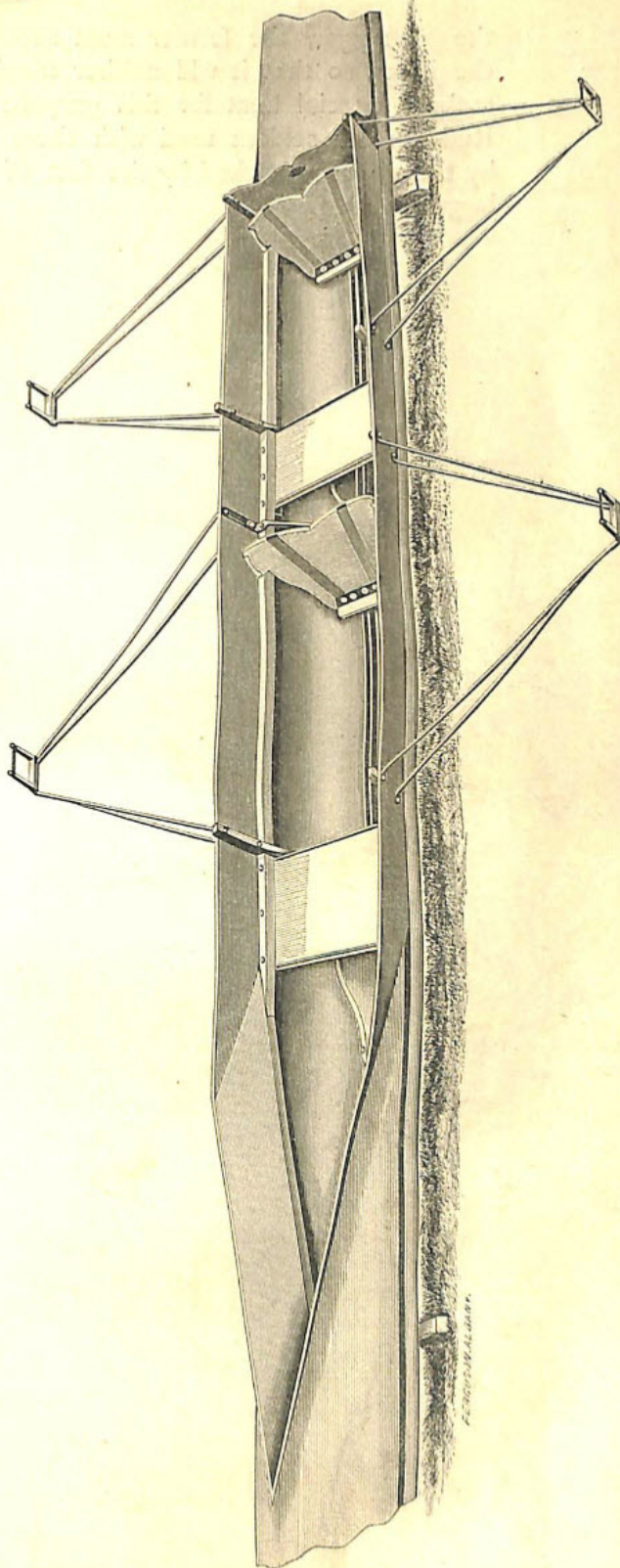
FIG. 17.



DOUBLE SCULLS AND PAIR-OARED SHELLS.—Fig. 17 is a side view, and Fig. 18 an inside view, of a double shell as now built by us, arranged for two oarsmen, each using a pair of sculls. The same general features are here presented which were shown in the engravings of the single shell. The general arrangement of the parts is precisely alike in both classes of boats. The same hull can be fitted up as a *pair-oared* by having but one outrigger at each thwart, arranged for the use of an oar instead of a scull. Pair-oared rowing is the most difficult for beginners, since the balance of the boat and the directness of its course are much harder to preserve than where two pair of sculls are used. The absolute necessity of having the power exerted equally on both sides is apparent, since, if the stroke is not made in unison, if one oar takes a stronger hold of the water than the other, or there is the least variation in the style, the inequality is at once exhibited by the swerving of the boat from its proper direction, and its tendency to roll. As a means of training oarsmen in pairs for work in fours, sixes, and eights, the pair-oar is most admirably suited, and is much used for this purpose in England. Double-scutt boats are useful for training beginners in shell-boat work; the instructor, or coach, taking the stroke and balancing the boat, thus leaving the pupil nothing to attend to but to learn the proper use of the sculls.

The strain on a pair-oared being much greater than on a double scull, owing to the arrangement of

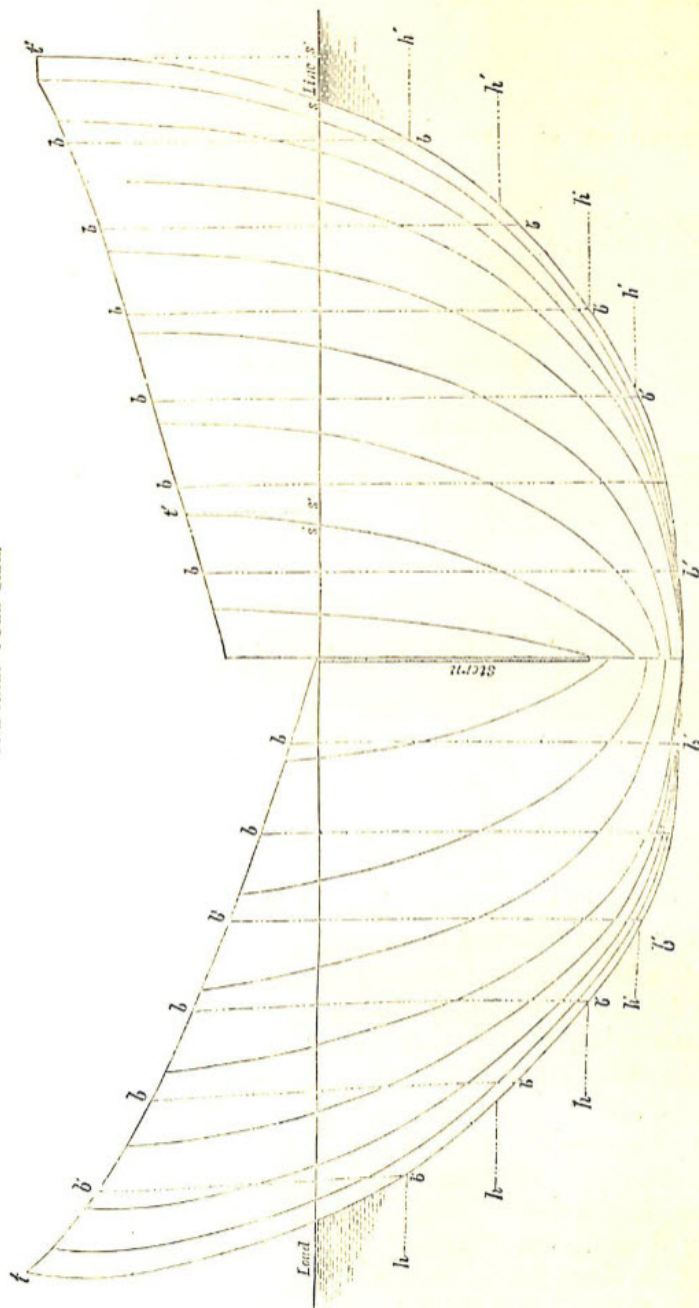
FIG. 18.



Double sculls
and pair-oared
shells.

the outrigger, the former must necessarily be built much stronger and stiffer than the latter, so that it will neither tremble nor twist when in motion. We therefore make a special boat for this purpose a few pounds heavier than the double scull. Rudders are seldom used with these boats; if required, they can be guided either by the traveller worked by the feet of the bow oarsman, or by a coxswain as in the larger boats.

BODY PLAN OF DOUBLE SHELL, 14 INCHES BEAM BY 34 FEET LONG—
NEW MODEL OF 1871.
ONE-HALF FULL SIZE.



For Breadth and Sizer Plans, see Plate III.

FIG. 19.

DIMENSIONS OF HULL.

Length, 34 ft. Beam, 14 in. Height at Bow, 5 in.; Midship, 7 in.; Stern, 4 in.
Length of Fore-body, 17 ft. Middle-body, 2 ft. After-body, 15 ft.
CAPACITY.

FOR A DRAFT OF	THE DISPLACEMENT IS FOR		DISPOSITION OF THE DISPLACEMENT FOR THESE DRAFTS.			
			IN FRESH WATER.		IN SALT WATER.	
	FRESH WATER.	SALT WATER.	Boat.	Oars. Crew.	Boat.	Oars. Crew. Total Weight.
3 ³ / ₄ inches.	324 lbs.	332 lbs.	50	12 262	50	12 270 332 lbs.
4 "	351 "	360 "	50	12 289	50	12 298 360 "

This boat is best adapted to oarsmen weighing from 135 to 150 lbs.
PRICE.—With outriggers and foot-boards complete (no sculls), \$150.

REMARKS.—This double shell has very fine lines, and, when rowed by a crew of suitable weight (that is, where the oarsmen are not over 145 to 150 lbs. each), will be very fast. It will be noticed that it has good shoulders, and is consequently very steady.

Double shells. DOUBLE SHELL, 15 INCHES BEAM BY 36 FEET LONG—MODEL BY W. BROWN, IN 1868.

DIMENSIONS OF HULL.

Length, 36 ft. Beam, 15 in. Height at Bow, 6½ in.; Midship, 7¾ in.; Stern, 6 in.
Length of Fore-body, 18 ft. Middle-body, — ft. After-body, 18 ft.

CAPACITY.

FOR A DRAFT OF	THE DISPLACEMENT IS FOR		DISPOSITION OF THE DISPLACEMENT FOR THESE DRAFTS							
			IN FRESH WATER.				IN SALT WATER.			
	FRESH WATER.	SALT WATER.	Boat.	Oars.	Crew.	Total Weight.	Boat.	Oars.	Crew.	Total Weight
3¾ inches.	353 lbs.	362 lbs.	65	12	276	353 lbs.	65	12	285	362 lbs.
4 "	377 "	386 "	65	12	300	377 "	65	12	309	386 "
4½ "	405 "	414 "	65	12	333	405 "	65	12	337	414 "

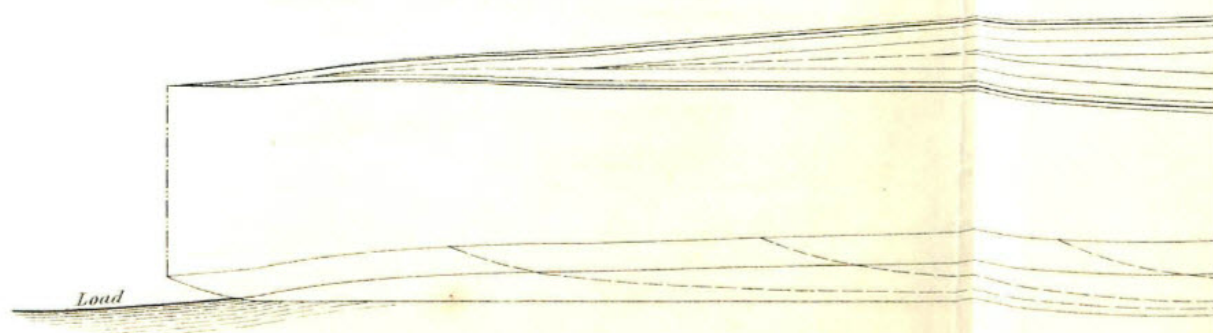
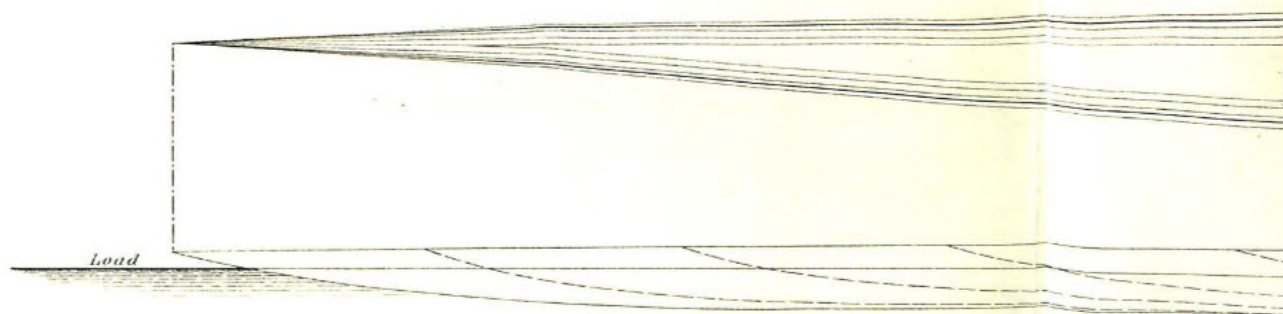
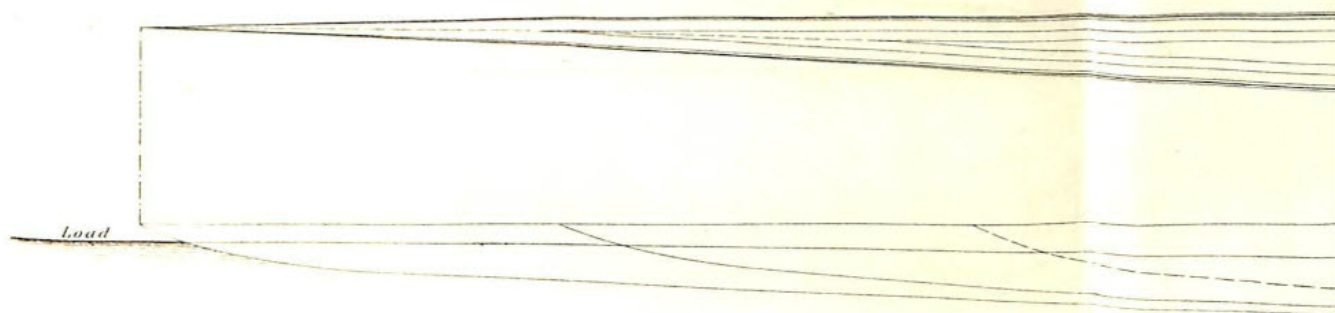
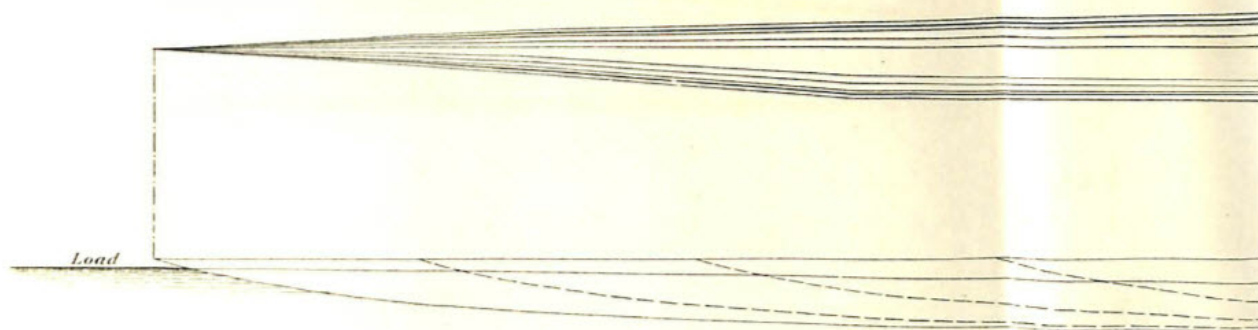
This boat is best adapted to oarsmen weighing from 145 to 160 lbs.

PRICE.—With outriggers and foot-boards complete (no sculls), \$135.

REMARKS.—We have not considered it necessary to give the lines of this shell, as they are essentially the same as those of the nine and a half and twelve inch single shells modelled by Brown, and of which the breadth and sheer plans are given in Plates I. and II. It has a deep hull at bow and stern, and is quite a dry boat in rough water for this reason; but this adds somewhat to its weight. For steady rowing and exercising it is an admirable boat, and that it is fast is best proved by the following record of races in which it was used by the winning crews:

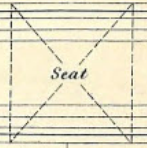
Double-scutt race, won by Brown and Tyler, Anniversary Regatta, Boston, July 4, 1868, defeating five wooden boats, and making two miles (turning race) in fourteen minutes twenty-four and a half seconds. By O'Neil and Deeley, in the double-scutt race at the Third Annual Regatta of the Hudson Amateur Rowing Association, Sept. 9, 1869. By Swan and Zabriskie, in the double-scutt race at the First Annual Regatta of the Rutherford Park Racing Association, of New Jersey, July 4, 1870. And at the Annual Regatta of the H. M. A. Association, Paterson, N. J., Oct. 7, 1870. It has also been used in a number of other minor and local matches.

LINES.



Single Shell, 12ⁱⁿ beam $\times$ 6ⁱⁿ deep $\times$ 30^{ft}
New Model of 1871.

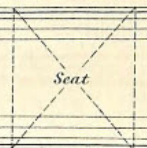
Breadth Plan



Sheer Plan

Single Shell, 12ⁱⁿ beam $\times$ 6¹/₂ⁱⁿ deep $\times$ 30^{ft}
Model by Walter Brown 1868.

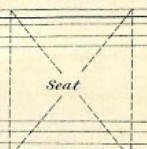
Breadth Plan



Sheer Plan

Single Shell, 13ⁱⁿ beam $\times$ 6ⁱⁿ deep $\times$ 30^{ft}
New Model of 1871.

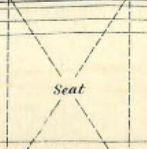
Breadth Plan



Sheer Plan

Single Shell, 15¹/₂ⁱⁿ beam $\times$ 6ⁱⁿ deep $\times$ 28^{ft}
Model of 1868.

Breadth Plan



Sheer Plan

long.

6th long.

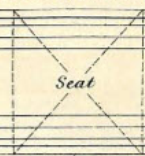
9th long.

1st long.

ngle Shell, 12ⁱⁿ beam $\times$ 6ⁱⁿ deep $\times$ 30^{ft} long.

New Model of 1871.

Breadth Plan.

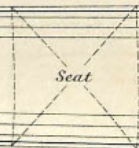


Sheer Plan.

ngle Shell, 12ⁱⁿ beam $\times$ 6¹/₂ⁱⁿ deep $\times$ 30^{ft} 6ⁱⁿ long.

Model by Walter Brown 1868.

Breadth Plan.



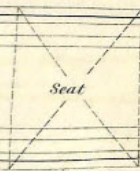
Sheer Plan



Single Shell, 13ⁱⁿ beam $\times$ 6ⁱⁿ deep $\times$ 30^{ft} long.

New Model of 1871.

Breadth Plan.

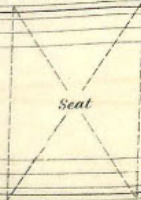


Sheer Plan.

ngle Shell, 15¹/₂ⁱⁿ beam $\times$ 6ⁱⁿ deep $\times$ 28^{ft} long.

Model of 1868.

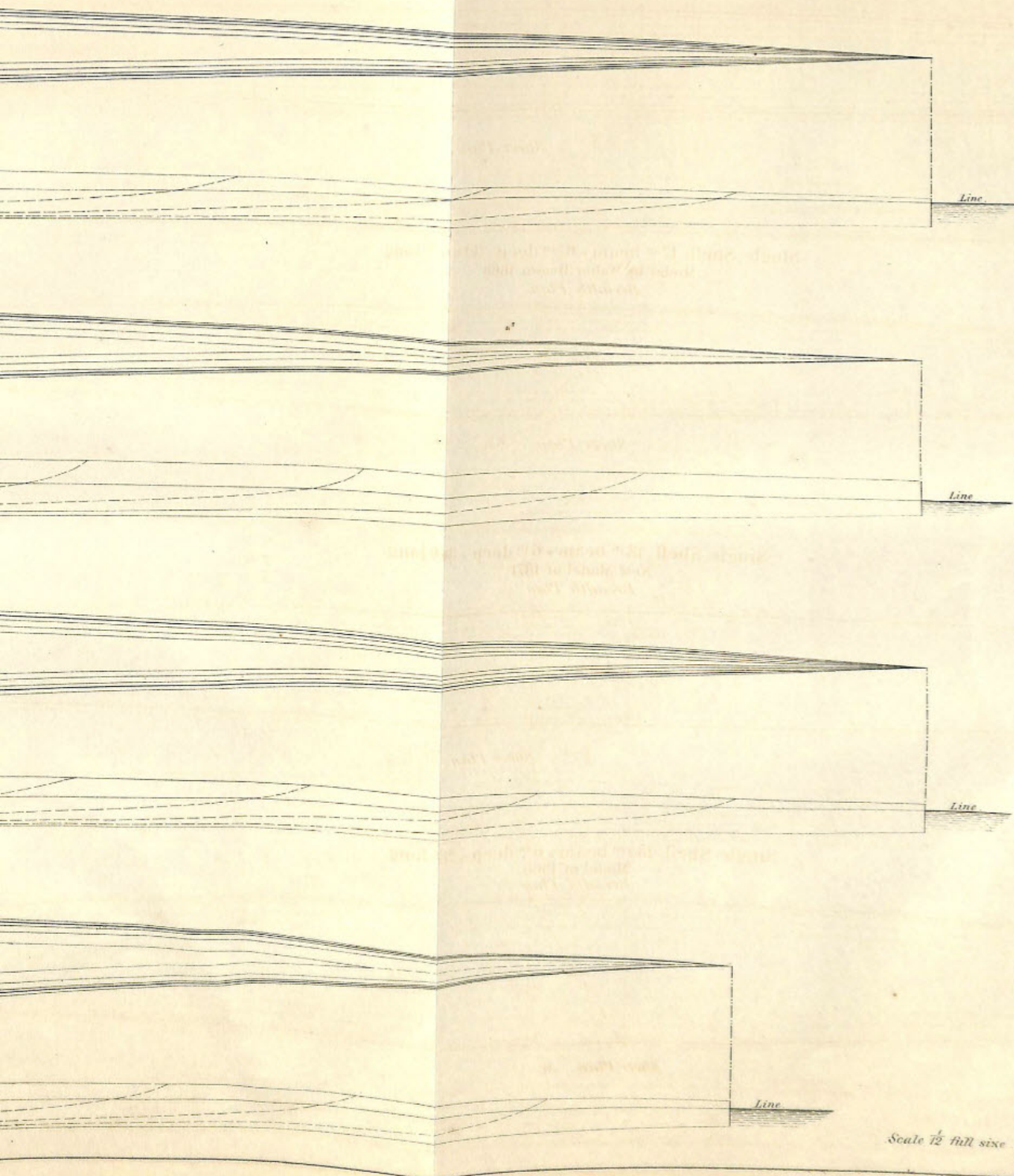
Breadth Plan.



Sheer Plan



SINGLE SHELLS OR SCULLING BOATS.



Scale $\frac{1}{12}$ full size

Double

PAIR-OARED SHELL, 16 INCHES BEAM BY 35 FEET LONG — NEW MODEL OF 1871.

Double sculls.

DIMENSIONS OF HULL.

Length, 35 ft. Beam, 16 in. Height at Bow, 5 in. ; Midship, 7 in. ; Stern, 4½ in. ?
 Length of Fore-body, 18 ft. Middle-body, 3 ft. After-body, 14 ft.

CAPACITY.

FOR A DRAFT OF	THE DISPLACEMENT IS FOR		DISPOSITION OF THE DISPLACEMENT FOR THESE DRAFTS.							
			IN FRESH WATER.				IN SALT WATER.			
	FRESH WATER.	SALT WATER.	Boat.	Oars.	Crew.	Total Weight	Boat.	Oars.	Crew.	Total Weight.
3¾ inches.	355 lbs.	364 lbs.	60	13	282	355 lbs.	60	13	291	364 lbs.
4 "	380 "	389 "	60	13	307	380 "	60	13	316	389 "
4½ "	410 "	420 "	60	13	337	410 "	60	13	347	420 "

This boat is best adapted to oarsmen weighing from 140 to 165 lbs.

PRICE.—*With one pair outriggers, fitted as pair-oared, \$144 ; fitted as double scull, \$150.*

REMARKS.—This boat has the same dimensions as the pair-oared used by Renforth and Kelley in the race in which they defeated Winship and Taylor, at Newcastle-on-Tyne, England, Jan. 16, 1871. Its lines are very fine, and will be given in the "Illustrated Catalogue and Manual for 1872."

PAIR-OARED OR DOUBLE SHELL, WITH COXSWAIN — MODEL OF 1869.

DIMENSIONS OF HULL.

Length, 32 ft. Beam, 30 in. Height at Bow, 8 in. ; Midship, 10 in. ; Stern, 6 in.
 Length of Fore-body, 16 ft. Middle-body, — ft. After-body, 16 ft.

CAPACITY.

FOR A DRAFT OF	THE DISPLACEMENT IS FOR		DISPOSITION OF THE DISPLACEMENT FOR THESE DRAFTS.							
			IN FRESH WATER.				IN SALT WATER.			
	FRESH WATER.	SALT WATER.	Boat.	Oars.	Crew.	Total Weight.	Boat.	Oars.	Crew.	Total Weight.
4 inches.	562 lbs.	576 lbs.	90	14	458	562 lbs.	90	14	472	576 lbs.

PRICE.—*Fitted as pair-oared, with coxswain's seat, rudder, etc., complete, \$185.*

Fitted as double-scutt, with coxswain's seat, rudder, etc., complete, \$190.

REMARKS.—This boat is well adapted for parties desiring a light but comparatively wide and steady boat, with coxswain ; and is a very suitable craft to be pulled by two gentlemen, and be steered by a lady acting as coxswain.

Four-oared shells.

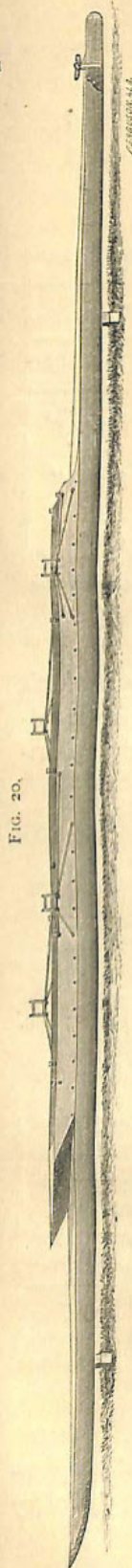
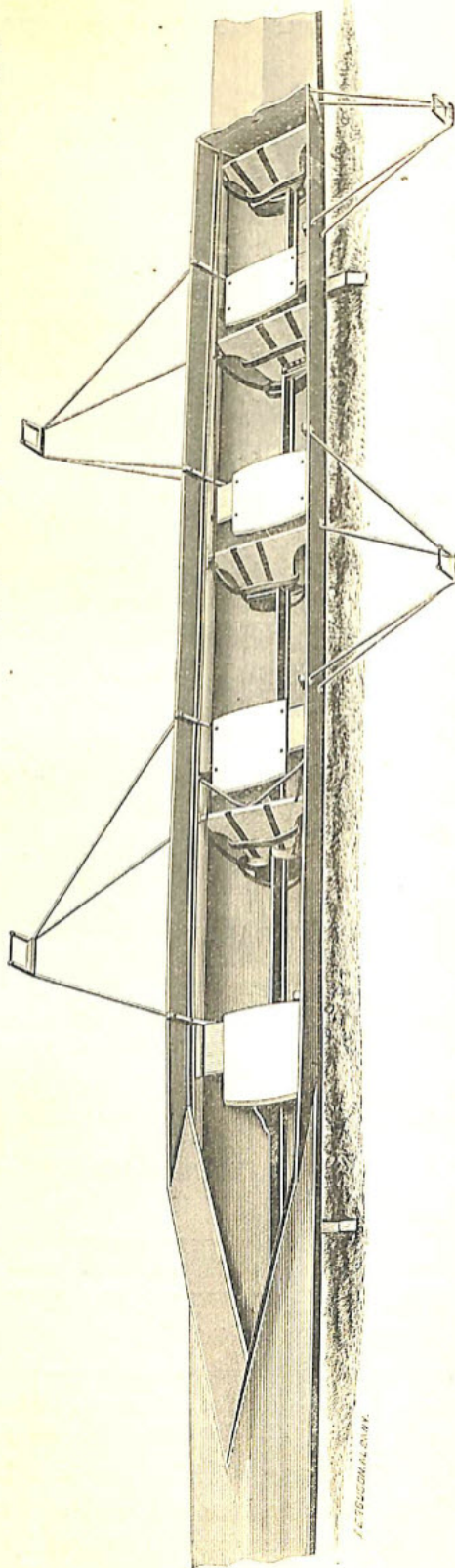


FIG. 20.

FOUR-OARED SHELLS.—In Fig. 20, we have a side view, and in Fig. 21 an inside view, of a four-oared shell, without coxswain, with a port stroke, in which the oarsmen sit alternately on opposite sides of the boat. The photographs for these engravings were taken from a four-oared boat built by us, a *fac-simile* in lines and arrangement of seats of the four-oared shell used by the Tyne crew when they defeated the St. John's crew, Lachine, Canada, Sept. 15, 1870.

It has long been the custom in England to carry a coxswain in four-oared shells; but the coxswain is usually dispensed with in American four-oared races, on account of the saving in weight to be carried; the steering being done by having the foot-board of the bow oarsman so arranged that it will turn on pivots, or have a movable yoke, as is shown in Fig. 49, Chap. III., and fully described in that connection. On the thwarts, which are but about six inches wide, are placed the cherry seats for sliding upon, firmly screwed down. The plan of sitting on the sides alternately, as is here illustrated, enables the crew to use longer oars and sit nearer together; but, unless the two sides are very evenly balanced and the oarsmen trained to row well together, the boat is apt to roll badly, and thus lose headway. In this plan of seating, the two waist-oars are the longest. In the United States, it is a common practice to seat the crew in a line directly over the keelson, and to use oars of the same length. We build these boats either with or without a seat for coxswain as may be ordered, but only those sizes can be used for coxswain which are so indicated in the following descriptions, the displacements being calculated for exactly the number of crew specified for each boat.

FIG. 21.



BODY PLAN OF FOUR-OARED SHELL, $17\frac{1}{4}$ INCHES BEAM BY $40\frac{3}{4}$ FEET LONG — NEW
MODEL OF 1871 — ON THE LINES OF THE BOAT USED BY THE TYNE
CREW AT LACHINE, CANADA, SEPT. 15, 1870.

Four-oared
shells.

ONE-THIRD FULL SIZE.

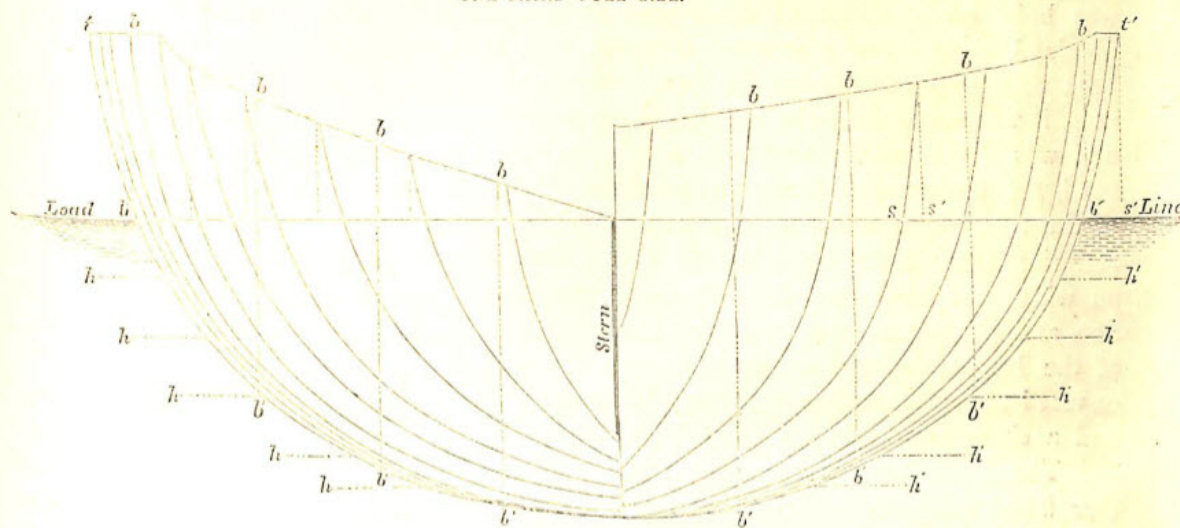


FIG. 22.

For Breadth and Sheer Plans, see Plate III.

DIMENSIONS OF HULL.

Length, 40 ft. 9 in. Beam, $17\frac{1}{4}$ in. Height at bow, $6\frac{1}{2}$ in.; Midship, $8\frac{3}{16}$ in.; Stern, $5\frac{1}{2}$ in.
Length of Fore-body, 18 ft. 9 in. Middle-body, 2 ft. After-body, 20 ft.

CAPACITY.

FOR A DRAFT OF	THE DISPLACEMENT IS FOR		DISPOSITION OF THE DISPLACEMENT FOR THESE DRAFTS.							
	FRESH WATER.	SALT WATER.	IN FRESH WATER.				IN SALT WATER.			
			Boat.	Oars.	Crew.	Total Weight.	Boat.	Oars.	Crew.	Total Weight.
$4\frac{3}{4}$ inches.	672 lbs.	689 lbs.	94	26	552	672 lbs.	94	26	569	689 lbs.
5 "	712 "	729 "	94	26	592	712 "	94	26	609	729 "
$5\frac{1}{4}$ "	762 "	779 "	100	26	636	762 "	100	26	653	779 "

The most suitable weights of oarsmen for this boat are such as would make the crew average from 145 to 150 lbs. each. Has no seat for coxswain.

PRICE.—With outriggers and all fittings complete, to be steered by bow oarsman (no oars), \$240.

REMARKS.—The dimensions of this boat are exactly those of the wooden boat rowed by the Tyne crew in the great International Race at Lachine, Can., Sept. 15, 1870, in which the St. John crew were defeated. The boat used by this crew was built expressly for their use on this occasion by Jewett, of Dunston-on-Tyne, England, while that used by the St. John crew was built by Charles B. Elliott, of Green Point, Long Island, N. Y.

Four-oared
shells.

The high reputation of Jewett as a builder, his selection by Renforth to build the boat for this race, the magnitude of the stakes risked on the result, and the fact that the race was won in this boat, all were guarantees that the lines on which it was built were worthy of study and imitation. Accordingly, after the race, we obtained them at considerable expense, and in doing so had every part of the boat accurately measured. On laying down the lines as they actually existed after race, it was found that the hull had been very badly strained, was quite out of shape, and was disfigured by swellings along the well where the pressure of the seats and outrigger timbers had been the greatest. This was due to the extreme thinness of the skin, which was also very badly cracked. These defective lines we corrected, restoring them to their original form, and from these restored lines built the model on which the boat described above is moulded. The lines of this boat are very fine, and present all the best characteristics mentioned as essential in Chapter VI. of the Introduction; that is, minimum size of hull for the load, the least surface exposed above the water-line, fine shoulders, giving great steadiness, a fine entrance, and a clean run made up of cycloidal lines.

The Tyne boat weighed with its fittings complete (without oars) 94 pounds. Our boats range from 90 to 100 pounds, and for that weight are fifty per cent. stiffer than the original wooden boat. To those interested, we recommend a careful study of these lines, and a comparison with those of the best examples of shell-boat building within their reach. The difference will be remarked at once.

Paper shells built on this model have been used by the winners in the following races this season:

By the picked crew from the Au Revoir Boat Club of the United States Naval Academy, Annapolis, Md., in their contest for the Championship with a crew from the St. John's College Boat Club of Annapolis, Md., on the Severn River, May 6, 1871. Rowing a three-miles turning race in twenty minutes eighteen seconds. Weather very stormy, and a rough, cross sea on.

By the four-oared crew of the Quaker City Boat Club of Philadelphia, Pa., in their race with the four-oared crew of the Crescent City Boat Club, also of Philadelphia, at the opening regatta of the Schuylkill Navy, Schuylkill River, Pa., June 10, 1871. Rowing a two and eight-tenths miles turning race in twenty minutes fifteen seconds, with a high wind prevailing and rough water.

In the race between the paper and wooden four-oared shells belonging to the Quaker City Boat Club of Philadelphia, Pa. Three-miles turning race on the Schuylkill River, June 17, 1871.

At the National Anniversary Regatta at Buffalo, N. Y., July 5, 1871, in the first-class race for professional oarsmen, by the four-oared crew of the McKee Barge Club of Birmingham, Pa. Rowing a three-miles turning race in twenty minutes nine and a-half seconds, defeating the Tinning and Dillon crews of Toronto, Can., in wooden shells, and winning the first prize of \$500.

FOUR-OARED SHELL, 18 INCHES BEAM BY 41 FEET LONG—NEW MODEL OF 1871.

Four-oared shells.

DIMENSIONS OF HULL.

Length, 41 ft. Beam, 18 in. Height at bow, $6\frac{3}{4}$ in.; Midship, $8\frac{1}{4}$ in.; Stern, $5\frac{3}{4}$ in.
 Length of Fore-body, 20 ft. Middle-body, 2 ft. After-body, 19 ft.

CAPACITY.

FOR A DRAFT OF	THE DISPLACEMENT IS FOR		DISPOSITION OF THE DISPLACEMENT FOR THESE DRAFTS.							
			IN FRESH WATER.				IN SALT WATER.			
	FRESH WATER.	SALT WATER.	Boat.	Oars.	Crew.	Total Weight.	Boat.	Oars.	Crew.	Total Weight.
5 inches.	712 lbs.	729 lbs.	100	26	586	712 lbs.	100	26	603	729 lbs.
$5\frac{1}{4}$ "	763 "	781 "	100	26	637	763 "	100	26	655	781 "
$5\frac{1}{2}$ "	815 "	834 "	110	26	679	815 "	110	28	696	834 "

The most suitable crew for this boat is one which would weigh from 580 to 680 lbs., without coxswain.

PRICE.—With outriggers and all fittings complete, to be steered by the bow oarsman (no oars), \$240.

REMARKS.—The lines of this boat are finer than those of the Tyne boat. They will be given in the "Illustrated Catalogue for 1872." For a heavy crew this is the best four-oared without coxswain we build. It was used by the winners of two important races at the Regatta of the Georgia Association at Savannah, Ga., May 31 and June 1, 1871.

FOUR-OARED SHELL, 19 INCHES BEAM BY 42½ FEET LONG—MODEL OF 1868 AND 1869.

DIMENSIONS OF HULL.

Length, 42 ft. 6 in. Beam, 19 in. Height at bow, 7 in.; Midship, $9\frac{1}{8}$ in.; Stern, 8 in.
 Length of Fore-body, 21 ft. 3 in. Middle-body, — ft. After-body, 21 ft. 3 in.

CAPACITY.

FOR A DRAFT OF	THE DISPLACEMENT IS FOR		DISPOSITION OF THE DISPLACEMENT FOR THESE DRAFTS.							
			IN FRESH WATER.				IN SALT WATER.			
	FRESH WATER.	SALT WATER.	Boat.	Oars.	Crew.	Total Weight.	Boat.	Oars.	Crew.	Total Weight.
5 inches.	712 lbs.	731 lbs.	120	26	566	712 lbs.	120	26	585	731 lbs.
$5\frac{1}{4}$ "	766 "	786 "	120	26	620	766 "	120	26	640	786 "

This boat is suited to crews weighing from 550 to 640 lbs., without coxswain.

PRICE.—With outriggers and traveller for steering by bow oarsman, complete, \$210.

REMARKS.—This boat was used by the winners in the annual races at the U. S. Naval Academy, June 4, 1869; April 28, 1870; and in the contest of the midshipmen with the Quaker City crew, May 28, 1870. At the Second Annual Regatta of the Chatham County Regatta Association at Savannah, Ga., it was rowed by the winners of the \$100 prize on the first day, of the purse of \$200 on the second day, and of the champion flag and purse of \$200 on the fourth day.

This is an excellent boat, steady, and, as the above record shows, is fast.

Four-oared
shells.FOUR-OARED SHELL, 22 INCHES BEAM BY 43 FEET LONG, FOR COXSWAIN —
NEW MODEL OF 1871.

DIMENSIONS OF HULL.

Length, 43 ft. Beam, 22 in. Height at Bow, $6\frac{1}{2}$ in.; Midship, $8\frac{1}{2}$ in.; Stern, $6\frac{1}{2}$ in.
 Length of Fore-body, 22 ft. Middle-body, 1 ft. After-body, 20 ft.

CAPACITY.

FOR A DRAFT OF	THE DISPLACEMENT IS FOR		DISPOSITION OF THE DISPLACEMENT FOR THESE DRAFTS.							
			IN FRESH WATER.				IN SALT WATER.			
	FRESH WATER.	SALT WATER.	Boat.	Oars.	Crew.	Total Weight.	Boat.	Oars.	Crew.	Total Weight.
5 inches.	854 lbs.	874 lbs.	130	28	696	854 lbs.	130	28	716	874 lbs.
$5\frac{1}{4}$ "	895 "	916 "	130	28	737	895 "	130	28	758	916 "
$5\frac{1}{2}$ "	959 "	982 "	130	28	801	959 "	130	28	824	982 "

PRICE.—*With outriggers and fittings complete, for coxswain (no oars), \$260.*

REMARKS.—This boat is designed to meet the wants of amateur crews who desire to use a coxswain. Her lines are drawn with a view to great speed and steadiness, and it is a boat which can be used with safety by an inexperienced crew. The lines will be given in our issue for 1872.

FOUR-OARED SHELL, 30 INCHES BEAM BY 42 FEET LONG, FOR COXSWAIN —
MODEL OF 1869.

DIMENSIONS OF HULL.

Length, 45 ft. Beam, 30 in. Height at Bow, $8\frac{1}{4}$ in.; Midship, $10\frac{1}{2}$ in.; Stern, 8 in.
 Length of Fore-body, 27 ft. Middle-body, — ft. After-body, 18 ft.

CAPACITY.

FOR A DRAFT OF	THE DISPLACEMENT IS FOR		DISPOSITION OF THE DISPLACEMENT FOR THESE DRAFTS.							
			IN FRESH WATER.				IN SALT WATER.			
	FRESH WATER.	SALT WATER.	Boat.	Oars.	Crew.	Total Weight.	Boat.	Oars.	Crew.	Total Weight.
$4\frac{1}{2}$ inches.	812 lbs.	837 lbs.	180	26	606	812 lbs.	180	26	631	837 lbs.
5 "	942 "	967 "	180	26	736	942 "	180	26	761	967 "

PRICE.—*With outriggers and fittings complete, for coxswain, \$260.*

REMARKS.—In smooth water, this boat is very fast, and, being very roomy and dry, is admirably adapted for use in inland waters by amateur crews. In the First Annual Regatta of the Chatham County Regatta Association, held at Savannah, Ga., July 14, 1869, this boat took the prize of \$150 against a wooden four-oared and a six-oared boat. At the Second Annual Regatta of this Association, and on the third day, May 27, 1870, this boat won the purse of \$100, for four-oared boats; and on the fourth day, May 28, 1870, the Wiltberger prize. At Columbus, Ga., Nov. 4, 1870, this boat won a four-oared race, making one mile in four minutes forty seconds.



SIX-OARED SHELLS.—Figures 23 and 24 are respectively side and inside views of a six-oared shell, fitted to be rowed without a coxswain, with the stroke on the port side. In this boat, as also in the four-oared previously described, the entire absence of any timbers, or ribs, will at once be noticed by those familiar with the construction of wooden boats. The skins of these boats, although but one-twelfth of an inch thick, are so stiff that they will keep their shape without any other support than the main frame.

In this boat are shown seats twelve inches wide, arranged with cleats, so that the position of each man is not only fixed, but he is effectually prevented from slipping about, thus obviating much of the unsteadiness due to slight movements of the crews which are not made in unison. For steady, hard rowing, no better arrangement can be made.

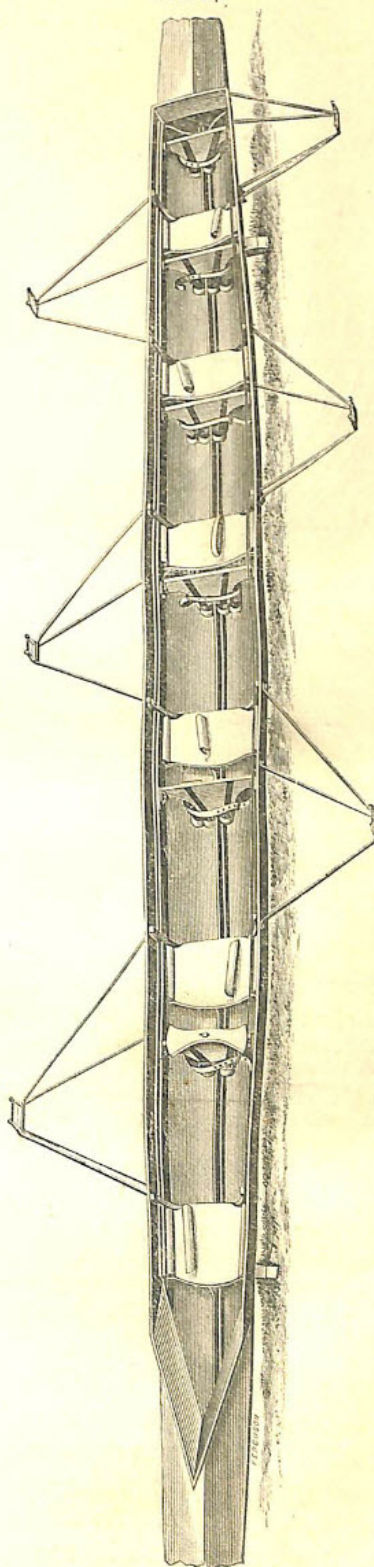
The foot-boards, as in the four-oared, are firmly screwed to the inwales by an ingenious arrangement of metal plates which act as stays and hold the sides together at those points. They are also firmly bolted to the keelson by means of angle-irons embracing it. The foot-boards are arranged so that they can be adjusted to three positions, each an inch from the consecutive one, thus accommodating different lengths of leg within moderate limits. In this boat they have two heel-cups on one side of the keelson for receiving and sustaining the heels, and one on the other, in order to accommodate oarsmen sitting on the sides or the middle of the thwarts as may be preferred.

As this boat is fitted to be rowed without a coxswain, the bow foot-board is arranged with a traveller or yoke.

The apparent narrowness of the boat towards the stern of the cockpit is due to the effect of the perspective. Our artist, in spite of the difficulties presented by so long and narrow an object, has well succeeded in conveying a correct representation of this boat.

FIG. 24.

Six-oared shells.



Six-oared
shells.BODY PLAN OF SIX-OARED SHELL, 19 INCHES BEAM BY 49 FEET LONG —
NO COXSWAIN — NEW MODEL OF 1871.

ONE-THIRD FULL SIZE.

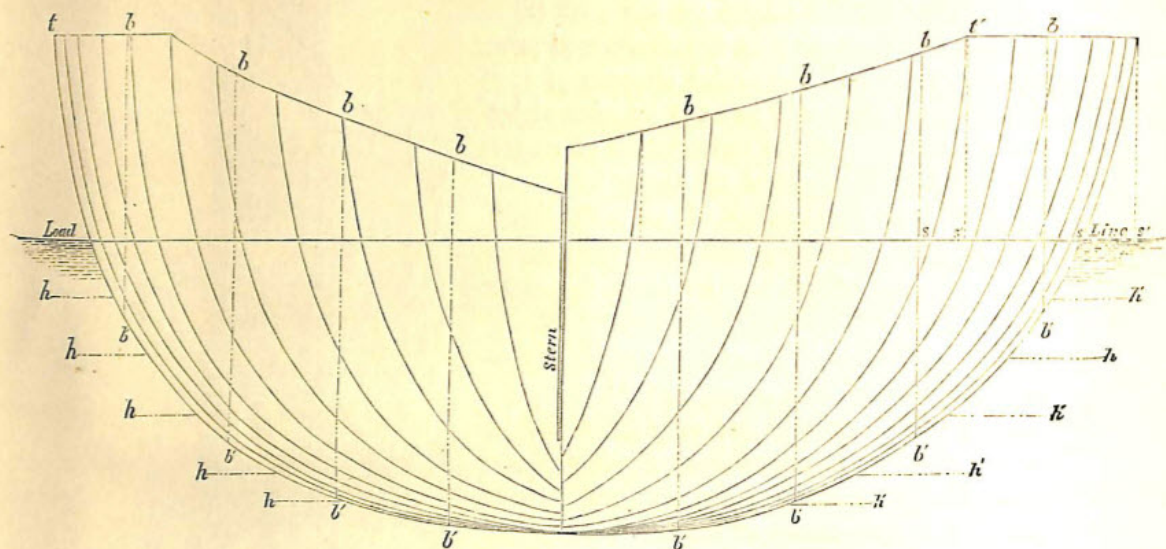


FIG. 25.

For Breadth and Sheer Plans, see Plate III.

DIMENSIONS OF HULL.

Length, 49 ft.

Beam, 19 in.

Height at Bow, $6\frac{1}{2}$ in ; Midship, $8\frac{1}{2}$ in. ; Stern, $5\frac{3}{4}$ in.

Length of Fore-body, 24 ft.

Middle-body, 3 ft.

After-body, 22 ft.

CAPACITY.

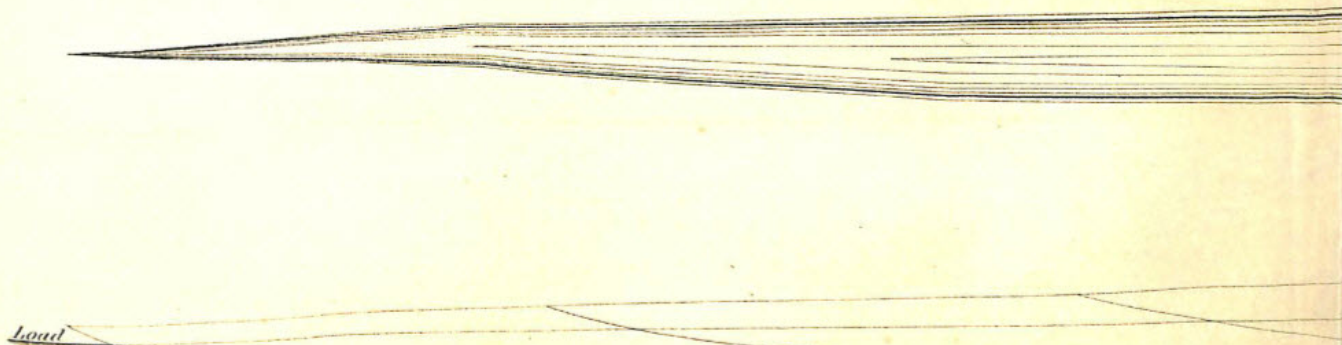
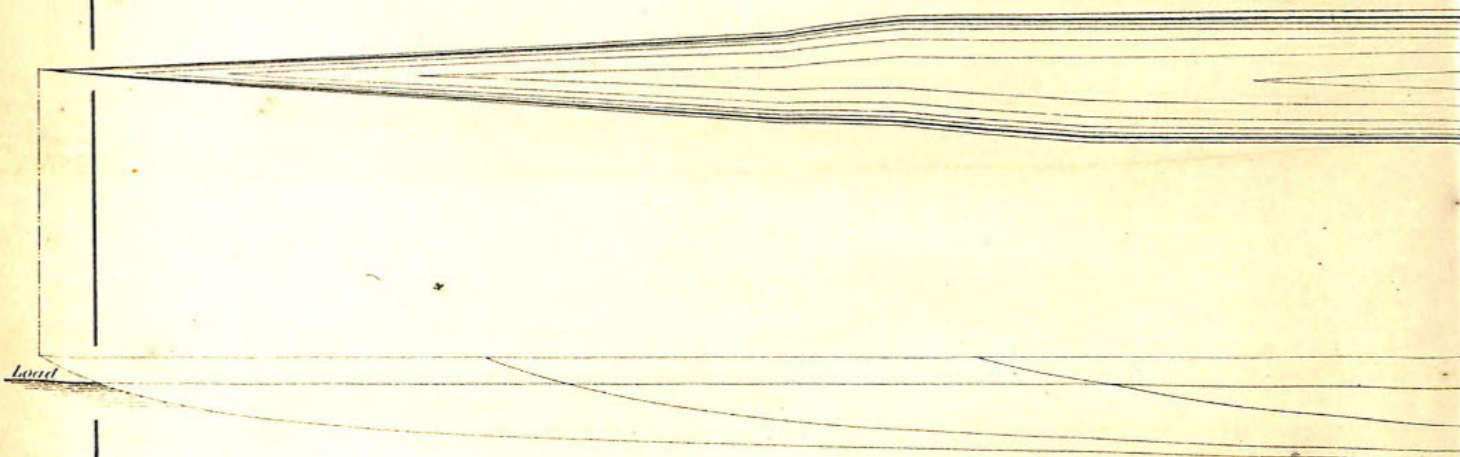
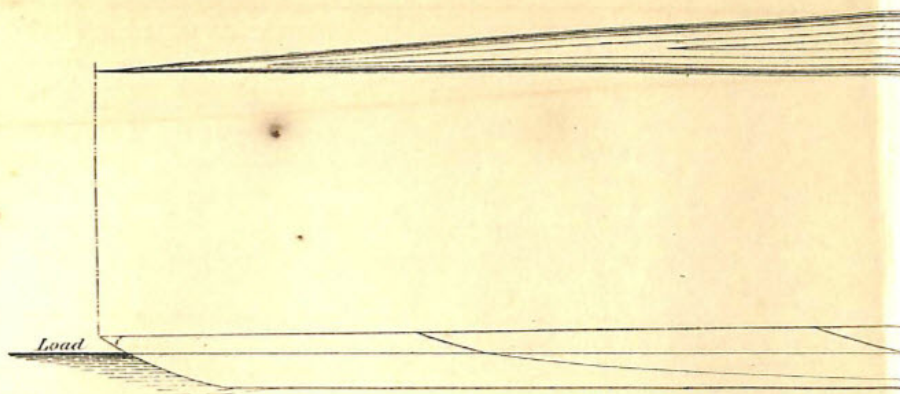
FOR A DRAFT OF	THE DISPLACEMENT IS FOR		DISPOSITION OF THE DISPLACEMENT FOR THESE DRAFTS.							
			IN FRESH WATER.				IN SALT WATER.			
	FRESH WATER.	SALT WATER.	Boat.	Oars.	Crew.	Total Weight.	Boat.	Oars.	Crew.	Total Weight.
5 inches.	916 lbs.	943 lbs.	120	36	760	916 lbs.	120	36	787	943 lbs.
$5\frac{1}{4}$ "	974 "	1,002 "	120	36	818	974 "	120	36	846	1,002 "
$5\frac{1}{2}$ "	1,030 "	1,060 "	120	36	874	1,030 "	120	36	904	1,060 "

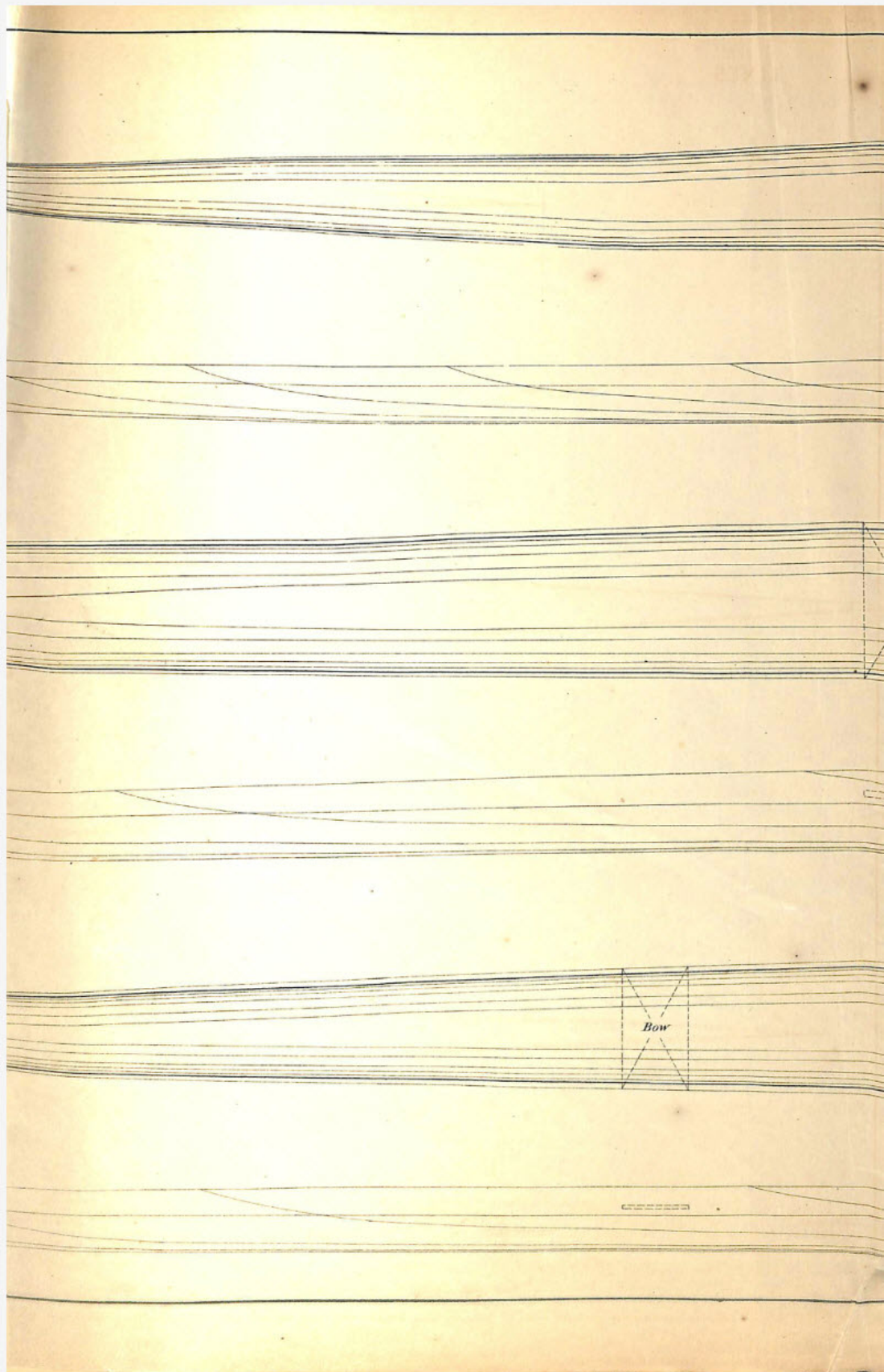
This boat is intended to be used by crews ranging in individual weight from 130 to 145 lbs., without coxswain.

PRICE.—With outriggers complete, fitted to be steered by bow traveller (no oars), \$300.

REMARKS.—This boat is built expressly for light crews, but it will hold up and do good work for crews averaging 146 pounds each. Its dimensions are the minimum for holding up, in salt water, six men of 150 pounds each or under, and nothing smaller will sustain them. Its lines are on the same principle as the Tyne four-oared, and we invite a comparison with it of those of wooden six-oared shells.

LINES

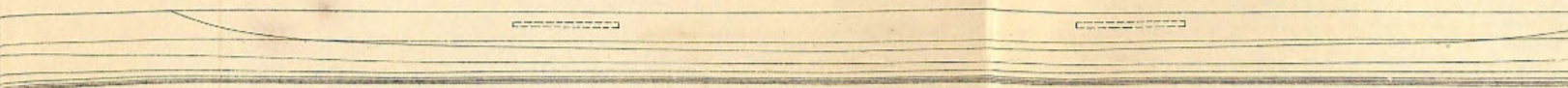




Double Scull or Pair Oared
14ⁱⁿ beam $\times$ 34^{ft} long New Model of 1871.
Breadth Plan



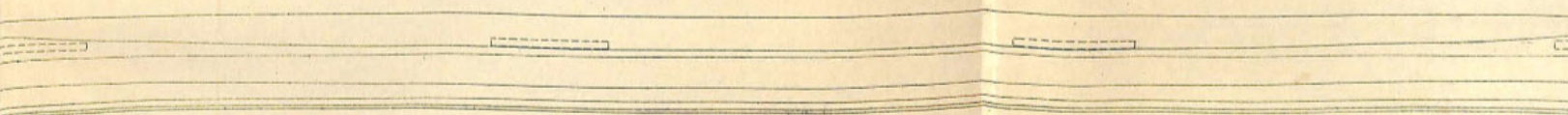
Sheer Plan



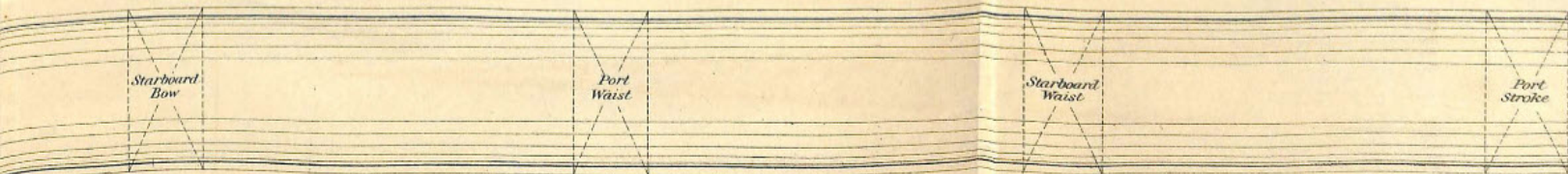
Four Oared Shell rowed by Tyne crew, Lachine, Ca, Sept 15th 1870
17¹/₂ⁱⁿ beam $\times$ 40^{ft} 9ⁱⁿ long $\times$ 8¹/₂ⁱⁿ deep.
Breadth Plan



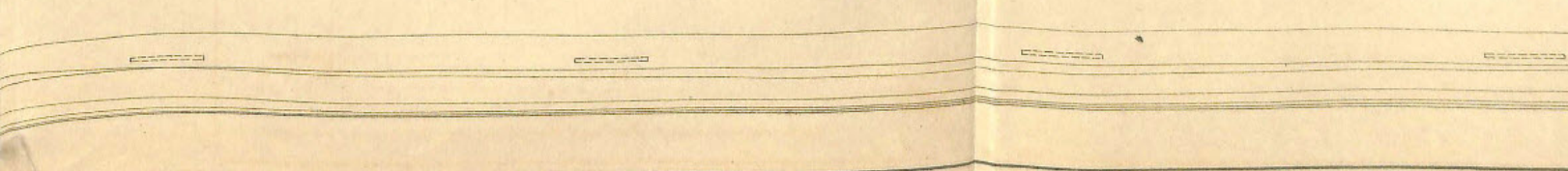
Sheer Plan



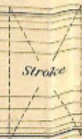
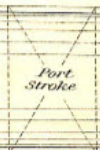
Six Oared Shell New Model of 1871
19ⁱⁿ beam $\times$ 49^{ft} long $\times$ 8¹/₂ⁱⁿ deep.
Breadth Plan



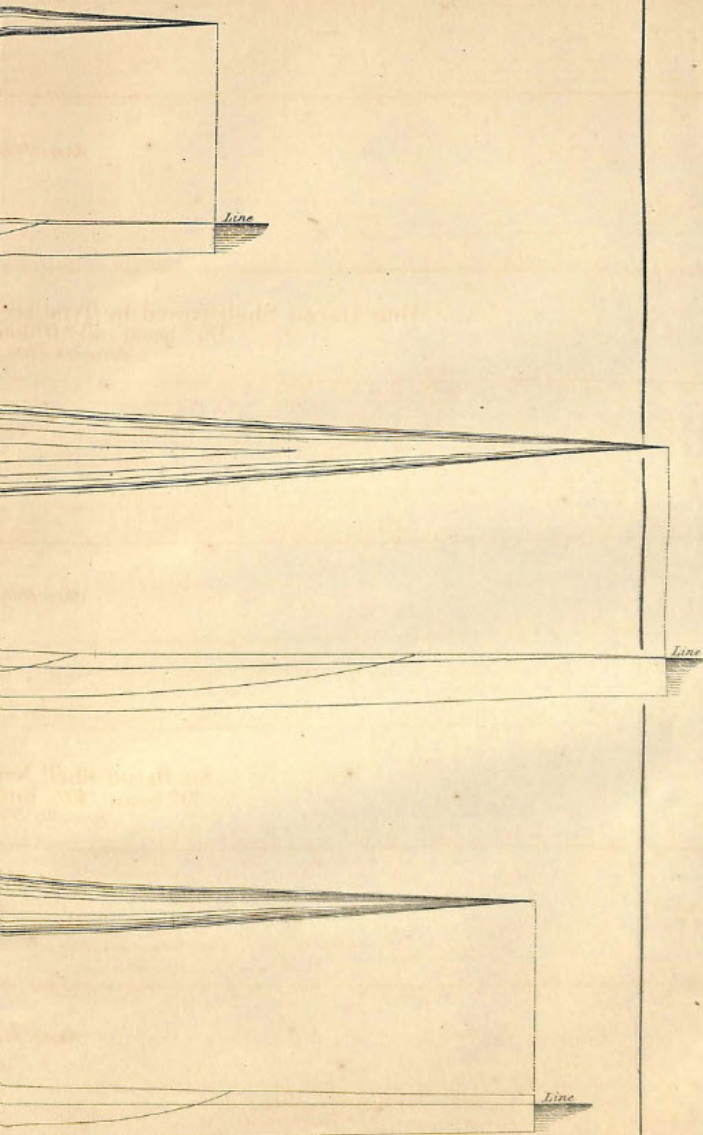
Sheer Plan



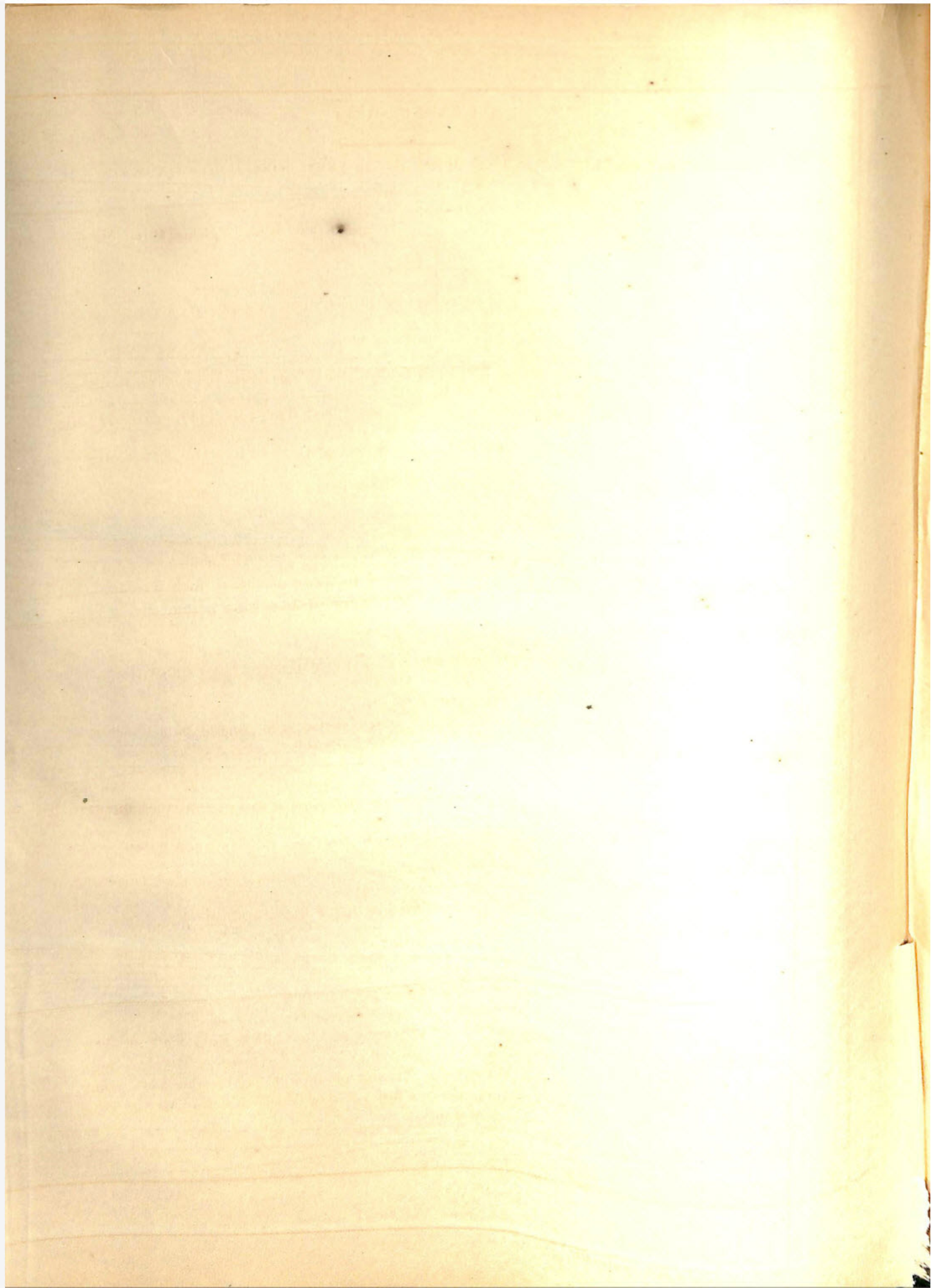
PAIR OARED, FOUR OAR



FOUR OARED AND SIX OARED OUTRIGGER SHELLS.



Scale. $\frac{1}{16}$ full size for Four Oared, $\frac{1}{15}$ full size for six Oared.



SIX-OARED SHELL, 20 INCHES BEAM BY 49 FEET LONG—NO COXSWAIN —
NEW MODEL OF 1871.

Six-oared
shells.

DIMENSIONS OF HULL.

Length, 49 ft. Beam, 20 in. Height at Bow, $6\frac{1}{2}$ in.; Midship, $8\frac{1}{2}$ in.; Stern, 6 in.
Length of Fore-body, 24 ft. Middle-body, 3 ft. After-body, 22 ft.

CAPACITY.

FOR A DRAFT OF	THE DISPLACEMENT IS FOR		DISPOSITION OF THE DISPLACEMENT FOR THESE DRAFTS.							
			IN FRESH WATER.				IN SALT WATER.			
	FRESH WATER.	SALT WATER.	Boat.	Oars.	Crew.	Total Weight	Boat.	Oars.	Crew.	Total Weight.
5 inches.	897 lbs.	917 lbs.	120	36	741	897 lbs.	120	36	761	917 lbs.
$5\frac{1}{4}$ "	974 "	1,003 "	120	36	818	974 "	120	36	847	1,003 "
$5\frac{1}{2}$ "	1,046 "	1,070 "	130	36	880	1,046 "	130	36	904	1,070 "

This boat is intended for crews ranging in individual weight from 135 to 150 lbs., without coxswain.

PRICE.—With outriggers complete, fitted to be steered by bow traveller (no oars), \$300.

REMARKS.—The lines of this boat are similar to those of the 19-inch six-oared, but are rather finer. She has a better shoulder, bears up her load better, and is better suited for rough water.

SIX-OARED SHELL, 21 INCHES BEAM BY 48 FEET LONG—NO COXSWAIN —
MODEL OF 1870.

DIMENSIONS OF HULL.

Length, 48 ft. Beam, 21 in. Height at Bow, $6\frac{1}{2}$ in.; Midship, $8\frac{1}{2}$ in.; Stern, $6\frac{1}{2}$ in.
Length of Fore-body, 24 ft. Middle-body, 2 ft. After-body, 22 ft.

CAPACITY.

FOR A DRAFT OF	THE DISPLACEMENT IS FOR		DISPOSITION OF THE DISPLACEMENT FOR THESE DRAFTS.							
			IN FRESH WATER.				IN SALT WATER.			
	FRESH WATER.	SALT WATER.	Boat.	Oars.	Crew.	Total Weight.	Boat.	Oars.	Crew.	Total Weight.
$5\frac{1}{4}$ inches.	1,028 lbs.	1,051 lbs.	140	36	852	1,028 lbs.	140	36	875	1,051 lbs.
$5\frac{1}{2}$ "	1,098 "	1,121 "	150	36	912	1,098 "	150	36	935	1,121 "

This boat is intended for crews ranging in individual weight from 145 to 160 lbs., without coxswain.

PRICE.—With outriggers complete, fitted to be steered by bow traveller (no oars), \$300.

REMARKS.—This boat was rowed by the crew of the Gulick Boat Club of New York at the Fourth Annual Regatta of the Hudson Amateur Association, Monday, Sept. 5, 1870, winning the six-oared shell race for the champion flag of the Association, defeating the crews of the Atalanta Boat Club of New York and the Mutual Boat Club of Albany, both rowing wooden shells.

CHAPTER II.

DETAILED DESCRIPTIONS OF GIGS, DINGYS, CANOES, AND SKIFFS.

Gigs defined.



THE general term GIG comprises long, narrow, round-bodied, single-banked open boats, with square sterns; their sheer-line showing well above the water-line; intended for use in smooth water, for the rapid conveyance of a few persons, for racing, or exercise. There are two varieties: *outrigged*, where, the beam of the boat not being sufficient to permit their being rowed from the gunwale, outriggers are resorted to; and *gunwale-rigged*, where the oars rest in rowlocks, or against thowle-pins, cut into or supported by the gunwales.

Of this description of boats we have a few sizes suited to carry from one to four persons, and designed for pleasure or exercise rowing. These boats have given much satisfaction where they have been tried, and we shall, therefore, gradually add to our assortment of this style, and hope to present a variety of new models in our next issue.

Those described in the following pages are extremely light, steady, and buoyant. They are particularly adapted to the wants of a large class of persons who, being fond of the exercise of rowing, and having either no inclination or strength to use the heavy and dull craft ordinarily accessible, fully appreciate the convenience and pleasure of using a light, stiff, and dry boat.

Dingys.

DINGYS, or, as they are sometimes called, jolly-boats, properly appertain to the outfit of sea-going vessels, being the smallest form of boat used for light work in the merchant or naval service.

While small and light compared with the other boats used on shipboard, they are heavy and roomy compared with the shells and gigs we have described. Being often used in rough water, and for the transportation of freight, they are deeper, wider, and rise much higher forward and aft than gigs of the same length.

The light sculls used by landsmen being unknown on shipboard, ships' dingys are propelled by oars of the usual length for gigs, the crew sitting at the end of the thwart opposite their respective rowlocks.

The dingy we build has all the characteristics of this class of boats, but is of a smaller size than those used on shipboard, and very much lighter.

Its advantages and use are fully presented in the detailed description.

Primitive
forms of the
canoe con-
sidered.

The CANOE is one of the most primitive forms of boats, as is shown by its being found at the present day, as it has been for centuries in the past, in common use among rude and uncivilized tribes, the situation of whose haunts and whose daily necessities

require the possession of some sort of water-craft. But from the light birch-bark canoe of the interior of North America to the heavy war-canoes of Burmah or New Zealand, they all embody the same elements and ideas; namely, the construction of a long and narrow floating body, sharp at both ends, and affording ample displacement for the weight to be transported, by such simple means and from such materials as are only afforded by the locality and the resources of a savage or semi-civilized life.

In all well-wooded countries, canoes are ordinarily built from the trunks of trees, by giving a suitable shape to the exterior of the mass, and so hollowing it by means of fire or suitable tools that the inside shall conform to the form of the exterior surface, the lines depending on the degree of experience and skill attained in this art by the builder. In ordinary phrase, this class of boats is known as "dug-outs," to distinguish them from canoes of bark or skin.

In countries not well wooded, or where the forest does not afford trunks of a sufficient size to construct canoes in this way, the natives have been forced to try other plans and expedients, and hence, in localities where the white and yellow birch are indigenous, the skill of the Indians has produced the birch-bark canoe; while in the home of the Esquimaux, where trees are unknown, the same force, of necessity, has led to the use of the seal-skin covered canoes with frames of whalebone.

Since the oar in the perfection of its construction and application is quite unknown to savage life, but is peculiarly the result of a high degree of advancement in the art of boat-building, due to civilization, we find in the paddle as a means of propulsion another distinguishing feature of this class of boats, and, hence, it is the instrument the most facile use of which serves to determine, to a certain extent, the form and characteristics of the canoe.

Although this method of applying power is neither as economical nor as convenient as that of the oar, yet, for the navigation of narrow streams, canals, or rapid currents, where it would be at best very inconvenient, and often impossible, to use oars, or where, as in savage life, rude strength and numbers, being in excess, can advantageously take the place of skill and minimum power, the canoe and its paddle find their appropriate place.

The form of the canoe being thus determined by the necessities of the case, we find them constructed quite narrow as compared to their length, with a low beam section, to enable the crew to use the paddle to the greatest advantage, round-bodied, usually without keels, and sharp at both ends. The bow and stern are built low, as in the "Rob Roy," or rise high, as in the birch-bark canoes of the North American Indians, and we find them open or decked according to the fancy or wants of the user.

Modern forms.

We have already alluded in the Introduction to the "dug-out" canoes of the Georgia and Carolina coasts. In these canoes oars are used, and they therefore combine all the advantages of the fine shape which the skilful application of the principles of modern boat-building can give, with those of the use of the oar over the paddle in such narrow boats. In short, we have here an example of the application of the improvement of the outrigger to the best form of this primitive method of boat construction.

In this connection, we present some very appropriate remarks on the subject of

modern canoeing, taken from the English "Rowing Almanac," and which will illustrate the popularity of this method of navigation in England at the present time.*

"Rob Roy"
canoe.

Within a few years, a new impulse has been given to the use of this class of boats for journeys on rivers and lakes, by the introduction of what is now popularly known as the "Rob Roy" canoe, devised and first brought to public notice by Mr. J. Macgregor, of London, in 1865.

Merits.

The merits of Mr. Macgregor's plan consists in his having combined in the craft in question the best features of the modern shell, with the good points and advantages of the "dug-out" and the Esquimaux kyack, and in having practically and successfully applied the modern principles of boat-building in its construction. The lines of the under-water body are very fine, admirably suited for speed, and in strict accordance with the wave-line principle; the displacement is carefully calculated for the given load; the shoulders are full, giving great bearing and stability; all the unused portion of the hull is decked, and this plan, with the addition of the rubber apron, which pro-

* "Rowing Almanac," London, 1870, page 127:

CANOEING.

BY RINGLEADER.

Canoeing, which has of late years grown into notice as an aquatic pastime, undoubtedly owes its popularity in great measure to the ease with which the art of paddling may be acquired, and the adaptability of canoes to all waters. As an amusing and invigorating exercise, paddling has outlived the jeers and sneers which greeted its revival, and men have come to understand that there may be as much or more pluck and endurance shown in the propulsion and management of a canoe as in the manipulation of an oar or a pair of sculls.

Wide as the difference undoubtedly is between the two modes of exercise, it is probable that, to the enthusiastic lover of water-sports, the canoe affords a greater amount of enjoyment than the rowing-boat, for the paddler suffers no uncomfortable abrasions on hands or elsewhere, gets along at a fair pace, with a more natural although less graceful motion, has the entire management of his vessel, and can look ahead without the risk of breaking his neck. In long journeys this last is no mean advantage, and men should remember that the canoe is not so much adapted for a journey of a few yards down a well-known stream, as for long cruises over strange waters, where rowing-boats would prove at the best of times uncomfortable and very often useless. No man would wish to walk backwards through the Highland glens, nor would a canoeeman care to row down lakes and rivers, where his only glimpses of the scenery he was approaching would be at short intervals by staring over his left shoulder.

It is not contended that canoes (except such as the "Sloth" and a few others) are ordinarily available for racing purposes; in fact, nine out of ten of those on the London river have been built for cruising; but in more senses of the word than one, where the rowing-man stops the canoeist begins. Between Oxford and London, a row-boat carries its crew backwards past delightful scenery with a tolerable amount of comfort; but in our smaller streams, whose beauty lies often in their narrowness, and in the rapid rivers which rush past grand places and sequestered nooks elsewhere, the rowing-boat is simply an encumbrance, while a canoe carries its occupant past all in the most comfortable and delightful manner possible. In rough water, also, a canoe has the pull of all rowing-boats, excepting, perhaps, a life-boat; and a tolerably experienced paddler is able to get over waves and rollers which would simply swamp at once any boat of three or four times its size. But the cruises of the "Rob Roy," "Ringleader," "Myra," "Waterwitch," "Maggie," "Isabel," "Octoroon," "Robin Hood," "Kelpie," and others, have afforded indisputable proof of the sea going qualities of cruising canoes, and, considering the dangers overcome by the more enterprising of our modern canoeemen, without one fatal accident, we are justified in pronouncing a good canoe to be the safest known craft.

There can be no doubt that the ordinary cruising canoe is too heavy for work on the Thames above bridge, the usual hack canoes being preferable; but a man who wishes to go down the lower reaches or along the coast will do well to get a vessel of the following dimensions: Length, 17 ft. 6 in.; breadth, 2 ft. 2 in.; depth, 1 ft. She should be built of cedar, or pine with a cedar deck, and the deck should be well arched. A canoe of the above dimensions is far superior in rough water to a vessel only fourteen or fifteen feet long, as the shorter craft have a tendency to stop short when a wave strikes them, whilst the longer vessels "keep going." Paddling down a stream is a tame amusement generally, but canoeing on lakes and arms of the sea affords plenty of healthy excitement, the only drawback being that, when a man returns to the humdrum of still waters, the pastime seems slightly tame.

An impression obtains that canoeing is necessarily a lonely occupation, and the idea is probably attributable to the long voyages of "Rob Roy," and other members of the canoe club; but we gladly testify to the amusement obtained from a trip down the Thames, accomplished by half a dozen paddlers in as many canoes last Easter. For a long journey there is no small vessel so comfortable, handy, and safe as a canoe; and I know of no pleasanter mode of going down a hundred miles of river, lake, or sea-board, than paddling the distance in a good vessel of this class.

fects the well, enables the canoe to live in very rough water, and still be perfectly dry. The dimensions of each part of the frame are carefully adjusted to the strain they are required to bear, and thus the minimum of weight is attained. The design of the "Rob Roy" bears marks of careful study of each part, and as a result Mr. Macgregor has produced a canoe, compact in form, graceful in outline, which floats lightly, turns readily, steers and paddles easily, and sails steadily. It bears well the rough usage of handling and transportation on wagons, steamers, and railway-cars, and is at all times a durable, safe, and comfortable boat. The merits of the wooden canoes built on this plan have long been acknowledged in England, so thoroughly have their qualities been tested in the numerous journeys and voyages made in them during the past five years. Their popularity in England led us last year to undertake their construction, and in doing so to apply to them the same improvements we have so successfully introduced in shell-boats.

In these canoes, as built by us, the skin is perfectly smooth. There are no laps of the streaks to offer resistance to the water, and no dead-water spaces, as are made by the garboard streaks in the original model, to further retard motion. The weight of the lightest wooden "Rob Roy" canoes, fourteen feet long, with their fittings, is seventy pounds; the usual weight of the best-built ones, eighty pounds. Those of paper, with fittings complete, weigh fifty-two to sixty pounds, and are even stiffer than those of wood.

Paper "Rob Roy" canoe.

For a full account of this boat, we refer to the detailed description given in this chapter, under the head of "Canoes."

The birch-bark canoes of the Indians of North America have long been celebrated for their extreme lightness, graceful shape, and speed. The lines of these canoes are by no means as fine as those of the "Rob Roy," and, as usually built by most of the tribes, are often deficient in shoulder, owing their buoyancy and speed rather to their extreme lightness than to any merits of under-water lines. In our next issue in 1872, we propose to present the lines of one of the best of this class of boats, and thus enable our readers to compare this craft with the modern "Rob Roy."

Birch-bark canoes.

SKIFFS are flat-bottomed boats, with sides composed usually of one, rarely of two streaks, set at an angle with the bottom, and gradually drawn together forward, so as to form a sharp and rising bow. The sides are firmly nailed to the bottom, and, in the better-made skiffs, may be rabbeted into the floor. Ordinarily, they have square sterns, with considerable rake, but in the hunting-skiffs both ends are alike and sharp. As commonly constructed, they require no frame, as do gigs and all round-bodied boats; a few timbers, or ribs, are all that is required to add stiffness to the sides and keep them in place. Their extreme simplicity of form renders them easy of construction, and, consequently, cheap in price.

Skiffs defined.

For all the ordinary purposes for which such boats are used, the common skiffs found all over the country, in every water-course, answer well; but for hunting and wild-fowl shooting, something better adapted to the object in view is needed.

The constantly increasing demand among amateur sportsmen for a boat specially adapted to local and individual wants led us to make a careful examination of the various models of this class of boats in use by hunters of wild fowl in different parts of the United States, and to give the whole subject of their use and construction much careful study. The result of this examination has led us to select two models for this

Special forms required for wild-fowl shooting.

Two models
selected for
wild-fowl shoot-
ing.

purpose, one of which we have styled the STANNARD MODEL, after the gentleman by whom it was originally designed in wood, and the other the MONITOR MODEL, from its fancied resemblance in miniature to the famous iron-clad of that name. The Stannard model is more particularly intended for marshes, creeks, and inland bays and lakes, where the water is not less than six inches deep. The Monitor model is specially designed for shallow water, having a mean depth of from two to six inches; where boats of the ordinary build and weight would be useless.

Stannard
model.

For the first-named model we are indebted to the kindness of Captain B. A. Stannard, U. S. Inspector of Steamboats at Cleveland, Ohio, who has for many years made the dimensions and lines of this class of boats a study, and who has had built, under his direction, some of the lightest, handiest, and most complete wooden hunting-boats in use in the Sandusky Bay marshes. The wooden boats modelled by Captain Stannard have been thoroughly tested during the past ten years by the best amateur sportsmen of Northern Ohio, and are pronounced by them to be all that can be attained in wooden boats for ducking, sniping, goose-shooting, or trolling.

The points of difference between the wooden boat of the Stannard model and the ordinary skiff are: The sides are composed of two or three lap-streaks instead of one wide board. At the midships the lower streak is united to the bottom at a much more obtuse angle than where one streak is used, and the cross section of the sides is a broken line instead of a straight one. The rounded swell of the sides is gradually brought in at the bow and stern, making the sides at these points as flat and sharp as in the best skiffs. The floor rises fore and aft rather more than in skiffs as usually built. The lower streak, instead of being nailed directly to the edge of the floor, making a joint which is opened the more it is calked, is rabbeted into the floor in such a way that calking the joint only serves to tighten it. This rabbeted joint never leaks, but the extra labor and nicety of adjustment required to make it, forbid its use in cheap work.

Advantages
of the paper
skiff.

Now, in the ordinary wooden skiff, the side of which is formed of one board or streak, nailed to the bottom, there is not only a constant liability to leak at the joint, but in rough water the waves striking the straight sides cause the water to be forced over the gunwale into the boat. The latter defect is somewhat obviated in the Stannard Skiff, or in the ordinary lap-streak wooden boats with sides made up of two, three, or four streaks, and thus approaching a rounded side; but is best avoided in the paper skiff, where the sides are unbroken curves, so rounded at the junction of the bottom and the sides as to present the least resistance to the roll of a wave, and thus cause it to pass under the boat rather than into it. Hence no other hunting-boats are so dry and comfortable. The skin being in one continuous piece from gunwale to gunwale, without a joint or break, there are neither joints to leak nor angles to obstruct the passage of the boat through the water. There is, therefore, the least amount of surface friction.

In the paper skiffs of this model, the bottoms have a slight dead-rise from the keel to the bilge, or kammelling (as called by Colonel Hawker, in his work on shooting*), a most essential feature where the boat has to be drawn over muddy bottoms, and one

* "Instructions to Young Sportsmen in all that relates to Guns and Shooting." By Lieut.-Colonel P. Hawker, Eleventh Edition. London. 1859.

which cannot be introduced into wooden boats without considerably adding to their cost and weight.

The paper skiffs being thirty per cent. lighter than the best-built wooden ones of the same size, they can be rowed or poled with a proportionately greater ease, and can be hauled through and over reeds or deer-tongue to shooting-holes, which it is either impossible or extremely exhausting to reach with the heavy wooden skiff ordinarily used.

The Monitor Skiff is a new boat, the model of which we have just completed at the suggestion of a number of the members of the Milwaukee Shooting Club, to meet the special needs of sportsmen shooting over a wide expanse of extremely shallow water which is subject to high winds. This skiff combines the best features of the light punt for shoulder guns, designed by the late Colonel Hawker, and fully described in his work already alluded to, and of the "Rob Roy" canoe. In fact, it is the "Rob Roy" canoe widened at the beam, and built with a flat floor. In designing this boat, three essential conditions were to be fulfilled, namely: It must carry from two hundred to three hundred pounds of load on a draft of two inches; the hull must be exposed as little as possible to the birds; it must be handy to use, roomy, and dry. To have so little draft, the bottom must be broad and carried well forward and aft, with very little spring. The weight must be the least attainable, consistent with suitable strength and endurance. As the low hull would be liable to ship every sea if there was the least disturbance of the water, decks become a necessity, and, therefore, the whole hull is covered in except a well amidships, six feet long by thirty-four inches wide. This gives a perfectly dry boat, and one which in skilled hands will live in any ordinary sea. By means of this boat sportsmen can shoot on flats covered with but from three to six inches of water, and if the depth is temporarily reduced to two inches by wind, they can still get along quite comfortably without any heavy dragging to do, as with heavier boats of deeper draft. The seat is made movable to enable the oarsman to lie down on the bottom, out of sight of the birds, while at either end is placed a swivel-handle, by means of which the boat can be drawn over the mud where the water is less than two inches in depth.

We shall, in our issue for 1872, present full drawings and details of this very useful boat.

Gigs.

SMALL GIG FOR LADS OR YOUNG LADIES, 28 INCHES BEAM BY 12 FEET LONG.

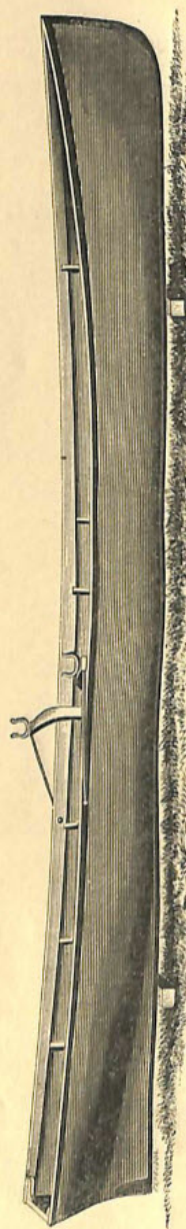


FIG. 26.—Side View of 12 foot Gig, outrigger—fitted for one oarsman.

Length, 12 ft.
 Length of Fore-body, 6 ft.
 Beam, 28 in.
 Middle-body, 1 ft.
 After-body, 5 ft.
 Height at Bow, 17 in.; Midship, 10 in.; Stern, 13½ in.
 CAPACITY.

FOR A DRAFT OF	THE DISPLACEMENT IS FOR		DISPOSITION OF THE DISPLACEMENT FOR THESE DRAFTS.							
			IN FRESH WATER.			IN SALT WATER.				
	FRESH WATER.	SALT WATER.	Boat.	Oars.	Crew.	Total Weight.	Boat.	Oars.	Crew.	Total Weight.
3 inches.	143 lbs.	148 lbs.	40	6	97	143 lbs.	40	6	102	148 lbs.
4 "	212 "	219 "	40	6	166	212 "	40	6	173	219 "
5 "	313 "	320 "	40	6	267	313 "	40	6	274	320 "

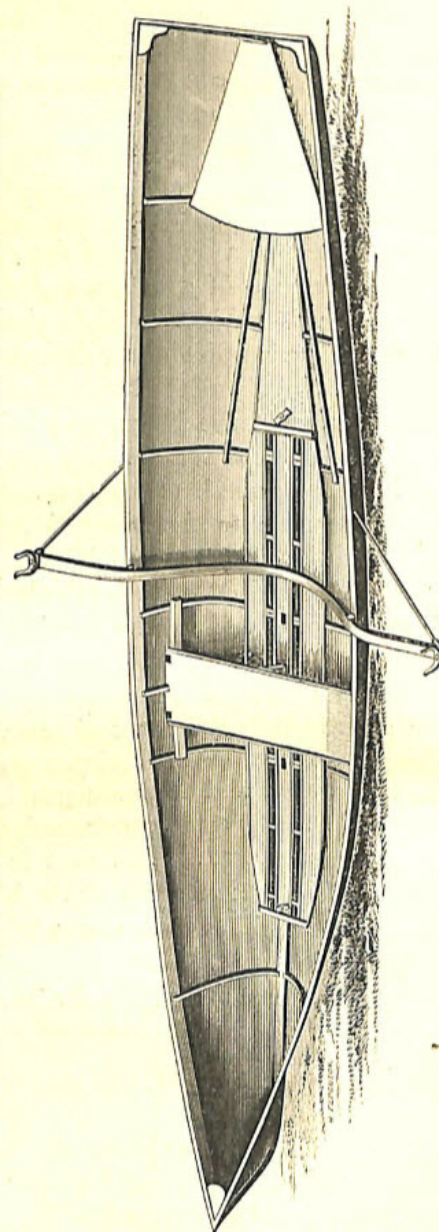


FIG. 27.—Inside View of 12 foot Gig.

This boat is best suited to young persons ranging in weight from 90 to 140 lbs.; but is well fitted for carrying one oarsman, and a light person on stern-seat to steer.

PRICE.—Fitted complete for one person (no sculls), \$65; for two persons, \$68; air-tight compartment forward, \$5 extra; stern-seat, with rudder, yoke, and lines complete, \$5 extra.

REMARKS.—For young persons of either sex who have been taught the elements of rowing, this is an excellent boat, being steady, safe (particularly when fitted with an air-tight compartment forward), portable, and, for its size, quite fast. It rows easily, and, having a good sheer and high bow, will be dry in quite rough water. Those who have used it are well pleased with its qualities.

MEDIUM GIG WITH SQUARE STERN, OUTRIGGED, 38 INCHES BEAM BY 14 FEET LONG. Gigs.

DIMENSIONS OF HULL.

Length, 14 ft. Beam, 38 in. Height at Bow, 21 in. ; Midship, 13 in. ; Stern, 16 in.
 Length of Fore-body, 7 ft. Middle-body, 1 ft. After-body, 6 ft.

CAPACITY.

FOR A DRAFT OF	THE DISPLACEMENT IS FOR		DISPOSITION OF THE DISPLACEMENT FOR THESE DRAFTS.							
			IN FRESH WATER.				IN SALT WATER.			
	FRESH WATER.	SALT WATER.	Boat.	Oars.	Load.	Total Weight.	Boat.	Oars.	Load.	Total Weight.
4 inches.	290 lbs.	310 lbs.	90	10	190	290 lbs.	90	10	210	310 lbs.
5 "	450 "	475 "	90	10	350	450 "	90	10	375	475 "

This boat is suited to carry three or four persons comfortably, but is fitted up for two oarsmen and a coxswain.

PRICE.—Fitted for two oarsmen, \$90; for two oarsmen, with stern-seat, \$93. Air-tight compartments in either end, \$5 extra each. With rudder, yoke, and lines for coxswain, \$5 extra.

REMARKS.—This boat is light, portable, steady, and safe, makes an admirable pleasure-boat, and is well adapted for the use of two or three persons somewhat familiar with the oar.

ADIRONDACK BOAT, HACKETTSTOWN MODEL, FOR LAKE AND RIVER TRAVELLING.

DIMENSIONS OF HULL.

Length, 16 ft. 6 in. Beam, 37 in. Height at Bow, 23 in. ; Midship, 13½ in. ; Stern, 19 in.
 Length of Fore-body, 7 ft. Middle-body, 2 ft. 6 in. After-body, 7 ft.

CAPACITY.

FOR A DRAFT OF	THE DISPLACEMENT IS FOR		DISPOSITION OF THE DISPLACEMENT FOR THESE DRAFTS.							
			IN FRESH WATER.				IN SALT WATER.			
	FRESH WATER.	SALT WATER.	Boat.	Oars.	Load.	Total Weight.	Boat.	Oars.	Load.	Total Weight.
4 inches.	292 lbs.	309 lbs.	70	6	216	292 lbs.	70	6	233	309 lbs.
4½ "	346 "	364 "	70	6	270	346 "	70	6	288	364 "
5 "	418 "	436 "	70	6	342	418 "	70	6	360	436 "

This boat is much used in the Adirondacks for hunting and fishing, and is built expressly for carrying a hunter, his guide, and their baggage.

PRICE.—Fitted with one seat for oarsman, and stern-sheets for steersman or hunter, \$90. Air-tight compartments, \$5 extra.

REMARKS.—The model from which these boats are made was considered one of the finest boats in the Hackettstown region. It has a broad, flat keel which is of great service in passing dams or sluice-ways. Is much stiffer than any wooden boat of its weight.

Gigs.

NEW YORK WORKING-BOAT, 17½ FEET LONG BY 52 INCHES BEAM — MODEL OF 1871.

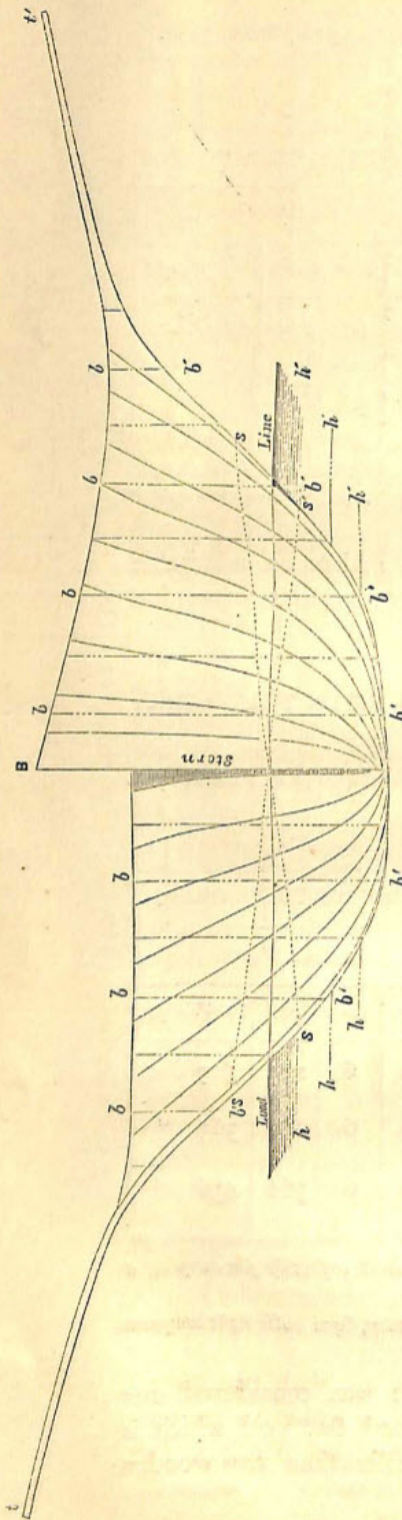


FIG. 28.—Body Plan of Working-Boat—Model of 1871. One-sixth full size.
For Breadth and Sheer Plans, see Plate IV.

This boat is suited to weights ranging from 130 to 170 pounds. We have these boats of two different models, that of 1869 and that of 1871. The under-water bodies of both models are the same, but the out-of-water body of the model of 1871 has a less spread on the top-lines, and has a rather more graceful outline than that of 1869.

PRICE.—Fitted complete (no sculls), model of 1869, \$70; model of 1871, \$80.

REMARKS.—This boat is very steady, as will be seen by an examination of its shoulders, *s s'*, which give great bearings, particularly at and near midships. It is a favorite boat for racing among the oarsmen of New York City and vicinity.

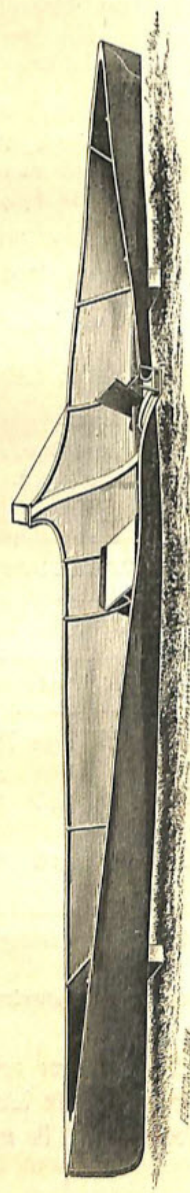


FIG. 29.—Perspective View of Working-Boat—Model of 1871.

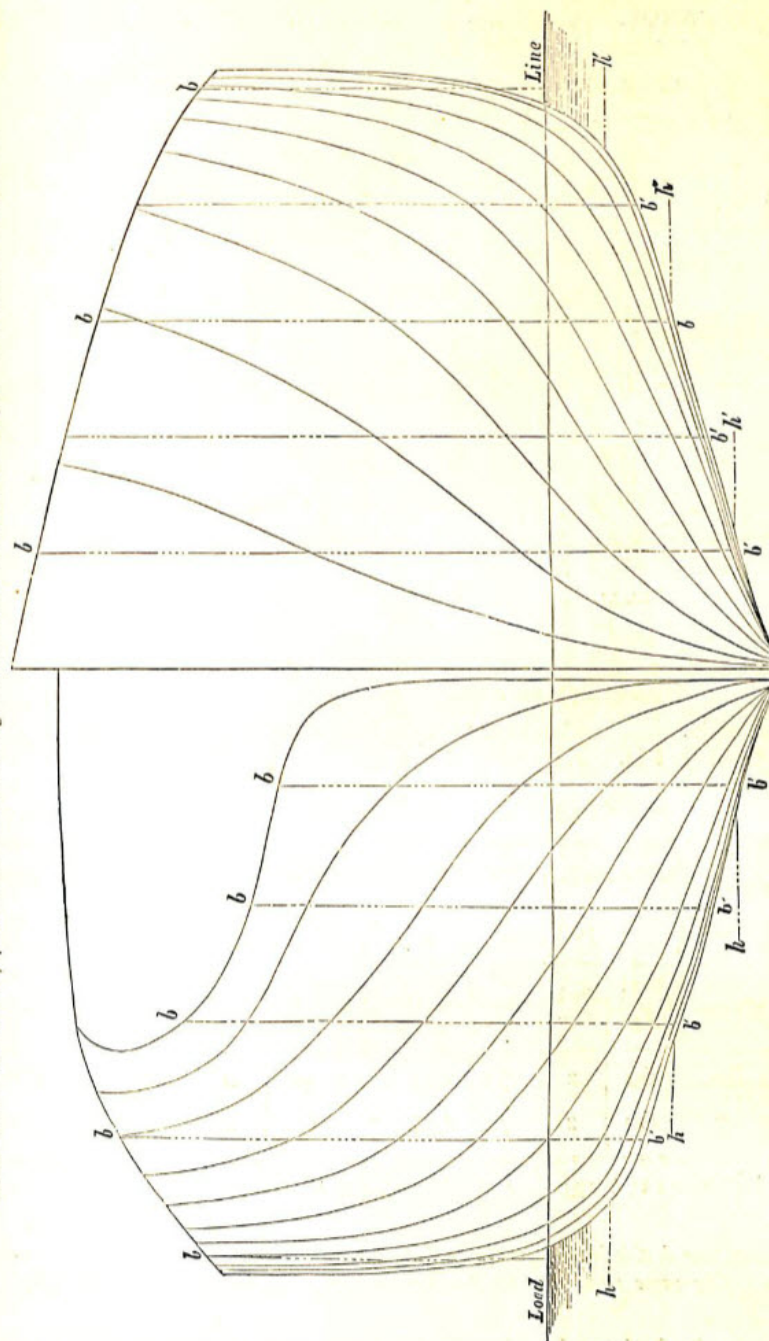
DIMENSIONS OF HULL.

Length, 17 ft. 8 in. Beam, 52 in. Height at Bow, 12¼ in.; Midship, 10½ in.; Stern, 9 in.
Length of Fore-body, 8 ft. 8 in. Middle-body, 1 ft. After-body, 8 ft.

CAPACITY.

FOR A DRAFT OF	THE DISPLACEMENT US FOR		DISPOSITION OF THE DISPLACEMENT FOR THESE DRAFTS.						
	FRESH WATER.		IN FRESH WATER.			IN SALT WATER.			
	Boat.	Oars.	Crew.	Total Weight.	Boat.	Oars.	Crew.	Total Weight.	
4 inches.	211 lbs.	217 lbs.	30	6	175	211 lbs.	30	6	181 217 lbs.

BODY PLAN OF DINGY, 42 INCHES BEAM BY 15 FEET LONG—MODEL OF 1871. ONE-SIXTH FULL SIZE.



For Breadth and Sheer Plans, see Plate IV.

FIG. 30.

DIMENSIONS OF HULL.

Length, 15 ft.
Beam, 42 in.
Height at Bow, 24 in.; Midship, 17½ in.; Stern, 22½ in.
Length of Fore-body, 7 ft. 9 in. Middle-body, — ft. After-body, 7 ft. 3 in.

CAPACITY.										
FOR A DRAFT OF		THE DISPLACEMENT IS FOR		IN FRESH WATER.				IN SALT WATER.		
		FRESH WATER.	SALT WATER.	Boat.	Oars.	Crew.	Total Weight.	Boat.	Oars.	Crew.	Total Weight.
5 inches.	330 lbs.	338 lbs.	140	12	178	330 lbs.	140	12	186	338 lbs.
7 "	600 "	614 "	140	12	448	600 "	140	12	462	614 "

Canoes. BODY PLAN OF "ROB ROY" CANOE, DESIGNED BY MR. J. MACGREGOR, 26 INCHES BEAM BY 14 FEET LONG.

ONE-FOURTH FULL SIZE.

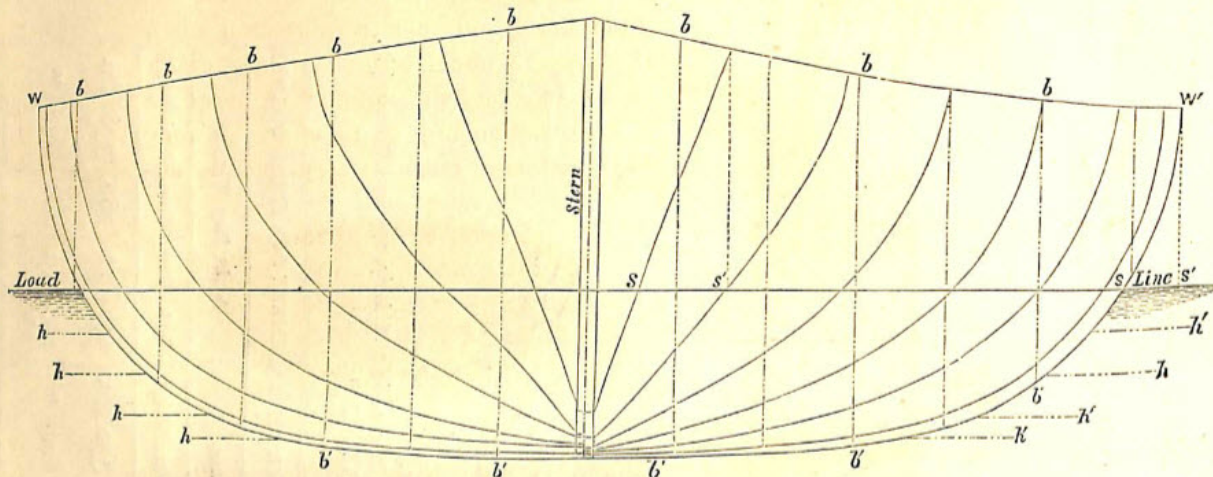


FIG. 31.

For Breadth and Sheer Plans, see Plate IV.

DIMENSIONS OF HULL.

Length, 14 ft. Beam, 26 in. Height at Bow, 10¼ in.; Midship, 8½ in.; Stern, 10¼ in.
Length of Fore-body, 7 ft. Middle-body, 6 in. After-body, 6 ft. 6 in.

CAPACITY.

FOR A DRAFT OF	THE DISPLACEMENT IS FOR		DISPOSITION OF THE DISPLACEMENT FOR THESE DRAFTS.							
			IN FRESH WATER.				IN SALT WATER.			
	FRESH WATER.	SALT WATER.	Boat & Fit- tings.	Pad- dle.	Crew.	Total Weight.	Boat & Fit- tings.	Pad- dle.	Crew.	Total Weight.
4 inches.	213 lbs.	220 lbs.	60	2	151	213 lbs.	60	2	158	220 lbs.
4½ "	238 "	245 "	60	2	176	238 "	60	2	183	245 "

This canoe is adapted to weights of from 125 to 175 lbs.; the size of the well, and that of the various fittings, being made to suit the party using it.

PRICE.—With backboard, cushion, one double-bladed paddle, 7 feet long, rubber-cloth apron (Fig. 37), mast, sail, fittings, and flag, complete, \$120. The same sized and fitted canoe costs from \$145 to \$155 to import from London.

REMARKS.*—As this canoe is designed to be propelled either by the paddle or by sails, to be roomy and comfortable for the user, and yet portable and capable of bearing considerable rough usage without injury, its form is, as we have already remarked, a

* In the following remarks on the "Rob Roy" canoe, as now built by us, we have followed Mr. Macgregor's own description, as given in his works, using his exact language, except where the peculiarities of our build require a different phraseology. We make this explanation in justice to Mr. Macgregor, lest those not familiar with his entertaining accounts of his various canoe journeys should consider it original with us.

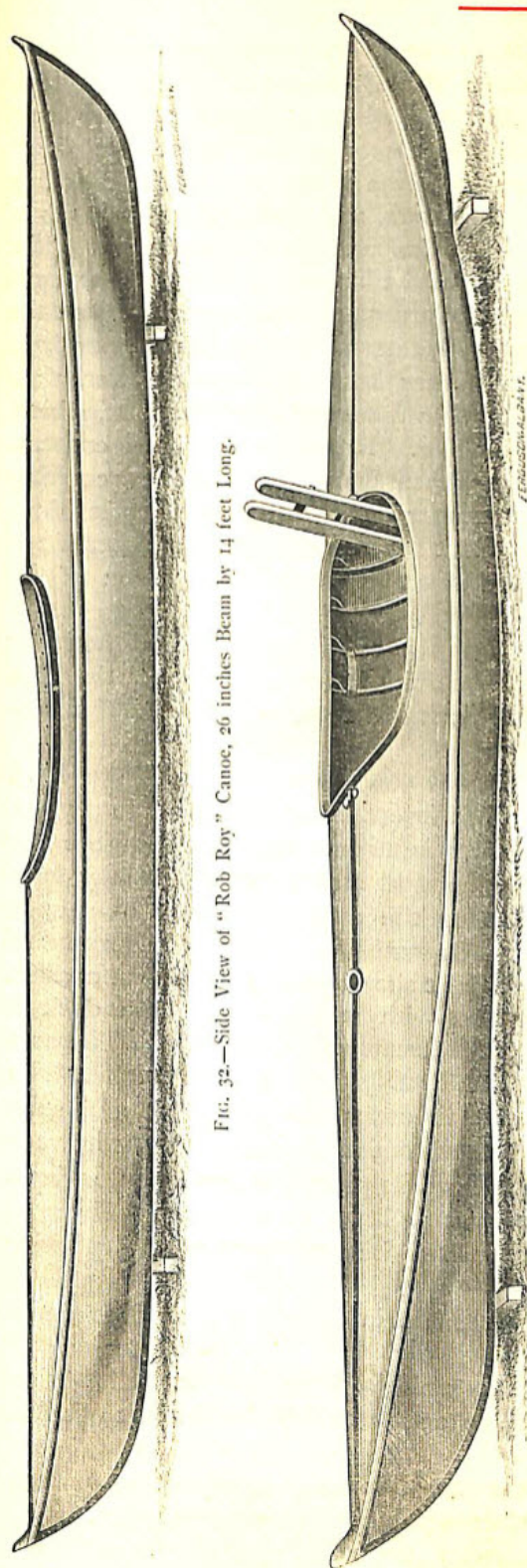


FIG. 32.—Side View of "Rob Roy" Canoe, 26 inches Beam by 14 feet Long.

FIG. 33.—Top and Inside View of "Rob Roy" Canoe, showing Mast-socket, Well, Backboard, and Pocket.

compromise between several well-known models. In this boat, extreme lightness is by no means of as much importance as good lines, and their preservation when the canoe is under way. A weak, crank boat will weary the canoeist far more in a cruise than any extra effort he may have to make on account of a little ad-

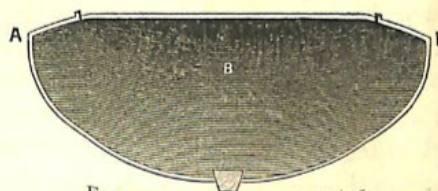


FIG. 34.—Section at Midships.

ditional weight by which the quality or stiffness is secured. If the craft is stiff, the body is not strained at every moment to keep it poised under the alternate strokes of the paddle or the sudden pressure of a squall on the sail. The extreme stiffness of paper canoes is one of their greatest merits, and withal they are twenty-five per cent. lighter than the wooden ones of the same dimensions.

These canoes are built with the paper skin secured to two inwales, the dead-

Detailed description of method of construction.

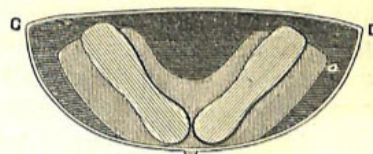


FIG. 35.—Section at Stretcher, showing its Shape and the Position of the Feet.

woods, and some six pairs of rib-timbers, by copper fastenings. The deck is of fine cedar, supported by a longitudinal ridge of hard wood, notched into arched carlines, which give roundness to the deck, and which are sufficiently strong to admit of being sat upon without injury. The height of the crown of this deck above the floor in the well is regu-

Deck.

Well.

lated by the length of the man's feet, and the amount of stowage he requires for his traps; this height is usually about 11 inches where the depth at the gunwale is $8\frac{1}{2}$ inches, and is the proportion shown in Fig. 34, where is given a cross section of this canoe at the beam. The stern and stem posts project above the deck, so that, when the canoe is turned over, it will rest on these points and on the coaming around the well. This coaming is made of steamed oak, and projects five-eighths of an inch above the level of the deck. The well is 32 inches long by 20 inches wide. Its position with reference to the beam and midship of the boat depends on the amount and position of the whole load, which must be so arranged that when in place the canoe will trim on an even keel or slightly down by the stern. Thus, if the canoe is to be used merely for pleasure, without carrying any other load than the canoeist, then the position of his centre of gravity should be immediately over that of the boat, which, when fully equipped, will be a little abaft the midships. But if a journey is contemplated where a certain amount of luggage is indispensable, and, possibly, cooking utensils and a few provisions are required, the manner of stowing these under deck will influence the trim of the canoe, and must be at least approximately ascertained and taken into consideration, with the weight of the crew, before the position of the well can be fixed by the builder.

Fig. 32 presents a side view, and Fig. 33 a top view, of this canoe. The latter also shows the well, with the "Rob Roy" backboard in place, and one of the little pockets arranged under the narrow part of the deck between the ribs for the convenience of storing small articles.

Carlines.

Stretcher.

The deck is supported on four carlines forward and three aft (see Plate IV.), the latter portion being thus strengthened, because it is sometimes required to support the weight of the canoeist as he sits with his legs in the water. Each carline has a piece cut out of its ends at the upper corner, so that any water which may have dashed into the well may run along the beam when the canoe is canted to sponge it out. The after-edge of the carline, forming the forward line of the well, is rounded, so as not to catch and abrade the shins as the canoeist sits in position. These carlines are made narrow and deep, to combine lightness with strength, and the deck is screwed to them with brass screws, so that it can be removed for repairs. The arch or crowning of the deck enables the feet to rest comfortably against the stretcher (Fig. 35), the centre of which is cut down in a curve in order that the mast and sails, rolled together, may rest there, and be kept under deck out of the way. If the stowage of luggage interferes with this, the mast and sail can be placed under the after-deck. The deck at the sides of the well is firmly secured by knee-pieces to the timbers, so that the boat can be lifted up by any part, and may be sat upon in any position without injury.

Floor-boards.

If desired, water-tight compartments can be made in either one or both ends; these add much to the buoyancy of the canoe.

The floor-boards rest on the timbers and extend the length of the well. They terminate forward just short of the foot-board, so as to enable the heels to fall as low as possible when in position.

The canoeist may be seated directly on the floor-boards or on a cushion or mat; but, if they are used, they should be firmly fixed, especially if the water is rough.

As the canoeist sits in place, the knees touch the coaming and apron-boards,

the weight of the legs thus lying partly on or against the well-coaming. The most essential part of the fittings of this canoe, so far as the comfort of the user is concerned, is the backboard. This consists of two strips of hard wood, 18 inches long by $2\frac{1}{2}$ wide, united firmly by two cross-pieces, the lower of which is grooved so that it will rest on the top of the coaming, and oscillate with the movement of the canoeist's back, which is thus supported on both sides along the muscles, while the spine is untouched between the strips. The use of this backboard adds greatly to the comfort of the canoeist, and, therefore, to his efficiency. The length and width of the strips, and the width of the interval between them, should be regulated by the size and build of the user.

Backboard.

An oak keel, an inch deep, and having a trapezoidal section, as shown in Fig. 34 (indicated in side view by the heavy black lines in Figs. 32 and 33), is firmly secured to the bottom, and scarfed on to the cut-waters at either end. The lower face is three-eighths of an inch wide, and is protected from abrasion by a band of three-eighths flat iron, one-eighth of an inch thick, well screwed on, and scarfed on to half-round copper rods of the same dimensions, which pass up the face of the cut-water and over the top of the stem and stern posts on to the deck.

Keel.

With this canoe, the paddle or sail may be used separately or both together.

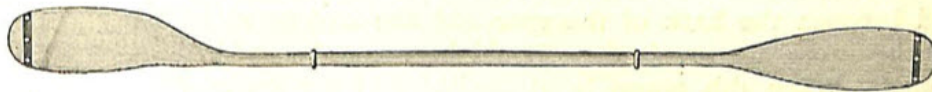


FIG. 36.—Paddle for "Rob Roy" Canoe.

The paddle (Fig. 36) is 7 feet long, flat-bladed, with a breadth of palm from 5 to 7 inches, according to the fancy or strength of the user. It is made of clear spruce, and weighs about two pounds. The palms are banded with copper, carefully riveted in place. The spoon-blade is the best for speed; but for the general service of paddling and shoving, a short paddle with a straight blade is the best. To prevent the drip of the water passing down the handle, rubber rings slipped over the blades are used, in the position shown in the figure, or, if these happen to get broken or lost, a bit of twine wound spirally round the handle near the blade will answer a temporary purpose. The Esquimaux use a strip of fish-skin.

Paddle.

Various plans have been devised and tried for a water-proof covering for the well and the body of the canoeist, in imitation of the plan used by the Esquimaux in his kyack, without having the body tied within the protecting envelope and apron. Among others, one for a movable wooden hatch, with a rubber apron attached to it, to be brought up around the canoeist's body, and secured by a rubber cord or other simple means, has been introduced in England, and called the "Ringleader" hatch. While this hatch effectually keeps out water, its construction (being that of a light box fitted over the forepart of the well) prevents it from being stowed under deck, and hence when not wanted it is always in the way. Mr. Macgregor's own plan seems to be the simplest and best yet suggested, and, as it has well stood the test of much rough service, we recommend it in preference to others. It is necessary to have some covering for the well and the person which shall effectually exclude water, and yet be so attached as not to hamper the movements of the canoeist

Water-proof
apron.

when working the boat, or embarrass and peril his safety in case of an upset. A suitable protection of this kind at once removes the chief objection to the use of the ordinary canoes in rough water. Mr. Macgregor's apron is thus arranged: A piece



FIG. 37.—Side View of the Apron as it appears when adjusted around the Body of the Canoeist, and tightly covering the Forepart of the Well.

of light wood, of the form of the flat surface shown in Fig. 37, 2 feet long and 3 inches deep at the deepest part, is placed vertically against and along each of the outer faces of the well-coaming, the length running fore and aft, so that each will just rest against the outside of each knee of the canoeist. A piece of drab-colored rubber-cloth is tightly nailed along and over these so as to embrace them within its folds, and form an apron supported at the sides along the narrow part of the deck, and sloping from the highest part forwards down to the deck in front of the coaming, over which its edge projects one or two inches, and then lies flat on the deck. The other or after end is so cut and formed with a gore as to fit the body neatly, the ends being tucked in behind between the back of the user and the backboard against which he rests, or, when the waves are rough, they should be secured *outside* the board by a string with a knot. When this apron is so applied and the knees are in position, their pressure keeps the whole apron steady, and the splash of small waves cannot move it. For rough water, the forward end is held down by a cord attached to two screws on the deck at either side of the apron. A button-hole at the highest point of the apron near the waistcoat allows it to be supported there, but the whole will at once separate from the boat in an upset, and it can be taken off and folded up in a few moments. By a little ingenuity, any one can fit up an apron in this way which will exactly suit his wants.

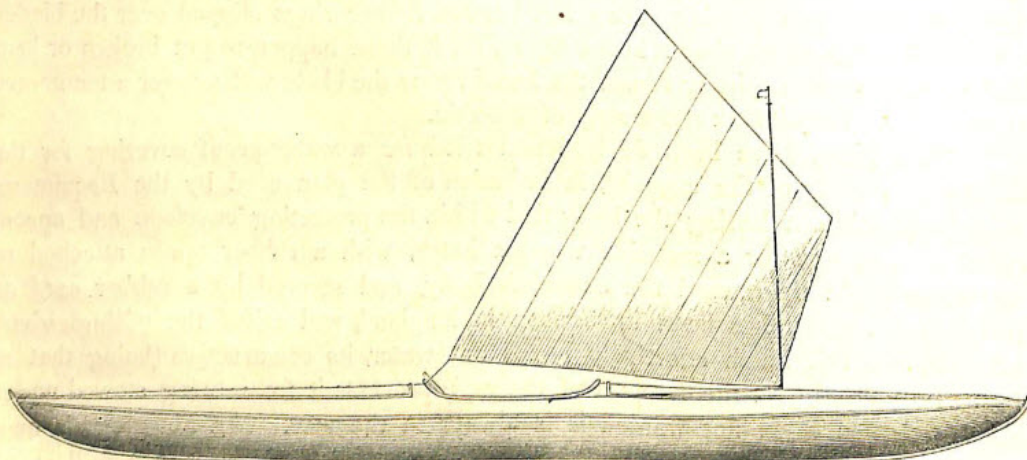
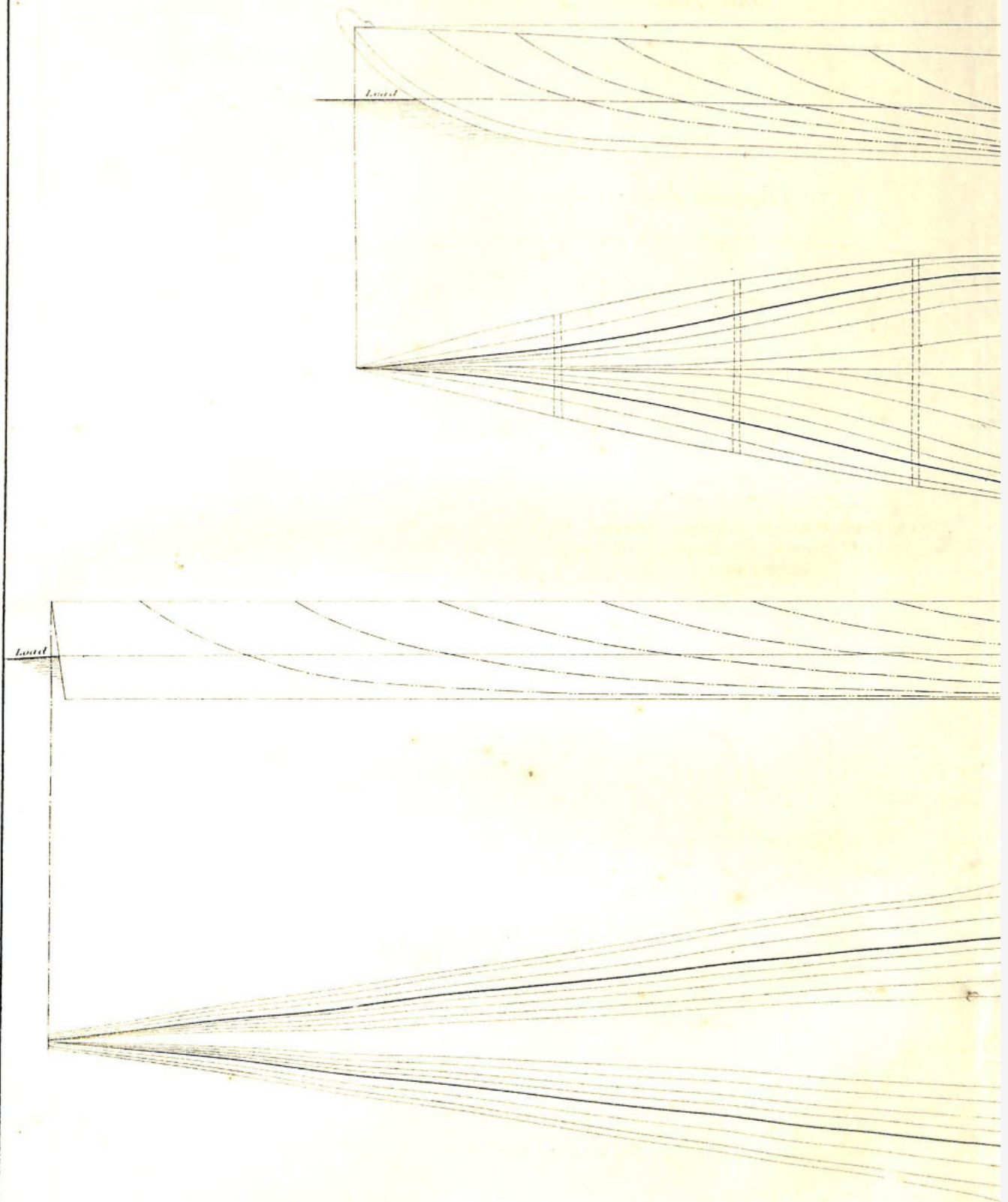


FIG. 38.—The "Rob Roy" Canoe fitted with a Lug-Sail.

Sail.

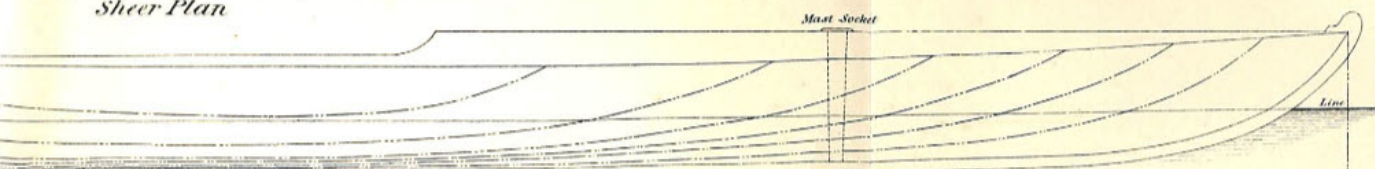
One important advantage of this canoe is its capacity for sailing without altering the canoeist's seat. The following arrangement of mast and sail has been found by expe-

LINES. - MISCELLANEOUS.

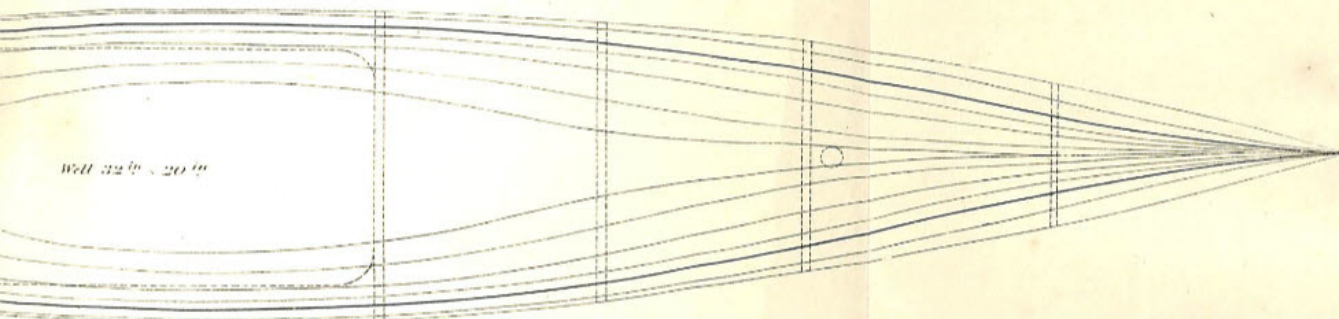


Canoe, 26ⁱⁿ beam $\times$ 8 $\frac{1}{2}$ ⁱⁿ deep $\times$ 14^{ft} long.
 Model by Searle & Sons, London, 1870.

Sheer Plan



Breadth Plan

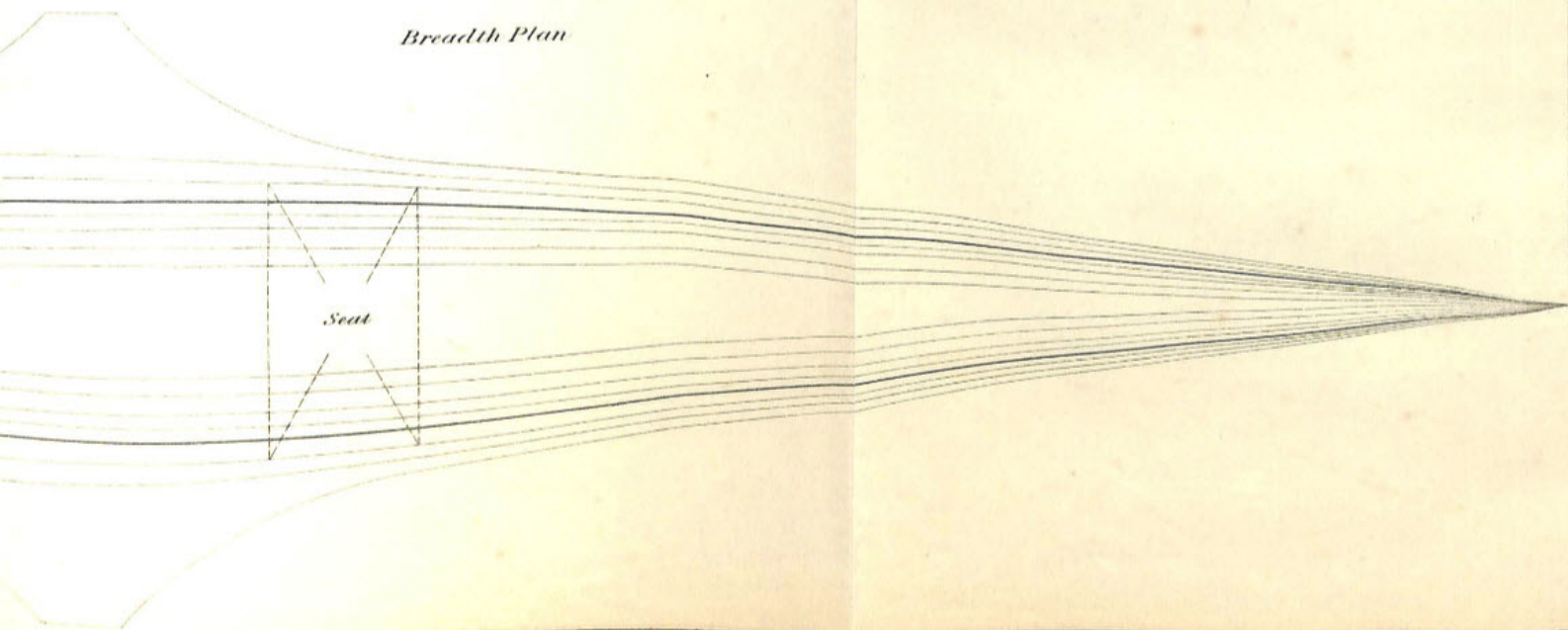


Working Boat, Model 1871.
ⁱⁿ beam $\times$ 10ⁱⁿ deep $\times$ 17^{ft} 8ⁱⁿ long

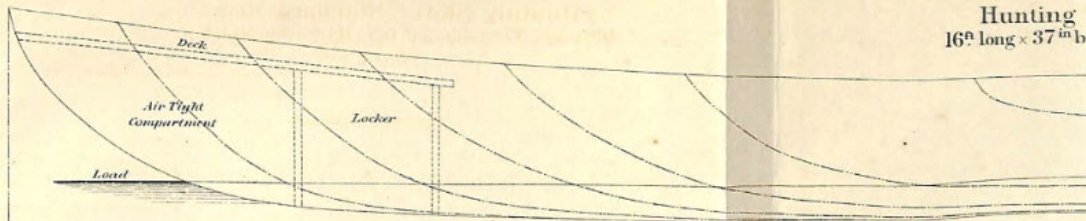
Sheer Plan



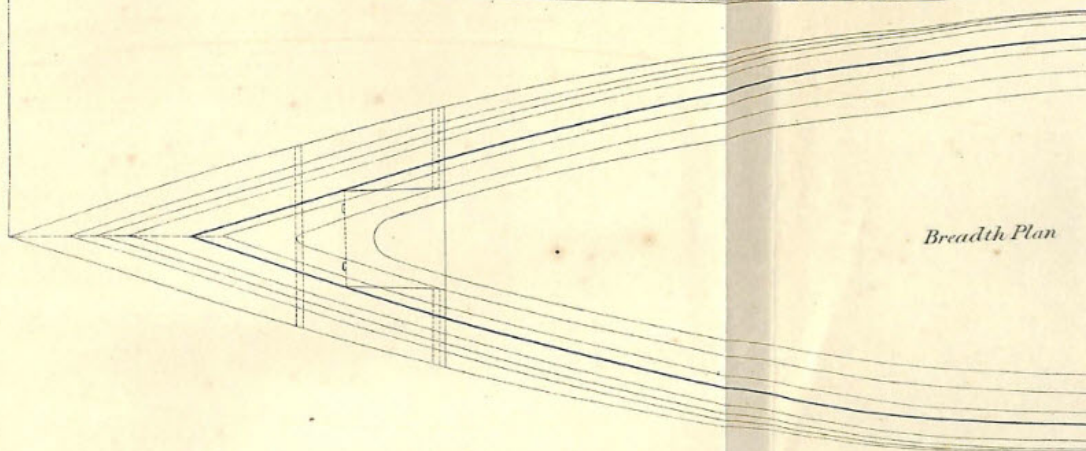
Breadth Plan



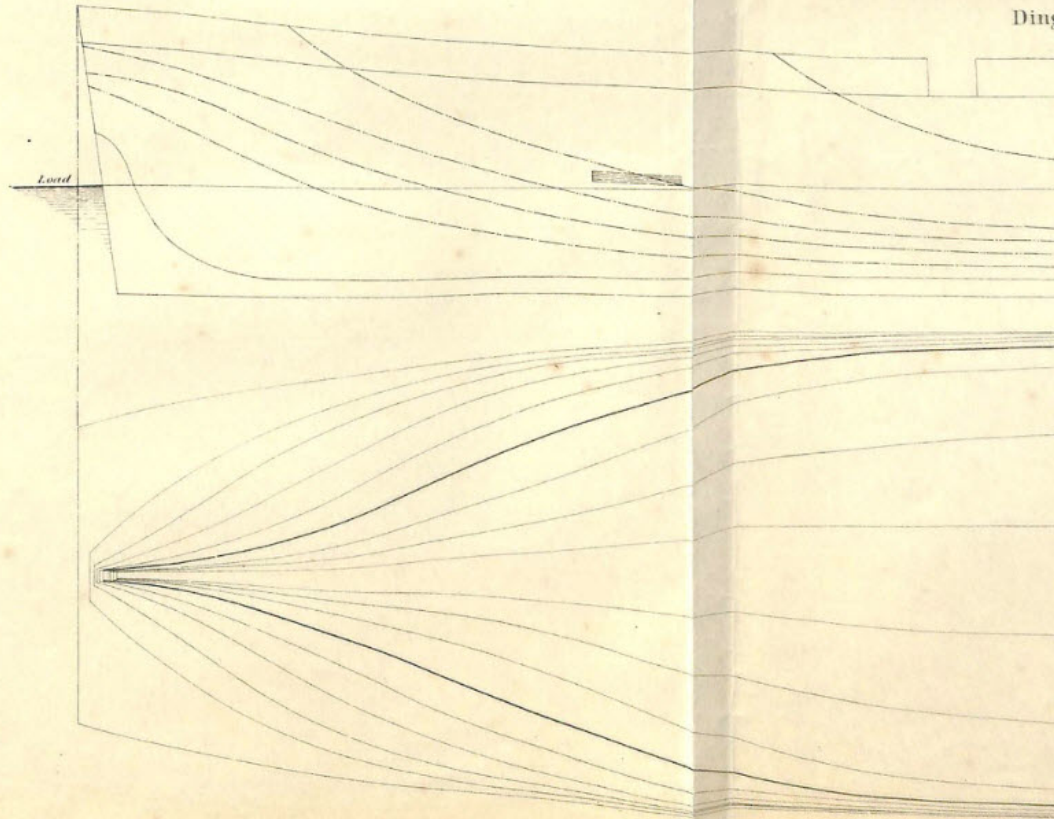
Hunting
16^{ft} long x 37ⁱⁿ b



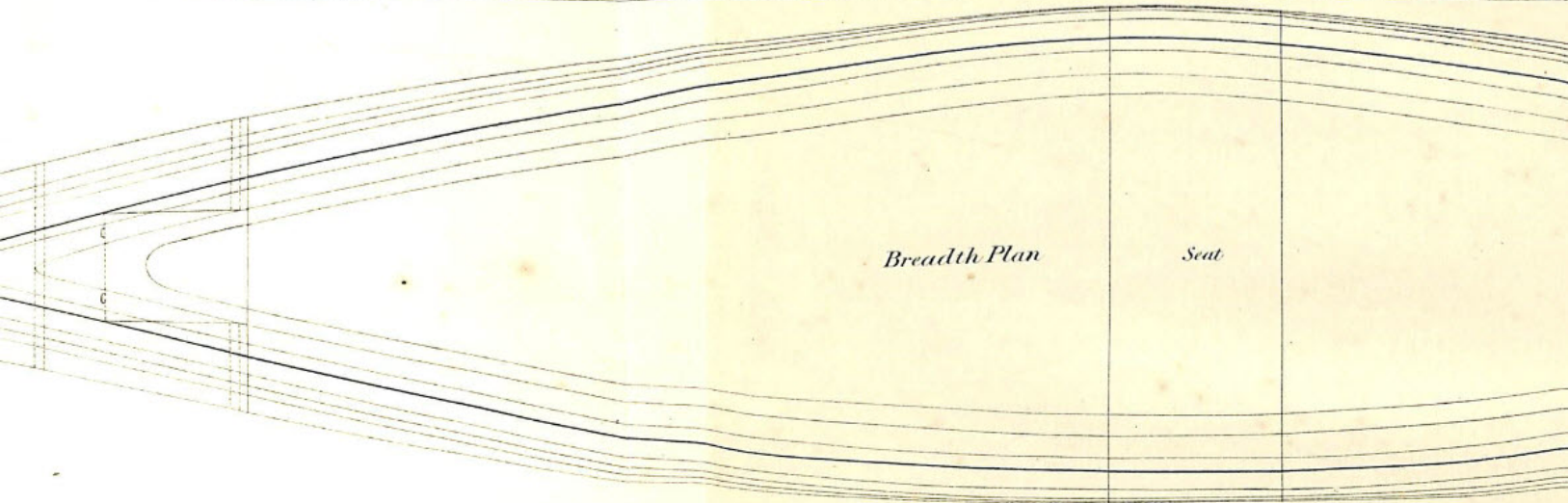
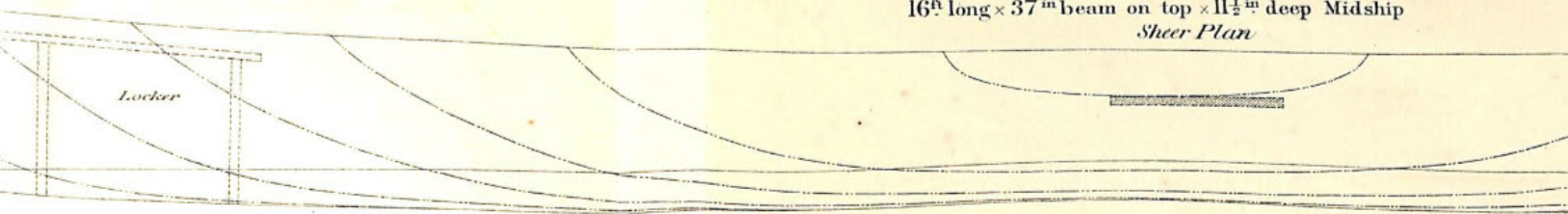
Breadth Plan



Ding



Hunting Skiff. Standard Model.
 16^{ft} long $\times$ 37ⁱⁿ beam on top $\times$ 11 $\frac{1}{2}$ ⁱⁿ deep Midship
Sheer Plan



Dingy 42ⁱⁿ beam $\times$ 18ⁱⁿ deep $\times$ 15^{ft} long.
Sheer Plan

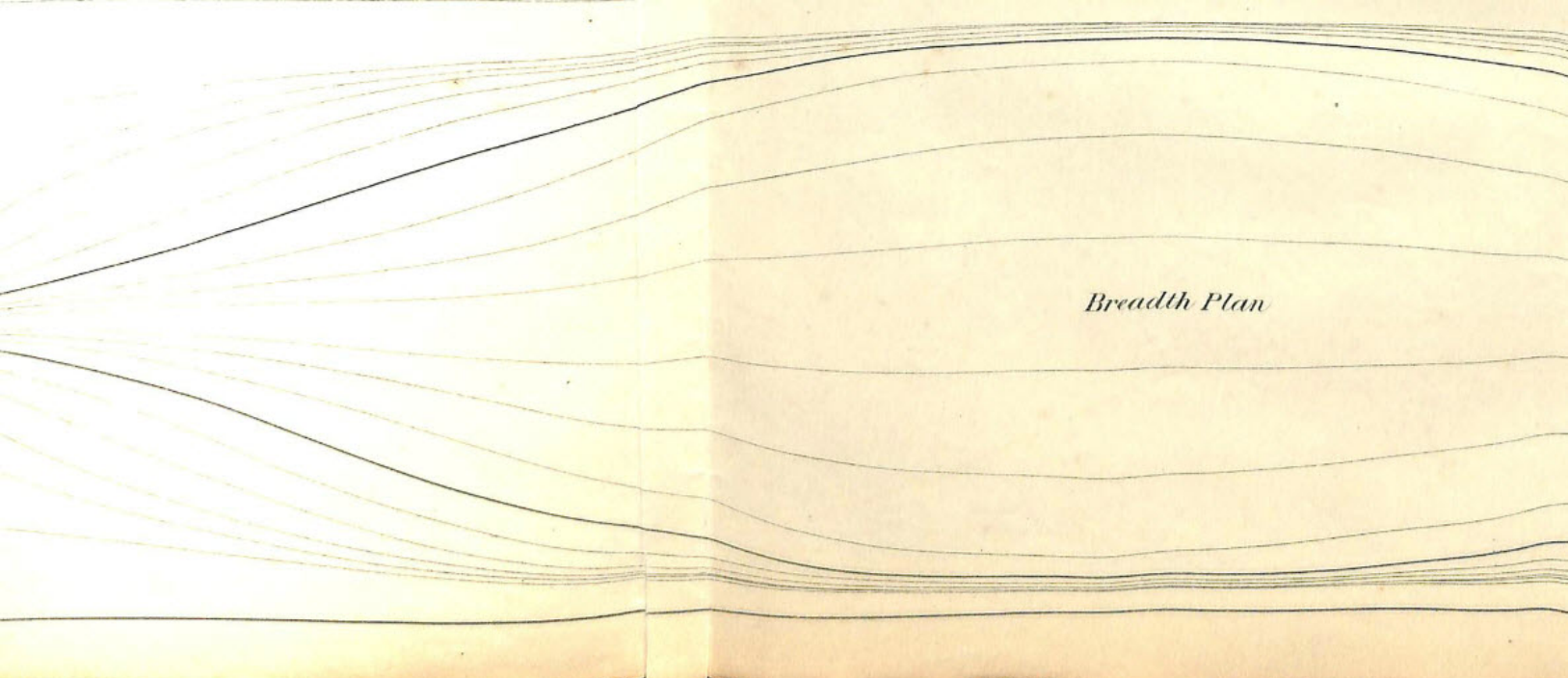
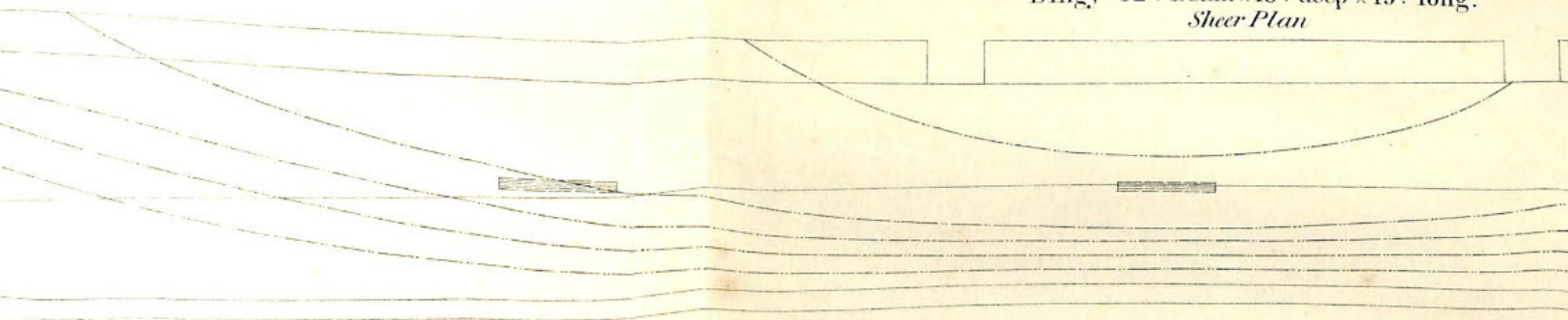
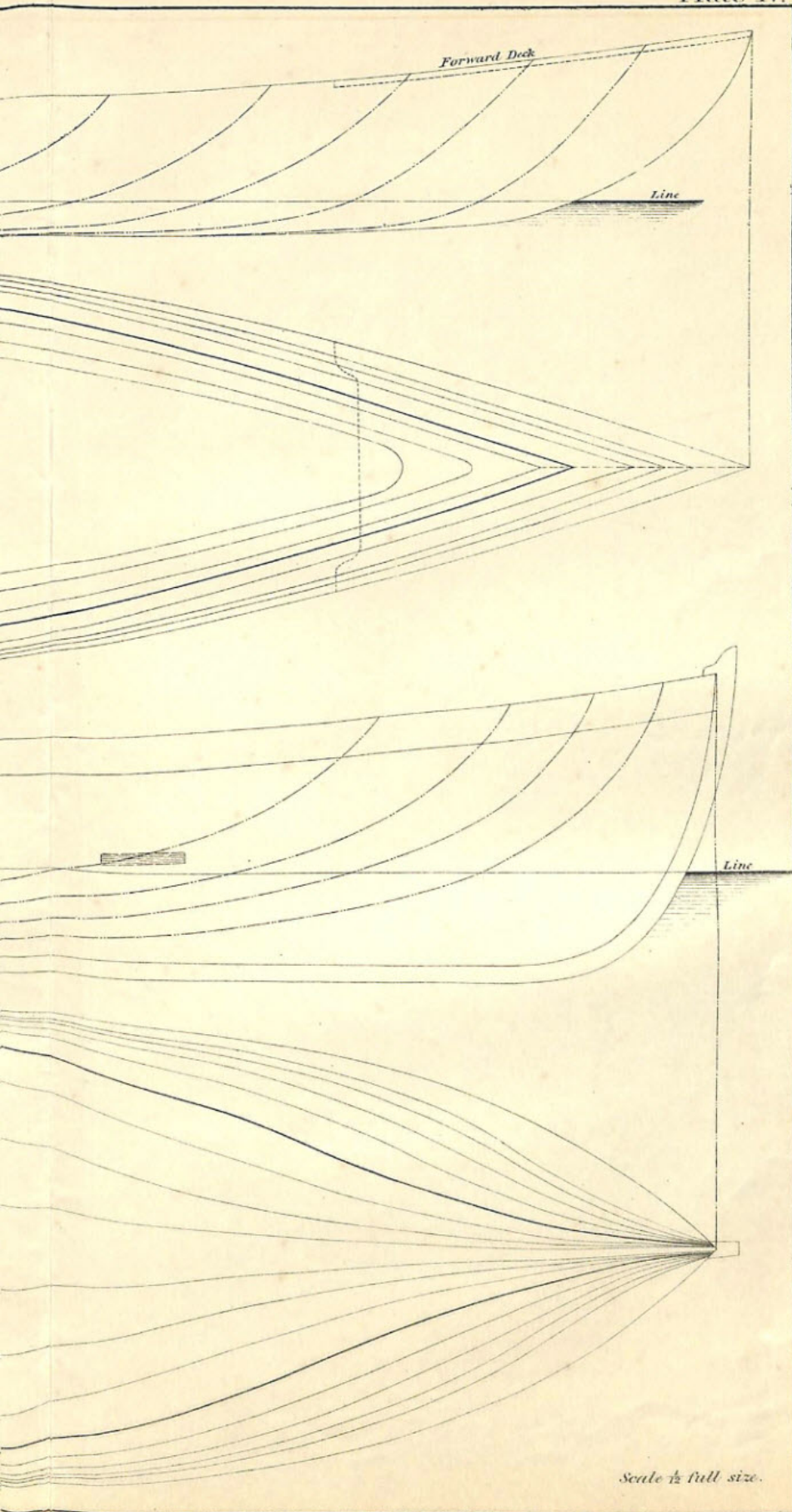


Plate IV.



rience to be the best for this boat. The mast is one and a quarter inches thick (tapering), and five feet six inches long, of which the part above deck is four feet nine inches. The lug-sail (Fig. 38) has a yard and a boom, each four feet nine inches long, so that when furled the end of the boom and the mast come together. The fore-leech is two feet long, and the after-leech six feet six inches, giving an area of about fifteen square feet. The yard and boom are of bamboo, and the yard passes into a broad hem on the sail-head, while the halyard is rove aloft through a small boxwood block, three-quarters of an inch long, and with a brass sheave, and through another (a brass blind-pulley), well fastened on the side of the mast near the deck, so that the sail can be lowered and hoisted readily. The lower joint of a fishing-rod, four feet nine inches long, can be used as a spare boom. The tack-end of the boom is made fast to the mast by a flat piece of leather, lashed to its upper part and to the mast, and so as to be free to swing in every direction. No hole is made in the mast, and no nail or screw driven into it, for these are causes of weakness. Two cord-loops, about six inches apart, near the mast-head, support the flag-staff, of bamboo-cane, two feet long, and with a silk flag, seven by nine inches. When the mast is not used, this flag-staff is detached and placed in the mast-hole, which it fits by a button two inches wide, permanently fixed in the staff, the lower end of which rests in the mast-socket. The halyard and sheet should be of woven cord, which does not untwist, and is soft to handle in the wet. The sheet when not in hand may be belayed round a cleat on deck on either side of the apron where it is highest, and thus these cleats are protected from the paddle. The mast is stepped in a copper tube, the bottom of which rests in a block of wood made fast to the keelson, and the top is soldered to a brass lip screwed into the deck. The object of setting the mast in this tube is to prevent any water reaching the inside of the canoe by way of the mast-hole.

How rigged.

In order to have the sail swing free, and not lie against the canoeist's body, or get entangled with the paddle when steering, the mast has to be stepped further forward than it should be if the rule of having the centre of pressure of the sail over the centre of resistance of the hull is followed. The position of the sail gives the canoe a weather helm on a wind; but this sacrifice has to be made for the sake of the comfort and convenience of the canoeist for the reasons given. A painter, thirty feet long, is supplied with each boat; this is made of the best flax sash-cord, the ends whipped with wax-ends. Suitable holes are made in the stem and stern posts to receive it.

We are now building the model of a larger canoe of this kind, as recommended by "Ringleader," in the article quoted from the "Rowing Almanac," to be seventeen and a half feet long by twenty-six inches beam, and twelve inches deep. This canoe can be fitted up for one or two persons, and will be admirably suited for journeys to be undertaken by two persons. It will be fully illustrated and described in our issue of 1872.

Rough-water
canoes.

Stannard skiff.

BODY PLAN OF HUNTING-SKIFF, STANNARD MODEL, 37 INCHES BEAM BY 16 FEET LONG.

ONE-SIXTH FULL SIZE.

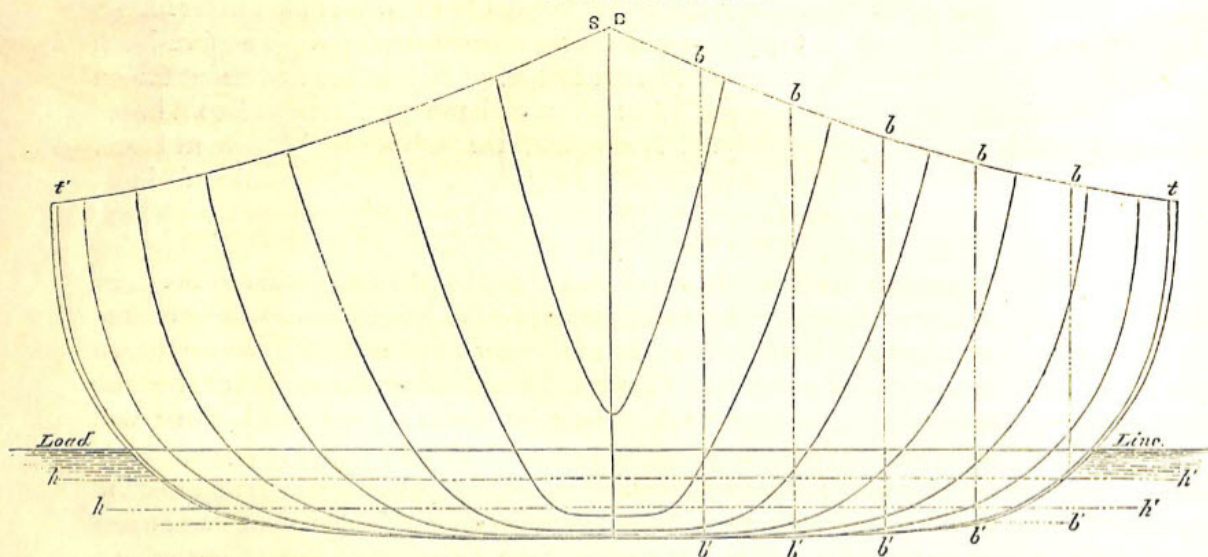


FIG. 39.

For Breadth and Sheer Plans, see Plate IV.

DIMENSIONS OF HULL.

Length, 16 ft. Beam, top, 37, bottom, 24 in. Height at Bow, 17½ in.; Midship, 11½ in.; Stern, 17½ in.
 Length of Fore-body, 8 ft. Middle-body, — ft. After-body, 8 ft.

CAPACITY.

FOR A DRAFT OF	THE DISPLACEMENT IS FOR		DISPOSITION OF THE DISPLACEMENT FOR THESE DRAFTS.							
			IN FRESH WATER.				IN SALT WATER.			
	FRESH WATER.	SALT WATER.	Boat.	Oars.	Crew.	Total Weight.	Boat.	Oars.	Crew.	Total Weight.
2 inches.	178 lbs.	183 lbs.	80	5	93	178 lbs.	80	5	98	183 lbs.
3 "	290 "	297 "	80	5	205	290 "	80	5	212	297 "

TABLE OF DIMENSIONS, WEIGHTS, AND PRICES OF SKIFFS, STANNARD MODEL.

LENGTHS.		BREADTHS.		HEIGHTS.		WEIGHTS.		TO CARRY.		PRICE, FITTED FOR HUNTING.		PRICE, FITTED FOR USE AS A PLEASURE-BOAT.	
Extreme length over all. Feet.	Length on the bottom. Feet.	Extreme breadth at Beam on top. Inches.	Extreme breadth at Beam on the bottom. Inches.	Heights of Bow and Stern above the level of un- der-side of bottom at midship. Inches.	Height of top-edge of Gunwale above bottom at midships. Inches.	Average Weight, fitted for hunting pur- poses. Pounds.	Weight of lightest wood- en Skiffs of same dimensions. Pounds.	For Hunting, purposes, the necessary guns, am- munition, and traps, and sportsman weighing. Pounds.	If used as a pleasure-boat will carry safely and comfortably—Persons.	The same, with air-tight compartment forward, one extra seat and fit- tings, for use with punter.	Copper-bottomed above water-line, for use in young ice, each, extra.	Decked forward, two movable seats in waist, one in stern with "Rob- Roy" back, fitted for one pair of sculls to be used on either seat, and steer with paddle.	All the previous fittings, and in addition air-tight compartment forward, outriggered at both seats for use of two pairs of sculls, rudder and yoke for steering.
12	10' 10"	33	20	15	9½	50	75	130	2	\$65	\$74	\$71	...
14½	12'	36	21	16	10½	60	85	150	3	70	79	76	\$92
15	12' 8"	37	22	16½	11	65	95	170	2	75	84	81	97
15½	13'	37	23	17	11½	70	110	190	3	80	89	86	102
16	13' 6"	38	24	17½	11½	80	120	220	4	85	94	91	107
16½	14'	39	25	20	12	90	140	260	4	90	100	96	112

NOTE.—These prices include steel outriggers and malleable iron rowlocks. If bronze rowlocks are required, the price is \$2 extra per pair.

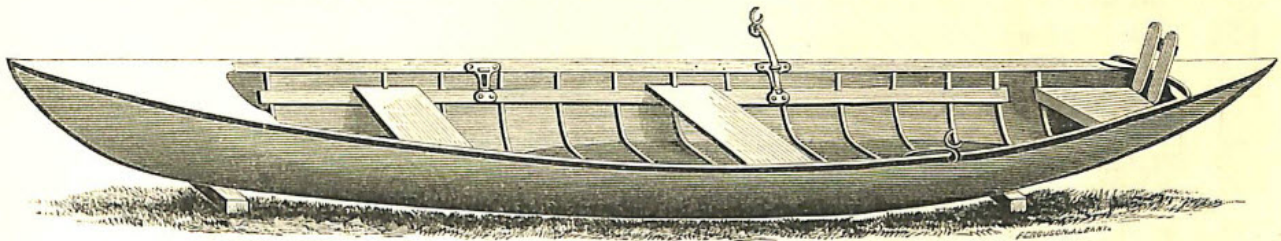


FIG. 40.—Stannard Skiff, fifteen and a half feet long, fitted with seat in waist, movable seat forward, and seat in stern, with "Rob Roy" backboard; one pair outriggers with C-rowlocks, and one pair extra outrigger-plates.

The above engraving represents one of these skiffs fitted as a pleasure-boat, for either one, two, or three persons. The middle thwart is so placed that, with one person in the boat, and using this as his seat, it trims with an even keel. To carry two persons, the lightest uses the stern-seat, and the heaviest the forward one. With three, the heaviest person should use the middle thwart. The stern-seat is represented as fitted with the "Rob Roy" backboard, which can be applied very successfully in these boats. This simple contrivance supports the back perfectly, and adds greatly to the comfort of the person steering the boat, whether using a paddle or a rudder. The floor or burden boards are not shown in the cut, which, having been taken from one of our earlier boats, does not give all the details as herewith described, but still presents the principal features of the Stannard model with much accuracy.

Although these boats are called skiffs, a reference to the engraving shows that they bear very little resemblance, either in shape or method of construction, to the common wooden craft of that name. The latter, as we have already remarked, are built in the simplest manner; in fact, a pointed box with inclined sides, without any frame, depending for the preservation of their shape on the stiffness and strength of the plank composing the sides and bottom.

The paper skiffs of both the models here described have frames of wood, similar in arrangement to those used in gigs or dingys, on which the skin is fastened, and which serve by their shape to give these boats all the steadiness of the common flat-bottomed skiff, combined with the fine lines and extreme lightness which it is so desirable to obtain in connection with great stability.

In the Stannard model (Fig. 40), the frame is composed of from twelve to sixteen pairs of ribs, or side-timbers, each rib extending from the middle line of the floor to the upper edge of the gunwale, and formed of one piece, cut from the natural crook of a hackmatack root.

Frame described.

The ribs of each pair are butted together at their floor-ends, and firmly secured to the corresponding floor-timbers. Suitable stem and stern posts of hackmatack are set up at the bow and stern to give shape and support to the skin at these places. Over the rib-timbers, stem and stern pieces, the paper skin is first stretched, and then dried and water-proofed as has already been fully described. It is secured to the timbers by copper fastenings riveted on the inner face of the timbers, the heads of the fastenings being countersunk in the outer surface of the paper. A gunwale of spruce extends from end to end along the outer and upper edges of the sides, while inwales of hard wood pass in the same fashion along the inside edges, each lying against the upper ends of the timbers. The inwales, timber-heads, and gunwales are firmly held

together by stout copper fastenings, two through each timber-head, riveted on the inside face of the inwales.

To protect the surface of the bottom from abrasion when the skiff is drawn up on a platform, and to give increased stiffness to this part of the frame, a broad, thin keel of white oak, from three to five inches wide at the beam and gradually narrowing toward the ends, is placed on the bottom. This keel is bedded in place on the paper with marine glue or shellac, and held in position by copper fastenings passing through the paper skin, the ribs or floor-timbers, and a flat kelson laid on them, thus binding the whole mass together.

This kelson of pine extends the whole length of the floor, and forms the middle strip of the burden-boards. To its end are screwed the feet of the stem and stern pieces.

The cut-waters of the stem and stern are protected by a plating of sheet-brass, fastened to the solid wood by screws inserted along their edges. At the point where this metal plating reaches the bottom of the boat, it is spread out in a palm, so as to embrace and overlap one end of the keel, which, passing under it, is thus secured from injury.

Method of
protecting
against young
ice.

The better to protect these boats from the destructive effects of young ice when used late in the season on sheets of water liable to be frozen during frosty nights, the bottoms are coppered with light brazier's sheets, made in a continuous piece from bow to stern, the metalling extending over the bilge to just above the load-line.

This plan is most effective, and, when thus armored, can be used in new ice an inch thick with impunity. A skiff so coppered will last for years if properly cared for, and we would recommend it in all cases (provided the additional weight of from 7 to 15 pounds is no objection) where the water is shallow, with gravel or stony bottoms and beaches.

Air-tight com-
partments.

The air-tight chambers used in these boats are an essential feature of their construction, rendering them in reality life-boats, since, if the compartments are the large size, they will each sustain from 60 to 70 pounds when the boat is filled with water. They are placed in the angle of the bow and stern, and, as these parts are from their shape of but little value for stowage, they can be thus admirably utilized.

Two sizes are put in—a small size where the bulkhead is set against and attached to the first pair of rib-timbers from either end, and a large size where the bulkhead is set against the second pair of rib-timbers from either end.

Every skiff of this model is built with a compartment in the stern, which is either large or small, at the option of the purchaser, according to the floor-space he desires. If a locker is to be built in the stern, or a seat for one person to be fitted up, then the small compartment is preferable; but, if neither of these is wanted, but only a plain deck set below the gunwale, the large one can be introduced quite advantageously. They can also be built in the bow if desired, but, when not ordered, we usually deck the bow for, say, 30 to 36 inches back from the stern, so as to give a dry place underneath for stores or game.

Thwarts and
seats.

The main seat is arranged on the midship thwart in such a manner that, being raised about an inch and a half above the thwart and made of thin stuff, it gives a springy seat, on which a cushion or coat can be used. We make these top-seats of the shoemaker pattern when desired. Suitable open boxes for loose ammunition are

arranged on each side of the seat on the thwart. In the edges of these boxes, notches are usually cut to receive the fowling-pieces. The cutting of these is left to the sportsman, as guns vary so much in size and shape, and it is desirable that they should fit closely, so as not to be easily thrown out if the boat lurches.

Where a punter is carried, and the sportsman does not use his ammunition chest for a seat, an extra thwart is fitted forward, with bronze thumb-screws and sockets, so that it can be removed if required.

A pair of outrigger-plates are attached to the gunwale, so that, when it is desired to shift the oarsman's position, the outriggers can be removed from their usual position and placed in the forward pair of plates.

The floor of the boat is made up of narrow strips of pine or cedar, placed an inch apart and screwed to the timbers. This adds greatly to the stiffness of the boat, and allows water to pass below the floor when shipped. Whenever it is necessary to paint or clean the inner face of the paper skin, the burden-boards can be easily taken up by removing a few screws.

The outriggers for these boats are made of spring-steel. They are accurately fitted into malleable iron sockets, set on a broad plate, which is firmly bolted to the gunwale and the rising-piece (see Fig. 40). They can be shipped and unshipped at pleasure, and are prevented from falling overboard if detached from the sockets by a lanyard which passes through a hole in the shank.

They are made any height or spread as ordered. The usual spread is from 42 to 46 inches, and the height of the bed of the rowlock above the floor of the boat 15 inches.



FIG. 41.

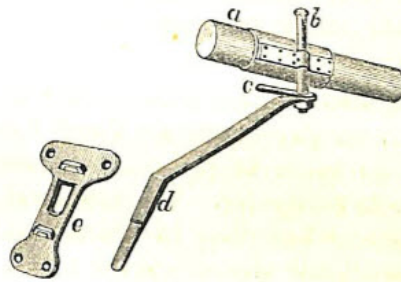


FIG. 42.



FIG. 43.

Figs. 41 and 42 represent these steel outriggers. The lower end, *d* (Fig. 41), passes into the loops set on the face of the plate, *e*, and, being made tapering, tightens as it is pressed home. All rattling when rowing is thus avoided. *e*, Fig. 42, is the gunwale-plate, showing the bolt-holes for attaching it to the gunwale as above described.

Several kinds of rowlocks, or attachments for the scull, are used in these boats. In Fig. 42 is shown a plan in common use in the Western States. A pin or stake, *b*, made tapering, is firmly bolted at its lower end to the end of the outrigger; the oar, *a*, rests on a short horizontal plate, *c*, whose upper surface is made half-round so as not to wear the under surface of the scull. A strip of leather or raw hide, nailed or wired to the scull, serves as a loop by which it is held in the place against the pin as it rests on the plate, *c*.

Floor or burden boards.

Outriggers.

Rowlocks and other scull attachments.

The advantage of this method of attachment is, that in case the sculls are suddenly dropped from the oarsman's hand, as, for instance, when he wishes to seize his gun quickly for a shot, the forward motion of the boat causes the blades of the sculls to trail at the sides of the boat, and, the loom being secured to the pin by the loop, the handles are ready to be seized at any moment. Any tendency to slip off the pin is prevented by the notches at its upper end, as shown in Fig. 43, which gives a front view of the pin, *b*.

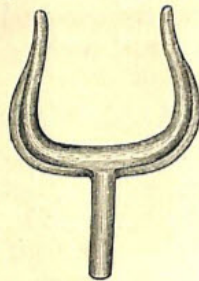


FIG. 44.

Fig. 44 represents the plain fork-rowlock, in which the scull can be feathered. It is made of malleable iron, with a web placed at the back of each arm of the fork, thus strongly reinforcing them. This rowlock is shown in place in Fig. 41. The end of the steel outrigger is bent into a circle, so as to give two bearings for the stem passing through it. The lock is secured by a spring-key in the lower end of its stem.

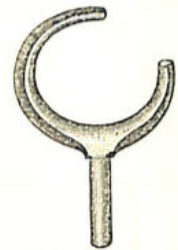


FIG. 45.

Fig. 45 shows the **C**-rowlock, the throat of which will only take in the small part of the loom of the scull when required to be shipped or unshipped, the object being to give the scull, when in position for use, plenty of room to work freely, and admit of being feathered, but when dropped by the oarsman to trail at the side of the boat, and be securely held there until wanted.

General adapt-
ability of these
boats for other
service.

Where these skiffs are fitted up for pleasure-rowing, as shown in Fig. 40, cushions can be fitted to the seats if desired.

This style of light boat is well adapted to inland waters, such as small rivers, ponds, and lakes, or for the use of beginners in the art of rowing.

In conclusion, we would remark that, in offering these skiffs to the public, and particularly to sportsmen, we make no attempt to compete in price with the common wooden skiffs, which can be purchased for twenty-five or thirty dollars. Our skiffs bear the same relation to these in lightness, handiness, speed, and intrinsic value that our racing-shells do to a dug-out. We are aware there are many sportsmen to whom lightness and ease of handling in a boat and personal comfort are matters of no moment; but for those whose experience with the dull, slow, heavy, and leaky wooden skiffs has led them to seek for some improvement, we are assured that the advantages presented by the paper skiff will be fully appreciated and willingly paid for, giving back a full return in increased comfort and enjoyment at a much less expenditure of hard work and temper.

The one quality of extra lightness will frequently be the means of enabling the sportsman to reach game which, without it, would be unattainable at any cost.

CHAPTER III.

DESCRIPTIONS OF THE FITTINGS PECULIAR TO OUTRIGGED SHELL-BOATS — OARS, SCULLS, AND PADDLES DESCRIBED — DIRECTIONS FOR THE CARE AND REPAIR OF PAPER BOATS—METHODS OF PACKING THESE BOATS FOR SHIPMENT — COST AND MEANS OF TRANSPORTATION TO DIFFERENT PARTS OF THE UNITED STATES.

IN order to further illustrate and to complete the description of the shell-boats, we now proceed to notice some of the most important fittings, many of which are peculiar to the manufacture of paper boats, and are found in no others. Fittings described.

The cut-waters and stern-posts of the paper shells are covered and protected by clamps or tips of sheet-brass, carefully fashioned to the shape of the stem and stern, and firmly screwed in place. Tips.



FIG. 46.—Bow-Tip of Paper Shell.

Fig. 46 represents a tip of sheet-brass as made for the bow of a paper shell, the general appearance and method of fitting being the same for all sizes. The tip having been cut by pattern from the sheet in such manner that there shall be no joint at the cut-water edge, it is next shaped on an iron former, the counterpart of the bow of the boat to which the tip is to be attached. This insures a perfect fit along its whole length, and the bringing of the inner surface of the V-shaped groove in perfect contact with the faces of the cut-water. The rounded moulding on each side at the end forms a continuation and finish to the delicate wood beading which is placed on the sides of the shells along the edges of the decks. When ready to be affixed, the tip is set in place with thick shellac varnish, which, when hard, forms a surface of contact impenetrable to water. The edges are screwed to the dead-wood at the points indicated by the screw-holes in the engraving.



FIG. 47.—Stern-Tip of Paper Shell.

The stern-tip (Fig. 47) is so fashioned that there shall be no joint along the lower edge, which is intended, when in place, to form a perfect continuation of the fine edge of the run. This tip is formed like a socket, and is driven on to the stern of the shell, embracing within its edges the dead-wood and the edges of the paper, the latter being brought together at this point. This tip is also set in shellac, and held firmly in place by brass wood-screws.

The tips not only give a handsome finish to these boats, especially when silver or nickel plated, but play an important part in protecting them from injuries by collisions

with floating bodies or other boats. Repeated instances have occurred where these tips have received and perfectly withstood the whole force of severe collisions, many of them when the boats were under full headway. These service tests have fully demonstrated their utility and strength.

Rudder.

As has already been stated in the general remarks on racing outriggered boats, the single, double, and also the pair-oared shells are ordinarily built without rudders. They are, however, necessary in the four, six, and eight oared racing-boats, owing to the difficulty, with even the best-trained crews, of perfectly equalizing the power applied to the two sides of the boat, and also on account of the inconvenience of turning so long and attenuated a hull without such aid.

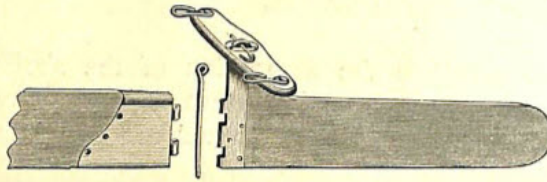


FIG. 48.—Rudder, Yoke, and Stern-Post of Paper Shell, showing manner of Hanging the Rudder.

Fig. 48 represents a rudder with its yoke, as arranged for a four or six oared shell, but separated from the stern-post to which it is attached when in use in order to illustrate the manner of assembling the parts when in place.

For shells with rudders, the stern-tip or socket is made of heavy sheet-brass. After being cut out of the sheet, a stern-post of cast-brass, with two ears drilled for the pin of the hinge, as shown in the engraving, is brazed and riveted strongly in its after-end, thus closing the opening in the tip at this part. The socket is driven on to the stern, and fastened in position with shellac and screws.

The blade of the rudder is made of fine-grained oak or mahogany, and is from sixteen to twenty-two inches long. That portion of it which is next to the stern-post, and to which the yoke is attached, is encased in sheet-brass, lapped over the end, and riveted to the wood in such a manner as to leave between the folded brass and the vertical edge of the wood a straight passage for the reception of the brass assembling-pin. Notches are cut in the folded edge of the brass corresponding to the spaces on either side of the ears of the stern-post, so that, when the two are brought together and the pin is put in place, they form a solid hinged joint.

The yoke, of black-walnut, rests on the top of the rudder-post, and has a suitable mortise through it, reinforced by a brass plate on its upper face, which receives the tenon formed on the end of the rudder-post. A pin, attached to the yoke by a small chain, passes through this tenon above the yoke and keeps it in place. Stout hooks of brass wire are attached to each end of the yoke to receive the steering-wires or lines.

Methods of
operating the
rudder.

Two methods of operating the rudder are practised. The first, the time-honored custom of having a coxswain seated in the stern-sheets, who guides the boat by means of two cords, or "lines," attached to the hooks of the rudder-yoke. If the boat is a shell or outriggered gig, his seat is immediately aft the stroke-oar. The other method is the more modern one of moving the rudder by the feet of the bow oarsman, through the intervention of a contrivance called the traveller. This is an American idea, and is as much of an innovation as was the introduction of the outrigger.

Yoke and
lines.

As regarding steering by the first method, it is necessary to say no more than that the coxswain's thwart is made not less than twelve inches, and from that to

eighteen inches wide, to enable him to assist in trimming the boat by sitting on the forward or after part of the thwart as occasion may require.

The method of steering by the bow oarsman is now quite generally practiced in the United States, and, in fact, superseding the other plan in all shell or light gig races. The apparatus used is technically known as the *traveller*. Several devices more or less ingenious have been introduced by various builders, the desideratum being a fixture which can be used as a foot-board, or stretcher, and yet which is so arranged that either the whole foot-board or a yoke adjusted to it, being connected with the rudder-yoke by two taut wires, shall revolve through an arc of, say, 30° about a fixed axis, and still be easily and perfectly controlled by the feet of the oarsman resting in their proper position on the foot-board, for the transmission of any desired motion to the

The traveller

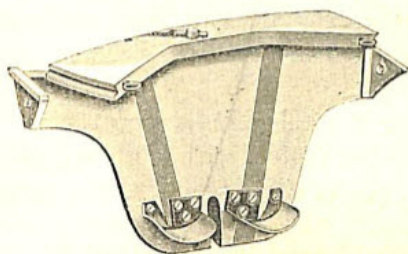


FIG. 49.—Front View of Traveller for Four and Six Oared Shell-Boats.

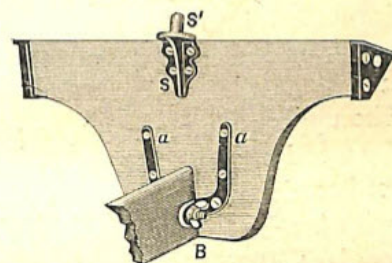


FIG. 50.—Back of Bow Foot-board, as arranged for the Traveller.

rudder. The plan we have found to be most simple and effective is illustrated in Figs. 49 and 50, in which is presented an ordinary form of foot-board with a straight top. Parallel with the top face and one-eighth of an inch above it is a mahogany yoke, whose shape is well shown in Fig. 49, and which, as there represented, has the left-hand corner swung towards the reader. Screwed to the back of the foot-board is a stud, S, Fig. 50, which carries on its upper face an accurately turned spindle, S', about which the yoke turns. The hole in the yoke which receives the spindle is bushed with a brass thimble to give a more perfect bearing. A pin through the top of the spindle keeps the yoke in place. The inner edge of the yoke against which the feet press is faced with sheet-brass. The wires from the rudder-yoke pass around the curved end of the traveller in the grooves made to receive them, and are attached to the loops shown at the ends of the inner edge.

When the feet are in position, the toes fill up the flat place in the middle of the face of the yoke, which is then perpendicular to the line of the keelson. If, now, either foot be carried outward, still being pressed against the face of the yoke, it will revolve, and the motion is instantly transmitted to the rudder. When this traveller is made in a workmanlike manner, and the parts are properly adjusted, it is the most satisfactory and durable plan yet devised.

The foot-boards being the principal points of resistance during the effort of rowing, and in consequence having to bear great strains, it is not only essential that they be made strong enough to bear these strains, but they must also be secured to the frame of the boat in the firmest manner. It is also very desirable that they should be so arranged that the pressure and weight of the feet should be transferred to that part of the frame of the boat best able to sustain them, and that the weaker parts

Foot-boards.

be correspondingly relieved. The inwales being made deep and thin, their greatest strength lies in a vertical direction, and hence in this direction they are best fitted to receive and sustain this pressure. If, in addition to transferring the strain, we can also use the means of doing it as a brace and a tie for the inwales, and thus, at the point at which the foot-brace is placed, introduce a rigid system to support the frame of the boat, we accomplish all that is desirable. These requirements are completely met by the foot-boards used in the paper shells.

For oared
boats.

Figs. 49 and 50 present views of the forward and after faces respectively of the foot-boards used in the four and six oared shells. They are usually made of pine, three-fourths of an inch in thickness, extending across the hull the full inside width of the boat, and are so shaped as to just receive the feet, all superfluous surface being cut away. To strengthen them in a vertical direction, two strips of walnut are rabbeted and dovetailed into the face, their grain running across that of the wood of the foot-board, as indicated in Fig. 49. These strips are set in shellac varnish and driven in place.

The upper ends are received into the sockets of two malleable iron plates, and held there by wood-screws. These plates have a broad lip on their upper edge, which, when the foot-boards are in position, rests on the upper edges of the inwales, the latter being faced with brass plates at the points of contact.

In place of the usual rack seen on wooden shell-boats for adjusting the position of the foot-boards to suit different lengths of leg, a brass thumb-screw passes through a hole in the foot-board plate into a corresponding hole in the inwale plate, the latter being suitably tapped to receive the thread of the assembling thumb-screw, by means of which the plates are brought into firm contact. The inwales being thus kept from spreading apart or from being bent inward, the foot-board, as thus arranged, acts the part of a tie and a brace.

These holes are tapped in the inwale plate an inch apart, enabling the oarsman to adjust the foot-board to three different positions with reference to the thwart.

On the bottom of the face of the foot-boards are screwed two brass trough-shaped supports for the heel, technically called heel-cups. By means of these contrivances, the whole weight of the feet and a portion of that of the legs are transferred directly to the inwales by means of the foot-board, relieving the keelson and skin below of all downward pressure.

The bottom of the foot-board is firmly secured to the keelson by the angle-irons, α , α , and the bolt, B (Fig. 50), the latter passing through a hole in the keelson, in which three holes are made corresponding to those in the inwale plates, for changing the distance of the foot-board from the stretcher as required.

For single and
double shells.

Since in the single and double shells the distance between the keelson and the upper face of the inwales is considerably less than in the larger boats of this kind, the plan just described of hanging the foot-board plates on the inwale must be somewhat modified.

Figs. 51 and 52 present a view of the front, and Fig. 53 a view of the back, of the foot-boards, as arranged for these boats. Here the malleable iron plates attached to the ends of the foot-boards are above the inwale, and are made to rest directly on it. The thumb-screws for attaching this plate to the brass plates of the inwale are placed

behind the foot-board instead of in front, working through the hole, *g* (Fig. 51), made in the projection, or dog, attached to the plate at this point, and which, when in position, lies flat against the brass inwale plate.

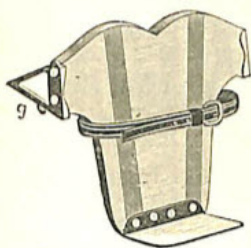


FIG. 51.—Perspective View of Front of Foot-board, as fitted for Single Shell, without upper kelson.

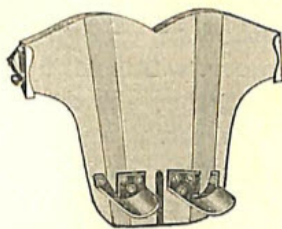


FIG. 52.—Perspective View of Front of Foot-board, as fitted for Single Shell, with upper kelson.

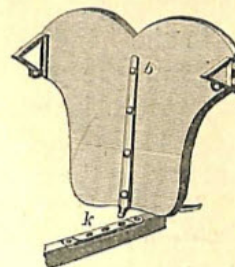


FIG. 53.—View of Back of Foot-board for Shell, without upper kelson.

Where no upper kelson is used, a flat heel-plate is screwed to the bottom of the face of the foot-board, as in Fig. 51. With a kelson, the heel cups are employed, as shown in Fig. 52, one being placed on either side of the opening cut to receive the kelson.

The bottom of the foot-board is kept in place by means of a back-strap, *b*, screwed to the back, the lower end of which terminates in a cylindrical stem, suited to fit into the holes of the keel plate, *k* (Fig. 53), this keel plate being screwed to the upper face of the main kelson. The three holes in this plate correspond to the three in the inwale plates, and three changes in the position of the foot-board are thus provided. Fig. 51 also shows the manner of adjusting the strap on the foot-board. In the single and double shells their width is three-quarters of an inch, in the larger boats one and a quarter inches.

The rowlock is the place in which the loom of the scull or oar rests when the latter is in position for rowing, and is the point at which the oar is applied, acting as a lever of the second order to overcome the resistance of the inertia of the boat; the fulcrum being the water, and the power, the muscular force and weight of the oarsman applied to the handle.

Rowlocks.

In the ordinary wide boats rowed from the gunwale, the rowlock may be either a notch cut in the gunwale, two stakes called thowles, either round like pins or square-faced, framed into the gunwales, or some of the numerous metallic contrivances of the day attached to the gunwale, but each being of a width, depth, and shape depending on the size and cross section of the loom of the oar to be used in them.

In outriggered boats, the rowlock is permanently attached to and forms a part of the outrigger.

In the description of the wooden boat given in the Introduction, we fully explained the construction of the outriggers used on shell-boats, and there gave the nomenclature of the lock. It only remains to describe the different sizes and kinds used on the paper shells.

We have already remarked that, owing to their narrow hulls, and to the fact that in the shell-boats the position of the centre of gravity of the load is high,

considerably above the load-line and the centre of displacement, they depend for their steadiness in a very large measure on the balancing and sustaining power afforded by the oars when in position, and which in the hands of the skilled oarsman play the same part in preserving the equilibrium of the boat and the load, that the balance-pole does in the hands of the rope-walker. In both cases, as the oars or pole reaches far beyond the point of support, the least change in the position of the extreme ends, owing to the length of the lever-arm, will instantly affect the position of the centre of gravity. In skilled hands, therefore, they afford a most delicate and effective means of preserving the equilibrium of the mass.

Hence, in the shell-boats, to meet the necessities of the case, mechanical skill has been called upon to devise plans of keeping the oar in the lock, lest suddenly escaping, as, for instance, in "catching a crab" or breaking an oar, the equilibrium of the load is at once destroyed and the boat is overturned. For these reasons the closed lock is exclusively used for outriggered shell-boats.

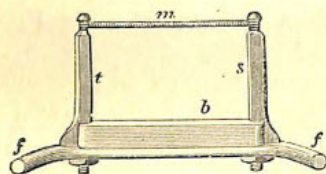


FIG. 54.—Inside View of plain Rowlock for Single and Double Shells.

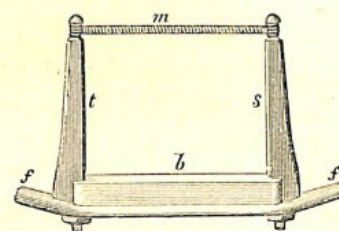


FIG. 55.—Outside View of plain Rowlock for Shell-Boats using Oars.

Plain locks.

Figs. 54 and 55 illustrate the usual form of rowlock supplied with the paper shells; the small size, shown in Fig. 54, being used on the single and double shells, and the large size, Fig. 55, on boats using oars.

In these locks, the metal bed-plate on which the wooden sill, *b*, rests, is forged from the best Norway iron, and is carefully welded to the iron tubing of the frame, *f f*. The thowle, *t*, and the stopper, *s*, are also forged from Norway iron, its superior stiffness and strength making it the best kind which can be used for this purpose. In the large lock, the thowle and stopper are made with a heavier web at the back than in the smaller size, as the lock has not only to support nearly double the weight, but the thowle must be stiff enough to sustain the whole force exerted by the oarsman, instead of one-half of it, as when sculls are used. The inner faces of the thowle and stopper are made smooth and slightly rounded to prevent any unnecessary friction, or cutting the leather on the oar. They are secured to the frame by a square tenon on their lower end, fitting into a corresponding square mortise in the iron frame. The lower end of this tenon is finished with a screw-thread, the nut of which serves to hold the thowle and stopper in place, and assemble the ends of the braces of the outrigger to the frame. A sill, or bed, *b*, of mahogany or other hard, fine-grained wood, is fitted into the bed-plate, as shown in the engraving, and is held in place by two rose-headed brass screws inserted from the under side of the plate. The size of the lock between the thowle and stopper depends entirely on the size of the loom used in it, and the length of the reach adopted by the oarsmen. Its minimum width may be given at three and five-eighths inches, and its maximum at four inches. The usual height in the

clear between the face of the sill and the mousing is two and a quarter inches in the small locks, and three and a quarter inches in the large ones.

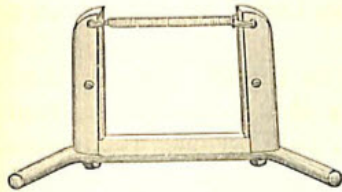


FIG. 56.—Wood-lined Rowlock for Outrigged Shells.

Fig. 56 illustrates another form of rowlock in common use in England, and introduced in this country within a few years, the object being to have the wearing surface of the thowle and stopper of wood instead of metal. English style.

These parts are made of plate-iron, folded so as to embrace a piece of oak of a V-shaped cross section, secured in place by wood-screws, the exposed face being rounded, and projecting beyond the edges of the iron. This is a much more clumsy device than the others, and so far as the matter of friction is concerned, if the leather of the oar is properly lubricated with tallow, as it should be, there is no advantage of the wood over the metal face in this respect. Custom, the peculiar wants of a locality, or even prejudice, governs to a great extent in these details. The paper shells are usually fitted with the style of rowlocks first described, yet they can be replaced by this plan when it is preferred, but at a slightly increased cost.

The mousing (Figs. 54, 55, and 56) is a very important part of the outrigger rowlock, its purpose being to keep the scull or oar from being slipped or jerked out of its place, and also by rigidly connecting the upper ends of the thowle and stopper to enable them to support each other. A groove is turned in the ends of these pieces to receive the mousing and prevent it from slipping off. These are much better than holes, as by the first plan the whole size of the head is embraced by the wire.

As iron wire rusts and is very unyielding when twisted, copper wire is used for this part. In the small lock, six strands of No. 18 copper wire are neatly served with the same size, making the mousing very smooth, strong, and serviceable. In the larger size, six strands of No. 16 wire are served in the same way.

In all rowlocks permanently closed by the mousing, the scull or oar is shipped by first carrying it outboard horizontally, so that its length shall be perpendicular to the length of the boat, the handle lying just outside the lock, and then from this position working it back through the lock, using but one hand, until the button rests inside the face of the sill; or, if there is no button, until the middle of the enveloping leather is reached. To unship the oar, this operation is reversed. Shipping oars in closed rowlocks.

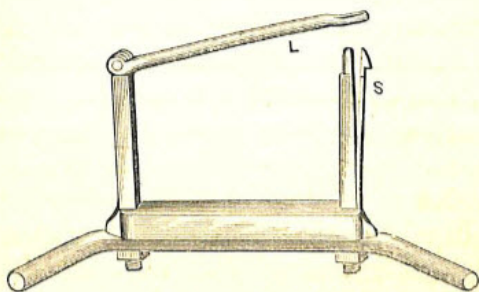


FIG. 57.—Latch Rowlock for Outrigged Shell-Boats.

In order to avoid this inconvenient method of shipping and unshipping, and which, when sculls are used, requires that the oarsman shall have an assistant to hold his boat, the latch rowlock (Fig. 57) has been devised. In general form and construction, it is similar to those already described; but, in place of the wire mousing, an iron rod, L, is hinged on the head of the thowle, which, when pressed down in place to close the lock, receives the head of the stopper and that of the spring, S, in a

suitable mortise in its end, and is retained in place by the lip of the spring. To ship the scull or oar, it is only necessary to press the spring, at the same time opening the latch, and replace it after the oar is laid in. This device has met with very general approval since first introduced by us, and can be placed on all sizes of shells in which either sculls or oars are used.

Seats.

The great object of rowing is to apply to the handle of the oar the maximum amount of force it is possible to accumulate at this point, and at the same time from acquired habit and skill to direct its expenditure in the most judicious and economical manner.

Much of the power exerted comes from the weight of the body applied through the intervention of the arms, and since the dynamical measure of this force is the weight of the mass multiplied into the square of the velocity with which it is moved, it is evident that, the greater the weight of body which can instantaneously and yet at uniform intervals be brought to bear on the oar, the more effective will be the stroke, and, consequently, the better will be the speed.

Now, at the moment when the oar is striking the water to take the stroke, the muscles of the back and legs are animated with intense activity, and by their united exertions a portion of the weight of the body is brought into action as an element of propelling power. How much of this weight is actually called into play, and how much is left to be borne up by the thwart and the foot-board, depend entirely on the strength of these muscles and the command over them which, by practice, the oarsman has acquired, to make them act promptly and with their maximum intensity from the moment his oar enters the water until the blade is level with the lock. If, as is the case with a very few of the best-trained oarsmen, these muscles in combination are capable of raising the whole weight of the body off the seat, then the maximum effect will be obtained; and though less experienced and physically weaker men may, for a brief period, be able to accomplish this, it is rarely that such efforts can be long continued.

Hence, many oarsmen, particularly inexperienced ones, fail to bring to their aid all the power due to their weight; and as the waist is the joint on which the upper portion of the body swings in taking the stroke and making the recover, it is ordinarily but a portion of the weight above the waist which is thus utilized.

To compensate for the lack of muscular power and the absence of skill to properly concentrate the intensity of its effort at the right time, other means have been resorted to with a view of turning into useful effect the reserve power locked up, so to speak, in the mere weight of the body.

Bearing in mind the dynamical measure of the living force of a body in motion, it is evident that, if the whole weight of the oarsman can be rapidly moved back and forth at the regular intervals of time required for the stroke, and, by the use of suitable mechanical contrivances to decrease friction, this motion can be accomplished independently of and without injuriously affecting the speed of the boat, we can in this way considerably increase the effective power of propulsion.

The sliding stroke.

It is the development of this principle, this endeavor to concentrate in the stroke the living force due to the utilization of the weight of the whole body, moving over the longest distance which the structure of the boat and conformation of the oarsman will permit, which has led to the introduction of the "sliding stroke" just now so popular, and which attracts so much attention among American oarsman.

While the theory of this stroke is correct, experience has proved that its use is attended with difficulties, which even constant practice cannot always overcome; and, so far as we can judge at present, we are inclined to the belief that its practical value and merits have been much overrated, and that, when our countrymen, who are fond of the oar, have become physically so well developed and trained by judicious, solid, and wholesome practice that they can by the aid of muscle alone bring into action every pound avoirdupois they possess, we shall hear less of mechanical contrivances to effect this, and the secret of good oarsmanship will be better understood. The practice of this stroke has led to the use of two kinds of seats, both designed to reduce the friction due to the weight of the body to a minimum. In one of these the oarsmen slide directly on the seat, and in the other the frame used as a seat slides back and forth with each stroke on lubricated rails.

In the first of these plans, the seat is made of a thin plank of hard, close-grained wood, usually cherry, the grain running fore and aft, and the surface smoothly polished. To reduce the friction still more, this surface and the oarsman's pantaloons, which should be reinforced with wash-leather, are lubricated with grease.

This arrangement, the simplest in use, is popularly known as the "buckskin and butter" plan.

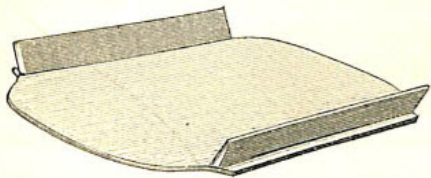


FIG. 58.—The Plain Slide-Seat fitted with Side-Bars.

Fig. 58 represents one of these seats ready for attaching to the thwart. They are shown screwed in place in the illustration of the four-oared shell, Fig. 21. It consists of a thin plank of cherry, $\frac{3}{16}$ to $\frac{1}{4}$ of an inch thick, 16 to 22 inches long according to the length of leg and fancy of the oarsman, and 10 inches wide in the clear. The single shells being narrow and confining the body between

the inwales, no side-bars are used in their slide-seats; but in the wider oared boats bars are useful, as they guide the body in its fore-and-aft sliding motion, and, by confining the oarsman's seat between the bars, prevent any tendency to roll.

These seats are placed in all the paper shell-boats. Being screwed to the thwart, they may be used without the sliding motion if desired, and hence are adapted to both styles of rowing.

The other plan, known as the "sliding-seat," consists of a frame about 10 inches square, covered with stout leather or canvas, arranged to slide on two or more runners, screwed to the thwart parallel to the keelson, and admitting of a motion in the direction of the length of the boat of from 6 to 12 inches.

Several devices to accomplish this have been introduced, the simplest and most effective of which is that used by Mr. J. C. Babcock, Captain of the Nassau Boat Club of New York. Mr. Babcock was one of the first persons to try the sliding-stroke many years ago, and has given the subject a great deal of attention. We take pleasure in laying before our readers the expression of his views on this subject, as given in the subjoined communication written in reply to a letter of enquiry from us:

MESSRS. WATERS, BALCH & CO.:

156 EAST 129TH, NEW YORK, Dec. 14, 1870.

MY DEAR SIR: . . . In regard to the sliding-seat, I am pleased to give you a brief account of its origin, my experiments, and conclusions as to its merits, to use as you may choose.

Seats to slide upon.

The sliding-seat.

Views of Mr. J. C. Babcock on the merits of the sliding-seat.

The first sliding or movable seat of which I believe there is any record, was attached to a novel single scull-craft which I built in Chicago in the year 1857, called the "Experiment." It was constructed similar to the Aquatic Velocipede, which has since made its appearance, and as an *experiment* I did not consider either the *craft* or the seat a success. Although a member at that time of the champion four-oared crew of the Lakes, and engaged in both single and crew races, I did not consider the idea I had matured of any practical use.

About the year 1861, Walter Brown used a sliding-seat in a single scull-shell, and for a time was sanguine of its success. Later, however, he abandoned the slide, but has this season taken to it again, and taken out letters-patent claiming it as his own invention.

The slide was used for the first time by a *crew* in May last at the opening season of the Hudson Amateur Rowing Association at Pleasant Valley. I had it attached to a six-oared gig, and with a green amateur crew from the Nassau's made the first trial before a large and critical audience. I deemed it, *that* day, a decided success, anticipating more difficulty than I found in working the crew in a first attempt. The crew did as well, even better than on stationary seats, and seemed to apply more power in their work, though their form was far from perfect. The opinion of those most competent to judge of the effect of the slide on the speed of the boat was against it, as it seemed to check headway at every stroke on the recover, and the boat to take a series of leaps instead of that steady headway so essential to speed.

With a view of giving it a fair trial, I trained a crew, and engaged in a series of races with three of the best amateur clubs in Eastern waters, winning two of them easily with a crew that, with one exception, had never rowed a race. Notwithstanding this success, I am still in doubt as to the utility of the slide, and give the following conclusions I have formed as to its merits and demerits.

The seat I used this season was a wooden frame about ten inches square, covered with leather, and grooved at the edges to slide on two brass tracks fastened on the thwart, of sufficient length to allow a slide of from ten inches to a foot, though in rowing the proper length of slide is from four to six inches. The ways required to be occasionally lubricated with lard, and I found no stops or fastenings necessary to keep the seat in position.

After a season's fair trial, I am convinced that it requires more skill to use the seat properly than it does the oar, thus making it doubly difficult to perfect a crew. The tendency of the beginner is to slide *too much* and *at the wrong time*, for the simple reason that to use the slide improperly is easy and pleasant, while to use it correctly is difficult and fatiguing. It is as fully, if not more important, that the crew should slide together, as it is that they should row together, and it is doubly more difficult to do it.

The conclusion I have arrived at, notwithstanding contrary opinions of oarsmen generally, is this, that the slide properly used is a decided advantage and gain of speed, and the only objection to its use is its complication and almost impracticable requirement of skill and unison in a crew, rather than any positive defect in its mechanical theory. When we take into consideration that the best oarsmen in the world, "the Tynesiders," slide, when spirting, from four to six inches on a fixed seat, the movable seat can only be considered as a mechanical contrivance, intended for a better accomplishment of the sliding movement in rowing.

I would add that I used the sliding-seats on rowing weights at our club gymnasium last winter, and was advised by many friends to secure them by letters-patent. Although the first to invent and put them to practical use, Mr. Walter Brown has, as I understand, obtained letters-patent, but dated in July or August, 1870, some time after my introduction of them.

Hoping this account of the sliding-seat may be of interest to you or the readers of your prepared Manual, I am

Very truly yours,

JOHN C. BABCOCK, Captain N. B. C.

ORRS.

An oar is an instrument for rowing boats, being either a round or square piece of timber, of a size suited to be grasped by the hands at one end, and made flat at the other, which is immersed in the water.

The term oar, used in its most comprehensive sense, embraces three varieties of the same propelling instrument. Taking them in order of size and length, we have first the *scull*, which is an oar of such dimensions that it can be operated with one hand, the oarsman sitting in the middle of the boat and using one in each hand. They

are from $6\frac{1}{2}$ to $10\frac{1}{2}$ feet long, and weigh from five to seven pounds per pair, depending on the kind of wood of which they are made and their length. An *oar*, strictly speaking, is an instrument for rowing requiring the use of both hands. They are usually from $11\frac{1}{2}$ to 16 feet long, and weigh from $6\frac{1}{2}$ to 10 pounds each. A *sweep* is a very long and heavy oar, worked by one or more men, usually employed as an auxiliary to the sails in small vessels when the wind is light or fails. They vary in length from 18 to 30 feet according to the size of vessel on which they are used.

We have already alluded to the principle upon which depends the use of the oar as a means of propulsion, as being that of a lever of the second order; the water being the fulcrum, the inertia of the boat acted upon by the loom the resistance to be overcome, and the weight and strength of the oarsman applied at the handle representing the power. For the purpose of describing in detail either a scull, an oar, or a sweep, it is divided into three distinct parts: these are the *blade*, the *loom*, and the *handle*.

The **BLADE** is that portion of the oar which lies in and presses against the water. Now, in order that the fulcrum presented by the water shall be the better utilized, the blade is broad, and, to avoid unnecessary weight, is made as thin as its shape and the strength of the material will allow. The wider the blade, the firmer will be its hold on the water; but practically there is a limit to this width, which has been well determined and fixed by experience for racing-boats at from $4\frac{1}{2}$ to 5 inches for the blades of sculls, and from 5 to $6\frac{1}{2}$ inches for the blades of oars.

Blade.

For rowing short races of one or two miles, or where the oarsmen are men of unusual power, these limits may be exceeded, but for rowing over three or five mile courses, or for the average oarsman, the above widths of blade will be found to be quite sufficient.

The end of the blade being quite thin, particularly in racing oars and sculls, it is liable to be split by even ordinary usage; it is, therefore, protected either by a band of thin sheet-copper, riveted on, or by a tip of sheet brass or copper, lapped over so as to completely envelop the edge for an inch, or an inch and a half on either side, and there riveted in place. This last is the most effective method of protection from blows or abrasion, and is the one used in tipping all the sculls and oars supplied with the paper shells.

The broad part of the blade is technically known as the *wash*, while all that portion of either face which, tapering off towards the loom, unites the surface of the blade with the loom, is called the *web*. In sculls and oars with straight blades, both faces are alike, and the webs, being scarcely defined, are easily shaped; but in the spoon or scoop blade, in which the back is rounded and the web on the face is ridged up sharp for strength, considerable skill and experience are required to rightly fashion the parts, and particularly to give strength to the web without making it clumsy and heavy.

The **LOOM** forms the connection between the blade and the handle, and, being the longest part of the oar, great care needs to be used in shaping it, to see that, on the one hand, its stiffness and strength are not impaired by its being worked too small or the material being improperly distributed, and, on the other, that it is not made unnecessarily heavy and large, since every additional ounce weight in the oar which has to be moved above that which is absolutely required is just so much taken from the effective power of the oarsman.

Loom.

The *neck* is that portion of the loom which connects the latter with the blade. As this part must present as little resistance to the water as possible when passing through it, but must nevertheless be so stiff that it will not bend, and so strong that it will not break from any direct pressure on the face of the blade, it is in all fine oars made very narrow between its upper and lower surface (supposing the oar to be in position for use), and very deep between its front-edge and after-face. From the neck the loom is increased in size, until, at the point where it rests in the rowlock, it attains its largest dimensions. From this point to the upper end, it gradually lessens until its surface is merged in that of the handle.

Handle.

The **HANDLE** is that portion of the scull or oar grasped by the hand in rowing. In sculls it is usually made from five to six inches, and in oars from ten to thirteen inches long, depending entirely on the size of the hand which grasps it. Its diameter should be regulated by the same standard, small hands using a diameter of $1\frac{5}{8}$ inches, and larger ones from that up to two inches. Regarding the finish, some men find that a rough handle suits them best, and hence prefer to have its surface finished with a rasp; others prefer it smooth. This is, therefore, a matter to be regulated by individual wants and preferences.

Progress of improvement in racing oars and sculls.

Up to thirty years ago, many of the oars used for racing were, as compared with the style of the present day, scarcely more than unwieldy masses of timber. For the purpose of balancing them on the gunwale, and thus relieving the oarsman of their excessive weight outboard, they were made square in section inside the gunwale, and were frequently loaded with lead at the handle. At that time, the blades of racing-oars were of much greater width than at present made, and were perfectly straight. About the year 1842, the attention of oarsmen in England was first called to the merits of the "scoop" or spoon blade, and oars of this style were first used on the London river on the 16th of July, 1842. A crew from the river Tyne, known as Clasper's, using the straight-bladed oar, were defeated by a London crew using the spoon-oar. The question at once suggested itself to Clasper whether this difference in the shape of the oar had at all contributed to its defeat. An examination satisfied him that it had, and this led him to make that series of experiments and improvements on the oar of that day which has led step by step to the present form of sculls and oars for racing. These we will now proceed to describe.

Present form of racing-sculls.



FIG. 59.—View of the Front of a Spoon-Bladed Racing-Scull.

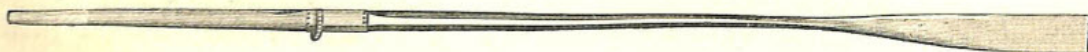


FIG. 60.—Back of a Spoon-Bladed Racing-Scull.



FIG. 61.—The Under Side of a Spoon-Bladed Racing-Scull.

Fig. 59 is a front view of a left-hand spoon-bladed scull of the most approved pattern, such as are used with the single and double shells. The web of the blade is

distinctly marked. The leather is shown at the lap, which is placed in the only position where it will be free from wear.

In Fig. 60, we have illustrated the rounding of the back of the blade as it approaches the neck, the flat surface of the back, narrowest at the neck and widest at the leather, and also the straight part of the button.

In Fig. 61, the under side of the oar is turned up, in order to show the curve of the blade, the depth of the neck, the manner in which it passes into the web, and the oblique part of the button, which admits of a long reach without having the button crowded against the inner face of the lock.

These engravings convey so accurate a representation of the spoon-oar as well as of the scull, that special engravings of the former seem superfluous; the only difference in general appearance being that, in the oar, the loom would be rather longer in proportion to the length of the blade than is here shown.

The first part of the stroke is that in which, if the force of the oarsman is properly applied, the greatest amount of effective work is performed, because then the oar makes the least angle with the boat, and the lever is in the best possible position for acting effectually. Now, if the blade is straight, its obliquity to the sides of the boat tends under the first impulse of the stroke to cause it to slide through the water, or, in other words, the water slides off the blade outwardly, and thus much of the effective resistance of the water is lost. If by bending the blade we can make it take the water so that this slipping will not take place, or, speaking philosophically, so that the resultant of the pressure of all parts of the blade on the water shall be more nearly parallel to the side of the boat than where the blade is straight, a better hold will be obtained, the resultant of the pressure of the blade will be greater, and, the loss of power being less, increased speed will result. Again, in feathering, since the edge is turned up, the oar can be carried close to the water, and its path, from the moment it leaves until it re-enters the water, is thus shortened.

Advantages
of the spoon-
blade.

The disadvantage of oars made in this way is their delicacy, as, being necessarily cut out of the solid wood, they cannot be as strong as where the direction of the blade and the grain of the wood agree. Still, in smooth-water work, if correctly made, they will, with proper care, last a long time.

Another peculiarity of the racing scull or oar is the square back.

Object of the
square back.

The grain of the wood along the front of the oar, when in use, is subject to a strain of extension, while the fibres at the back are subjected to one of compression. Now, the tensile strength of both white pine and spruce, of which the fine racing-oars are made, being more than double their capacity to resist a crushing force,* it is evident that, in order to equalize the strength of the loom along that part where the strains are the most severe, namely, between the neck and the leather, the portion of the loom behind its long axis should have a cross section of at least double the area of that portion in front of the axis. It is for this reason that the back is kept square and full, while the front is rounded.

To facilitate feathering, by making the operation as mechanical as possible, the upper-back edge of the oar or scull for a few inches on either side of the point of support in the rowlock is left square, while the other three edges are rounded. This

* See Table on page 126.

part of the loom being covered with leather, a smooth bearing surface is presented to the wood and iron faces of the lock. Now, the under-back edge of that portion of the loom lying in the lock being rounded, when the stroke is completed and the recover has commenced, it is easy to roll the oar over on this rounded edge by turning the wrist down; but just as this operation is complete and the blade is parallel with the water, the upper-back square corner has reached the sill of the lock, and, as its edge offers a very sensible resistance to any further revolution of the oar, the latter is retained in its proper position until the moment when the stroke is to be taken again, and the blade is turned back to its vertical position.

The button
and its purpose.

Since shell-boats, as we have already shown, depend for their stability in a large degree on the steadying power of the scull or oar, it is important that this power should be kept as constant as possible. To do this, the oar must rest in one position in the rowlock, and be prevented from slipping outboard, as there is a constant tendency to do, with every slight alteration of position in the oarsman's hands or body. This is effected by the use of the button, which is merely a leather stop, firmly attached to the back and under side of the loom, as shown in the engravings.

It is made of narrow strips of sole-leather, superposed on each other, until a thickness is attained sufficient to keep the oar in its place, and yet not so built up as to prevent the button part of the loom from passing under the mousing from the outside of the lock when the oar is shipped.

Leathering
oars and sculls.

The object of leathering the oar is to protect the fibre of the wood from abrasion and wear at the point of contact of the loom with the surface of the rowlock, and also to reduce the friction. For fine sculls and oars, only the best hemlock sole-leather should be used. It is much more pliable than the oak-tanned, which is too stiff and unyielding to make nice work, and is much superior for this purpose to the common oil-dressed harness-leather. It always looks and wears well. When in use, the surfaces about the button should be kept lubricated with a little tallow to reduce friction and preserve the leather. In attaching the leather to the wood, small round nails, preferably of brass or copper, should be used, in order that the wood may be weakened as little as possible. A well-made escutcheon pin is the best fastening.

Varnishing.

To prevent water-soaking, oars should always be oiled or varnished, the latter being preferable. If used without any such protection, the fibre of the wood is softened, and they soon acquire considerable additional weight. Oil and varnish fill up the pores of the wood and tend to preserve it. If varnished, the first two or three coats should be of shellac, the finishing ones of copal.

Proportion of
length of oar in-
board to that
outboard.

We now come to the consideration of the proportion between that portion of the oar inside the rowlock, and that beyond it, that is, the relation between the lever-arm and the resistance to be overcome. It is evident that the shorter the lever-arm, the greater must be the amount of power applied at the handle to overcome a given resistance in the boat, and that the longer this arm is, the less will be the amount of force required.

Taking into consideration the manner in which the power is applied and the oar sustained in shell-boats, and the average strength and length of arm of oarsmen generally, experience has demonstrated that the portion lying outboard should be from $2\frac{5}{8}$ to $2\frac{7}{8}$ times the length of the inboard portion in oars, and from $2\frac{3}{4}$ to $3\frac{1}{4}$ times the inboard portion in sculls. Although in the case of a very powerful crew, or of very

short races (say, a mile straight heat), when the strength and endurance of the men are not much tried, the proportion of the outboard to the inboard portion may be as 3 to 1. Yet these cases are quite exceptional, and do not affect the value of the empirical rule given.

The following table gives the usual dimensions of oars and sculls used in outrigger racing-boats:

Table of the principal dimensions of sculls and oars.

	Racing Six-Oar of 19" to 22" beam.	Racing Four-Oar of 17" to 22" beam.	Pair Oar of 15" to 17" beam.	Distance of inner face of rowlock from line of keelson.	For Single and Double Shells.	Spread of Outriggers.
<i>When the oarsmen are seated at end of thwart:</i>						
Length of midship-oars.....	12'.2" to 12'.5"	12'.2" to 12'.5"	.....	2'.4" to 2'.6"	.....	.....
Buttoned at.....	3'.1" to 3'.5"	3'.1" to 3'.5"	.....	.....	.....	.....
Length of bow and stroke oars.	12'.1" to 12'.4"	12'.1" to 12'.4"	12'.0"	2'.4" to 2'.6"	.....	.....
Buttoned at.....	3'.0" to 3'.4"	3'.0" to 3'.4"	3'.3"	.....	.....	.....
<i>Where the oarsmen are seated in the middle of the thwart:</i>						
Length of oar.....	11'.6" to 12'.0"	11'.6" to 12'.0"	11'.6"	2'.4" to 2'.6½"	.....	.....
Buttoned at.....	2'.10" to 3'.1"	2'.10" to 3'.1"	3'.0"	.....	.....	.....
Length of scull, openhand rowing	.....	.....	.....	.....	10'.0"	5'.0"
Buttoned at.....	.....	.....	.....	.....	2'.5"	.....
Length of scull, overhand rowing	.....	.....	.....	.....	10'.2"	4'.10"
Buttoned at.....	.....	.....	.....	.....	2'.9"	.....
Length of scull, crossh'd rowing	.....	.....	.....	.....	10'.4"	4'.10"
Buttoned at.....	.....	.....	.....	.....	2'.10"	.....

The principal woods used for sculls, oars, and sweeps in the United States are white ash, white pine, spruce, and cedar.

Woods best
suited for sculls
and oars.

The white ash (*Fraxinus Americana*) is found in all the Middle and Northern States. It is a straight-grained, tough, and very elastic wood, admirably suited for heavy oars and sweeps, for the manufacture of which it is principally used. The oars used in the boats of the merchant and naval marine are of this material. Owing to its weight, it is not well adapted to light outriggered boats. In these craft, white pine and spruce are almost exclusively employed for this purpose.

The white pine (*Pinus strobus*) is a native of the north, and is found in its greatest perfection in Maine, the Canadas, Michigan, and Wisconsin. It is a soft, light, fine, and straight-grained wood, and one of the most elastic of the soft-fibred timbers. These qualities well adapt it for the sculls and oars of light racing-craft.

The spruce is also of northern growth, particularly abounding in Maine, Vermont, Canada, and Northern New York. Although ranked among the soft woods, it has a harder and closer grain and a tougher fibre than the white pine.

Its great elasticity is one of its principal recommendations for oars. When straight-grained and entirely free from knots and checks, it is the best material which can be selected for the oars of racing-boats; but so difficult is it to obtain it of this quality, that its use is not so general as that of white pine.

The white, red, and yellow cedars are remarkable for their lightness, durability,

and freedom from "springing." This wood is much used for the straight-bladed sculls of light hunting-skiffs, and for the paddles of bark and other light canoes.

The following table exhibits some of the principal mechanical characteristics of these woods:

Kind of Wood.	Locality.	Time of Seasoning, Years.	Specific Gravity.	Crushing Force per square inch, Pounds.	Tensile Strength per square inch, Pounds.	Transverse Resistance, Pounds.
Ash	New York	7	.51420	4'783	11'786	.....
"	Pennsylvania	3	.55039	4'475	14'266	1'466
"	Canada	9	.55606	5'571	15'000	.....
"	Virginia	1	.61023	6'663	23'167	1'528
"	Ohio	15	.61720	8'783	24'033	2'118
"	Oregon	1	.67698	5'789	14'700	1'438
"	Vermont	2	.73674	5'858	10'803	2'664
Cedar, red ...	Oregon	4	.37591	5'971	10'300	0'286
Pine, white ...	Maine	13	.35953	5'617	11'960	1'182
" "	Pennsylvania—Alleghany River	4	.41926	5'017	11'433	1'133
" "	New York	5	.46064	5'775	11'933	1'152
Spruce	Oregon	1	.43685	5'092	10'867	0'994
"	Maine	1	.44416	6'862	13'666	1'028

For oars of the same dimensions, it will be perceived that those of spruce will average about 20 per cent. heavier than those of Maine pine, and those of ash about 33 per cent. heavier than those of spruce.

A 12-foot pine spoon-oar, leathered and buttoned, will weigh 6 lbs.; a pair of pine sculls, 10 feet 2 inches long, leathered and buttoned, 6½ lbs. From these figures the weight of spruce or ash oars of the same size can be easily estimated.

In view of the qualities of pine and spruce herewith presented, we would recommend that, for ordinary rowing in shell-boats, oars and sculls of pine be used. For individuals or crews whose strength and weight are above the average, or for important races where the chances of breaking an oar must be made as small as possible, we recommend those of spruce.

In ordering oars or sculls, specify whether they are to be of *white pine* or *spruce*, whether the looms are to be *round* or *square*, and how they are to be *finished*. State, also, whether they are to be used in a boat rowed with *outriggers* or *from the gunwale*, as the button is only used with outriggers. Give *extreme length* required, and the *distance from the end of the handle to the inner face of the rowlock* when the scull or oar is in position. If sculls are ordered, state whether they are for *open*, *over*, or *cross-hand* rowing, giving the overlap of hands in inches.

How to order
sculls or oars.

The Paddle.

As has been already observed, the paddle is the simplest instrument used for the propulsion of boats, and is principally employed in the different kinds of canoes, but it is often found convenient in other craft in localities or under circumstances which will not admit of the use of the scull or oar.

If we take into consideration the numerous kinds of paddles, used by savage and semi-civilized tribes the world over, we shall find that the greatest diversity exists in form, length, and material. The scope of this work, however, will not admit of our entering at any length upon this interesting subject, our present object being merely to refer to such of these instruments as are adapted to the boats we build.

We have already described the double-bladed paddle used with the "Rob Roy" canoe. There remains one other variety much used in Northern New York with what is known as the "Adirondack" boat, which it is employed both to steer and to propel.



FIG. 62.—Paddle used with the "Adirondack" Boats.

This paddle is illustrated in Fig. 62. It is best made of clear spruce, is 6 feet in length, with a long,

thin blade. The upper end is made to fit the hollow of the hand, the loom is round and smooth, and the blade narrow and long.

All shell-boats, whether with wood or paper skins, are built exclusively for training, exercise, or racing. They are therefore constructed as light as is consistent with this purpose and carrying a given weight of crew, but especially with reference to enduring the strains which are produced by rowing. From their great length compared to their width, they are weakest in the former direction, and hence, when transported or handled, *to avoid straining them, this fact must be borne in mind.*

Directions for
the care of pa-
per shell-boats.

Single and double shells, or pair-oars, *when right side up*, should be lifted by two persons, by each embracing the hull with the arm next to the boat, and placing the hand on the bottom immediately under the keelson, just beyond (forward and aft of) the cockpit, and with the other steadying the boat at the gunwale. *Never carry bottom side up.* But to turn over when standing in this position, seize the gunwales just beyond the cockpit, and carefully reverse the boat, *taking care not to break through the decks with the hands.*

Lifting.

Lift four and six oared shells in the same way; but as their cockpits are very long, they should be sustained at points between the ends by seizing one or more of the outriggers close to the washboard, *the whole length of the boat being raised at the same moment.*

NEVER LIFT SHELL-BOATS BY THE EXTREME ENDS WHEN BOTTOM UP, and avoid lifting them at these points as much as possible when right side up. By carefully observing these directions, the weight of the boat will be equally distributed at the points of support, and these points will be at the strongest parts of the frame.

As shells are always kept housed when not in use, how to carry them properly to and from the water is a point of essential importance.

Carrying.

Always carry an outriggered shell with the *cockpit and decks uppermost*. From the manner of constructing the frame, it is better fitted to sustain its own weight and be transported without injury when in this position than in any other.

Two men can carry a single, double, or pair-oared shell with ease. To carry a four or six properly, three men are necessary; but the best way with these large boats is for each of the crew to place himself behind his own outrigger, seizing the frame close to the washboard with one hand, steadying the boat with the other, and keeping step with the others as they walk.

Since the fittings of shell-boats are composed of a number of nicely adjusted parts, of which some are assembled in their places by bolts, nuts, and screws, it is of the highest importance that these parts should always be in perfect

Inspecting the
fittings.

working order, both as a preventive of untoward accidents and the better to preserve the boat. In order to be assured that this is the case, the coxswain, captain of the crew, or other person charged with this responsibility, should critically inspect every part of the boat before she is taken from the house. See that the nuts of the outrigger-bolts are screwed up close, and that the bolts themselves have perfect threads and heads. If the nuts are left loose, the edges of the holes in the outrigger will fret and soon wear off the threads of the bolts, and a broken bolt, outrigger, or wash-board is the result. Examine the nuts of the stays and braces, the mousings of the rowlocks, the wood sills or beds, the fastenings of the foot-boards and traveller, and all parts of the steering gear. THE THUMB-SCREWS OF THE FOOT-BOARD RACKS SHOULD ALWAYS BE SCREWED UP CLOSE. Spare bolts of all sizes, and a small wrench to fit them, should always be kept on hand.

Half the accidents to these boats can be traced to a neglect of these simple precautions.

NEVER STEP ON THE SKIN IN GETTING INTO A SHELL-BOAT, OR ALLOW THE FEET TO COME IN CONTACT WITH IT AT ANY TIME.

Housing and
storing.

When not in use, *outriggered shells should be protected from the sun and from storms.* They are, therefore, usually sheltered in sheds or boat-houses designed for the purpose.

Racks.

They should be stowed well above the ground, either on suitable racks or hung in broad straps or slings. Racks are much the best, as the boats are not so liable to be sprung out of shape as with slings. Where racks are used as supports, the shell is placed upon them *bottom up*, resting squarely on the edges of the washboards. The supports must be at such a distance apart that the weight to be sustained will be equally distributed among them.

Slings.

Single and double shells require but two racks, each crossing the washboard at the end of the cockpit. Four-oared shells should rest upon three, and six-oared shells upon four of these racks or brackets.

If straps or slings are employed, store the shell with the *bottom down*, passing the slings around it. For single and double shells, two are required; namely, one under each bulkhead, just at the end of the cockpit. For four-oared shells one, and for six-oared shells two additional ones are necessary between the bulkheads to support the weight of the waist. Care should be taken to have the slings so arranged that *each will bear up an equal portion of the weight of the boat.* The slings should be made of several layers of strong cotton cloth, or one thickness of stout canvas or webbing, fitted with a ring in one end and a snap-hook in the other.

General cau-
tions.

Do not allow water to stand in the cockpit when the boat is stowed. On returning from rowing, if water has been shipped, turn the boat over carefully, holding it level, so that all the water will fall out. Then sponge out the cockpit, freeing it carefully from all sand or grit, and wipe down the bottom so that the surface of the skin shall be entirely free from all scum and dirt. A large, well-cleaned carriage sponge should be kept for this purpose.

Examine the decks occasionally to see that they are not punctured or ruptured so as to admit water into the compartments. If water is found in them, search carefully for the orifice by which it entered; if very small, enlarge it slightly to permit the water to run out easily when the boat is reversed. Then place the boat in the sun to dry

out all moisture in the compartments. When this is done—indicated by the deck being free from wrinkles—patch the hole in the manner described under the head of “Repairs.”

Where a shell is used every day, it should be revarnished—cockpit, decks, and bottom—say once in two months, or oftener if necessary, with one coat of pure copal coach-body varnish. At least three days should be allowed for it to harden before use.

Varnishing.

Just before storing the boat away at the end of the season, give it a coat of varnish. It will then be all ready for use in the spring. As the varnish will then be perfectly hard, the bottom will be in good condition to be rubbed down and polished; but as this is a piece of work requiring some professional skill and judgment, a varnisher and polisher had better be employed to execute it.

If the bottom becomes scratched or the surface injured by any accident, dry off all dampness by wiping and exposure to the sun, and give the scratch or break a coat of coach-body varnish. If the injury be of a serious character, let several coats of varnish be applied, the surface rubbed down, and the polish restored by a skilled hand.

Repairs.

The decks are made of one thickness of stout paper. If they become punctured or torn, trim the edges smooth, and, having brushed some thick shellac varnish on the edges of the break, cover the opening with a thick piece of best manila tag-paper, varnished on the side to be placed next the deck with thick shellac varnish. The patch should lap beyond the edges of the break, and, as soon as it is fixed in position, gently press the patch in place with a warm flat-iron; then, with the point of the iron passed around the edges of the patch, melt the old copal varnish on the deck, so that the edges of the patch shall be embedded in it; then varnish the patch with two coats of shellac and two of copal varnish.

Should the bottom become badly broken (which can only result from a crushing or violent blow), or the skin get soft in any place, it will be best to send us a sketch of its position and a description of the injury, and we will then give such special directions for its repair as may be required. All necessary supplies—if not at hand—can be furnished by us.

USE NONE BUT THE PUREST COPAL VARNISH. The cheap ones, which are all more or less adulterated with rosin and cheap gums, ALWAYS CRACK.

The paper skiffs, canoes, and gigs only differ from wooden ones of the same class in having somewhat lighter frames, and paper skins instead of those of plank. Being much wider and shorter than the shells and much more easily handled, no particular precautions in regard to lifting and carrying them are necessary, except to avoid any injury to the skin by abrasion and cutting or violent blows.

Care of paper
skiffs, canoes,
and gigs.

In consequence of their lightness, they can be removed from the water with ease by one or two persons, and hence can be housed and stowed where most convenient. When not in use, they should as a rule be sheltered from the hot sun and from storms.

Do not allow water to stand in them, as is often done in wooden boats; on returning from rowing, if water has been shipped or has accumulated from rain, turn the boat up, and let it run out.

The surface of the skin, inside and outside, should be kept free from scum, dirt, or

sand. When kept in a boat-house, turn them bottom up, and support them on their gunwales in such a manner as to have two or more supports, according to the length of the boat, crossing the gunwales equidistant from the stem and stern.

When these boats are used steadily eight to twelve hours a day, the friction of the water will gradually wear the varnish from the bottom and the parts most exposed to its action. To preserve this portion of the surface, put on it, once in three or four weeks, or oftener if required, one coat of a good metallic paint. If the paper has been abraded or the surface injured, put two or three coats on the injured parts.

At the end of the season or between the intervals of use, give the whole boat a coat of the metallic paint, and after a week, when this coat has hardened, varnish all over with one coat of pure copal coach-body varnish, allowing the varnish at least two days to dry before using the boat.

Repairs.

Should the skin become broken by a shot or a blow, proceed as follows: If the hole is small and ragged from a shot, dry out all moisture from the broken part by exposure to the sun, or by laying a warm flat-iron on the place; then press back the edges of the hole into their old places, and pour a little hot marine glue into the cracks; cut a patch of stout manila paper sufficiently large to lap well beyond the edges of the break and to cover the whole fracture neatly, varnish one side with thick shellac varnish, and lay the varnished side over the outside face of the fracture; gently press the patch in place with a warm flat-iron; then, with the point of the iron passed around the edges of the patch, melt the copal varnish on the skin, so that the edges of the patch shall be embedded in it; lastly, varnish the patch on both outer and inner faces with two coats of shellac and two of copal varnish.

If the hole is so large as to require a new piece of paper to be set in, cut out the broken parts, and trim the edges of the hole neatly, scarfing them so that the face of the scarf shall be three-quarters of an inch wide. Make a patch of solid paper, and scarf the edges to fit the hole accurately when laid on from the outside surface of the skin. Cover the scarfed edges of the hole and patch with thick shellac; set the patch in place, and fasten with six-ounce copper tacks, driven through the scarfed edges from the outside, and clinched on the inside face of the skin. See that the thin edges are well held down with the tacks—a double row is required—then paint and varnish the place as already described.

All tacks and fastenings driven through the paper should be first dipped in thick shellac. Prince's Metallic Paint, or one having a large percentage of oxide of iron, is the best to use, mixing it with boiled oil and japan varnish in suitable proportions. As we have previously remarked, use none but the purest and oldest copal varnish.

Method of
packing shells
for transporta-
tion.

Boats shipped to parties at a distance are packed in one of the three methods here described, according to the character of the route and the number of transfers from one kind of conveyance to another which have to be made.

For short distances, such as to points on railroads leading out of Troy, to New York City and points connected with it by a daily steamboat, shell-boats are packed by covering the decks with thin boards, and then enveloping the whole boat in a continuous sheet of heavy manila paper well tied on.

For longer distances, such as the route to Pittsburg *via* Jersey City; to Washington, by steamer from New York City; and to Canada, or other routes where boats are carried on the tops of freight-cars and on the decks of steamers, the boat is additionally protected by having the paper wrapping just described sewed up in a cover of burlaps.

For still longer routes, such as to all points on the Upper Lakes and towns beyond; to interior cities of the Southern States, reached by rail from the sea-board; to California and the Pacific coast, and to Foreign Ports by sea, shell-boats, of all sizes, are carefully boxed in strong cases.

Other boats are packed in paper, burlaps, or boxes, according to the kind of boat and the route by which shipped. In all cases, only the net cost of packing is charged.

The following table gives the cost of packing these boats, and the freight charges from Troy to some of the principal points in the United States.

These prices are necessarily approximate, since the rates of freight are constantly changing, but yet are sufficiently accurate for all practical purposes.

SHIPPING AND FREIGHT CHARGES ON BOATS FROM TROY, NEW YORK, TO SOME OF THE PRINCIPAL CITIES OF THE UNITED STATES.

Table of shipping and freight charges to principal cities of the United States.

Cost of Packing and Routes.	Single Shells.	Double Shells and Pair-Oars.	Four-oared Shells.	Six-oared Shells.	Skiffs, all sizes.	Gigs and Canoes under 15 ft.
Packing in heavy paper and thin boards.....	\$1 50	\$2 00	\$4 00	\$5 00	\$1 50	\$1 50
" " burlaps and thin boards.....	5 00	6 00	9 00	12 00	3 50	3 00
" " boxes.....	7 00	8 00	13 00*	15 00	7 00	7 00
<i>Transportation:</i>						
To New York by daily line of night steamers....	2 50	2 50	4 00	5 00	2 00	2 00
" points on Hudson River Railroad.....	1 passenger fare	1 passenger fare	.....	.....	1 passenger fare	1 passenger fare
" Buffalo, via New York Central Railroad.....	8 00	8 00	10 00	12 00	2 00	2 00
" points on New York Central Railroad.....	Pro rata on Buffalo rates.					
" Chicago and Milwaukee—steam on lakes....	16 50	20 00	20 00	25 00	4 00	4 00
" Boston, via East Albany and Boston and Albany Railroad.....	7 75	8 00	10 00	10 00	2 00	00 00
" intermediate points on Boston and Albany Railroad.....	1 passenger fare	1 passenger fare	.....	.....	.....	.....
" New Haven and Hartford, Conn., via New York City.....	7 50	7 50	13 00	15 00	5 00	5 00
" Philadelphia by steam from Troy, via Delaware and Raritan Canal, and all points along the Canal.....	5 00	5 00	10 00	10 00	3 00	3 00
" Washington, by steam via New York City....	10 00	10 00	15 00	20 00	10 00	10 00
" Charleston, S. C., and Savannah, Ga., by steam from New York City.....	.....	.....	.....	.....	.....	.....
" Pittsburg, via Jersey City and Pennsylvania Central Railroad.....	11 00	12 00	21 00	28 00	8 00	8 00
" San Francisco, by steam via Panama, \$1 per cubic foot.....	.....	.....	.....	.....	.....	.....
" San Francisco, by sail via Cape Horn, 120 days from New York, 25 cts. per cubic foot, say,	13 00	15 00	25 00	.....	.....	.....

All boats are shipped at owner's risk. We can insure invoices when desired at current rates of from 1 to 1½ per cent. on value of invoice, depending on the distance and route by which freight is shipped.

We cannot ship shell-boats by express. The companies decline to carry such long freight on account of the difficulty of handling it rapidly at points where transfers are made.

* Four-oared shells, with coxswain, \$15.

1. The first part of the paper is devoted to a general discussion of the problem of the existence of solutions of the system of equations

2. In the second part we shall consider the case of a linear system of equations

3. In the third part we shall consider the case of a nonlinear system of equations

4. In the fourth part we shall consider the case of a system of equations with a variable coefficient

5. In the fifth part we shall consider the case of a system of equations with a variable coefficient

6. In the sixth part we shall consider the case of a system of equations with a variable coefficient

7. In the seventh part we shall consider the case of a system of equations with a variable coefficient

8. In the eighth part we shall consider the case of a system of equations with a variable coefficient

9. In the ninth part we shall consider the case of a system of equations with a variable coefficient

10. In the tenth part we shall consider the case of a system of equations with a variable coefficient

11. In the eleventh part we shall consider the case of a system of equations with a variable coefficient

12. In the twelfth part we shall consider the case of a system of equations with a variable coefficient

PART SECOND.

ROWING—TRAINING—OUTFITTING—ORGANIZATION AND ADMINISTRATION OF BOAT CLUBS.

CHAPTER I.

ROWING DEFINED — HINTS TO BEGINNERS — USE OF THE OAR — ERRORS TO BE AVOIDED — SCULLING — STEERING.



ROWING is the art of propelling a boat through the water by means of oars or sculls. Rowing defined.

The oarsman sits either in the middle or on one end of the thwart, or seat, according to the kind of boat he is rowing, his back towards the bow, or the direction of motion, and his face towards the stern. The oar being placed in the rowlock, the blade outboard, and the handle grasped by both hands of the oarsman, the act of rowing consists in reaching forward with the oar, holding it in the air until the limit of reach is attained, then dipping the blade into the water, and throwing the body straight backwards—thus dashing the oar through the water, and finally pulling the handle home with the arms to the chest, by means of the resistance offered to the forward motion of the body by the thwart, or seat, and the foot-board, or stretcher. The oar is, therefore, a lever of the second order—the water being the fulcrum; the weight of the boat, and its load acted upon at the rowlock, the resistance to be overcome; and the weight and strength of the oarsman applied at the handle, the power. Sculling is practised exactly on the same principles as rowing, except that, instead of using one implement (the oar) with both hands, the oarsman uses two short ones, called sculls, holding and operating one with each hand.

The action of rowing is twofold, being made up of two portions, namely, the stroke and the feather. The *stroke* is the pulling of the oar through the water with the blade—to which the water offers a resistance in its passage—at right angles to its surface. The stroke and the feather

Feathering, strictly speaking, is the turning of the oar at the conclusion of the stroke, by dropping the hands and turning down the wrists, thereby bringing the blade into a plane parallel to the surface of the water; but the term is also commonly used to include the carriage back of the oar in the same position, or plane, to the point where the stroke commences. The oar is then said to be *on the feather*.

There are two kinds of rowing ordinarily practised by amateurs: one for pleasure or exercise, and the other for speed. The former pertains to wider and heavier boats than the latter, which is used in the light racing-shells or gigs of the day. In both, however, the actions performed and the paces gone through are, or ought to be, identical. In the one, the oarsman works more steadily and at a less rapid rate than in the other, on account of the increased weight and resistance he encounters, and which renders the labor more severe.

Rowing is an imitative art, and men are not oarsmen-born, although some persons appear to have an intuitive knowledge of it, and are easily taught its leading principles; while others never can and never will row properly, no matter how hard they may work.

But even those for whom nature has done the most should clearly understand that there is no royal road to a perfect knowledge and practice of the art. Nothing but long-continued and properly directed efforts will do this. Hard work, and plenty of it, is the rule. Above all, let the tyro recollect the importance of learning to row upon correct principles, since to unlearn bad habits once acquired is an even more difficult and far more ungracious task than to acquire proper ones under the most severe of masters. And as an illustration of this, we may remark that, among the most important of the elementary principles of the art are how to sit in the boat and how to hold an oar properly. A crew may be "got together" and be "licked into shape" to a certain extent, but, unless these two principles have been well taught them, no amount of "coaching" will make the individual members good oarsmen. They can rarely, if ever, be taught after their style is once formed. We see, therefore, how necessary it is that both the young oarsman and his instructor should pay particular heed to these points—points which our American oarsmen, as a rule, seldom sufficiently attend to.

But one model
for correct row-
ing.

There is a popular impression among the general public, participated in by not a few oarsmen, that there are several kinds of perfect rowing. For instance, in England they speak of the Oxford, the Cambridge, or the London style; while in this country the same notion finds expression in the terms "the Harvard style," the "Ward's stroke," etc., etc., all of which have their stubborn advocates, often claiming that their style is the only correct one, and that all others are wrong.

The sooner such notions are dissipated, the better. Rowing forms no exception to the general rule that there is but one correct method of performing any particular exercise or operation; and while the different physical conformations of men may, to a greater or less degree, affect the facility with which certain acts may be accomplished, still, in rowing, the accumulated experience of the best teachers of the art demonstrates that there is but one standard, and that upon one model alone every oarsman ought to be formed.

"The characteristics of this model are as follows: A firm, clean entrance of the oar into the water; a powerful, steady, and horizontal stroke; a feather quick, low, yet sufficiently high to clear the water in whatever state it may be, and concise both at the beginning and the finish."

Style and form.

These attributes of rowing are denominated "*style*"; the manner in which the labor of executing them is performed is technically known as "*form*."

The first term is more particularly applicable to the work done, or the quality of the rowing; the latter, to the manner in which it is done, or the actions gone through with by the performer.

To compass perfection in both these qualities, numberless little rules, in themselves apparently trivial, must be strictly abided by; numerous conditions, seemingly insignificant taken singly, must be faithfully observed. An undaunted determination not to neglect work, a zealous attention to sound advice tendered, and correct principles imparted by instructors, must be shown, if it is desired to attain a high position in the practice of this art, and offer an example worthy of the imitation of others.

And here it is perhaps well to remark that the ability to row does not complete the education of the oarsman, and make him a master of the art. How to guide and manage his boat in difficult situations, how to discover anything wrong or out of order in it, and how to overcome such defects, or repair breaks or injuries—all are matters of the greatest importance, and form an essential part of the oarsman's finished education.

An oarsman's form depends entirely upon the manner in which, and the person from whom, he receives his elementary lessons. As we have just remarked, a slovenly style and form once acquired, there is far more difficulty in unlearning it than in mastering all the principles of the art if properly taught. Hence, we cannot impress too strongly upon those who desire to learn to row correctly, the importance of having a suitable instructor, or, in the absence of such a person, of ascertaining, by reading and observation, the primary steps to be taken to insure a correct style and a proper form. And first as regards the kind of boat proper for beginners. Bearing in mind that the primary step is to know how to handle the oar, we must not embarrass the pupil with other details at the outset, but, taking up the essential points first, only permit him to essay to conquer new tasks as fast as he became proficient and well grounded in the elements of the art.

Importance of correct elementary instruction.

We, therefore, lay it down as a rule that the first lessons in rowing should not be given in the light shells of the day; on the contrary, he should be put into a craft so steady that his mind will be at perfect ease about his safety or keeping his balance. For this purpose, a dingy, a heavy gig, or a wide skiff is most suitable. He should be placed upon the stroke-thwart, close under the observation and within reach of his teacher, who should sit upon the coxswain's thwart, with the yoke-lines in his hand, or, perhaps, with an oar or scull instead, by the use of which he can guide the boat better than with lines.

The pupil should take his first lessons in a steady, wide boat.

Care must be taken that the pupil's seat, mat, or cushion, stretcher, and oar are in order and according to rule. If any of these appointments are not so, much mischief may unintentionally arise.

All these matters properly attended to, the earliest point which is now to be impressed on the attention of the pupil is the taking up of a correct position, for upon this depends the future form, whether good or bad.

Under the head of the "Use of the Oar," all the details of a correct seat in a shell-boat will be given. It will be, therefore, only necessary here to say that the pupil should sit upright and square on his seat, with his feet firmly pressed against the stretcher, the heels close together, and the toes wide apart; the oar should be held with the outer hand close to the end of it, the inner hand from $\frac{1}{2}$ to $2\frac{1}{2}$ inches off. He must then be told to reach out—keeping his arms straight, his body and shoulders square, head up, chest out, knees apart—and to take a stroke, his instructor not only minutely explaining every separate action, and the manner in which it should be per-

A correct seat very important.

Elementary
practice with
the oar.

formed, but also *showing him how to do it*. The oar must invariably enter the water with the back at least at right angles to it, although it is naturally somewhat difficult to get a raw recruit to lay hold of the water with the blade of the oar in a perfectly correct position. He must next endeavor to pull the stroke through with the edges of his oar vertical, pressing against the stretcher with his feet, and bringing the weight of his body to bear, and then to finish it as steadily as he can, being careful to avoid flirting it out of the water or winding up with a jerk.

There is no necessity to teach him to feather at first, as it is of the greatest importance to instil into his mind an idea of *getting a firm, square drag through the water, and of bringing the oar out square, yet, meanwhile, keeping himself as upright as possible*. He must be taught to maintain command over his oar from the beginning, as it too often happens that the oar and not the man is master; and for this purpose, great care should be taken that his seat is high enough.

This elementary lesson should last, at intervals, until the pupil has gained a knowledge of what he is required to do, and how to do it; and the more easily to impart shape, he may be told to unship his oar, and to swing his body backwards and forwards, unaccompanied by the oar, yet, at the same time, going through the usual evolutions with his arms and legs, as if he were actually handling it. Occasionally he may change places with his coach, and, sitting down on the after-thwart, watch minutely the mode in which the oar is used by the latter, and then, returning to his place, endeavor to put the same into practice; and, if the boat selected for the initiatory lessons is a wide, roomy skiff, the teacher may now and again sit on the same thwart with his pupil—between the latter and the rowlock—the more readily with his own hands to put straight any inaccuracies of arms, elbows, back, knees, or feet. The pupil should then be shifted to the bow-thwart, and be taught to go through the same performance with the bow-oar. Having satisfactorily accomplished this, he may be taught to feather. When from simply pulling by himself he has quite mastered the essential point of rowing an oar horizontally through the water, the next thing is to put a good oarsman into the boat to row stroke, the pupil taking the bow-oar as before. It is as well for the teacher to continue to steer—of course, now using the yoke-lines—as he can the better watch every movement of his pupil; for, if the instructor row the stroke-oar, he cannot by any possibility pay proper attention to his own rowing, which is supposed to be copied by the pupil, and at the same time watch the latter in order to correct any faults. The pupil will now be taught to keep time and stroke with his model, rowing at a steady, even pace, with frequent breaks for rest; and, with this example constantly before his eyes, he will make rapid improvement, and should, as he progresses, be further instructed in all the various manœuvres which compose the science. Of course, until he can row a fair oar and in proper form, he will be confined to a pair-oared old-fashioned craft. During these lessons, the instructor must be beyond measure careful to teach kindly and considerately, intelligibly explaining any matter not perfectly apprehended by his pupil, and *never losing his temper*.

Should learn
to row on both
sides of the
boat.

When considered sufficiently advanced in knowledge, the pupil may be put into an outriggered pair-oared gig or into a four-oared gig, though not with other half-educated recruits as unpolished as himself, but, if possible, with companions of known capability, and he should be shifted from one side of the boat to the other, until *he is able to row equally well on both sides*. Otherwise he will be but half an oarsman, and only an

addition to the full ranks of the men who can only row on one side, thanks to the mischievous way in which they were originally taught.

In order that the power may be applied equally, and a straight course preserved, the same number of oars are used on both sides of the boat.

For convenience of reference, the oars are named and numbered. In England, the invariable custom is to number from bow to stern. The first oar is called *Bow*, the second No. 2, the third No. 3, and so on; the last, nearest the stern, whether in pair-oars, fours, sixes, or eights, being called the *Stroke*, from its being rowed by the man who sets the time, or stroke.

Mode of numbering the crew.

In the United States, the terms *bow* and *stroke* have a similar significance; but it is a common practice, especially with reporters for the newspapers, to number the crews from stern to bow, just reversing the English custom. Occasionally at some regatta or in some club the crews will be found numbered from bow to stern; hence, there being no recognized standard, much confusion exists.

Although no particular reason can be adduced why one plan of numbering should be preferred to another, yet, as uniformity in such a matter is most desirable for convenience of reference, and as rowing has been much longer practised in England than in the United States, we recommend that the English custom be adopted.

Again, in England, the rule is to have the stroke-oar rowed on the port, or left-hand, side of the boat; this puts all the odd-numbered oars on the right, or starboard, side, and the even-numbered oars on the port side, and hence, in racing parlance, the port is called the *stroke side*, and the starboard the *bow side*. The only exception to this rule is the case of a few North of England boats, which carry the stroke on the starboard side. Curiously enough, what is the rule in England is the exception in the United States, where nine-tenths of all oared boats are built with a starboard stroke. Here, also, the terms "stroke side" and "bow side" are never heard, but simply "port" or "starboard," as the case may be.

Port and starboard strokes.

The middle of the boat being called the "waist," this term is frequently employed to specify the oars used in that part of the boat. This mode of naming the oars is used in Plate III., giving the lines of the four and six oared boats. Where boats carry a coxswain, he is, in racing-shells, seated just aft the stroke and facing him, thus looking toward the course to be travelled by his boat.

Waist.

The oarsman about to row, having taken his oar in hand, should proceed to embark. This he should do by laying the blade of his oar on the water if an outside, or on the bank if a shore-side oar, and then (holding the handle or not, as the case may be), stepping into the boat with his face to the stern, putting one foot on the keelson, or backbone, lengthwise—not athwart it, for fear of putting his toe or heel through the boat—and, stooping, should let himself gently down on his thwart, by placing one hand on each gunwale; the second foot may also be placed on the backbone of the boat, or may depend in mid-air until firmly and finally placed under its strap on the stretcher. He should next ship his oar, placing the handle in the rowlock from the outside if the latter is moused, and drawing it inboard until the button is within the rowlock and the oar in its proper place, where it should be allowed to lie flat and feathered. He should sit quite square, but not too near the edge of the seat, because, if so, the chances are that the lower part of the back will not be straight; also, if the man's seat is not very firm, he cannot possibly balance the boat. He should

How to get into the boat.

How to sit.

sit about three-quarters of the thwart aft—in an ordinary racing-boat, about one and a half inches from the edge; but, perhaps, the best rule really is, that the fold in the skin where a man's legs join his seat should be on the edge of the thwart; hence, the bones will feel the thwart about one and a half inches from its edge. He must be exactly opposite the handle of his oar, not askew, and this whether the seats are arranged in a line over the keelson, or at the ends of the thwarts, as has already been described. His feet must be planted firmly against the stretcher, both under the stretcher-strap, and immediately opposite his body and his oar, the heel as well as the ball of the foot pressing against the stretcher, and the two heels close together, with the toes wide apart. This position keeps the knees open and separate, without which no man can possibly row in a proper manner.

The stretcher-strap should be as tight as can be borne, so long as it causes no inconvenience or undue pressure, as, by means of the thighs, it partly contributes to raise the body after the completion of one stroke preparatory to commencing the next; but a light touch only is allowable, pulling the body up solely by the strap being entirely wrong, and resulting from the back not being straight or from the knees having been dropped too low. By this means, a man swings backward and forward in a line parallel with the keel and course of the boat, or, as it is called, straight fore and aft.

The distance of the stretcher, in a horizontal line, from the thwart will vary according to the length of a man's legs; but it should be as short as possible, compatible with clearing the knees and doing the work in an easy manner, and with a perfect control over the oar. The body should be erect, with the shoulders slightly thrown back, and the elbows close to the flanks.

Holding the
oar.

The oar should be held firmly yet lightly in both hands, the outside one close to the end of the handle—but not at the end, capping it—with the fingers above and the thumb underneath it, although some men prefer the thumb of the outside hand in the same position as the fingers—and the inside hand, or that nearest the loom or body of the oar, from one and a half to two, though not more than two and a half inches away from, but grasping the oar more convexly than, its fellow—the thumb underneath; bearing in mind always that the outside hand does the greater share of the work in the bare pulling, and the inside hand the most in guiding and manipulating the oar. If the outside hand is held too low, a good deal of force is lost, the arm is bent, the shoulders are not squared, and the beginning of the stroke is weakened. The fore-arms should be below the level of the handle, and the wrists dropped and relaxed, the oar being now quiescent, at right angles to the keel of the boat, and feathered. The diverse positions of the two hands and wrists enable the oar to be wielded with greater facility than if alike, and permit of both arms being stretched out perfectly straight—not crooked and bent—when getting forward.

Rowing the
stroke.

In rowing the stroke, the body should be inclined forward, with the backbone perfectly straight, the stomach being kept well out and down between the legs, the chest forward and raised as much as possible; in fact, the position of the trunk will be like that of a soldier at drill, excepting that in rowing the great secret is to keep the stomach out, whereas in drilling it must be kept in. The knees must be pressed slightly out, as far, however, as the strap and gunwale or boat's side will allow, but both must be inclined at exactly the same angle—one very common fault being the

dropping the inside leg too far down and too much into the boat; the body soon follows the leg, and thus the more serious fault of leaning into the boat is produced. To obviate this, it is as well to keep the inside foot nearly upright, and to get the heel of the outside foot as much into the boat as possible. It will be found that both legs will thus incline at the same angle, both knees will be at the same height above the water, and a firmer seat will be the result. The shoulders should not be allowed to come too far forward, neither should one be advanced before the other, nor should one be higher than its fellow, this being a sign that the weight of the body rests more on one side than the other—a great fault in rowing in a light craft over a long course, as the boat is thus unsteadied, and somebody else has to balance her, and so undertakes more than his proper share of work. The arms should play freely in the shoulder-joint, as stiffness here and at the hips is a real hindrance to the best form. They should be perfectly straight from the shoulders to the wrists, and they should be treated in the first part of the stroke as mere connecting-rods between the body and the oar. If they are crooked, they give immediately, the weight and strength are thrown on to the handle of the oar, and thus the first part of the stroke is lost. The inside wrist, however, must be somewhat raised, and the outside one be bent slightly round, in order that the knuckles may be parallel to the oar, as the oar must be firmly grasped with both hands, otherwise the beginning of the stroke will be weak; but it must be kept nearly flat, though pressed down the least bit in the world—in other words, it must show only the natural hollow. The hands should hold the oar firmly, not with the tips of the fingers, as is usual, but with the whole of the fingers well round the oar, and each separate finger—not merely the first two fingers—must feel the oar distinctly. The knuckles of the thumbs should be not more than $1\frac{1}{2}$ or 2 inches apart at most; for, if kept too far off one another, the inside arm is sure to get bent, the inside shoulder thrown back, and very likely the weight brought into the boat. The head must be held up, the eyes looking in a direct line astern, and the feet must be firmly planted against the stretcher. In reaching forward, the hands should be shot out straight from the body without the least pause—a peculiar way of doing this, but impossible to describe, though easily discernible, being the mark of first-class oarsmen. Almost as soon as the oar has passed the knees, the wrists should be raised to bring the blade at right angles to the water preparatory to dipping it, the fact of delaying this motion often resulting in not putting the oar in square. Care must then be taken not to lower the hands, as this practice almost invariably leads to chopping and cutting the stroke. Men differ slightly in their length of reach, but every one ought to be able to get the handle of his oar just over his stretcher, and when there he should raise his hands straight up and at once, as if not raised at once the result is a hang, and, if not straight, the stroke is cut. The oar should then be instantaneously covered up to the shoulder, but no further; and immediately it is in this position the stroke should commence. The rower should “knit himself up,” as the phrase is; he should then spring back like a bow when the string is loosed, and bring the muscles of his back and legs into play, at the same time raising his weight off his seat—thus using his whole strength and weight at once and together. These motions at the end of the feather and the beginning of the stroke are, however, so simultaneous, and take place so rapidly, that it is very difficult to analyze them. The faults, nevertheless, are easily enough detected: they consist of hanging, chopping, cutting the stroke, and not catching the beginning.

Rowing the stroke.

It is in this part of the stroke that five minutes' looking at a good oarsman rowing is worth more than any number of words; in fact, no words really convey what is wanted. The instructor or coach may tell his pupil to "hit" the water, to "smite" it, etc., which may convey to the mind of a man who knows how to row what is required, but which can never impart the idea to a tyro. Catching the beginning properly—like swinging—must come from inspiration, as it were. It will, however, assist a crew immensely if the coach will get into the boat, and row a few short spins at a slow stroke, employing all his power at the beginning, and making the crew follow his example; but he must be a strong man, as he will have the whole weight of the boat to lift at the commencement of the stroke.

Having thus learned to catch the beginning of the stroke with his body only, the rower should finish it with his arms and shoulders, taking care to send his elbows close past his sides, and to drop his shoulders well down and back, keeping his head up and his chest out. In the next place, the whole strength of his arms and shoulders should be put into the finish of the stroke. This may seem to be recommending the fault of rowing the stroke out at the end, but really it is not so. This fault arises either from the beginning of the stroke having been shirked, from not using the full force of the body, or from not bending the arms soon enough. If this happens, the body has to be kept waiting until the arms come up to it, and hence an unseemly jerk. It is very difficult to determine the exact period at which the arms are to be brought into play, but it ought to be done about the time that the body is perpendicular. Thus the full weight and strength of the rower will be applied, and the oar will be dashed through the water in the way that marks a good oarsman. Without enumerating all the faults in this part of the stroke, one word of caution to a coach will be sufficient; it is, "Don't tell your men to kick their stretchers, or to row with their legs." Tell them to lift their bodies, as it were, off their seats, so that the weight rests on the handles of the oars and on the stretchers. Tell them that, while rowing the stroke through the water, they ought to be able to sit on an egg without breaking it; but don't tell them to kick—kicking invariably leads to shifting about on the seat, to dropping the knees too low (which prevents a quick recovery), and to half the faults that are incidental to this part of rowing.

The recover.

The oar should be brought straight home to the chest, the knuckles touching the body about an inch, or less, below the bottom of the breast-bone where the ribs branch off; thus every inch of water is made use of. When there, the hands should be dropped straight down, and then be turned over and shot out again close along the legs, and the body should follow without the least pause. If this be not done, the oar will be feathered under water, and thus the boat will be buried, water will be thrown on the next oar, and the recovery will be impeded. To effect a quick recovery, the back must be perfectly straight, the knees must not have been dropped down too low, and the straps must not be used too much—a light touch is all that is proper; the muscles of the body—in this case, those that cross the stomach—must be used, and not the boat itself, of which the strap is a part. The body should be swung evenly forward from the hips, not with a jerk or a plunge, or quicker at one time than another, but freely and easily, as if the hip-joint worked well, and not stiffly. Much benefit may be derived from watching two or three of the best oarsmen that can be found, observing them carefully—forming an ideal model, and then endeavoring to copy it.

Two or three points should be particularly borne in mind: First, that where the hands are raised at the commencement of the stroke, and the blade is consequently struck down below the surface, the whole of the power should be brought to bear at the moment of the oar's contact with the water, so as to create the greatest effect in the first or vital part of the stroke—one of the most important and too oft-broken laws of rowing; secondly, that the pull home to the chest should be in a perfectly straight line, thus causing a horizontal stroke through the water, which is another law frequently disregarded; thirdly, that the finish of the stroke should be as quiet and easy as it is possible to make it, but without lessening the force applied, which naturally diminishes, because, at the first part of the stroke, before the rowlock, the oar is at an acute angle to the boat, and after that at an obtuse angle. Here it is that one so often sees the stroke wind up with a jerk, as if to make some use of the little strength remaining in the human frame, the oar flirled out of the water, the elbows dug sharply back in an awkward and unsightly manner, and the body harshly and suddenly jolted forward.

Next in importance are the movements described by the oar itself, starting from a state of rest, *i.e.*, feathered, and at right angles to the keel of the boat.

Movement of
the oar ana-
lyzed.

When the forward reach is taken, the blade of the oar should travel backwards in the air, horizontally, at a distance of a few inches from the surface of the water—of course depending upon the state of the surface, whether smooth or rough—until dipped for the stroke. As regards this dip, it is imperative that the blade descend to the proper depth before any force is applied, otherwise the stroke will be cut. To effect this, the hands must be raised sharply, and the stroke must be instantaneously commenced. In a word, the oar must be put into the water with energy, not suffered to drop in of its own weight. When on the feather, the oar, after passing the knees, should be gradually turned preparatory to immersion, the feather concluding and the stroke beginning at once, with no interval whatever. Hence, it will be perceived that the line described by the end of the blade—about which there are numerous theories and a variety of opinions—will be nearly parallel with the water until entering it, when it will immediately be dipped with a *powerful scoop*.

Forward
reach and dip.

The entry of the oar into the water cannot be too sudden or too decided, so that it be not a chop and a splash, and for this purpose the muscles of the arms should be gathering themselves together as the hands reach forward.

It is a well-known and indisputable law that the greatest power can be applied in the first half of the stroke, that is to say, before the oar becomes level with the rowlock, and that, the further aft it goes subsequently to passing that point, the more that power decreases. Such being the case, it is only common sense to endeavor to do as much work as possible when it will tell most, and when it contributes to lift a boat lightly along the top of the water. On the other hand, if the application of the strength is deferred until the last part, it is brought to bear when it is of least service—a great and useless expenditure of power ensues, and the boat, instead of being assisted over the water, is driven down and buried in it, her way being necessarily checked thereby. The same result ensues from men letting their weight rest on the seat, and then giving a wrench, and feathering under water, instead of letting the weight rest on the stretcher and handle of the oar—in a word, from rowing with the arms rather than with the body, instead of using both.

Immersion of
the blade.

We now come to the position in which the blade is immersed, and it should be observed that this is a most important point. It is said that the blade should descend at right angles to the water. In this opinion we cannot altogether coincide, although it must be admitted that even such a position is far superior to an entry with the back of the blade forming an acute angle with the water, and the front of the blade an obtuse one. In either of these cases, however, there is something wrong with the thowle rowed against, with the side of the loom which bears against the thowle, or with that on which the oar rests when traversing the water. The proper position is for the front or hollow of the blade to be looking slightly downwards upon, not along, the surface; its entry is consequently at less than a right angle. This enables the oar to take full and square hold of the water at once; it prevents it running down too deep, and, if firmly and scientifically manipulated, it obviates splashing. At the same time the oar ought not to be turned over too much, as otherwise it will not enter the water easily, and will be apt to twist in the hand, besides straining the wrists. No effort whatever should be made to force it over. The depth to which the oar descends through the medium of this peculiar catch, is to the shoulder or upper end of the blade. In this position it must continue until the arms are up to the chest, not stopping at the distance of a foot from it, when the stroke is concluded and the feather commences. In its traverse through the water, the blade of an oar should be barely covered, and no more—this is an accepted rule—and with the extraordinarily light boats used at the present day, strict attention to this principle must be paid.

End of the
stroke.

When bringing the stroke to an end, the blade of the oar, by a sudden movement—caused by dropping the hands and turning the wrists—is feathered, or brought into a plane with the surface of the water, from being previously at right angles thereto. This action should take place at the moment of the oar's leaving the water, and the lower end of the blade, by being suddenly turned cleanly aft as the loom rotates in the rowlock, throws the water astern in a little eddying whirlpool, and the whole business of the stroke is completed. The appearance of this whirlpool should be carefully studied by a coach, as it is a pretty good criterion how a man is rowing; and if the coach happens to be pulling himself, as is occasionally the case, it is one of the only guides he has in judging how his pupils are rowing behind him. One cannot well describe the look it ought to wear, but plenty of small air-bubbles should keep rising, as in a soda-water bottle, long after the swirl has left the oar: the smaller eddies should be deep and well marked. Very light rowing makes a splash that soon subsides, and deep rowing shows no air-bubbles.

The foregoing component parts of a stroke and its succeeding feather, it must be admitted, are numerous, and to a certain extent apparently incompatible; but yet they are so blended in the work done by a first-rate oarsman as to seem but one action. Each, however, is fully and correctly performed, and the sum of these separate actions is consequently also perfect.

Essential
points recapitu-
lated.

At the risk of appearing prolix, we will briefly recapitulate the main points to be recollected. They are as follows: First, a full, fair reach-out over the toes, with both arms perfectly straight; secondly, a square hold of the water at the dip of the oar, with an application of the whole power at the moment of immersion; thirdly, a firm stroke of a medium depth, pulled straight through the water without wavering and without vibration, yet always kept long and duly light; fourthly, a graceful, easy finish,

with a clean turn of the water off the after-edge of the blade—the feather being light, moderately low, and rapid—and an instantaneous movement when the oar completes the feather and descends under water.

Besides pulling, which, as before stated, does not constitute the whole science of rowing, there are various manœuvres of which a knowledge is necessary: these are *paddling*, *easing*, *holding water*, and *backing*. *Paddling* is simply a milder form of rowing hard, of which the opposite extreme is *spirting*. The difference consists merely in the strength applied, and consequently in the number of strokes taken to the minute: it is, without question, the form most suitable for discovering and correcting faults, and it is, therefore, peculiarly valuable for the purpose of coaching crews that have races to row, especially over long distances. Paddling.

Easing signifies either a reduction in speed from rowing hard to paddling, or else ceasing to row altogether. More commonly, however, it denotes a cessation of rowing, the command “Easy all” being generally understood to mean “Leave off pulling.” Should it be desired merely to reduce the speed, the usual term employed is “Row easy all.” Herein consists the difference between this order and that of “Easy all,” which should always be given before the conclusion or at the commencement of a stroke. Easing.

Holding water is the act of stopping a boat suddenly, and is accomplished by partially reversing the oar and running it down under the water so as to check the way; but the oar should be held, when deeply immersed, with the blade nearly in the same position as on the feather, but under instead of above the water—certainly not at right angles to it. By a simple twist of the handle from or to the body, the blade can be raised or lowered, according as it is found necessary to slacken or increase the power exerted to check the boat; that is to say, by simply turning the blade with its upper edge downwards towards the nose of the boat, the oar sinks, and by depressing the after or lower edge it immediately rises to the surface of the water. Holding water.

Backing is exactly the opposite of rowing, and is accomplished by reversing the oar, as in the last-mentioned manœuvre, and pushing instead of pulling the handle. The same principles which apply to rowing apply here also, for the blade should never be sunk too deep, but the back-stroke through the water should be long and light, and the oar should be feathered and carried on the feather, exactly as when pulling in the ordinary manner, although in a contrary condition. The action is commenced with the body well back, and is finished but little beyond the knees; here, again, the first being the vital part of the stroke. Rowing and backing a boat round should, however, be done as gently as possible, for nothing screws an outrigger so much as the application of force under these circumstances. If this is attended to, a boat will last twice as long as she otherwise would. Backing.

The celerity with which these various movements can be performed must be acquired by practice, and a rapid change from one to the other can only be skilfully executed after much experience. Theory is all very well as a guide, but actual practice and manipulation are the only things capable of rendering a man thoroughly conversant with these technicalities.

When about to disembark, the oar should be unshipped and lifted out before the crew leaves the boat.

Two kinds of faults common.

There are two kinds of faults connected with the art under discussion, and they are as follows: First, errors of position and appearance, which, although ungainly and slovenly in themselves, do not prejudicially affect the progress made; and, secondly, faults of labor or errors committed in the manipulation of the oar, which militate against the speed of the boat as well as against an efficient performance of work. By far the greater part of them come from men not holding their oars properly and not having good seats.

Errors of position and form.

The chief errors of position and form consist of sitting askew, with rounded shoulders, head down, body sunken in and dropped, knees close together; the outside hand capping the oar, and the inner hand too far off the outer; shoulders out of a level; stretcher so short as to prevent the handle of the oar from clearing the knees; reaching out without letting the body come well between the legs; overreaching; looking out of the boat and at the oar; staring about; dropping the head; throwing the head backward and forward when at work as if it hung on an easy and well-used hinge; meeting the oar, attributable to not going back far enough, by not keeping the chest and stomach out, and by not using the muscles of the latter; feathering too high or too low; failing to row fore and aft, but rolling instead across the boat, generally away from the oar—called rowing out of the boat—and screwing; beginning at one side, rowing round, and finishing with the body on the same side; sticking the elbows out at the end of the stroke, and falling back too far or not sufficiently beyond the perpendicular. There is also a bad habit of letting the oar remain in an improper position when feathered, when the boat is lying still or driving with her own way. I allude to the fact of keeping the blade off the water and in the air, with the handle low down in the boat.

Faults of labor.

Next come faults of labor, and they are numerous; many of them, also, are beyond measure subtle. First and foremost is that of not straightening the arms when reaching out. In this case, both wrists are generally in the same position, that is to say, either convex or flat, instead of one in each. One arm—the inner—is also usually crooked, and one—the outer—straight. Consequently, when the oar catches the water, the whole of the weight is thrown upon one arm, or else the stroke is not begun at the proper time or with full purchase, and the water is laid hold of comparatively late, and so the opportunity of getting the earliest and lightest lift on the boat is neglected. Next are those of not holding the oar tight; of dropping the hands very low when reaching out, and so raising the blade too high on the feather; pausing or dwelling in the air before beginning a stroke, generally consequent upon the previously mentioned error of dropping the hands too much; dipping the blade quietly and indecisively, or letting it fall into the water, and pulling after it has attained a certain depth in its downward course, and when nearly level with the rowlock or abeam; rowing the stroke through with a vibratory motion, or, as it were, making two distinct and separate pulls instead of one firm, clean, decided stroke—commonly a sign of weakness or of too much muscle in the arms, men accustomed to gymnastics usually doing it; bringing the hands high up, over, and down again, the hands rising as the blade descends, and being subsequently pulled violently downwards so as forcibly to clear the blade from the water instead of a long, easy, light sweep, the effect of this manœuvre being a deep, digging stroke, and a descent of the bow of the boat by reason of the downward force brought to bear on the handle; and finishing the stroke with the oar a long distance off the chest instead of touching it. Besides these are jerking,

compassed either by an uneven and jerky entrance of the oar into the water, or fetching the body up suddenly before concluding the stroke, doubling up over the oar, and at the same time flirting the oar out of the water with a sudden jolt of the arms as already mentioned; dipping the oar into the water, with its face forming an obtuse angle with the surface, when it often runs down deep under water, and the momentum of the boat and the resistance of the water driving the blade astern overpower the oarsman, and nine times out of ten knock him backwards off his thwart—this is called "*catching a crab*." Catching a crab. Catching crabs also frequently results from not clearing the blade at the end of a stroke, or from not carrying it back at a sufficient height above the water, when, without warning and in an instant, the oar is whirled out of the control and, may be, hands of its wielder, and sometimes breaks the rowlock, more frequently giving way. It is seldom, however, that men catch regular crabs in a six or an eight, but they very frequently cut through the water in coming forward—a fault that arises from not dropping the hands sufficiently on the feather. It is by no means a trivial fault, as it throws water on to the oar of the next man on the same side.

Of all faults, perhaps the most common, and one of the most difficult to discern, is that of shirking. Shirking. Now, shirking may take place either at the beginning or end of the stroke, or both. At the beginning of the stroke it is more likely to pass muster, and is, therefore, more frequently adopted, especially by men who can really row well, but who, for the time being, either through laziness or because they are not quite up to the mark, are desirous of sparing themselves; and so cunningly may this be done by a clever oarsman that ninety-nine out of every hundred persons who witnessed the performance would not discover anything amiss. A less experienced man than the culprit would scarcely be capable of detecting the error and of fixing it upon the guilty party. It consists in abstaining from bringing the whole of the power to bear at the moment of the oar's contact with the water, by rowing with unstraightened arms or, rather, slackened muscles—thus quite putting aside that firm grip of the water which is so essential a qualification of correct work—when, although the oar may be dipped simultaneously with others and apparently with as much effect, the strength is not actually laid out until the weight of the boat is already lifted by those men who are doing their work as honestly as willingly; and even then only partially so. At the end of the stroke the shirker finishes his work before any one else in the boat, being the first to commence the feather as well as the last to begin the actual labor; his oar may enter and leave the water at the same time as the rest, but, though keeping time, he is not following the stroke, the work of those who do keep stroke being uniform and simultaneous. The best way to detect this fault is to look at the water that comes from the suspected oar; it cannot present the proper appearance if the rower is shirking. At the same time, the converse does not hold good, for a man may be rowing too deep. Rowing very light is shirking.

Among other tricks that should be avoided, I may mention those of throwing up on to succeeding oars the water which should be turned aft off the lower end of the blade as the oar is feathered; for, if thrown up, the wash falls upon the back of the next oar on the same side, and grievously incommodes the man who is rowing it, even if it does not actually knock it out of his hand; feathering too soon and under water, which is a most productive source of crab-catching; feathering and re-turning—that is to say, simply feathering and then carrying the oar back unfeathered, or bringing the

blade momentarily into a plane with the surface of the water and then as suddenly turning it back again until at right angles thereto, thus not only spoiling the appearance of a boat, but positively doing it an injury by offering an unnecessary resistance to the wind, besides incurring the risk of catching the water; letting the oar fall on the water after feathering with a pat, and so not only hindering the boat's way, but provoking crabs. In many cases, this habit is prolonged into a continued dribbling of the oar along the surface of the water when feathered—frequently witnessed in pair-oared rowing, and usually the sign of a want of balance in the boat. Occasionally, too, the hands are not sufficiently lowered as the feather is being brought to an end before taking a stroke, and the bottom corner of the oar, in consequence, knocks up water and splashes. Neither is the entry of the oar into the water always firm or decided enough; nor should its face be turned up, but, on the contrary, downwards, as previously explained.

Finally, the body is not always swung sufficiently well fore and aft, nor are the muscles of the hips and legs brought into play upon the thwart and against the stretcher as they should be, but rather are the arms left to do double duty, and to act a part which does not and cannot properly belong to them.

Sculling.

Sculling, as has already been described, is performed by one person sitting in the middle of the thwart, and using in each hand a small oar known as a scull. This is the style of rowing practised in single and double sculls.

The oarsman sits exactly in the middle of the thwart, both to balance the boat and in order that he may row equally on both sides and thus preserve a straight course.

As is the case in learning to row, the beginner will do well to take his first lesson in a wide, steady boat, such as the style of gig known as the "Whitehall" boat, or a wide, roomy skiff. He should have an instructor, who may be either an amateur friend or a professional oarsman; he will thus have the benefit of mature experience, and save himself the task of subsequently unlearning bad habits, which his ignorance will surely lead him into if left to himself.

After having in this way acquired the knack of holding the sculls and steadying himself in the boat according to the rules to be given, he can then be put into a shell-boat, his instructor rowing in another one near him; or, if a double scull is procurable, the instructor takes the bow-oar and the pupil the stroke, as by this plan the former can steady the boat, relieving the latter from all care on that score, and enabling him to devote his entire attention to acquiring a correct seat and a proper use of the sculls, under the eye and command of the "old hand."

Getting into
the shell.

The shell having been placed in the water alongside the float, with its bow pointing up-stream if there is a current, the inside outrigger is held by an attendant to steady the boat, while the oarsman embarks.

To do this, he faces the stern, places the foot next the boat on the thwart or seat, and then lowers his body by bending his knees until its weight rests on the foot planted on the thwart. He steadies himself, meanwhile, by seizing the shoulder or arm of the attendant with his inside hand, and, as his body is lowered, grasping the wash-board at the outrigger timbers with the other. As soon as his whole weight is caught by the foot on the seat, he swings the inside leg, now free, into the boat, and places

the foot in position on the foot-board. He then throws out the other foot, freeing it, and, for the moment, supporting his body on the inside hip, now resting on the seat, and, with both hands still in the position described, lowers himself down square on the seat, at the same time placing the outboard foot in its place on the foot-board.

It is preferable to put the foot on the seat in commencing to get in, rather than on the keelson—which is made very light—as to bring the whole weight of the body on so delicate a part might strain it injuriously. Under no circumstances should the feet ever touch the skin of the boat.

As soon as the oarsman has taken his seat and adjusted the straps over his feet, his outboard scull is handed him by the attendant. It is shipped by placing the handle through the rowlock from the outside—unless the latch rowlock is used—and drawing it inboard until the button lies inside the thowle. The inside scull is shipped in the same way.

Being now settled in place and ready to go, the attendant seizes the blade of the inshore scull, and, keeping it close down to the level of the water, pushes it gradually out, and with it the boat. The bow can frequently be sheered out sufficiently to get a pull with the inside hand, by backing or holding water with the outer one, when the boat lies up-stream, or against the current.

In coming in at a landing-place, the boat is easily brought up alongside by holding water with the inside, and pulling with the outside scull; but if coming down with the stream, the boat's head must previously be turned around and put up against it, as at starting.

Landing.

In using the sculls, they may be held in either of the three ways described in Chapter III., of Part I., under the head of "Oars." The best and most common method is the *over-hand*, in which the handles of the sculls overlap, by one of the hands being carried above the other. Which hand shall be uppermost, is entirely a matter of fancy or habit. The plan which is the most natural and the easiest should be followed.

Holding the sculls.

In using the sculls, the main points to be borne in mind are: To sit upright; to reach out well over the toes, dropping the body between the knees, which should open out as the arms stretch forward; to get firm hold of the water at the moment of contact, as explained in connection with the use of the oar; and to lift the boat *over* the water with the first part of the stroke.

The seat and the stroke.

The power applied will of itself diminish as the stroke is brought to an end; but the "dig" and jerk of the sculls, suited to heavy gigs and wherries, will not do here, and must be entirely avoided, as no boat is so susceptible of downward pressure as the shell. The elbows should be kept close to the flanks, the body should not be allowed to fall back too far, the blade of the sculls should clear the water when on the feather, and the pick-up of the body, by means of the muscles of the stomach, slightly aided by the toe-strap, should be rapid. As to the rate of stroke, he is no mean sculler who can row thirty-five or thirty-six thorough strokes in a minute. When rowing in rough water, the longer the stroke and the higher the feather, so as to clear the surf, the better.

There being no coxswain, the sculler has to do his own steering. This is done partly by keeping the stern of the boat pointed straight towards some fixed object astern, and partly by turning his head—not the shoulders or body—round to the right

or left, to enable him to cast the right or left eye, as the case may be, as far along the water in front as possible. At best it is a difficult matter to keep a straight course, and to do it well can only be acquired by long practice.

In a race, where men always act more or less under excitement, the difficulty of steering is even more apparent, and it is often lost in consequence of a want of skill in this particular alone. In important matches, it is not unusual for each sculler to be accompanied by a four, six, or eight oared boat, carrying a man of light weight in the bow who can, by his voice or gesture, direct the sculler which course to keep. This practice, however, is forbidden by the best racing codes.

Turning and
stopping.

To turn, one scull is backed and the other pulled. To stop the boat, the sculls are reversed and run down under the water; this is done by a twist of the wrist when on the recover, which turns the blades so that their upper edges will be towards the bow of the boat; the greater the turn, the quicker the scull will descend, and the more promptly will the boat be arrested. Care should be taken, however, not to execute this movement so violently when under full headway as to break the scull. By depressing the after, or what is usually the lower, edge, the scull immediately rises to the surface of the water.

Steering.

Whether a boat be steered by a coxswain or by the bow oarsman, the duty of steering is by no means the least important one to be performed in a boat-race, since so much depends on the boat's course being the shortest practicable; and so many opportunities occur where a cool-headed and well-instructed steersman may, by the exercise of a prompt decision and well-put appeals to the crew, gain great advantages, and, perhaps, turn the scale of victory against large odds.

General duties
of the steers-
man.

The general duties of the steersman, whether coxswain or using the traveller, are in themselves simple, and hence it is commonly supposed that any one can fill his place, particularly that of a coxswain, and perform properly all the duties of the office. Simple as they may be, there is an ample field here for the exercise of an accurate knowledge of rowing, a clear head, and an unerring eye.

These duties are to control the movements and actions of the crew, by giving the requisite orders for starting, stopping, or easing, and particularly of keeping the boat in the straightest or best course, without any unnecessary deviations or wasteful exercise of the power of the oars.

Words of
command.

The words of command used to direct the crew should be but few, and the less the better, provided they convey quickly and fully the desired meaning. The same terms should always be employed to express the same order. All that is required is, that in this matter of terms a perfect understanding should exist between the steersman and his men. Quite a diversity exists among clubs and crews as to the terms employed. Many have a printed form of orders suited to coxswains' use in large boats, which are more or less inapplicable to light outrigger shells. Where both kinds of boats are used, the orders should be modified accordingly, as what is suitable in the one case may find no application whatever in the other. For instance, the orders to *Toss!* *Let fall!* and *In bow!* used in wide boats with open rowlocks are useless in shell-boats with the closed lock. As these vocabularies are perfectly arbitrary, depending on custom and local usages in a great measure, it is unnecessary to say more than that, whatever terms be adopted, let them be brief, expressive, and always strictly adhered to. They will thus become fixed in the minds of the crew,

and so familiar to them that, no matter what excitement the men may be under in a race, they will mechanically obey.

Other qualifications being the same, coxswains are selected for their light weight, it being important to add as little as possible to the weight of the oarsmen, since every pound tells in a boat as well as on a horse.

Steering with
a coxswain.

But as light weight is ordinarily an adjunct of youth, and as youth is not noted for maturity of judgment or experience, care must be taken not to carry this rule too far. If there is a choice of even ten or twenty pounds between sound judgment and the lack of it, between a tried decision of character and presence of mind in moments of danger and an untried character or the positive want of it, better carry the extra pounds. It requires considerable nerve to keep a boat in her proper course when pressed close by another, when to give way may entail the loss of the race, and it is in precisely such situations that brains are worth more than light weight.

Selection.

Usually coxswains range from 98 to 130 lbs. The average weight of the coxswains used in the eight-oared University races in England is about 110 lbs.

The coxswain takes his position on the aftermost thwart, sitting upright with his body tilted slightly forward, and, if the width of the thwart admit of it, with his legs crossed tailor-fashion, and brought as close under him as possible, each foot resting sidewise on its outer edge, and his knees wide apart.

Position.

The yoke-lines should be stretched quite taut, and be held one in each hand, with a single turn around the palm. A loop is usually tied in each line for the insertion of the thumb; sometimes the thumbs are put in the loops without taking a turn of the line round the hand; but in every case the lines should be fastened together in front of the coxswain's body, or to the sides of the boat, when not made in one piece; otherwise, by a sudden lurch, or from some other accidental cause, one of them may go overboard and tow astern—a mishap by all means to be avoided. The steersman's hands may rest one on each gunwale, the thumbs inside and the fingers outside. This enables him to balance himself and to assist in steadying the boat, and by a simple turn of the wrist he can tighten or slacken the line accordingly. A coxswain can thus steer just as well and can keep quite as true a course as by holding the lines in any other manner, always providing he keeps them taut, which is essential. Another way of holding the lines is with the hands in the lap; but in either case the knees, by resting on the gunwales, contribute to regulate the body of the coxswain, which too often renders the afterpart of the boat top-heavy and unsteady. The coxswain should ease himself forward, with the least possible departure from an upright position, at every stroke, in unison with the lift of the boat, which will guide him correctly. He should, however, be especially careful to avoid bobbing backwards and forwards, quite common with inexperienced hands, than which nothing is more absurd or erroneous.

In steering a boat when the course is straight, the coxswain should take for his mark to be steered to, the most conspicuous object in the proper direction in which he is to go; but the further it is off, the better. A chimney, a craft at anchor, a tree, a house, or any other equally visible mark will serve his purpose. When, however, the stream takes a turn in the distance, or there is a stake-boat to be rounded, the boat's head should be guided straight to the supposed point in the water at which she will commence to make her bend, but yet wide of the corner or stake; and any notable

How to steer

Rounding a bend or stake.

but distant object in this line will be the correct mark to aim at until close to the object to be rounded. The boat's head should not be brought round until nearly opposite the apex of the bend or the stake; but the main point to be recollected is, to fetch a boat round gradually and by slow degrees, because the greater the application of the rudder, the greater the diminution of speed. In some cases, it is even advisable to ease the oars on the inner side of the boat, or to call upon the outer side for an increased effort. The following maxim, however, is well worth remembering, namely, that "*a boat should be coaxed by its rudder*"; and by judiciously increasing the pressure on the tightened line when the oars are out of the water, and slackening it when they are being pulled through the water, the labor of the men is lightened. It is only permissible to jam a rudder hard up or hard down when turning a sharp corner, or in cases of threatened collision, or to wash a boat off.

The reason for thus coming up wide is sufficiently obvious, namely, to pass clear of the point to be rounded without the necessity of pulling first one line and then the other; for, if a boat's bow were steered straight to the point, the rudder would have to be used just before reaching it to sheer her head out sufficiently to clear it, and immediately afterwards it would again have to be put on the opposite way so as to follow the true course. A zigzag, instead of a regular, steady bend, would be the result, and ground would be thereby lost. To obviate this, a boat's head should always point towards the shore opposite to the point round which she is travelling—and correctly so, for the reason just indicated, notwithstanding, at first sight, it may appear somewhat strange.

Steering in a wind.

The most difficult time for steering is during a strong cross-wind, because a boat drives away rapidly to leeward. Under these circumstances, it will be necessary to keep her head slightly to windward of her true course—experience in the force of the wind will alone determine how much; consequently, her line of keel will not be coincident with the line of motion. Should the wind happen to be abeam or on the quarter, the stern of the boat will be driven to leeward, and her head be brought up to windward; this must be counterbalanced by a proportionate use of the lee-line, always bearing in mind that the stern is more powerfully acted upon by the wind than the bow.

Coxswain should practise with the crew.

When a crew is preparing for a particular race, it is as well to let the coxswain have almost as much practice as the oarsmen. They will then get accustomed to one another; and, if of an enquiring turn of mind and of quick apprehension, he will soon learn to pick out any little fault which might otherwise pass unnoticed, and thereby will exercise a double check over his men. He will naturally make the most of every opportunity to study the set of the tide or current, and will use his best endeavors to pick up items of information on the point from persons qualified to advise him. The ordinary rule is to keep close to the banks when against the stream, and nearly in the centre when with it; but particular courses require special directions, which must be studied carefully by the coxswain as occasion requires.

Steering with the traveller.

Before embarking, the bowman must see that the wires connecting the rudder-yoke and traveller are equally tense and well secured at each end; also, that the traveller and the rudder-yoke are both perpendicular to the length of the boat, and parallel to each other. This will insure the rudder being in a direct line with the keel.

Care must be taken that the feet press equally on the foot-board, otherwise the

traveller will be slightly moved, and the boat will be thrown correspondingly out of its course.

For keeping the boat in a straight course, some fixed object directly astern should be chosen, and the stern kept directly in a line with it. The head should be turned round from time to time without turning the shoulders, and the eyes cast as far along the water ahead as possible in order to catch the general direction of the course or the object aimed at. No fixed rules can well be laid down here, as nothing but steady practice will enable a man to perfect himself in this manner of steering.

Keeping the
course.

Before leaving this subject, it will be well to add a few hints, equally applicable to both the methods of steering we have considered.

General ob-
servations.

No steersman should allow himself to be bored out of his course by an adversary; but it is much better to give way than to assist in bringing about a foul. This, however, must not be understood to mean that one is always to give in to such conduct; for, if, on being cautioned, the opposing steersman persists in boring and causes a foul, he does so at his own peril, and must take the consequences. In a difficulty, the steersman has to depend upon his own judgment; but his mind should promptly be made up, and his determination as promptly be acted upon. No wavering on the horns of a dilemma. Perhaps one of the most awkward things to allow for and pass, is a sailing craft making short tacks across the course of a racing-boat, and, if an inexperienced and nervous man has the lines, he is sure to make a bungle. The intervening distance between the two crafts and their respective rates of progression should be calculated to a nicety in deciding upon the proper course to be taken.

Lastly, a knowledge of the mysteries of giving an antagonist the wash, by getting a rapid lead, is only to be gained by repeated handling of the lines or the wires; but the large wave travelling at a tangent from a boat's quarter, if judiciously thrown upon the bow or side of the enemy, will grievously prejudice their chance, even if in other respects the crews are pretty well matched.

CHAPTER II.

COACHING A CREW.

Importance of
a carefully
chosen and
well-trained
crew.



BOAT club or association having determined to enter a crew for a race, it at once becomes an important matter to have the men who are to compose it carefully selected and thoroughly trained.

Now, it is admitted by everybody that, other things being equal, those have the best chance for success, in any occupation or profession, who are grounded in the principles and versed in the details of the business they have chosen, and who can bring to their aid in the performance of their duties the matured experience of their predecessors.

To no employment does this remark apply with more force than to the arts of rowing and training; but, simple as is the application of the general principle, it seems to have been frequently overlooked or neglected by our American oarsmen, and the most superficial knowledge and the crudest material have too often been put forward and relied upon to win important races.

Mode of se-
lection in Ame-
rican boat-
clubs.

In the constitutions and by-laws of some American boat clubs, this principle is recognized in theory by providing the office of captain, the duties of which comprehend the selection and training of crews for races. But it is only in a few cases that this officer is found fully competent to undertake such work; and even where he is, owing to the fact that most of these clubs are composed of young men engaged in business, it is still more rare to find that his ordinary engagements will permit him to devote to such duties all the time which their proper exercise demands. In a few clubs, the selection of a crew is placed in the hands of the president, in others the duty is assigned to the coxswain, and in some it is left to the action of the executive committee; but in none of these is any provision made for training it, in the strict sense in which we use the word. Hence it usually happens that, after the crew has been selected in one of these ways, one of its number is chosen as captain and trainer. That this is a most objectionable practice no one can deny, who is familiar with the duties to be performed, or the relations which should exist between a teacher and his pupils. If the trainer forms one of the crew, it is quite out of the question for him to correct all the faults of his associates—even admitting that he has none of his own—as from his position he can at best see but a part of them. If he leaves the boat, the better to overlook the work, his place at the oar must be supplied, and this may so affect the rowing of the rest that he may not after all see the faults developed when he was in the boat, but quite another set. Besides, the proper relations which should exist between an instructor and his pupils cannot be maintained if the instructor forms one of the crew—a consideration not to be lightly overlooked.

In England, where rowing has been longer practised and more carefully studied, the importance of this principle is fully recognized, and the appreciation of its value has there led to the employment of special talent for this service. The person so selected is known as the *coach*, and the exercise of his duties as *coaching*. These terms originated at the English universities, where, in the cant language of the day, they were applied to a private tutor and his work. English practice.

Gradually a "coach" came to signify as well, one who trained a crew for racing, and long usage has legitimized this signification, and transplanted it into our American boating vocabulary.

Coaching may, therefore, be defined as the art of selecting, outfitting, and training crews for a contest in light shells or other racing-boats; the person who undertakes the duties and responsibilities incident thereto being known as the *coach*. Coaching defined.

The coach should never be one of the crew; but, whether he be selected from among the body of oarsmen belonging to the club or comes from without its members, he must, to be successful, possess certain qualifications.

He should be a thorough oarsman, and as such familiar with every detail of the art. He should have some knowledge of the construction of boats, the better to enable him to daily inspect the fittings of such craft as are used, and, with the aid of a little ingenuity, to make current repairs, or to extemporize shifts and expedients in critical situations. As he has also the physical training of the men in his charge, he must be conversant with the laws of health and physiology, particularly as affecting exercise and diet. In no part of his duties will he find a greater necessity for the exercise of a sound judgment and plenty of common sense, than here. Qualifications of the coach.

In habits and speech, he must be temperate; as thorough a master of his temper as of the oar; firm in exacting obedience to his directions, and yet considerate of faults; most patient as well as intelligible in explanation and illustration.

The duties of a coach naturally divide themselves into those which relate to exercise in the boat, and those which pertain to the improvement of the physical condition of the men. In strictly technical language, coaching refers to and comprises the details of the former; and training, those of the latter.

In coaching, the first step to be taken is the selection of the crew, and here the utmost judgment and care must be exercised. Selection of the crew.

The primary guide in this matter is the character of the work to be done. Now, the work consists mainly in pulling the oar or scull through the water by means of the muscles of the arms or back; but, as the power here called into play must have resisting media to enable it to act usefully, the muscles of the thighs and legs must also be considered, as these parts transmit the force generated by the united action of the body and arms, acting against the water through the medium of the oar, directly to the boat by means of the legs pushing against the stretcher.

First, then, as to the motive power—the arms, shoulders, and back. Long, bony arms and wrists, straight elbows, strong but supple shoulders, and, above all things, a powerful, muscular loin; all these are most desirable qualifications. Without the muscular loin, the strength of arm is of little use, as the body, instead of drawing the oar to itself by the muscles of the arm, is itself drawn forward over the oar in consequence of the inferiority of the muscles of the loin, and the stroke at once becomes ineffective.

Next, as to the resisting powers—the thighs and legs. These should be well developed, straight, and strong. If too muscular or heavy, it is only so much extra weight to carry. They should be rather under than over the proportionate size as compared to the arm.

In general, tall men are to be preferred to short, well built to thin, and heavy men to light. For fours and sixes, the minimum of weight should be, say, 135 to 140 lbs.; for eights, 140 lbs.; the maximum in all, 165 to 180 lbs. The best men usually average from 150 to 160 lbs. Other things being equal, care should be taken to have all the crew as nearly alike in height, weight, and build as possible, since the more closely they approximate in these respects, the more nearly alike will they row, and the nearer to the same standard can they all be trained.

As the rapidity and force of the stroke depend mainly on the muscular powers, so does the power of their long continuance depend on the condition of the lungs and the heart.

The lungs should be healthy and of good size. No man with a flat, narrow, or otherwise defective chest should ever be put into a racing-boat; it were as wise to expect a cripple to run. The wind should be good, free from wheezing or cough; the heart healthy, free from palpitation, and not easily excited. These points can sometimes only be ascertained by trial.

Selection of
stroke.

The crew being selected, the stroke must next be decided upon; and here the greatest discretion must be exercised, since he is the most important member of the crew.

Plenty of oarsmen can be found to follow the time or stroke with the utmost exactitude, who are perfectly incapable of setting it for others. Such men are none the less valuable in their proper place; but an accomplished stroke, who possesses first-rate form, plenty of pluck, a clear head, and who can maintain the same number of equally well-rowed strokes, whether rapid, medium, or slow, and who, when pressed, can spurt without hurrying his men or throwing them into disorder—such a man is of inestimable value in a race; and although such a man cannot always be found, the nearer this standard can be approached the better. A well-trained man with a good idea of time should row next the stroke, as Nos. 7, 5, or 3, according to whether it is an eight, six, or four oared crew, in order to transmit the stroke to those behind him in as perfect time as possible.

The remainder of the crew must be picked after numerous trials, and after being moved about from one place to another in the boat.

It is not easy to write down the exact difference which makes one man more eligible than another. This must be left to the discretion and knowledge of the coach. But, if two men are very similar in every other respect, preference should be given to him who does his work in the easiest and most commanding manner. After a crew has been in a measure finally decided upon, it is not unusual to find particular faults developed as practice proceeds—not to speak of breakdowns from sickness—and an occasional change in consequence cannot be prevented.

Assignment
of the crew.

In allotting to the men their respective places in the boat, their weight should be the chief guide. The heaviest men should be located near the centre or midships, and, where they row on the sides instead of the middle, the weight should be so distributed as to make both sides of the boat equal, in order that she may be evenly trimmed. As between the bow and stern, the heaviest man should be placed in the

stern. The after-part of the boat should also be fairly weighted with the forepart to enable it to ride evenly, that is, to lie on an even keel. If the bow is depressed, or, in boating language, if "it is down by the head," or, on the contrary, "down by the stern," her way will be checked. Trimming the boat.

Some coaches prefer to have their boats trimmed slightly by the stern; but whether it shall be trimmed thus or on an even keel will depend somewhat on the style of the crew, and must be regulated by practice. In boats with coxswains, the trimming can still further be regulated by the coxswain's shifting his seat a little forward or backwards—changes which the width of the thwart is made to accommodate.

Another point to be observed in this connection is that, as regards strength in the use of the oar, the oars on the port side shall equalize those on the starboard side; since it often happens that, where men are of equal size or weight, one may pull stronger or better than the other.

It will form a part of the duty of the coach to carefully inspect the boat in all its parts when ashore, and see that everything is "ship-shape" and in perfect order before embarking each day. He should take care that the stretcher or foot-boards are the proper distance from each man's seat, and that they are securely fastened; the thwarts of the correct height; the mats of proper thickness; the outriggers not bent, and screwed up tight; the rowlocks true, and the thowle in the proper position; the steering gear complete, and the oars not sprung, warped, or weak; in short, these matters cannot be looked after too carefully, *especially on the day of the race*. Inspection of fittings, etc.

If the boat used is built with a coxswain's seat, during the earlier part of the practice the proper place for the coach is here, where he has all the men under his ken; and it is usual for him to stand up, for he can by that means more readily distinguish the actions and form of each oarsman; but it is more difficult to judge of the time and stroke kept throughout—though not of body faults—when standing than when sitting; and a crew often appears to any one standing at the yoke-lines to be rowing very well together, but the instant he is reseated he will discover that the time is anything but good. Position of the coach.

He should frequently accompany the boat on the bank of the piece of water on which the practice takes place; but, if its character does not admit of this, let him accompany it seated in another boat, putting the regular coxswain or an experienced hand at the yoke-lines, as errors which might easily be overlooked when viewed from the coxswain's seat stand out in full relief when seen from alongside, in front, or from a position ten or twenty yards astern off the quarter.

In boats rowed both with and without coxswains, but particularly in the latter, the coach should also occasionally take the bow-oar, thus rowing behind his men—a position which enables him to detect the true cause of many faults—such as a bad seat in the boat—which he could not as well discover from any other point.

In short, he must see and criticise the men from every possible position, as it is only by so doing that he can discover and check all faults.

He must endeavor by these means to rectify even the smallest errors; but, should his efforts prove unavailing in any particular case, he must take the man offending out in a pair-oared gig after his return from, or before the time for, the regular practice of the crew, and insist on the fault being remedied at once.

The result to be *first* brought about is to get the crew to *row well*, commencing and finishing their work honestly and without any shirking. This end, desirable as it is, cannot be compassed at once or in a hurry; and the men will not have attained the qualifications which constitute a perfect crew until after a lengthy probation and constant repetitions of the same lessons, no matter how good they may be individually.

Commencing
work.

The men having been told off, the coach should take them out for practice in a four, six, or eight oared gig, according to the size of the crew.

Taking his seat on the coxswain's thwart, he will tell them, when satisfied that they are all ready, to row on. He need not be very critical at first, because, if they are strangers to one another—as far as rowing together is concerned—the boat cannot be otherwise than unsteady, and lurches will be by no means few or far between.

It will be sufficient to let them alone for a mile or two, merely causing them to keep a long, easy stroke, so as to row as steadily as possible under the circumstances. No bullying is permissible, because at such an early stage, before the men have got accustomed to their seats and oars, much fault-finding will surely disgust them. At the same time, a word or two of caution may be addressed to the worst and most careless performers when they need it.

The boat may be stopped, after a mile, or a mile and a half has been completed, for a brief rest, and for shifting any of the fittings which may not be quite ship-shape. The row should then be continued with a short stoppage, or even a few minutes' run ashore, when about to turn back, until several miles (out and home) have been covered. The coming in of the crew will then be very different from their going out.

Having, after a day or two of this sort of practice, discovered the most salient faults to be corrected, the coach must set himself to work to remedy these at once, before they become too difficult of eradication.

Exercise in
pair-oars.

The most glaring errors of style having been in a manner overcome, the next important matter is to bring the rowing of the crew up to the standard of that of the stroke, and assimilate the rowing of all as much as possible. To effect this, one or more pair-oared gigs should be at hand, in which the men should be taken out two at a time with the coach, and thus, by practising separately with the stroke, all the men rowing on the opposite side; and with the oarsmen behind him (3, 5, or 7, as the case may be, according as it is a four, six, or eight oared crew), all the men on the stroke side, the crew will rapidly be brought up one by one to the standard of time and pace given by the stroke.

These lessons should be repeated day by day until the coach is satisfied they are no longer requisite.

Rules to be
observed by the
crew.

It now becomes necessary to say a few words upon the rules to be observed by the oarsmen themselves. They must do their work willingly and with a good grace, paying marked attention to the advice offered them by their coach, and giving it a careful consideration when proceeding to put it into practice. Each man, when pulling, should fix his eyes on the back of the man in front of him, in order to keep accurate time. Now, there are two kinds of time, viz., the time of the oars and the time of the bodies. The first may be acquired by watching the after-oar; but, in order to get

the second, every one must study the man in front of him, and try to perform each individual action and motion at the same instant. Time consists in an immense number of movements taking place precisely at the same moment, and can only be brought about by fixing the attention on one particular person, and by performing each action contemporaneously: this is the reason why No. 3, 5, or 7 is such an important place in a four, six, or an eight oar. A conscientious attention to his own work is required of every man; and when told of a fault by his coach, and ordered to remedy it, the point should be retained in mind and be acted up to. Unless this is done, there is every probability of a recurrence of the error after a brief interval. In short, every man who handles an oar must, for the time being, *eagerly give his whole mind to rowing every stroke correctly.*

During the earlier period of their special training, the work which the crew will be called upon to undergo will be long, steady pulling, over long journeys, say from eight to fifteen miles. The rate of stroke, which should not be exceeded, varies from twenty-eight to thirty-two to the minute; and this will be found quite quick enough if every stroke is begun at the proper time, and fairly rowed out. The same pace should be maintained throughout each day's practice, without quickening or slackening at all. To be well together, every oar must enter and leave the water at the same moment—each stroke being rowed through equally by all. Every back must rise, swing, and fall at the same instant; all the oars must catch the water at one and the same time; they must all be rowed through the water at the same depth; all be feathered and carried on the feather to each succeeding stroke so simultaneously as to appear but as one pair of oars, or even as a pair of sculls; and, if they all get hold of the water fairly and at once, the peculiar noise appertaining to this catch, which is like the sound produced by a stone falling perpendicularly into the water after being thrown up into the air—a “rotten egg,” as it is called—will be distinctly audible some distance off; and the rattle of the oars in their rowlocks, and the rush of the water aft off the blades, will each be blended into one. The coach should pay particular attention to any oarsman whose faults he may have endeavored to remedy in the pairs, for fear he should revert to them; and he must impress again and again upon all his crew the necessity of *not rowing a single stroke carelessly.* After several weeks of this practice, and about three weeks or a month before the day of the match, the pace may be quickened, and regular racing work commenced, the equivalent of the race-course being gone over every day.

The number of strokes in the minute may be increased up to thirty-four or thirty-six, but it will be found no easy matter to row a quick stroke in a heavy practice-boat. Therefore, if the progress made by the crew is satisfactory, and they have got well together, a regular racing outrigger may be substituted for the practice; but even then, thirty-six strokes to the minute will be ample. Great care is required at this point, as the change of boat is occasionally accompanied by a change of style, in a greater or less degree; and individual quickening of, or cutting short, the stroke must be carefully guarded against. Formal starts, as in a race, should, after awhile, commence the quick row—the coach, when satisfied that the men are prepared, asking them if they are all ready, and, if not answered, giving them the word “Go.” This gives the men confidence, and, moreover, it accustoms them to get a boat rapidly under way from a state of repose, without catching crabs or making mistakes. During this

Daily routine
and standard of
the work.

Racing out-
rigger to be
substituted for
the practice
boat.

Final training
for the race.

Final training
for the race.

latter period, the regular coxswain, if one is used, should be in the boat, and the coach alongside on foot, or, perhaps, on horseback; but running is to be preferred, especially if there are gates to pass through, or many men on the bank, for then *the eye need never be taken off the boat*—the great secret in coaching. Where the sheet of water on which the practice takes place is very wide, and the course lies far away from the shore, as is frequently the case in the United States, the coach should accompany the crew in a fast gig, with a crew and coxswain at his command, if possible, so that his whole attention can be given to his special duties. The coxswain may regularly take the time occupied in the row, so as to compare one day's work with another; but the conditions of wind and water vary so much and so frequently that, except in the most experienced hands, time is, as a rule, of all guides the most delusive in existence.

This state of things may continue until two or three days before the race, when the crew may be eased in their work so as to gather a little extra strength; and an increase of a pound or two, per man, in weight, is not to their disadvantage. On the day preceding the race, one row, and that a short one—say a mile and a half out, and the same distance back—will be all that is necessary; and this may be spent in practising starts at top speed, easing up after a hundred or a hundred and fifty yards. The rate of stroke may be increased during the last week to thirty-eight and forty per minute, and the number compassed in the starts will be forty or, perhaps, even forty-two; but, for rowing the course through, thirty-seven, thirty-eight, and thirty-nine are plenty. On the day of the race, it is not advisable to get into the boat before the hour fixed for starting, though it is occasionally done.

CHAPTER III.

THE THEORY AND PRINCIPLES OF TRAINING.

BEFORE taking part in a contest which, beyond all others, taxes to the utmost the strength and endurance of the human frame, every oarsman ought to undergo a careful and gradual process of preparation, which, in technical language, is called training. Oarsmen to be successful must be trained.

By the term as here used is meant the physical amelioration of the oarsman as opposed to his scientific education, the improvement of the bodily powers, and not the inculcation of the principles of rowing, which have already been dealt with. The one is not a part, but an adjunct of the other.

Training may therefore be defined, as the art of attaining that physical excellence which will enable the oarsman to meet extreme and exceptional demands upon his energies, without any permanent injury to his powers. Training defined.

To acquire this excellence of condition, exemplified in an increased strength and muscle, improved wind, and accelerated speed, he voluntarily puts himself under the immediate influence of all the agents whose office it is to promote bodily health and strength, with the single end in view, that when the hour of trial comes, he may perform his allotted task of putting forth all his forces without flagging, without distress, and, indeed, with comparative ease.

Training is a beautiful illustration of the correctness and force of the maxim that "practice makes perfect." The daily experience and observation of hundreds of oarsmen teach them that no man, however powerful, muscular, or plucky, can, if untrained, hope to contend, with any reasonable chance of success, against an opponent in good condition, even though he may be inferior in size, weight, or, possibly, muscular development. It is, for instance, a common remark that "a good big man is better than a good little one," and there is much truth in the observation, supposing both to possess the same advantages as to skill, practice, health, and fitness; but a man of inferior muscular ability, if properly trained, will not only defeat, but defeat easily a more herculean antagonist if the latter be devoid of preparation. This has been proved over and over again. Its use illustrated.

Any one who has had the least experience in rowing, or, indeed, in any of the manly exercises, knows that the unusual and excessive strain upon the constitution of a race of four, two, or even one mile cannot safely be undergone, if it can be undergone at all, by a person in ordinary health or in every-day condition. The wind or the strength will infallibly give way ere more than a small portion of the task is completed, and the rower will be fortunate if he does not faint, vomit, or exhibit other signs of acute distress, and thus make manifest the injurious effects of the effort upon his untutored system.

As a further evidence of the correctness of the assertion that the most careful preparation is indispensable to success, may be mentioned the occasional defeats of the best oarsmen, pedestrians, and even thoroughbreds by inferior antagonists—defeats which were, perhaps, as unexpected as they were at the time apparently unaccountable. The reason, in nine cases out of ten, has been want of condition caused by overwork, by suddenly going amiss, by failing to conform to rules or instructions, by forbidden indulgence, or by treating with levity the task to be gone through in the belief that victory was easy, of acquisition, and last, but not least, by underestimating or, perchance, despising the capabilities of an opponent.

Arguments
against train-
ing.

On the other hand, it may be claimed that many men have been injured and their lives shortened by training, and that hence training is an abnormal condition to be avoided, rather than a system to be practised. But a careful examination of the cases adduced to prove this, will show that the injuries complained of have arisen either from injudicious training, or the men themselves have not been fit subjects for the tasks imposed upon them. What they have suffered from has not been training *per se*, but the absolute need of it—in short their injuries have arisen from the effect of severe exertions on an unfit or half-trained system.

To claim that all training is hurtful because in some cases its principles have been abused, or that in others it has sought out weak points and demonstrated the lack of sufficient constitutional vitality, is as absurd as to assume that, because banknotes are counterfeited or gold debased, paper currency should be abandoned and all coin regarded with suspicion. Still, training is a searching ordeal, which none but the sound and the healthy should undergo.

A distinction
should be
drawn between
judicious and
injudicious
training.

A careful distinction must be drawn between training judiciously conducted in accordance with the true principles of health by men of experience, and the obsolete systems of forty years ago, or the practice of professional quacks of the present day. The latter, without taking into account social, constitutional, and physical differences, proceed to physic, sweat, and work stout and lean, tall and short, alike, abruptly shortening hours of rest, replacing a hitherto varied and agreeable diet by half-raw beef or mutton, served with a moiety of vegetables, denying the thirsty cravings of nature, and forcing upon the unfortunate victim a state of existence which is simply concentrated discomfort and misery. The fruit of all this folly and ignorance is debility, lassitude, loss of appetite, disgust, and sickness. Well may it be asked if this is preparing the body to undergo one of the severest trials of strength, endurance, and pluck to which it can be subjected; and yet such is too often the case the course adopted.

Not so the athlete educated according to the correct principles of the trainer's art. When ready for his final task, his strength is gathered up, his muscles hard, his wind sound, his tread elastic, his flesh firm, the skin fair and clear, his eye bright, and his spirits high and full of confidence—these are the essentials of perfect condition and the guarantees of success.

Chief agents
of health.

It has been stated that the principal agents of health, considered with especial reference to the wants of the rowing man, are exercise, diet, sleep, air, bathing, and clothing. How these agents are to be employed so as to produce the best results next claims our attention. We shall consider them in the order of their importance.

Exercise.

And, first, what does exercise do towards promoting the health and strength

of the body and prolonging its life? Of what benefit are lifting and carrying, pushing and pulling, running and jumping? In short, what is exercise? what does it do? and how does it do it?

To answer these questions clearly and satisfactorily, it is necessary to consider briefly the nature and structure of those portions of the body which are more immediately affected by exercise, and to understand the rationale of their functions and operations.

Exercise may be defined as *muscular movement*;^{*} indeed, every motion of the living organism is produced by muscular contraction. This property of contractility with which muscular fibre is endowed, and which, as far as we know, is shared by no other constituent of the body, is to some extent described in the term, being the power of *contracting* or shortening the space between its two extremities. Defined.

The entire muscular system has been primarily divided into *voluntary* and *involuntary* muscles. Division of the muscular system.

The first, comprising all those which are subject to the will, form the bulk of the muscular system. They are mainly distributed over the frame-work of the bones, their office being to move the part or parts to which they are attached. The second comprise those over which the will has little or no control, but which are stimulated to action by some other agency, each muscle or class of muscles having its proper stimulus; these are placed chiefly within the cavities of the body, and are employed in the vital processes of respiration, digestion, circulation, etc. It is with the voluntary muscles that we have now particularly to deal. Voluntary muscles.
Involuntary muscles.

Exercise has been defined as muscular movement, but it must be movement of force sufficient to engage the energetic contraction of the muscles employed. Here we are touching upon the most important principle in the entire subject under consideration, namely, the destruction and renovation of the tissues of the body, which it is the object of exercise to accomplish. Destruction and renovation of the tissues.

Our material frame is composed of innumerable atoms, and each separate and individual atom has its birth, life, and death. Thus, there is going on a continuous process of decay and death among the individual atoms which make up each tissue. Each atom preserves its vitality for a limited space only, is then separated from the tissue of which it has formed a part, and is resolved into its inorganic elements, to be in due course eliminated from the body by the organs of excretion. These processes are greatly influenced by the activity of the bodily functions. Every operation of the muscles or nerves involves the disintegration and death of a certain part of their substance. We cannot lift a finger, we cannot perform the slightest movement, without causing a change in certain of the atoms which compose the muscles executing the movement, in those of the nerves conveying the stimulus which directed them to contract, or in those composing the nerve-centres in which the stimulus originates; and this change involves their decay and death.

The loss, then, of the body and of each part of the body, being in relation to its activity, a second process is necessary to replace the loss, otherwise it would rapidly Function of the nutritive system.

^{*} Muscle is *flesh*, or what in animals is called *meat*. It may seem unnecessary to state this, but it is a matter of daily occurrence to hear men talking of such and such a one who "has not an ounce of flesh upon him—nothing but muscle," or "he must get rid of his spare flesh," or "he must sweat down all his superfluous flesh," etc.

Phenomena of
development.

diminish in size and strength, and life itself would shortly cease. This reparative process is performed by the nutritive system, the organs of which convert our food into blood, which in itself contains, and in its never-ending circulation bears to each tissue, the material for the replacement of all waste and for the building up of all additions. And as this material is borne along through channels permeating every part of the organism, each part, by a law incomprehensible but unerring, selects from it and appropriates that particular food which is fit for its special use, and that only. At every point of the human body is this law in unceasing operation—activity, a loss of vital power, disintegration, decay, and removal; to be met by a replacement of substance and a renewal of vital power. And as the disintegration of any part is hastened by its activity, so by an equally unerring law is the flow of blood, bearing the renewing material, increased in that part; and, again, by a law equally unerring and ever operative, the worn-out particles are cast into this current in its backward course and conveyed to organs whose function it is to eliminate them from the body. And during the period of growth, and within certain limits, until the full attainable physical capacity of the individual has been reached, the new will ever exceed the old, so that a gradual increase in bulk and power will be obtained. And the strength of the body as a whole, and of each part of the body individually, is in relation to the frequency with which these atoms are changed; and the strength of the body as a whole, and of each part of the body individually, is thus ever in relation to its *newness*. Exercise is, then, the chief agent in the destruction of the tissues, but it is also the chief agent in their renovation, inasmuch as it quickens the circulation of the blood from which the whole body derives its nourishment; the tide on which is brought up all fresh material, and on which is borne away all that is effete and useless; brought up and borne away most rapidly in those parts which are being most rapidly employed, where disintegration is most rapidly taking place.

Useful effect
of exercise.

But besides muscular movement, true exercise possesses another ingredient, which may be termed *resistance*. The voluntary muscles are made to do more than merely to move the parts to which they are attached—through them they overcome the inertia of other bodies and give them motion. They thus encounter and overcome *resistance*, or perform *work* in every movement; and, being created for this, their health and strength will be developed and sustained in proportion to the fidelity with which this their design is remembered and observed. Exercise, which is voluntary labor, must resemble actual labor in all its physical essentials, if it be desired to obtain from it the physical advantages which actual labor bestows; without resistance, there can be no full demand for muscular contraction; no full call, therefore, for material disintegration; no full requirement, therefore, for material renewal, involving proportionate increase of bulk and power; for, as we have seen, the strength of the body, and of each part of the body, is in relation to its youth or newness.

The action of
the voluntary
muscles must
be rapid and
vigorous to af-
fect the invo-
luntary mus-
cles.

These are the chief essentials of exercise, when viewed in connection with the voluntary muscles; but it is also an essential of true exercise that the movements of these muscles shall be of speed or force sufficient to quicken the breathing; in other words, to increase the action of the *involuntary* muscles engaged in the processes of respiration and circulation. During active exercise, the act of breathing becomes greatly accelerated; each inspiration is large in volume, and each follows each in

quicker succession than when the body is inactive. This is a most important feature of exercise; for with every breath a load of the wasted material of the body is given up by the blood, in the form of carbonic acid, etc., and its place supplied by life-giving oxygen from the surrounding atmosphere. To make this all-important process plainer, let us glance at the mechanical action of breathing.

On the requirement for air being experienced, the inspiratory muscles contract and lift the osseous frame-work of the chest, thus increasing its diameter from side to side and from back to front, while at the same time the large arched muscle (the diaphragm) forming the convex floor of the cavity also contracts, and in doing so its fibres are straightened, and its elevated surface is consequently depressed, increasing the diameter of the chest from above downwards. As this takes place, the air rushes down the trachea, or windpipe, and passes at once into the lungs, which it fills out in every direction. But all muscular action is intermittent; the contractile effort accomplished, the reaction begins; the inspiratory muscles relax, and a second set of muscles, the expiratory, antagonizing those which lifted the walls of the cavity, now contract, and the muscles of the abdomen, antagonizing the diaphragm, also contract, and the air is expelled by the aperture through which it entered.

Mechanical
action of
breathing
explained.

This is, in outline, the process of ordinary effortless breathing; but in the forced respiration of energetic exercise, and especially of exercise calling into action the muscles of the upper limbs and the upper region of the trunk, many of the voluntary muscles may also be employed in the process of respiration.

I have stated that the involuntary muscles are prompted to action each by its proper stimulus; and the heart is stimulated by the presence and augmentation of blood within its cavities. Thus, the instant that any act of exercise, such as rowing, begins, a considerable number of voluntary muscles are put into rapid employment; the contractile action of these muscles impels the blood in their veins onwards towards the heart, venous blood being greatly dependent on muscular action for its circulation; and the heart, stimulated by its presence, energetically contracts, ejecting its contents, and the blood is flushed along the pulmonary artery, and distributed throughout its ramifications in the lungs. But the rowing is still going on, stroke following stroke; so wave on wave comes up from the heart, each driving before it its predecessor, out of the lungs, along the pulmonary veins, back to the heart, where it is again rapidly admitted and as rapidly ejected—for the heart is a double organ, performing the double office of propelling the blood through two distinct channels of circulation: through the one for its aeration in the lungs; through the other, when so aerated, for the nourishment of the whole body. Out of the heart, then, it is again ejected, out by the great trunk arteries, and along their innumerable branches, to complete the round of the systemic circulation. But neither heart, nor lungs, nor vein, nor artery, throughout the double circulation, is a *passive* agent in its progress; for, though the heart is the great agent of propulsion, the whole circulatory channels possess a certain amount of contractile power, and are endowed with a degree of elasticity, and may, in fact, in this respect, be regarded as hollow muscles, actively engaged in regulating the moving current within them, and their health and strength and functional ability are promoted by the same agencies, as they are subject to the same laws, as those which influence the condition of the rest of the body.

Mechanical
effects of row-
ing on the or-
gans of circula-
tion.

Capacity for exercise depends on the development of the muscular and respiratory powers.

On these two powers, muscular and respiratory, depends the ability to perform all bodily exercise. The first involves the contractile force of the voluntary muscles employed; the second is more complicated, involving the contractile force of the heart, the condition of the lungs to perform their function, the size and shape of the chamber in which these organs are contained, and the contractile force of the respiratory muscles, voluntary and involuntary.

Valuable effects of exercise.

Such, in brief, is exercise, such the ends which it accomplishes, and such the manner of their accomplishment; namely, the *destruction* of the tissues; the hastening of the decay and death of every part coming within its influence; but also the speedy removal of all waste, and the hastening forward of fresh material for its replacement, and in doing this it attains three distinct but correlative results:

1. It increases the size and power of the voluntary muscles employed.
2. It increases the functional capacity of the involuntary muscles employed.
3. It promotes the health and strength of the whole body by increasing respiration and quickening the general circulation. This being the nature and these the results of exercise, in what manner is it administered to a man in training for a boat race? What exercise does he take?

Primarily, Rowing.

Rowing as an exercise.

Let us now examine how the exercise of rowing acts upon the body, by noting what parts are employed and the manner of their employment, and how far it promotes the acquisition of the two great requirements for all such efforts—muscular and respiratory power.

The legs do the greater share of the work.

A little examination will prove what at first may not have been surmised, that the legs have the largest share of the work in rowing. For, while all other parts employed—back, loins, and arms—act somewhat in detail and in succession, the legs act continuously throughout the stroke, and the individual efforts of each, and the concentrated efforts of all the other parts of the body employed, are transmitted through them to the point of resistance—the stretcher. No doubt, the seat presents a point of resistance during a portion of the effort, especially with men still learning to row or when rowing within their powers; but the true application of the mechanical force employed in the propulsion of the boat is between the water-grip of the blade of the oar and the pressure of the foot against the stretcher on the floor of the boat. It will be found, also, that the stroke is nearly finished before the contractile efforts of the arms are in any degree engaged, namely, when the trunk reaches the vertical line, and they are called in to finish the stroke, and to turn and run out the oar on the forward reach of the body preparatory to another.

Other parts employed.

Rowing thus gives employment to a large portion of the back, more to the loins and hips, and most of all to the legs; but it gives little to the arms, and that chiefly to the fore-arm, and least of all to the chest. Moreover, as there is but *one* movement in rowing, namely, the stroke, indefinitely repeated with the most rigid precision, and as it is in the rearward half of this movement only that any real muscular effort is made or resistance encountered, it follows that every muscle of the body not employed in this action is excluded from the exercise; moreover, also, every muscle included in it is employed but in one line of action, while it is qualified and designed to act in many, and will be developed and strengthened in proportion as these manifold modes of its use are observed; and, moreover again, as, with few exceptions, all muscles have

antagonistic muscles, designed to perform counter-movements, it follows that, as rowing consists but of one motion, the antagonistic muscles of those employed in executing this motion must be virtually unemployed. Thus, as I have said, the legs have strong employment in rowing; but it is the *extensor* muscles alone which have actual employment. The *flexors* are comparatively idle; they perform no exercise, they gain no bulk, they obtain no increase in power. They are excluded from the work, they have no share in the reward. Now, it is the circumscribing of the line of muscular operation, the concentrating of the physical exertion into the narrowest channel, that has brought rowing to its present point of artistic excellence, which gives to the rower that statuesque appearance when resting on his oar, and that automatic precision of movement when in action, which constitute the very ideal of an oarsman and of a crew.

The part of the body which receives the smallest share of the exercise in rowing is the chest; it has little or no employment in the muscular effort required for the propulsion of the boat, and this is impressively evident in the results. Not only does it make no advance in development in this exercise, but, if it be exclusively practised, an absolutely depressing effect is experienced. No single result of recreative or systematized exercise may be more fully substantiated than this.

Chest is exercised the least.

And this brings us to the second requirement of exercise—respiratory power, or wind; and, first, let us hear what rowing men themselves think of it.

Respiratory power considered.

"Men must run to be put into thoroughly good wind. No other motion removes the internal fat, the great enemy of good wind. There is no known exercise adequate to this result but this one."

Now, the respiratory organs are almost the only parts of the body where fat is never deposited; on the lungs it is never found; and, when found on the heart, except in meagre quantities along the interspaces of its fibres, and upon some blood-vessels where it has important offices to fulfil, it is an actual disease, as in that "fatty degeneration" which not unfrequently occurs in many of the tissues at an advanced period of life; and that either of these is the normal condition of youth, or the majority of rowing men, is surely difficult of belief. But fat is found on the viscera and organs of the lower cavity of all healthy men at this period of life; and at this time of great and often ill-regulated exertion, its protective presence here is as valuable as it was on the surface of the body at an earlier stage of life, when the liability to injury was from falls and similar causes. The only way in which its presence here could affect respiration unfavorably, would be when accumulated in such quantity and bulk as to prevent the due depression of the diaphragm and contraction of the abdominal muscles; and that this is the general condition of rowing men is, I think, a thing still more difficult of belief than the other.

Fallacy of the theory of internal fat interfering with wind.

But the theory of internal fat not only exists, but is believed in and acted on, and its advocates find the proof of the correctness of the theory in the facts that, by running, men get thinner and lighter, and the wind improves; while it is observed that they perspire copiously, and perspiration, say they, "is only fat in a state of melt." Truly, many a long-venerated theory has had less to support it than this. Nevertheless, it is the text that has given origin to all the false doctrine preached on the subject of training for many a year.

In rowing, as in some other exercises, where the voluntary muscles of the trunk, and especially those of the upper region, are strongly exerted, the breath is "held" in

General effect of rowing on respiration.

the lungs during the muscular effort, in order to keep the chest distended and firm, or, as it is technically called, "fixed," that these muscles may have firm and unyielding points of attachment during their contractile efforts—fixed fulcra for their levers; and when this is prolonged or repeated over any considerable space of time, it becomes a highly disturbing influence to respiration, and doubly so if the exercise be one which greatly augments the respiratory requirements; for the act of fixing the chest is accomplished by retaining it at its point of expansion when, in the natural order of respiration, it would be collapsing. And, while in ordinary effortless breathing, or during exercise where the lower limbs are solely or chiefly employed, such as in walking or running, the inspiration and expiration follow each other in uninterrupted succession, each occupying about the same space of time as the other, and the two constituting the entire process; in rowing, both these acts are hurried over during that time in which the muscles are relaxed, *i.e.*, towards the close of the stroke, and on the rapid forward dart of the body preparatory to another, when the breath is again held and the chest fixed during the muscular effort.

Now, in ordinary breathing, the rate is, to a full-statured man, from sixteen to twenty inspirations per minute, while the racing pace is forty strokes per minute; and we have seen that the breathing is regulated by the stroke, giving, therefore, the rate of respiration in rowing at forty inspirations per minute.

But we have also seen that, although there is a breath to every stroke, still the double process of inspiration and expiration does not occupy the whole of even this brief space of time, being accomplished during the momentary muscular relaxation towards the end of the stroke, and the forward reach of the body preparatory to another. This greatly augments the rate at which this double process is performed. No need of internal fat to make a man gasp at such work as this!

Normal condition of the respiratory power in beginners.

The augmented processes of respiration and circulation during exercise are produced, as we have seen, by muscular agency. First, by the constrictions of *voluntary* muscles on the veins, propelling their contents; and, second, by *involuntary* muscles, when stimulated to greater activity by the blood thus propelled.

When a man is beginning his course of training, the involuntary muscles regulating respiration and circulation are suddenly called upon to do double their customary amount of work, and this, too, under disturbing influences of the most trying kind; they fail, of course, and the failure is set down not to want of functional power, but to obstruction from internal fat. When a voluntary muscle, or set of muscles, fail to perform some task we set them, we simply say, they are not strong enough—meaning that their contractile force is not sufficient to overcome the resistance encountered; we do not attempt to account for such weakness by obstruction or hindrance from extraneous substances—by *external* fat, for instance—though, doubtless, there are cases in which muscular action is impeded by such deposits. Still, even when we see this, we do not view it as the normal condition of *all* men, and set down *all* muscular weakness to its presence; nor do we then prescribe some single and special mode of exercise—some exercise which greatly affects the parts where fat is *not* and where it is never likely to be, and say that this exercise and this only will remove it. What we *do* do in such cases is to give employment to the weak part—employment in nature and degree suitable to its existing capacity, and of the greatest variety within the range of its action; gradually augmenting this employment in proportion to the augmentation

of strength in the part consequent on the exercise, acting on the organic law that the development will be in relation to activity, and strength in relation to development. And the law applies equally to voluntary and to involuntary muscles.

It must be remarked, however, that although both voluntary and involuntary muscles are trained to functional power on the same *principles*—that is, by employment—it does not follow that they are trained by the same *modes* of employment; in fact, training for strength and training for wind are different things, attainable by different means; and it is perfectly feasible to take certain of these systems of muscles, and train them comparatively to the exclusion of the muscles of the other system. Thus, a man of good physical capacity may be trained so that the voluntary muscles of his arms and chest would be powerfully developed, with a contractile force proportionate to their size and induration; and yet his respiratory power shall be so disproportionate that he could not run a hundred yards at speed without gasping; and another, or the same individual, if possessing ordinary locomotive capacity and fair development, may be trained to run ten times the distance without distress, but the voluntary muscles of whose arms and chest shall remain as they stood at the time that the training began.

A difference between general principles of training and modes of employment.

What, then, is the cause of respiratory difficulty, or "bad wind," the internal fat theory being discarded? What prevents a man who has not gone through a course of training from breathing as freely in the race as a man who has?

Real reason for bad wind or lack of respiratory power.

Why cannot the beginner, as far as wind is concerned, seeing that in this respect, at any rate, there is nothing to be *learned*, keep pace with the man in training? Simply because his is not yet a rowing heart, nor are his rowing lungs, arteries, or veins. *His* heart, lungs, and blood-vessels have been fashioned by other circumstances and other occupations, and fitted to perform their functions in another manner than that called for in rowing, as distinctly and as surely, and with results as inevitable, as those which have fashioned the hands of the artist, craftsman, and laborer. In rowing, the heart has to contract, we shall say, 110 times in a minute; *his* has been, by the circumstances which regulated its growth and determined its power, fashioned to contract only 75 times in a minute; and all nature's works are perfect and accordantly adjusted each to each and each to its place; and the blood-vessels of the lungs, and the veins and arteries throughout the body, have been at the same time endowed with elasticity and contractile power adjusted to the heart's capacity.

But just as occupation has made these organs what they are now, so will other occupations alter them; and the new occupations upon which the aquatic tyro is entering will refashion them to what these occupations require—*i.e.*, the increased activity of the organ, caused by the exercise of rowing or of cognate employments, will hasten the disintegration of its tissues and their reproduction; and these metamorphoses will be accomplished with rapidity and with completeness in proportion to the force of the fashioning influences; in other words, in proportion to the extent of the application to the exercise of rowing or of cognate employments. Actually and literally, a new heart and lungs and a new system of circulating tubes will be obtained suitable to the exercise of rowing—just as distinctly, as actually, and as literally as if it were a new boating costume he had ordered from his tailor, which he has now to wear in lieu of the dress becoming his former occupation.

Respiratory
power of pri-
mary import-
ance in rowing.

Value of
chest-develop-
ing exercises to
the oarsman.

Thus we have seen that muscular power plays quite a secondary part in rowing; respiratory power makes the first claim, and makes it more exactly than in any other mode of physical exertion in which men can be engaged, not only on account of the rapidity of the inspirations and expirations, and not only from the fact that these are *not* regulated by the natural action of the lungs themselves but by the artificial movements of the exercise, but also from the interruptions caused by the fixing of the chest, and forcibly holding in the lungs the air inspired after, in the natural order of the function, it would have been expelled. Everything, therefore, which can lessen effort in this direction—whether by enlargement of the cavity, which gives freedom of action to the organs within, by strengthening the muscles which lift its walls on each inspiration and depress it on each expiration, or by increasing the elasticity and mobility of its general structure—must be of direct and immense advantage.

The actual sensations felt after rowing will not guide men accurately in this respect; they feel fatigued, and conclude that it has been produced by the usual cause of fatigue, muscular exertion; whereas, in this case, it would chiefly arise from respiratory exertion; and that which is actually due to muscular exertion would be less from extent of effort than the result of want of relief and interchange of action with other muscles, from the *sameness* of the movements in the exercise, the same muscles making the same movements throughout, and making the last as they did the first.

What other exercise do rowing men take while in training for boat-racing? What exercise in addition to their work at the oar?

Running.

Running or walking.

Running is a better auxiliary exercise for rowing than walking, contributing more directly both to muscular and respiratory power.

Parts em-
ployed.

What parts of the body receive exercise in running?

First, the legs; and here the flexor muscles have their full share in the locomotive effort. This will be greatly to the advantage of the limb itself, irrespective of its rowing power, which will be also augmented by the equalization of the development of the antagonistic muscles, as, in the boat, it is the extensor muscles which are employed.

Secondly, the hips and loins are actively and energetically employed in running—in action and position all different from what they were at the oar. The lower limbs, therefore, and the lower portion of the trunk receive full employment in running; and, as these are all chief agents in rowing, this exercise is well chosen as an aid to the muscular power required.

What else?

Broadly speaking, nothing else; the arms are tucked in by the sides, elbows down, hands closed, head erect, and the upper portion of the trunk held steady, that the parts enumerated above as the active agents in locomotion may be as little as possible encumbered by the swaying or maladjustment of any portion of the burden.

With respect to the other requirement of rowing men—respiratory power—its influence is immediate and direct; for here we have the function of respiration performed in its natural manner, with no disturbing influence of fixation of the chest. The inspirations and expirations follow each other in regular succession; the process is accelerated only.

For rowing, therefore, running is good; but, like other good things, it must be used and not abused, or it may be converted into an evil. It must be rationally performed, especially in its initiatory practice, or it will fail in its expected results. Should not be abused.

Men seldom enter upon it with sufficient care or pursue it with sufficient system. They run the first day as they run the last—all at once and all at a burst; always the same distance and all at the same pace; relinquishing the effort, gasping and lame from shin-ache. Running, under such circumstances, had better be left alone; it but fatigues the limbs unprofitably, and, as regards respiration, aggravates the evil of the rowing which it was designed to alleviate by gradual preparation. Few things worth doing can be done suddenly; certainly, no change in the human body can be so accomplished. All the changes wrought in that are gradual, accumulative, and regular; and the agencies which produce the changes must also be gradually and regularly applied.

With a man unaccustomed to running, let him begin with a mile: setting himself to cover the distance in about eight or nine minutes at the easiest pace and make-believe race he can run in. Let him break from his walk to the ground into this easy trot, and practise it until he finds his wind decidedly improved, and the work, such as it is, pleasurable. He may then do one of two things—either increase the distance by another half-mile, to be run at the same pace, or hold to the first course, and cover the distance in one or two minutes less. When the mile can be run in six minutes as easily as it was run in eight, let the tactics be changed; let him break the uniformity of the run and cultivate variety of pace; let him begin the race, as at first, at an easy trot; keep at it for a quarter of the distance, to allow the organs of respiration and circulation to take up gradually the accelerated action which is demanded of them as soon as the trotting begins, allowing also the muscles employed in locomotion to take up *their* accelerated action when the walking is relinquished; let the second quarter be in the same style, but at a somewhat quickened pace, still keeping within the margin of easy performance; and let the third, if the preceding causes no distress, be quicker still, gradually culminating towards its close to an effort at the utmost strain of the powers; and last, let it subside in the fourth quarter gradually into the first easy trot, ending in the effortless walk, to allow the throb of the heart and the swell of the arteries and veins to subside and settle down, and the lungs to resume their peaceful tidal motion, and the air-current in their cells its rhythmical ebb and flow. Proper method of using this form of exercise.

These distances and rates of speed are not given as absolute, but approximate—they must be in all cases proportioned to the powers of the individual; but whatever may be his powers, let him begin within them, and augment the work very gradually, whether in velocity or distance; and this augmentation should always be regulated by the actual advancement made by the running powers, until at speed and without preliminary break or preparation the distance prescribed can be run. The distressing and often incapacitating pain of shin-ache is owing entirely to a disregard of this principle of gradual preparation. It is but the same kind of discomfort, arising from the same cause, which men out of practice feel in the arms on rowing suddenly at full speed; namely, unpreparedness in the parts to perform the work suddenly put upon them.

Finally, it is essential to excellence in any special exercise assiduously to practise the exercise itself; and this emphatically applies to exercises where precision or all exercise continual practice and variety are essential.

dexterity of movement is required. But where muscular force to any considerable extent is also required, then is *variety* of exercise necessary, because the voluntary muscles are constituted not for one but for many modes of employment, and not for one but for many grades of effort; and the greater the variety in these respects, the greater will be the material development, the higher the degree of mechanical force obtained. Sameness in exercise will give precision and dexterity, but variety is essential to vigor and power.

And as respiratory power is dependent not alone on the condition of the organs which (strictly) perform the function, but also on the condition and capacity of the chamber in which they are contained, therefore is it of primary importance to develop the chest to its fullest capacity for the practice of all exercises in which great respiratory effort is involved.

Diet as an
agent of health.

Next in importance to exercise is diet, or the system of food adopted. We have seen that exercise creates a want which it is the place of food to supply. What this food shall be, how it should be prepared, when and in what quantities it should be eaten, in order that health and strength may be best promoted in the rowing man, are points to which our attention will now be turned.

In a physiological point of view, food fulfils two important offices: the first, that of furnishing the blood, by means of the various processes of digestion and assimilation, that nutriment which is to replace the waste constantly taking place in all the tissues of the body; and next, to maintain the temperature of the body at a given point, with but trifling variations at all times and in all seasons. This heat is generated in the body itself by the combinations of certain elements of food contained in the blood with the oxygen inspired by the lungs, and, as will be shown, every substance used as food is subservient to one of these processes—the formation of tissue or the production of heat.

Division of
the organic
compounds of
food.

Albuminous.

The organic compounds of food have been divided into three principal groups—*albuminous*, *saccharine*, and *oleaginous*.

The first of these groups includes all the constituents of food which are closely allied to albumen. This is a substance resembling in chemical composition the animal tissues themselves, and is found in an almost pure form in the white of egg or the lean of meat. It is present in vegetable as well as in animal substances, and bears a different name according to the source from which it is derived. Its essential importance as a constituent of food arises from the fact that it is from albumen that the tissues of the body chiefly derive their nourishment. It is also capable of serving, when required, for the production of heat.

Saccharine.

The second of these groups, the *saccharine*, includes all substances which resemble sugar in their composition, or are capable of being converted into sugar during the process of digestion. They are derived solely from the vegetable kingdom, and are found in large proportions in all farinaceous and vegetable articles of diet. They resemble none of the animal tissues in chemical composition, and are almost entirely employed in the maintenance of the heat of the body by the combusive process above described. They are, however, capable of being converted, in the body itself, into the compounds of the oleaginous group; and, as such, may be used in the nutrition of the nervous and fat tissues.

Oleaginous.

The third group, the *oleaginous*, comprises all substances of an oily or fatty

nature, whether derived from the animal or vegetable world. These are believed to afford nourishment to the nervous tissues, and to the adipose, or fat, tissues; but their great value lies in their calorifying, or heat-producing, power, which appears to be greater than that of any other substance.

To these is sometimes added a fourth group, the *gelatinous*, comprising all articles of the jelly kind. It has been supposed that constituents of this group aid in the nutrition of the gelatinous tissues of the body; but it is now considered more probable that they are chiefly, if not entirely, subservient to the production of heat.

Gelatinous.

Thus it will be seen, of these groups of alimentary substances, that one is principally applied to the formation of tissue, and the others to the production of heat; but it must be remembered that almost every article, whether animal or vegetable, used as food, contains substances belonging to two or more of the groups, in varying proportions; nor could life be supported on any one alone.

All experiments on this subject have proved that an animal fed exclusively on substances belonging to but one, dies of starvation.

Every rational scheme of diet must be based upon a knowledge of these principles; for it will be in proportion to the discretion with which various substances comprised in these groups are mingled and employed, that food will be efficient or otherwise in maintaining the body in health and strength.

We accordingly find that in those countries where, from lowness of temperature, it is necessary to resort to artificial means in order to maintain the standard heat of the body, the most desirable kinds of food are those comprised in the oleaginous group—fats of all kinds; for there alone is found the required proportion of heat-making elements. Again, in countries where the heat exceeds that required for the health and comfort of the body, a diet in which the farinaceous and leguminous character predominates is found to be preferable; because this class of aliment contains smaller measure of combustive material in larger bulk than the oleaginous; and the mode of life in such countries being a much less active one, the waste of tissue also is comparatively small, and calls for a smaller supply of the purely tissue-forming.

Natural application of these principles.

It is not necessary here to enter upon any analysis of the numerous and widely varied substances which are rendered subservient to our use as food; but experience confirms the hypothesis afforded by structure and natural appetite, that, in moderate climates like our own, a considerable proportion of animal food, with a due admixture of farinaceous and vegetable food, is the most perfect combination of the albuminous, oleaginous, and saccharine groups attainable. The precise effect of fresh vegetables in nutrition is by no means clearly understood; but experience has proved that their employment as an article of diet is absolutely essential to health.

Food suited to temperate climates.

Having seen the principles upon which our food should be selected, we will, therefore, next enquire what quantity is necessary for the carrying on in proper manner of this double office of the formation of tissue and the production of heat. This must, in a healthy individual, be determined by the appetite; not the appetite excited by the taste of varied and stimulating food, but the natural demand of the system for fresh nutriment.

Quantity.

It must always be remembered that our bodies are nourished not by what we eat, but by what we *digest*. And, further, that the digestive powers are limited, and can

only operate fully and without injury to themselves upon a given quantity; for, during health, these powers will ever be in relation to the wants of the body as evidenced by appetite.

A certain bulk necessary.

In another aspect, quantity must be considered—an aspect in which it becomes inseparably connected with *quality*. As has been remarked, a certain *bulk* is necessary to the proper digestion and assimilation of food. Nature has decreed that our nutriment should be, as it were, diluted by being contained in a proportion of innutritive matter; and except in peculiar conditions of body or states of existence, such, for instance, as entail severe muscular exertion, where the waste of the tissues is extremely great, or where the exercise entails great respiratory effort (when distension of the alimentary organs would prove at once a hindrance and a source of danger), food in which a large quantity of nourishment is concentrated into a comparatively small bulk is injurious. Under ordinary circumstances, therefore, animal food requires the addition of some less stimulating aliment to supply the bulk, and hence one great advantage of farinaceous and leguminous aliments.

Times for eating.

As to the proper *times* of eating, experiments all prove that from three to four hours is the time required to digest an ordinary meal selected on the foregoing principles; and it is important that the stomach should have had time not only to dispose of one meal, but to have, as it were, a time to rest before its energies are claimed for the digestion of another; and accordingly, we find that from four to five hours is the usual interval between meals. The precise hours of the day are of no actual importance to a healthy individual, because the human body has such a marvellous power of adaptability that its demands, indicated by appetite, will soon return at the time when they are accustomed to be satisfied.

Exercise should be avoided just before and after eating.

It is generally well known that exercise, mental or physical, should be avoided immediately after eating, because a large supply of blood and nervous energy is required by the stomach in carrying on its functions, and hence arises that incapacity for exertion experienced after an abundant meal. Respiration, too, is circumscribed to ordinary breathing when the stomach is full; the depression of the diaphragm being checked on inspiration, and the contractions of the muscles of the abdomen being hindered on expiration, when the alimentary canal is distended. Neither should a meal immediately follow violent exertion, for the blood will be then greatly distributed among the parts of the body which have been actively engaged in the exercise; and here again nature is our unerring guide, for at such times there is no real desire for food experienced.

Food should be fresh.

Another point of the highest importance in all alimentary substances is that they should be *fresh*. Here again nature must be our guide, causing us to turn with disgust from stale or decomposing substances. It is especially the case with vegetables and fruits that, if properly ripened, they are the more palatable and more easily digested the fresher they are.

And well cooked.

Again, food should be well cooked. The effect which cooking produces on viands is of several kinds; one, and not the least important, being its modifying influence upon the taste and smell; another, by lessening the cohesion of the particles and by separating the fibres, meat is rendered more easily masticated, and consequently more fully subject to the action of the gastric juice in the stomach; lastly, it undergoes certain chemical changes during its subjection to heat in this process.

From this we see how absurd, not to say injurious, is the practice of requiring men in training to eat half-raw beef or mutton, under the impression that so prepared it will give them strength. Having learned that overcooking hardened the fibre of meat and lessened its nutritive value, trainers have gone to the "other extreme; and, although calling it "underdone," have taken it nearly raw—a steak or chop "warmed through" being considered sufficiently cooked for a man in training. Most men may well swallow such food with repugnance, and it is no wonder that on such diet they are assailed by diarrhœa, or constipation, or boils, and that even slight wounds will not heal.

All meats, then, should be well cooked, but at the same time retain all their natural juices. They are in this condition not only the most nourishing, but the most palatable.

As hunger is the warning voice of nature, telling us that our bodies are in need of a fresh supply of nutriment, so is thirst the same voice warning us that a fresh supply of liquid is needed to replace that which has been separated from the body in the form of exhalations from the lungs, perspiration, and other secretions. Though the sensation of thirst appears to be confined to the mouth and throat, the demand for fluid is in reality experienced by the entire system, and the immediate relief afforded by drinking is owing to the rapid absorption of fluid from the stomach and its speedy introduction into the general circulation. Thirst, like hunger, being a natural demand, may safely be gratified, but, like hunger also, it is liable, if unduly indulged or stimulated, to become a habit beyond actual requirements. Its gratification is then injurious, because liquids taken in larger quantities than the system requires are not, and cannot be, at once absorbed, but remain in the stomach, distending it, relaxing it, and greatly interfering with the production of the gastric juice. The increased thirst experienced during and after strong muscular exercise is owing in a great measure to the diminution of the fluids of the body by perspiration and respiration.

The best general drink for a healthy person is, undoubtedly, water. Its action is so valuable and so important as to be virtually indispensable to the healthy condition of every tissue, and the performance of every function. It constitutes the basis of all the beverages we take from day to day; and, without so intending it, it is almost exclusively for the water they contain that they are taken. Its importance in the animal economy will be best understood when we state that it constitutes more than two-thirds of the entire weight and bulk of the body.

Tea, coffee, chocolate, etc., when taken in moderate quantities and not too strong or too hot, are, for most persons in good health, usually refreshing and beneficial. The injury to the stomach from their being too hot is, perhaps, a greater evil than that to nerves from being too strong, the effect being to overstimulate, weaken, and relax its linings.

Alcohol, in any of its forms, should never be used habitually by the man in training. Its tendency is to lessen the elimination of fluid from the body, and to promote a feverish condition of the organs and tissues entirely incompatible with the normal condition. The moment that beer, ale, and particularly whiskey, brandy, or wine becomes an article of daily consumption, they entirely lose their value as stimulants, and the benefits which their limited use under judicious advice might confer, in cases of exhaustion or overwork, are entirely lost.

Thirst.

Water the best drink.

All forms of alcoholic stimulants prohibited.

From the foregoing remarks, it will be at once perceived that the field for the selection of food to meet all the wants of the body, under every condition of physical exertion, is by no means restricted. All the exceptional requirements of training call for is to make a judicious selection, embracing such articles as afford the required constituents of food in the best proportions, and excluding those which, though harmless, or even useful at other times, might here prove injurious.

But, in recognizing the principle, rowing men have formed a code of dietary laws composed almost entirely of restrictions, the effect of which has been to produce a sameness in diet which has been almost as injurious, in some cases, as the entire absence of any laws would be in others.

A man's daily habits should not be too suddenly changed.

It will not do to change a man's daily habits suddenly, even if the change be evidently for the better, as such a course not unfrequently fails of its object on account of the unpreparedness of the body; and men accustomed to a variety will be injuriously affected by even necessary restrictions, if too suddenly begun.

Principal reason for a restricted diet.

The real reason for the restriction of the number and variety of dishes set before the man in training is, that he should not be tempted to eat more than he really requires or can perfectly digest. When the natural appetite has been satisfied, we have had all that can be made useful in augmenting or sustaining strength, or in promoting the growth and development of the body; all beyond this which may be taken, is not only a dead-weight on all the organs of digestion, but is a positive injury to and a tax laid on the powers, which detracts just so much from their force, since they must, sooner or later, rid themselves of this useless burden.

Thence it is that spices, pickles, and the use of all condiments in excess, must be strictly prohibited from the table of the rowing man, since, besides their being indigestible, they are stimulants to eating beyond the true appetite. Here the law of restriction is very useful, the danger from superfluity being far greater than that of insufficiency.

Of the forms of thirst, and how best to allay them.

Regarding the popular restrictions put upon the use of water or fluids in training, these may be carried altogether too far. To limit a man to a pint or two of liquid per day when his system is throwing off from five to eight pints through the medium of the ordinary secretions, seems as unreasonable as it would be to keep him on half-rations. The general *thirst*, so-called, experienced by the whole system, consequent upon bodily exertion or extreme external heat, has but one means of cure—drink, in the simplest form attainable.

Local thirst, usually limited to the mucous linings of the mouth, throat, and air-passages, may be allayed by the simple operation of rinsing the mouth, sucking the pit of some stone-fruit, or a pebble, by which to excite the glands in the affected parts. Drinking, here, is of little or no benefit, as the fluid passes at once to the stomach, which is not affected, and affords no relief to the parts which are so.

A third kind of thirst arises from the presence in the stomach of some irritating article of food, usually experienced after eating spiced or salted substances; this can only be alleviated by drinking, to enable the offending substance to be dissolved or removed.

How to drink is, therefore, an important matter to the rowing man.

In cases of extreme thirst, the best plan is to cleanse the mouth and throat by rinsing them with a mouthful of water as a gargle, and, this done, after a few moments

to swallow a mouthful of the liquid slowly. Repeat this once or twice, cleansing the mouth thoroughly each time before swallowing, and, after a few minutes, the luxury of a hearty *drink* may be taken, provided the body is not in too highly heated a state, in which case the water must not be excessively cold.

Generally, all use of tobacco is forbidden to men in training; but since, with this end in view, any sudden or great change in a man's habits may, as has already been said, prove of more injury than benefit, for men who are accustomed to its daily use this restriction should be amended, so that its excessive or too frequent use only should be forbidden. Many a man would more willingly go without his dinner than his cigar or pipe until the periodic craving has been overcome, and the nerves can be composed without the aid of the accustomed sedative.

Use of tobacco.

But where it is a possible thing, the use of tobacco in any of its forms should be scrupulously avoided in training.

We next come to the consideration of sleep, and the part it plays in the renovation of a system which has been subjected to the destructive effects of exercise, and in a measure refreshed by a supply of food.

It is during the process of sleep that all new additions become incorporated into the living organism and endowed with vitality. The amount of *time* required for this purpose varies not only with individuals, but with the same individual at different periods of life. It is influenced by various causes, by the action of the other agents of health, and especially by exercise. The growing and immature frame evidently requires a much longer time for recruitment than is found necessary at a later period of life, when growth and development are virtually completed. In the latter there is but one day's use to restore, whereas in the former there is permanent and continuous demand for the body's enlargement and consolidation.

Sleep as an agent of health.

Hence youth require the most, middle age the least, sleep—the want increasing in old age.

Eight hours is customarily named as the standard amount of sleep required under ordinary circumstances by an adult in fair health, but this is a large allowance, as habit may have contributed to establish a fictitious want.

Sleep can be *condensed*, so to speak; and for adults undergoing only the usual daily fatigue of training, seven hours will usually be found ample. The only benefit derivable from early retiring is, that it insures that the body shall not be overtaxed by evening excitement or dissipation in addition to the day's toil, and not that there is any special virtue, as is commonly supposed, in pre-midnight sleep. A further benefit will follow from retiring early in being able to rise early—a most important point in all systematic training.

The importance of fresh air is pretty generally understood and admitted, but is by no means so universally acted on. Much could be said upon the very imperfect ventilation of bedrooms. The man in training must have at all times, but particularly when sleeping, pure air and plenty of it. If a man's throat and lungs are sound, let him always the year round sleep with the windows of his bedroom open far enough—according to the relative temperature within and without—to permit a free circulation of the external air in the room. If a person on waking in the morning is flushed and hot, be sure the air is impure, and the consequence of faulty ventilation or none at all. Care should be taken that a draught does not blow over the body, as this might too

Importance of fresh air.

rapidly lower its temperature and a cold result. The benefits of fresh air are nowhere experienced to such advantage as when living in tents or under canvas; all those who are accustomed to summer camping can testify to this.

Early rising.

Early rising must be the rule to him who would build up his body in health and strength; this is the corner-stone of the edifice. And let him not only rise early, but do this the instant he is awake—his being awake is in a healthy person the indication that the process of recruitment is accomplished; bed can do no more for him; let him at once leave it, and, his ablutions performed, open his windows to their fullest extent, and give to the apartment and its furnishings an air-bath.

Bathing.

Bathing must be viewed as an agent of health in two distinct aspects: First, in its capacity as a cleanser of the skin; and, secondly, as an agent of considerable tonic power.

In its first aspect, it addresses the skin as the organ of transpiration only; in the second, as the organ of common sensation, possessed of great nervous sensibility and influence.

In the first, it addresses the skin with the view of removing from it all impediments to functional ability, and arousing it to greater activity; in the second, it acts directly through the skin upon the nervous and circulatory systems.

The bath as a cleanser.

In viewing the bath in the first aspect as a cleanser of the skin, we must remember that the entire surface of the body is continually pouring forth minute streams of fluid exudations, separated from the blood by the glandular roots of the perspiratory and oil tubes with which it is closely studded. It is through the skin that the medium temperature of the body is mainly preserved, and the perspiratory ducts form the main channel through which this important operation is performed; for, moisture being a powerful conductor of heat, perspiration eliminates the heat from the body when produced in excess of its wants, as in exercise.

A second process, equally important to life and health, and equally marvellous in extent, is that of the oil ducts and glands. These glands, which pervade almost the entire surface of the body, secrete an oily fluid, which is exuded through the ducts and spread over the surface of the skin, lubricating and softening it, keeping it pliable through all atmospheric changes and every degree of heat and cold.

It is through the perspiratory ducts that the so-called insensible perspiration (*i.e.*, that which is vaporized and carried off as fast as it is secreted) is constantly poured forth, as also the moisture, in great measure, drawn from the blood in *forced* perspiration, in order to equalize the body's temperature during muscular exertion or exposure to great external heat. Hence, we see that the clothing of the body must, in a measure, be regulated by a knowledge of these facts, and it will be comfortable or not as it is fashioned to admit of the escape of the insensible perspiration, or sufficiently open to permit the escape of the heated air in contact with the surface of the body. Otherwise, this heat would accumulate, and an undue amount of exudations of fluid extracted from the blood would take place.

Perspiration is not fat. Error of systems of training.

It must not be supposed that these exudations so produced are fat, for here lies one of the great errors of many systems of training. Men are directed to get rid of their fat by piling on their bodies heavy clothing, and thus "sweating off the fat." Without entering into a lengthy discussion of this vexed point, it is sufficient to say that perspiration may be said to contain practically no fat at all. The fat of the body

can only be lessened in one of two ways—first, by exercise, promoting the consumption of the carbon found in the fatty substances of the body, by the processes of oxidation at the lungs, and to withhold from the body all heat-producing food which will help replace what exercise has destroyed.

Proper method of reducing an excess of fat.

The inference to be adduced from this statement is, that fat in the man under training should not be reduced by any process of artificial sweating, or by physic, but simply by actual muscular exertion, at the oar, with the clubs, or in any other legitimate way which may be prescribed.

Since the skin is the active medium through which the excretions due to insensible or forced perspiration take place, the bath, as a cleanser and purifier, assumes a more than ordinary importance in training. It is necessary to health under all conditions of life, but especially so under these circumstances, that the skin should, at frequent intervals, be cleansed from all transpiratory exudations, and from extraneous matters which gather on its surface, as well as wasted particles of its own substance, which are constantly accumulating by its own action, and which, if not removed, obstruct the pores, and consequently impair the healthy condition and purity of the blood itself.

Now, simple water will dissolve the saline matter exuded by the perspiratory ducts, but not the oily matter exuded by the oil ducts; for this latter purpose soap is necessary, because some of its ingredients will dissolve oily substances. The cleansing power of the water is also greatly affected by its temperature—if below that of the body, its use causes the skin and subjacent tissues to shrink, thus closing the ducts; but if a higher temperature is employed, the skin expands, and the deepest cutaneous deposits can be reached and removed.

Use of warm water and soap as cleansers of the skin.

In the bath, considered as a tonic, its properties are in an inverse ratio to its cleansing power. Here the point desired is, the sudden contraction and shrinking of the skin and subjacent blood-vessels, by which the blood is driven in upon the internal organs—the tissues through which the blood is forced are greatly stimulated by this sudden afflux, the action of the heart and lungs becomes more vigorous, the blood rushes back faster and more forcibly than before, and its presence is manifested by the ruddy glow which comes over the body after its sudden immersion.

The bath as a tonic.

In training, therefore, these two distinct objects of the bath must be kept in view, and a cleansing or a tonic bath taken as required. The best time for the cold bath is, undoubtedly, immediately after getting out of bed; if taken later, it should be as soon after exercise as possible, while the blood is rapidly circulating near the surface of the body, and, therefore, the reactionary capacity is the greatest. It is an error to suppose that the body should be allowed to cool down before this bath—this would be to court a chill; nor need it be dried off "to close the pores"; the shrinking of the skin due to the effects of the cold water will do that, and, to do it before, is to defeat the purpose of the bath itself.

The best time for the warm bath is either a little time before dinner or before supper. Under no circumstances should either a warm or cold bath be taken until some hours after a meal, for the reason of its effect upon respiration and circulation acting on digestion.

Best time for bathing.

The evaporation of heat and moisture from the surface of the body is impeded not only by the number of garments worn, but by their shape and size, the

Clothing.

Clothing.

closeness of their texture, and the nature of the material of which they are made.

Thus, linen is more obstructive to the evaporation of moisture than cotton, and cotton more so than woollens; silk holds an intermediate place between linen and cotton.

For rowing, therefore, the lightest woollen or mixed woollen and cotton garments should be worn; and, on leaving the boat or ceasing the exercise, thicker and heavier clothing should be provided, to prevent the too rapid cooling of the body when in a state of perspiration, and a consequent chill.

CHAPTER IV.

TRAINING IN PRACTICE.

WE now come to the application of these principles and recommendations to the daily life of the oarsman in training. A few general hints, to serve as guide-posts to the intelligent traveller on this road to health and strength, will be sufficient for our purpose.

Although the crew are all volunteers, it must be borne in mind that they are not to be selected because of their willingness to serve, nor on account of their skill at the oar alone; the spirit of a man to enter the contest may be far in advance of his physical power to sustain the strain to be put upon him. The trainer must look sharply to this, and examine searchingly into the general bodily powers and state of development of the candidate, keeping in mind the rule, that no man of ordinary stature and fair growth should be allowed to put hand upon an oar in a racing-boat until his chest has a minimum girth of 36 inches: less than this will not give him space adequate to the full and fair action of the vital organs within, in the work upon which he would engage, and less than this no man of fair growth and ordinary stature need pass his eighteenth year without possessing. Again, the men to be trained will necessarily vary much in physical characteristics. Some have been living a different life from others; this one steadily, that one fast; one is tall and heavy; another, gaunt, thin, and wiry; a third, of middle height, broad shoulders, and sturdy build. It is, therefore, evident that they will require treatment more or less diversified.

Physical considerations to be observed in selecting the crew.

It is, however, sufficient for our present purpose to assume that none are positively out of health and without some rowing practice; such an event ought to be rare: for no one who has any regard for his future well-being and who does not positively desire to injure his constitution, will subject himself to the hardships of a course of strict training, unless he is sound and free from disease.

It would be a good plan if every man who was selected for a crew were to undergo a careful medical examination, and so learn whether he would be running any risk in submitting to be put to very severe work. At any rate, he would have the satisfaction of knowing that he was not doing wrong, for it is scarcely to be supposed that, if forbidden by his medical adviser, he would still continue to follow the bent of his inclination, however mortifying it might be to be debarred from serving as one of the crew.

Medical examination and treatment.

One point here should not be passed over without notice, namely, the custom which obtains in some localities, or is recommended by some systems of training, of physicking the crew all round before "going into training." If we ask the reason of this promiscuous dosing, or why every man must take the same kind and quantity of medicine, we are told that it is "to remove the crudities of the stomach and bowels, and have a clear point to start from." Now, if a man is in a fair state of health, sufficient to warrant his going into training, the fair presumption is that he does not need drugs.

and men, either in or out of training, had better let them alone. If unwell, if they must have a "thorough cleansing," as the phrase goes, let them go to the doctor in whom they have faith, and take what he recommends, and touch nothing he does not. As one of the best writers on the subject of training remarks, "There is no crudity either in bowel or brain so dangerous as this notion of amateur physicking."

The preparatory stage of training.

The selection of the crew having been made, the first thing to be done is to put them through a steady preparation, in order to bring them into a state of rough fitness or half-condition, as an introduction to the harder stage of actual training. This does not refer so much to those whose daily avocations or exercises are such as to keep them in fair health and in a state of more or less fitness for training proper, but to those who live in large towns or cities and are engaged in business pursuits.

The time occupied by this preparatory stage may be from three to six weeks, according to circumstances; the time required for strict training, following this preparatory stage, will be from three to four weeks.

General directions.

In order to arrive at a state of good condition, the general health should be improved by all the ordinary precautions of regular and early hours, bathing, wearing suitable clothing, plenty of out-of-door exercise, such as walking and running, in addition to rowing; by eschewing smoking and drinking, scrupulously avoiding all rooms tainted with the smell of tobacco or spirits, or which are overheated or ill-ventilated; by abstaining from excesses of every description, namely, by keeping the body in temperance, soberness, and chastity—the motto of a trainer; by relaxation from all severe literary or sedentary occupations; by amusing the mind and elevating the spirits; by moderation in all things; and by the strictest regularity of habit.

The system must be invigorated by good sound food, proper bodily work, and refreshing rest; and above all things is it necessary that the man trained should enter heart and soul into the task before him.

The previous mode of life of each man must be considered.

In order that each man may derive the greatest individual benefit from the course of training, it will be necessary to take into consideration the mode of life which each one has been pursuing, and then—varying it as circumstances may demand—to commence a judicious course of treatment, which shall not be particularly stringent, because, as this is the period of practice and general improvement only, severe work, strict diet, and much compulsory restraint are better and more properly deferred till regular training commences. Men who have been living steadily and taking plenty of strong exercise, especially during winter, will not require any preliminary attention, as they are ready to commence practice at once. The case is different with others whose nervous systems are debilitated by over-study and incessant mental labor, and whose muscles are probably at the same time weak, flabby, and unfit for violent physical work: these will require careful attention. Their studious habits as well as all undue stimulants must be given up, and they must begin by taking gentle but regular exercise, combined with plenty of amusement; and as their bodily powers improve, so will their mental faculties recover tone.

Again, men who have lived a luxurious, or, more properly speaking, a "fast" life, without much exercise, will be the most difficult to treat; their whole systems will be so utterly out of order that any attempt to undergo violent work will be certain to knock them up on the spot. All their old customs of excess and self-indulgence must be *instantly discontinued*.

It is, however, desirable to have as few "fast" men as possible in a boat, because the work and regimen will, if the constitution has been tried by general dissipation or intemperate living, tell in a marked manner on the system, and, in most cases, end in a "break-down" or staleness.

Steady walking for a few days will do to commence with before taking the oar; but a certain amount of walking should be taken daily, in addition to the work in the boat, especially on Sundays, when rowing is omitted. Kind of exercise to be taken.

Running, to improve the wind, should be put off to the period of stricter training, when the system has become somewhat accustomed to the new regimen and habits.

For improving the lung capacity at this stage of training, a moderate use of the Indian clubs will be beneficial; but the use of gymnastics is not generally recommended, because their exercise tends to strengthen the muscles of the arms and shoulders, which are not required to be largely developed, but should be kept perfectly flexible. The daily work in the boat, which should consist of regular, steady pulling, the further the better—so long as no distress follows—will of itself strengthen the muscles required for rowing; whereas, if we strengthen those of the shoulders too much, it will lead to their use instead of the proper ones, and bad form is the result. Gymnastics.

As regards the elementary work to be done at the oar, it should be commenced moderately, increased gradually, and continued steadily, and, as the system becomes by degrees more fitted to bear increased exertion, it may be quickened or augmented. No error is so unpardonable as to set a crew to racing-work when first made up; such a course not only ruins their style, but is the surest way to break them down. Rowing.

The wind, strength, and stamina will be put to the test when the day of the race arrives; and, in order that they may not be wanting at the critical moment, it is important that the work during a portion of the training should be the same as the distance to be raced over, in order that the men may become familiar with and accustomed to the full task.

These long, steady rows are important for other ends—they not only strengthen the muscles, but, by combining this form of exercise with suitable food, in which the fat-producing elements are largely wanting, those men who suffer from fat can be brought down—"fined down," as the saying is—in a legitimate way, without resorting to the abnormal practices of sweating and dosing so much in vogue with many trainers; and this kind of practice will also rapidly improve the wind, which, as we have seen, is of even greater importance than well-developed muscles. Value of long rows.

Finally, long pulls are the sole and only means by which all varieties and styles of rowing can be slowly, and step by step, ground down to uniformity. It is during this period of the training that long, steady work is enforced, faults pointed out and remedied, and the men all moulded carefully on one model by long distances and by the same lessons repeated day by day.

It is not until after some weeks of constant attention that the simultaneous dip, the equal pull of the oars through the water fore and aft, the uniform swing of the men, and the exact finish of the stroke, which constitute a perfect crew, are attained.

Great care should be taken to have the clothing appropriate to the work, and the condition of the body when work is suspended. The observance of a proper rule does not necessarily involve much expense. Clothing.

When rowing, a light, thin merino, or even cotton undershirt or jersey, with short sleeves, is required; also, flannel trowsers, canvas shoes, worn over ordinary woollen socks, and a narrow-brimmed straw hat. Many men, however, prefer to use a handkerchief or turban bound about the head, to absorb the perspiration exuded from the forehead, which, if allowed to run down on the eyebrows, is to some a great annoyance.

If the weather is cool, thicker shirts and trowsers should be provided.

A thick flannel or pilot-cloth boat-coat is needed when leaving the boat in a state of perspiration, to prevent catching cold; and, if the weather is raw and chilly, an elastic band about the wrist will prevent the wind blowing up the arms. This coat should be lined with flannel, and all the outer garments should be of woollen material.

The inside of the trowsers' seat may be lined with a large, soft skin of wash-leather, to prevent the woollen fibres from irritating the cuticle. Although answering this purpose admirably, it has the disadvantage of getting hard after becoming wet by perspiration or water coming in over the boat.*

Diet.

At this stage of training, a far greater latitude in the matter of diet is admissible than is generally allowed. Every one knows, or ought to know, what suits him best and what does not; and, short of permitting anything positively injurious or unwholesome to be put on the table, too much consideration cannot be shown to the inclinations of the men; for it should not be forgotten that "what is one man's food is another man's poison." "Whatever a man's habits have been, if reasonable and temperate, let him merely modify them now upon general sanitary principles, and let him not be converted just four weeks before a race into an artificial creature, feeding only on the most flesh-forming food, dreading the innocent adjuncts of any one's table in ordinary life, and trusting to beef and mutton and strong ale to deliver him." The meals should be taken at the same hour of the day, and enlivened as much as possible by agreeable conversation, and no effort should be spared to make the time spent at the table as genial and agreeable as possible, since nothing is so conducive to good digestion.

The daily routine.

The men should rise at a moderately early hour, depending somewhat upon their ordinary habits and the time fixed for their breakfast, which should be partaken of within an hour after rising, to avoid the staleness and exhaustion consequent on too much exertion on an empty stomach. Having dressed, let them turn out for an agreeable walk of a mile or so at a steady pace, *no running*, so as to inhale the invigorating morning air, and give tone to the appetite. On returning, let them take a cold bath as a tonic, rubbing the skin well with rough towels or horsehair gloves. If the season of the year and the state of the atmosphere admit of it, a bathe in fresh water, or salt if attainable, will be very beneficial; but their stay in the water should be very brief, no paddling or dabbling, or the whole effect will be lost. A good rubbing down after such a plunge will produce the desired reaction, and an exhilarating glow will supervene. Breakfast should now be served; after this meal there will be study or business, but for the present no fixed routine need be marked out.

If the dinner-hour is late, a light lunch of bread and cold meat will be necessary; but, as in this country the majority of men dine early, the mid-day meal will be the

* Ox-marrow is found to be excellent for keeping the wash-leather lining soft and pliable.

principal one of the day. If an early dinner is partaken of, a substantial but not heavy supper will be required, two or three hours before retiring. At all these meals, let the diet be as varied as possible, so long as it is wholesome and nutritive. It will be well, however, to avoid white meats, cheese, and raw vegetables, which may be indigestible, such as cucumbers. Every man's own experience of what he should eat and what he should avoid can here be made use of to great advantage.

As little mental and sedentary work as possible should be undertaken, and, if practicable, as much spare time as can be allowed should be devoted to the amusement of the mind, by walks, horse exercise, and witnessing out-of-door sports, billiards, or other in-door diversions. Standing about, however, should be avoided; it wearies the loins, and, if prolonged, is apt to produce lassitude and staleness the next day. Recreation.

The foregoing preliminary course having lasted until within four or five weeks of the day appointed for the match, the men having during that time physically improved and fallen well together, doing their work with that machinelike regularity which is so essential to success, and everything being in good trim, the second and all-important stage of strict training must be commenced. Strict training.

This stage of the work is not so dissimilar from the preceding one as might be supposed: the broad principles are the same, but the details of execution differ in many respects very materially. The hours of rising, bathing, meals, exercise, and recreation will be nearly identical, but the ingredients of the various repasts and the actual work will be different.

The crew should rise, in the spring or fall, between six and seven o'clock; in summer, from half-past five to six, after having had full eight hours' sleep, or, perhaps, more in some cases. If taken in-doors, the bath may follow immediately, or, even if bathing in the open air is resorted to, still it is optional and perhaps better to take a walk of a mile or two and then bathe, taking care not to do so until all perspiration has ceased, in case it has been excited. The daily routine.

There should be *no running* before breakfast; rowing in the light boats of the day with a quick stroke requires that the men should be as fresh and lively as possible, and nothing takes away the freshness of the muscles of the legs so much as running. In some cases, so far from running being necessary, it may, while it improves the wind, be positively injurious in other respects. Of this the trainer must carefully judge. A few days before the race, a little sharp running may be advisable; but experience seems to prove that overtraining and many of its associate evils are caused by too much running rather than too much rowing. No running before breakfast.

Breakfast should be taken from an hour to an hour and a half after leaving the bed, not longer. To prevent undue exhaustion of the system, there is no objection to a hard biscuit, with a glass of water or milk, being taken the first thing after rising. Breakfast.

This meal should consist of broiled meat (*nothing fried*), such as mutton-chops or good porter-house or tender rump steaks; occasionally cold beef or mutton, with bread or toast and butter. An egg or two may be added, provided it agrees with the individual taking it, and, if at hand, a little lettuce or water-cress. Brown bread is useful as a change. The meat should be well cooked—just “done to a turn,” and not blue or half-raw, yet full of gravy and the natural juices. The bread should be invariably stale—that is, not less than twelve hours old. For drink, water or black tea—two moderate cups of tea are admissible, but one is better, and *not hot*.

In the season, ripe fruits, such as berries or baked apples, may be partaken of sparingly.

The morning
row.

Breakfast over, no active exercise should be taken for an hour, at the expiration of which time, if the crew row in the morning, they get into their boat and row three or four miles. If, as in some cases, all the rowing is done in the afternoon, then the period from breakfast to the mid-day meal will be occupied with reading or recreation.

A smart walk, or the exercise of running regulated as prescribed in the last chapter, or an hour's work with the foils, the Indian club, or the dumb-bells, will find in this portion of the day an appropriate place. On returning from the row or running, remove all the hot, wet flannels, sponge off, and rub down well with a dry towel. There should be an interval of say half an hour between this operation and dinner, so that the body may be quite rested before eating.

Dinner.

Dinner, whether taken in the middle of the day or late in the afternoon, is the most important meal of the day.

It should consist mainly of beef or mutton in any of the forms of roast sirloin or rib, broiled steak or roast leg, loin or saddle of mutton. For a change, broiled fowls may be added, and broiled fish, but not *fried*. Plenty of stale bread with a moderate allowance of the usual vegetables is indispensable.

All desserts, such as pastry, jams, cake, etc., should be scrupulously avoided; a light, plain pudding may occasionally be eaten, or the seasonable fruits, but very sparingly.

In a climate as dry and heating as ours, it will be better to avoid all wines or fermented liquors, and use only water or tea at dinner, especially if rowing is to follow.

The afternoon
row.

After dinner, some two hours should elapse before getting into the boat. If but one row a day is taken, this will be from five to ten miles, according to the judgment of the coach; but if the crew row twice a day, the same distance should be passed over as in the morning. On returning, rub down as before, changing all wet for dry garments. If the weather permit, a short walk may be taken, returning about an hour before supper is served. If the dinner was eaten in the middle of the day, supper may consist of a little broiled meat, a bit of dry toast, and a cup of tea; but it is better that it be a light repast. Where the men dine at five or six o'clock, a cup of tea or chocolate—never coffee—with a cracker may be taken about eight or nine o'clock, and, after an evening passed in reading or conversation, the crew retire at from half-past nine to half-past ten, according to the hour of rising.

Supper.

As has been several times remarked, but it will bear repetition, appetite will fix the limit of food at the various meals, and therefore it is well to allow the inclination to be suited in this respect, unless there is a tendency to eat too much.

Allaying
thirst.

Thirst may be allayed in the ways already alluded to; but great care should be exercised to drink sparingly, particularly of iced water, and never when in a perspiration.

Last week of
practice.

The final week of practice is generally spent on the course on which the boat-race is to be rowed, the crew removing thither from their ordinary training locality, but no alteration in work of any consequence will be advisable until the last day or two, as the crew will need to have the finishing touches put on their rowing as well as to accustom them to the strange water. One good hard row a day is ample; but if it is deferred till the evening, a steady paddle for a mile and a half out and back, or three miles in all in the forenoon, if not too hot, will not be doing too much.

No severe work should be done during the last two days. The strength must now be allowed, as it were, to gather itself up for the final effort. This time will be far more profitably spent in practising rapid starts, as in the actual race itself—starts of from a dozen strokes to a hundred yards. This matter should not be overlooked, as, if the men are not familiar with and always ready for the accustomed word of command, they may be flurried at the moment when it is most desirable they should be watchful and perfectly collected.

Care should be taken that on the day of the match the men have an ample meal two or three hours previous to the race. If they are a little nervous, some slight stimulant may be given them. A dry biscuit, with a cup of tea without milk or sugar, but with a teaspoonful of brandy, may be found beneficial, though, as a rule, all stimulants had better be avoided.

It may be proper here, at the risk of repetition, to recapitulate some of the cautions given, and to point out specifically some of the most important errors to be avoided. During the preparatory stage, the chief point to be attended to is the rowing; in the stage of strict training, certain definite laws are laid down as to forbidden things, and compliance with them cannot be too rigid or too ready. Primarily, all absorbing intellectual labor and sedentary occupation should as much as possible be laid aside, and all mental excitement and anxiety should be avoided.

Summary of
cautions.

The hour of rising should not be too early or unreasonable, and no violent exercise, which will cause profuse perspiration, should be taken before breakfast, as the system is thereby weakened.

Hard rowing and long runs at an early hour are especially to be deprecated: they cause lassitude, loss of appetite, and a feeling of general debility throughout the day.

In bathing, caution is necessary; serious consequences are often produced by suddenly entering the water in a state of profuse perspiration. It is very prejudicial, also, to stop in the water too long—a plunge or two and a short swim are best.

After rowing hard, great circumspection is requisite to prevent a cold being caught; the men, therefore, should never stand about after getting out of the boat, but should put on warm coats, tie up their throats, and, unless they run, go in-doors as quickly as possible, to rub down, and change the clothing.

The rowing clothes and the mats on the thwarts should be well dried after being used.

No sleep should be permitted after dinner or tea, or until the proper hour of bedtime arrives.

Violent exercise should on no account be taken after a full meal.

Fresh air and plenty of it is essential in the sleeping apartments, but care must be taken that a draught of air does not pass over the person while sleeping.

Standing about on wet ground or on dewy evenings should be avoided, and so should lying down on the grass in warm weather—the more powerful the sun, the greater the evaporation, and the more liability to an attack of rheumatism.

Much exposure to the hot sun in summer, particularly for those unaccustomed to it, is apt to be injurious, particularly so on the day of the race. Hence races should always be rowed late in the day in very hot weather.

In the matter of diet, all articles of food which prove constipating should be

eschewed; this is the case with too much toasted bread. Green tea should not be used; black tea only, and that not too strongly infused, and never very hot. Coffee had better be avoided. Cocoa does not agree with every one. All white butcher's meat, such as veal and pork, all salted or smoked flesh, and all highly seasoned dishes, leave untouched. Radishes, cucumbers, celery, horse-radish, onions, pickles, pastry, preserved fruits, soup, cheese, all *fried* meats, and the whole family of condiments, are only to be shunned.

If wine is ever used after dinner, it should be but one kind and never mixed, and never be followed by milk in any form, such as gruel, etc.; nuts, ice-creams, and all confectionery are never to be thought of by the man in training, nor should wine, spirits, or any fermented liquids be used late at night.

Lastly, tobacco in all and any of its forms must be given up, or, if this cannot be done, its use must be restricted to the least quantity required to preserve the tension of the nervous system.

From this general review of the details of the preparatory and final or strict stage of training, we readily perceive how important are the duties of the trainer or coach, and how essential their proper discharge is to the success of the crew.

The duties
and relations of
the trainer to
the crew.

In the remarks on coaching the crew, many of his duties were clearly marked out, but a few points yet remain to be touched upon. As soon as the crew are finally selected, let them be weighed and girthed, an operation which ought to be repeated every week during the training. The first weights and measures give a point of departure by which all future changes, whether improvements or lapses in condition, can be detected. It is the trainer's business to look closely after the physical well-being of the men in every particular; it is for him to regulate their hours of work, leisure, and repast, to order and preside at their meals, exercising a strict supervision over everything, and above all practising as much as possible what he preaches. He must be careful that they run into no excess, and that they do not break through the rules laid down for their guidance, excepting so far as he may permit in peculiar cases. The men should be kept in good humor and in perfect accord with one another, as it is better to have a bad oar than a bad-tempered man in a crew.

The different constitutions and tempers are to be studied, and any little disagreement or show of impatience arising from the severity of the discipline must be reconciled and kindly corrected by pointing out the temporary nature of the hardship, and reminding them of the result to be achieved.

He should lend a willing ear to complaints as to the oars or the mechanical parts of the boat, taking care that the men get to their work properly, are neither too near or too far off the oar, that the seats are of the proper height, and that all the little technicalities of oars, buttons, rowlocks, seats, foot-boards, etc., are correct and in order in every detail.

He must be especially watchful of any incipient symptoms of overtraining, weakness, or other bodily ailments. Should any of the men exhibit signs of being overworked, it is for him to prevent bad from becoming worse by allowing a suitable relaxation of work or a more free indulgence in the matter of diet, as he may judge best in the great discretion left to him. He must encourage the men to tell him of the slightest thing that is wrong with them—reticence in this respect being probably the greatest difficulty he will have to contend with. But, not to rely too much on

the candor of the crew in this respect, he must be well able to distinguish the signs and appearance of men under or overworked, and if there is any doubt in his mind as regards any particular case, he will do well to occasionally take the advice of some old rowing man accustomed to training, if possible, who sees the crew at long intervals, and who would thus notice changes which are apt to escape the observation of one who sees it every day.

To sum up the matter, the trainer must be an accomplished and thoroughly practical oarsman, a first-rate judge of time, form, pace, and physical condition, possessing that accurate knowledge of rowing only acquired by much experience at the oar and by a minute and critical observation of the style and form of the best models, and, superadded to this, he must be concise and intelligible in speech, perfectly audible in his commands, and always vigilant, impartial, good-tempered, and considerate.

The men composing the crew having been finally decided upon, these must now make up their minds to devote themselves to the object in view, and spare no pains to render themselves perfect. They, too, have duties and obligations to be fulfilled. They must do their work willingly, however disagreeable and foreign to their usual habits it may be, and do it thoroughly without shirking.

Duties and obligations of the men to their trainer.

They should obey their trainer in all his orders, and comply readily with his instructions, recollecting that he is advising and admonishing them for their own improvement and benefit. Let them work with a good grace, not sullenly or in ill-humor. They should always confide in their mentor, and make no hesitation in acquainting him with any grievance which appears, and for which he may be able to suggest a remedy—not maintaining an obstinate or dogged silence or brooding over imaginary wrongs and hardships.

The ordinary precautions against colds should not be neglected, such as always taking thick wrappings in the boat, in cases of stoppages or delays when overheated. They should not allow themselves to dwell upon the chances for defeat or unnecessarily worry themselves as the day for the match approaches. Lastly, when left to their own devices or discretion, as must be frequently the case, they should never break through the limits or rules prescribed, and by some foolish indulgence or indiscretion undo in an hour all that it has taken weeks to accomplish.

CHAPTER V.

HINTS ON OUTFITTING — BOOKS RECOMMENDED — ORGANIZATION AND ADMINISTRATION OF BOAT CLUBS.



Persons desirous of learning the use of boats and the art of rowing as healthful exercises are often at a loss how to proceed in the matter, we propose to offer a few hints, which will serve them as guides until sufficient information has been acquired to make them independent of all such aids.

To enjoy boating water must be accessible.

To thoroughly enjoy boating, or to use it advantageously as an exercise, accessibility to the water is the first requisite, as, if very far distant—for instance, two or three miles—much time is consumed in going to and returning from the place of embarkation, and the freshness of one's strength and zeal is more or less expended in this effort. The nearer, therefore, the dwelling-place is to the boat-house, the better. This remark does not apply with so much force to large towns or cities, where cheap public conveyances afford a means of rapid transportation, and where the water-front is usually situated at a considerable distance from the residences of the mass of the population.

Any stream, sheet of water, or canal can be made use of for rowing by the beginner, where the current does not exceed two miles an hour and the surface is not turbulent; but a pond, lake, or the sheltered or shallow reach of a river is the best. The depth need only be sufficient to float and turn the boat, and allow the sculls or oars to be dipped without touching the bottom; but the deeper the water, the easier will the boat be propelled.

Boats proper for beginners.

The varieties of boats suited to the wants of the young and inexperienced oarsman are quite numerous; on almost every stream and sheet of water the ordinary demands of traffic or travel are supplied by some form of skiffs, canoes, or gigs, in any of which the art of rowing can be practised at the least possible expense for an outfit; but, as we write for those who can afford to purchase a suitable boat, we would recommend for beginners and for general exercise, where unusual speed is no object, either of the following boats we build: the fifteen-foot dingy, or the sixteen-foot Stannard skiff, as described in Part First; or, if a larger and wider boat is needed, then a wooden gig, seventeen to nineteen feet long, commonly known as the "Whitehall" boat. For coaching men in pairs in the process of training, the thirty-inch shell, rigged as a pair-oared, with coxswain's seat, is an admirable boat, on account of its great roominess and steadiness.

For young men who desire to learn to row for speed as well as exercise, intending ultimately to use a light shell-boat, we recommend that they take their first lessons in the art from a competent instructor, if one can be procured, in a roomy skiff or gig, according to the method laid down in Chapter I. of this Part; and, after being in this

way well grounded in the principles, they will be prepared to use the light shell-boats described in Chapter I., Part First, choosing from among those there described the one best adapted to their weight and size.

As boats of all kinds are more or less perishable, to preserve them in good order, as well as to avoid the necessity of frequent repairs when not in use, they should be protected from the heat of the sun and from storms, as repeated wetting and drying is much more destructive than fair use. Common or very heavy boats may be drawn upon shore, or, better, allowed to ride free by a short painter attached to a stake or buoy near the shore, as, if tied up to a wharf, cribbing, or float, the constant agitation of the water causes them to chafe by the incessant rubbing against other timbers. But all boats which are neatly finished, or expensively built, should either be removed from the water entirely, as explained in our directions for the care of shells and racing-boats, or placed under the shelter of a suitable boat-house, either lying in a properly constructed slip or hoisted out of the water after the manner of stowing boats aboard ships.

Hence arises the necessity of boat-houses, which should be built and equipped with special reference to the kind of boats to be sheltered, since each class, if properly cared for, needs accommodation peculiar to itself. For details under this head, the reader is referred to Part Fifth.

Although rowing men are seldom reading men, and reading men are rarely oarsmen, for the benefit of those who desire to consult other works on this subject, it may not be out of place to allude briefly to some of the principal sources of information on rowing and kindred topics. At best the literature, both of rowing and boat construction, is very meagre, and, until within a few years, no works of any real value have been published either in this country or abroad. Writers on both these subjects have been very few, and it seems singular that, while there have been so many whose skilful practice well fitted them for the task of putting their experience and knowledge into print, scarcely any have been found willing to do it.

The only books published in this country of any permanent value have been "Johnson's Rowing in America," and "Peverelly's American Pastimes," to which allusion has already been made. Mr. Johnson's book touches briefly on a variety of topics in which all rowing men are personally interested, and contains some excellent contributions from prominent oarsmen in the United States. Mr. Peverelly's book is more of a historical and statistical character, containing much valuable information in regard to boat-races rowed in American waters during the last ten years.

To the English are we indebted for most of the boating literature of the day, since in England the arts of rowing, training, and boat-building have been the most encouraged.

On the general subject of training, the admirable work of Mr. Maclaren* is at once the most clear and comprehensive treatise to be found in the language. On rowing, and, incidentally, on training, the little work by "Argonaut"† is the one of all others we would recommend to oarsmen. Its arrangement is excellent, the style easy and perspicuous, and it is evidently written by one perfectly at home on the subject of which he treats.

* "Training, in Theory and Practice." By Archibald Maclaren. 1 vol. 8vo. London: Macmillan & Co. 1866.

† "The Arts of Rowing and Training." By "Argonaut." 1 vol. 16mo. London: Horace Cox. 1866.

Books recommended.

So well are the principles of rowing and training defined in these two works, and so admirably are they applied, that we have not hesitated to quote largely from both these authors in this part of our work, since what they have to say in regard to many details of these subjects could not be improved upon, either in language or perspicuity.

The latest work published in England on rowing is a pamphlet by T. J. Derington,* Oxford, in which the principles of the art are elaborately explained with diagrams.

The article on "Rowing and Boat-racing,"† by Stonhenge, in "British Rural Sports," contains a good deal of useful information; but, as the last edition of this work was published in 1863, it is neither as complete nor as applicable to the wants of American oarsmen as the work of "Argonaut." The "Principles of Rowing and Steering"‡ is an excellent treatise on these subjects, but particularly valuable to coxswains, of whose special duties it treats more at length than any other work. For sportsmen who are particularly interested in boats for hunting wild-fowl, Colonel Hawker's book§ contains all that can be found in print on this point. We are indebted to this volume for many valuable hints, which will be found embodied in both the Standard and Monitor skiffs.

The two chapters on boats, in "Shifts and Expedients of Camp Life,"|| etc., we would heartily recommend to all those who have occasion to camp out, or use boats either within or beyond the pale of civilization. They abound in hints and expedients most useful to every one who has, or expects to have, anything to do with water-craft, and are the most complete treatise on this branch of the subject we have seen. Of books relating especially to the principles of construction of boats and their application to the art, or which may be consulted to advantage, the following may be mentioned:

"Hints Experimentally Derived on some of the Principles Regulating the Forms of Ships and Boats." By W. Bland, Esq. 1 vol. 12mo. London: Vertue Brothers & Co. 1865.

"The Boy's Own Book of Boats." By W. H. G. Kingston. 1 vol. 12mo. London: Sampson Low, Son & Marston. 1868.

"The Boat, and How to Manage It, etc., etc." By Salacia. London: Houlston & Wright. 1868.

"The Modern System of Naval Architecture." By J. Scott Russell, F.R.S. Three vols. folio. London. 1865.

"A Treatise on Ship-Building." By Professor Rankine. Folio. London: Mackenzie. 1866.

The following works written by Mr. Macgregor, under whose directions the first "Rob Roy" canoe was built, give all the details connected with the building and fitting of this boat, as made of wood:

"A Thousand Miles in the 'Rob Roy' Canoe." By J. Macgregor. 1 vol. 16mo. Fifth edition. Boston. 1867.

* "How to Row." By T. J. Derington, Ch. Ch. Oxford: Slatter & Rose. 1870.

† "Manual of British Rural Sports, etc." By Stonhenge. London: Routledge, Warne & Routledge. 1863.

‡ "The Principles of Rowing and Steering." Oxford: Slatter & Rose.

§ "Instructions to Young Sportsmen in all that Relates to Guns and Shooting." By Lieut.-Col: P. Hawker. Eleventh edition. Edited by his son, Major P. W. L. Hawker. London. 1859.

|| "Shifts and Expedients of Camp Life, Travel, and Explorations." By W. B. Lord, Royal Artillery, and T. Baines, F.R.G.S. London: Horace Cox. 1868.

"The 'Rob Roy' on the Baltic." By J. Macgregor. 1 vol. 16mo. Second edition Boston. 1867.

"The Voyage Alone on the Yawl 'Rob Roy,' from London to Paris, and Back *via* Havre and the Isle of Wight." 1 vol. 16mo. London. 1868.

"The 'Rob Roy' on the Jordan, Nile, Red Sea, and Gennesareth, etc." By J. Macgregor, M.A. 1 vol. 12mo. New York: Harper and Brothers. 1870.

As has already been remarked, rowing, as a manly exercise, is so consonant with the active temperament of American youth, commends itself so strongly to our attention as one of the best promoters of health, and affords such opportunities for friendly strife and emulative efforts, that there are, no doubt, hundreds of young men whose residences near rivers and lakes present ample opportunities for its practice, who would become adepts and enthusiasts in the art could they have opportunities to witness displays of good oarsmanship, and obtain the necessary information in regard to the most suitable kinds of boats, their cost, how procured, how used, and how preserved. But, even where such opportunities are at hand and this information is attainable, and an eager interest is excited, it is too often the case—indeed, with the majority of American young men it may be said to be always the case—that the means are lacking to gratify this taste. To procure even a common boat, house it properly, and keep it in repair, requires an expenditure of not less than from thirty to fifty dollars; and this is a sum which comparatively few young men can afford. How, then, can the young man of small means gratify his taste for rowing?

Rowing, although a popular exercise, too expensive to be indulged in by the majority of American youth.

It is here that the principles of association and combined effort can be applied with marked success. By a number of persons uniting, and each contributing even a very moderate sum to a common stock, means can be obtained to purchase boats and their equipments which would be beyond the reach of any individual member of the association, but which, by a judicious and amicable arrangement of rules and regulations, all can have opportunities for using as much as they desire. A boat or rowing club, therefore, is an association whose object is to cultivate and gratify a taste for rowing, the members of which equally and systematically contribute certain sums for the purchase and maintenance of suitable boats, and all the necessary appliances for the sport, under such laws and regulations as the experience of others and their own wants show to be necessary.

This objection removed by the club plan.

Object of a boat club.

Such clubs are generally formed with one of two objects in view: either for the promotion of the popular sport of racing, in which case competition is a vital necessity, or simply for the purpose of pleasure or exercise. In many cases, both these objects are combined.

Where clubs are to be formed of new material in places in which there has been in the past but little attention paid to rowing, or where little or no enthusiasm on the subject has prevailed, most of the labor of interesting those who are to compose its future membership must fall on one or two persons, and these, having assumed the "laboring oar," should make themselves as conversant as possible with all the details of the proposed plan, in order that they may present the matter in a clear and effective light to the patrons of the enterprise and to those whom they desire to become active members.

Hints on their organization in towns and cities.

In every case, it is very desirable to have, as a nucleus, a few rowing men more

or less familiar with the art, whose experience will greatly aid in the organization of the club and materially lessen the labor of making a beginning.

A list of names of all those who may be regarded as likely to join should be prepared, to each of whom it would be advisable to send a well-digested circular letter, setting forth the merits of the proposed plan, the method of procedure, and appointing a stated time for holding the first meeting. In short, all the ordinary means of awaking interest and enthusiasm in the project should be employed.

It is here that the benefit of having experienced hands among the promoters will be especially seen, as by their knowledge of boats and rowing all the enthusiasm which is excited can at once be turned to good account before it evaporates, and a long step can thus be taken to put the organization on a working foundation.

Selection of
the officers of
administration.

When the meeting takes place and a temporary organization is effected, the first business should be the selection or appointment of the administrative officers of the club, namely, a president, secretary, treasurer, and a working or executive committee. The latter should consist of not over five or seven members, large enough to do its work of soliciting subscriptions and working up such other details as may be assigned to it, but not so large as to be unwieldy or not work harmoniously together.

Qualifications
of the Presi-
dent.

To ensure success it is of much importance that the officers should be judiciously chosen. The president should be a man of business experience and well-established character, whose social position and reputation will serve to give standing to the club. It were well if he is somewhat familiar with the manner of conducting public meetings, in order that, as the presiding officer of the club, its proceedings may be characterized by decorum, all tendency to disputes judiciously avoided, and the best views brought out on topics under discussion.

Treasurer.

The treasurer should be a person of strict integrity, careful yet capable, and having some business experience, prepared at all times to account for the moneys placed in his trust. Many an excellent organization has been wrecked through the unfaithfulness or incompetency of its treasurer.

Secretary.

The secretary, as the historian of the club and the officer charged with the care of its records, should be rapid and easy in composition and, if possible, a good penman, whose books and papers will always look neat and be ready for reference. He, too, should have a practical knowledge of rowing, and be well up in all the details of his duty, as on his shoulders necessarily rests much of the routine work.

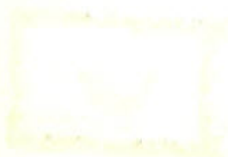
Professional
officers.

The club having now got into working order, the officers whose duties relate particularly to the rowing and the boats are next to be selected; this must be done with especial reference to their fitness for these posts. They are usually designated as the captain and the coxswain.

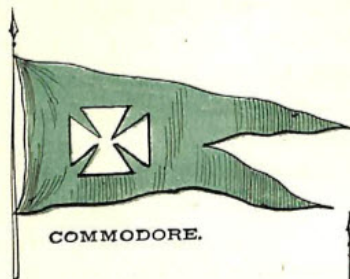
Captain and
coxswains.

As in the absence of a regular trainer, or coach, the captain fills this office and teaches the younger hands, he is to be chosen for his knowledge of rowing, training, and the handling of the men, while, if the club have several large boats requiring a steersman, a coxswain and one or more assistants will be needed.

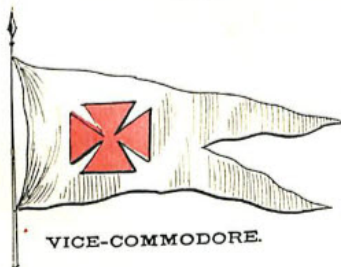
Finally, all the officers must be enthusiastic workers, ready to lead in all improvements and willing to accept any good suggestions offered by even the youngest member, not adhering too pertinaciously to their own views, and invariably "pulling together." The question as to the officers having been settled, the next points to be decided are the adoption of a name for the club, the selection of its colors, the choice of the number



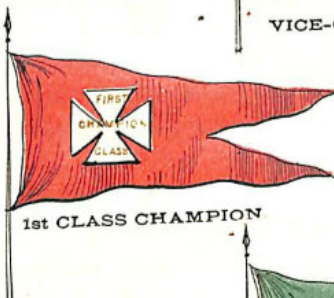
FLAGS OF **THE SCHUYLKILL NAVY.**



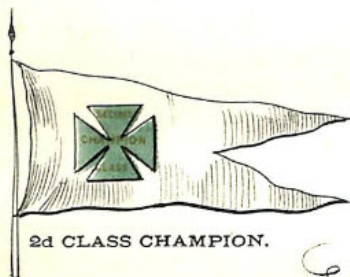
COMMODORE.



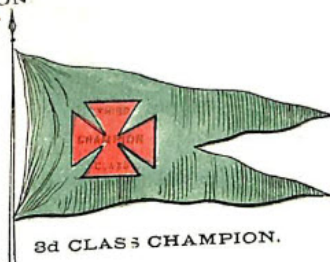
VICE-COMMODORE.



1st CLASS CHAMPION



2d CLASS CHAMPION.



3d CLASS CHAMPION.

DISTINGUISHING FLAGS OF

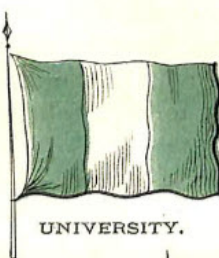
The Clubs Composing the Navy.

SIZES:

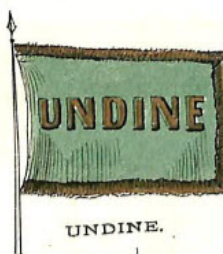
For Boathouse, 80 by 40 in. Bunting.
 For Boats, 12 by 18 in. Silk. To be carried at the Bow.
 For Boats (Racing) 6 by 8 in. " " "



BACHELORS.



UNIVERSITY.



UNDINE.



QUAKER CITY.



PENNSYLVANIA.



PHILADELPHIA.



MALTA.



VESPER.



CRESCENT.

and kinds of boats to be purchased, a site for a boat-house and meeting-room, and the drafting of a proper constitution and by-laws.

To aid in the settlement of these questions, it is of the greatest advantage to a new association to be able to avail itself of the experience of other clubs, many of which have perhaps arrived at their present position of prosperity and acquired their present reputation, by a long course of vexatious and possibly costly trials which it is most desirable to avoid. If, now, the best features of such organizations can be studied, and the results of their experience be judiciously applied to the case in hand, thereby enabling the new association to avoid the obstacles and escape the trials which its predecessors had to encounter, all its pecuniary means and all the enthusiasm aroused can be made to serve the desired end, and no portion of either will be wasted or lost. It is with this view that we herewith present, for the examination and study of those forming new clubs, the constitutions and by-laws of some of the best-organized rowing associations in the United States.

Advantages
of being able to
use the expe-
rience of other
clubs.

In the selection of a name there is a wide field to choose from. The appellations of the gods and goddesses of the heathen mythology have from some cause or other always been favorites with club men; the town in which members reside, or the stream upon which the work is done, may contribute a title; or some aboriginal name, significant of some natural object, tribe, or historical event of special fame or interest in that locality, may be selected. Numerous examples of all these varieties of nomenclature will be found in our list of boat clubs of the United States.

Selection of a
name.

It is usual for each club to have its distinctive color or badge, in order to distinguish its headquarters or its members at races and regattas, and the one adopted becomes also the distinguishing feature of its flags. The choice of a particular color is a matter of taste, but as very few persons are familiar with the size and shape of the flags used by boat clubs for different purposes, we have thought it would be useful to introduce here a plate, illustrating those used among the clubs of the Schuylkill Navy, in which association this matter has received very careful consideration. The shape, style, and dimensions of each kind are so well defined that, with these as a guide, no club need be at a loss to decide upon their flags for boat-house or boats.

Color and
flags.

The site of the boat-house must be determined by local considerations. It should be built at a point easily accessible to a majority of the members, and, if built on shore, secure from all floods or high tides. Its size and arrangement will depend on the number of members to be accommodated, and whether built ashore or to float.

Site for a boat-
house.

We refer the reader for all details on this subject to Part Fifth, with this one word of advice to new clubs:

Do not be too ambitious at first to put up a large and expensive house. Commence simply, commensurate with your means. A very cheap affair can be made to protect the boats well, and yet be very convenient. After the club has become strong in numbers, with funds at its disposal, and a good reputation for rowing, it will then be time enough for indulging in a permanent and ornate structure.

The meeting-room for business purposes should be at the boat-house, if possible.

As regards the purchase of boats, our remarks on this subject in Chapter Seventh of the Introduction and in the first part of this chapter, together with the details given in Part First, cover all that seems necessary on this point.

Boats.

We present herewith copies of the constitutions and by-laws of five of the largest

Constitution
and by-laws.

and best boat clubs in the United States, full details of whose organization and resources will be found in Part Fourth.

They have been selected as illustrating different methods of organization, either under or independent of the laws of their respective States, and, as they have all been recently revised, may be considered as some of the best examples of documents of their class.

Union Boat-
Club, of Bos-
ton, Mass.

The Union Boat Club, of Boston, Mass., is one of the principal rowing organizations in New England. The real estate occupied by this club is the property of the Union Boat Club Association, a joint-stock company, incorporated under the laws of the State of Massachusetts, and to whom the Union Boat Club pays an annual rent for its use. This club was organized May 26, 1851. The present constitution and by-laws were adopted April 18, 1870.

CONSTITUTION.

Name.	ARTICLE I. This organization shall be called "The Union Boat Club, of Boston."
Primary ob- ject.	ART. II. The object of the club shall be to foster good feeling among its members, encourage boating, and promote physical culture.
Character.	ART. III. This shall be exclusively an amateur association. No member shall enter into negotiation to row a race for a stated sum of money, nor shall the funds of the club be appropriated for prizes. No entry in the club name shall be made in any race, unless approved by the executive committee.
Number of members.	ART. IV. The number of active members shall not exceed one hundred and fifty.
Property.	ART. V. The legal title to all the property, effects, and assets of the club shall vest in the members thereof for the time being. Termination of membership, from any cause whatever, shall operate as a release of all right and title to, and interest in, the property and assets of the club.
Dues.	ART. VI. To defray the expenses of the club, there shall be an entrance-fee of twenty-five dollars; and an annual assessment of the same amount shall be paid by all active members, excepting the captain, treasurer, and secretary.
Officers.	ART. VII. The officers of the club shall be a president, vice-president, captain, lieutenant, treasurer, secretary, and three directors, who together shall constitute the executive committee, and hold office till the annual meeting, or until their successors are chosen.
Agreement with U. B. C. Association.	ART. VIII. The treasurer, in addition to such amounts as the club may appropriate, shall, each year, pay to the Union Boat Club Association, for rent, fifteen dollars from each entrance-fee, the same amount from each annual assessment, and a like proportion of fractional assessments paid by active members. These amounts shall not be changed, except with the concurrence of a majority in interest of the above-mentioned association.
Amendment or repeal.	ART. IX. This constitution may be amended or repealed by a vote of four-fifths of the members present at a regular meeting, notice of the general character of such amendment or repeal having been given at the preceding regular meeting; but the amendment or repeal of Article VIII. shall further require the concurrence of a majority in interest of the Union Boat Club Association.

BY - L A W S.

President.	ART. I. The president shall preside at all meetings, and enforce all laws and regulations of the club. In his absence, the senior officer present, with the exception of the treasurer and secretary, shall perform his duties: should no such officer be present at a meeting, a chairman shall be chosen by vote.
Treasurer.	ART. II. The treasurer shall keep the accounts of the club, receive all dues, and pay all bills duly approved by at least two other members of the executive committee, keeping proper vouchers. He shall exhibit his accounts at the annual meeting; his books shall, at all times, be open to the inspection of any member of the executive committee; and he may be removed by the club, or the executive committee, at any time, for refusal to exhibit them, or for any misconduct in the affairs of his office.
Secretary.	ART. III. The secretary shall issue all proper notices, keep a record of the meetings of the club, the proceedings of the executive committee, and of all other matters concerning which a record shall be deemed

advisable by him or by the committee; which record shall, at all reasonable times, be open to the inspection of any member of the club. He shall also conduct all correspondence appertaining to his office.

ART. IV. The captain, under the direction of the executive committee, shall have control of the boats and charge of all the property of the club, except moneys; and shall see that proper repairs are made and equipments furnished.

Captain.

ART. V. The lieutenant shall assist the captain in all his duties, and shall see that a log-book is properly kept, in which shall be recorded the date of each pull, boat used, number of miles made, and names of oarsmen. In the absence of the captain, the lieutenant shall be vested with his powers, and perform his duties.

Lieutenant.

ART. VI. The executive committee shall have the full management and control of all the property, effects, and assets of the club, with power to sell and dispose of the same, or any part thereof. They shall enforce the preservation of order and obedience to the constitution and by-laws; shall make, or authorize, all necessary contracts and purchases, but shall have no power, unless specially authorized, to render the club, or any member thereof, liable for any debt beyond the amount of money which shall, at the time of contracting such debt, be in the treasury, and not needed for the discharge of prior debts or liabilities; shall have power to employ such servants and assistants, and make such regulations for the economy, comfort, and success of the establishment, as they shall think proper; shall audit the accounts of the treasurer, constitute a committee on election of members, give proper designations to all boats belonging to the club, and generally do all things for the proper management of its affairs.

Executive committee.

ART. VII. Should the office of president, captain, or treasurer become vacant, the executive committee may call a special meeting of the club to fill such vacancy; should any other vacancy occur, the committee may fill the same by election from the active members of the club.

Vacancies.

ART. VIII. The annual meeting shall be held on the first Monday of March, at seven and one-half o'clock, P.M., for the election of officers, and such other business as may be brought before it. Monthly meetings, except as hereinafter provided, shall be held on the first Monday of each month, at such hour as the executive committee may direct. Notices of all meetings shall be sent to active members and posted on the bulletin-board, at least three days before the time assigned for them respectively. All meetings shall be held at the club house, unless otherwise directed by the executive committee; and said committee may, at their discretion, dispense with said meetings whenever the same shall be believed by them to be unnecessary. None but members shall be present at a meeting, and it shall be the duty of the active members present to vote upon all matters brought before them. Fifteen members shall constitute a quorum for the transaction of ordinary business; twenty members, for alteration in the constitution and by-laws and expulsion of members; but a smaller number may meet, and organize, and adjourn a meeting, notice thereof being sent, as provided in other cases, at least one day previous to the date to which such meeting is adjourned. Proxies shall not be allowed. At all meetings the order of business shall be as follows:

Meetings of the club.

1. Records of the preceding meeting.
2. Reports.
3. Elections.
4. Proposals of candidates.
5. Unfinished business.
6. General business.

ART. IX. The executive committee, of which five shall constitute a quorum, shall hold monthly meetings on such days as they may elect; and special meetings may be called by the secretary at the request of the president, vice-president, or any two of the committee, upon notice to be sent or given to each member, at least twenty-four hours before the time appointed therefor.

Meetings of the executive committee.

ART. X. A special meeting of the club shall be called whenever the president, or the executive committee, shall consider one expedient, or whenever the president or vice-president shall be requested to call one by the written request of any ten members, setting forth the purpose thereof. Notices of special meetings shall state in general terms the matter intended to be acted upon, and no business other than that so specified, and the proposal of candidates for membership, shall be transacted at such meeting.

Special meetings.

ART. XI. At the annual meeting, the executive committee, through the president, shall make a full report of their proceedings during the previous year, and recommend such measures as they may deem advisable; the treasurer shall present his report of the finances, which shall be submitted to the three directors for the ensuing year, for examination and settlement, and the directors shall report thereon to the executive committee at their next stated meeting. If the same shall be approved by the committee,

Reports.

such account shall be deemed henceforth conclusively settled: if not approved, the same shall be submitted to the club at the next stated meeting, or special meeting called to act thereupon.

Election of
officers.
Election of
members.

ART. XII. All elections of officers shall be by written ballot, and a majority of votes shall elect.

ART. XIII. Candidates for admission may be proposed at any meeting of the club, and, if favorably reported upon by a majority of the executive committee, shall be balloted for at the next regular meeting; the notice of said meeting to contain the names of such candidates and their proposers. A written application, dated, stating full name, residence, and place of business of the candidate, signed by the member proposing him, with such references and remarks as he may have to make, shall be given to the secretary at the meeting at which said candidate is proposed; and the proposer shall be held personally responsible for his entrance-fee if said candidate is elected. All elections of members shall be by secret ballot, and three negative votes shall reject, unless twenty-five or more members are present, in which case it shall require five negative votes to reject. No candidate once rejected shall be again proposed for six months.

Members.

ART. XIV. Any member duly elected, upon signing the constitution, and paying his entrance fee and the portion of the annual assessment corresponding with the unexpired portion of the current year, including the month in which he is elected, shall become thenceforth entitled to all rights and privileges of active membership. Failure to make these payments within thirty days shall render such election null and void.

Assessment.

ART. XV. The annual assessment shall be payable in advance on the first day of April; and written or printed notice thereof shall be sent by the treasurer to each member on or before that day. If any member shall fail to pay the same before the first day of July next ensuing, it shall be the duty of the treasurer to report the case to the executive committee, for such action as they may deem expedient. Absence from the State, from April to September inclusive, may entitle any member to a remission of one-half the annual assessment, due request for such remission having been made by him to the executive committee.

Honorary
members.

ART. XVI. Honorary membership may be conferred by a unanimous vote at any regular meeting upon any member who has received an honorable discharge; the candidate having been proposed as required for active membership. Honorary members may enjoy all the privileges of active members, except holding office and voting at meetings. They may resume active membership at any time by signifying their intention in writing to the secretary, and paying assessments from that date.

Resignations.

ART. XVII. All resignations of membership shall be made in writing, addressed to the secretary; and, if made subsequently to the thirty-first day of March, shall not discharge the resigning member from his assessment for that year. All resignations of officers shall be made in writing to the president or secretary, and shall be acted upon as hereinbefore provided.

Expulsion.

ART. XVIII. If any member shall be charged by any other member, in writing addressed to the executive committee, with conduct injurious to the good order, peace, or interests of the club, or at variance with the requirements of the constitution and by-laws, the committee shall thereupon inform him thereof in writing; and if, upon enquiry, the committee shall be satisfied of the truth of the charge, and that the same demands such action, they shall request him to resign; and, if he declines to do so, shall refer the matter to a special meeting to be called for that purpose; and the club, after presentation of the case, and hearing the person so charged, if he desires to be heard, may proceed to expel him. A motion for expulsion shall be decided upon by secret ballot, and the vote of three-fifths of the members present shall be necessary to expel.

Discharge.

ART. XIX. No member shall receive an honorable discharge unless all his dues to the club have been paid.

Strangers.

ART. XX. None but members and guests, or visitors, introduced by members, shall be admitted to the club house. A member may at any time introduce a stranger into the house, and shall thereupon register his name, residence, and date of introduction in a book to be kept for that purpose, to which said member shall affix his own name. Such introduction shall not confer on such stranger a right of entrance at any other time; but the executive committee may at discretion give to such stranger a written invitation, entitling him to the privileges of the house for one month. All persons residing twenty miles or more from the city of Boston shall be deemed strangers.

Residents not
members.

ART. XXI. The privileges of the house may be extended to residents of Boston and vicinity as often as twice a month; and the same entry shall be made in the register as required of strangers.

Suspension of
Articles XX.
and XXI.

ART. XXII. A vote of the club, or executive committee, may suspend the two foregoing by-laws upon such occasions as may be deemed advisable.

- ART. XXIII. Any stranger, guest, or visitor violating any of the by-laws or rules of the club, may be notified by any of the executive committee through the member by whom he was introduced, that he can no longer enjoy the privileges of the club house. Guests violating by-laws.
- ART. XXIV. There shall be no games in the club house on the Sabbath, nor playing for money at any time. Games.
- ART. XXV. Members shall be within the control of the constitution and by-laws when in the club house or using club property; and shall then render prompt obedience to all orders of its officers. Members controlled by the constitution and by-laws.
- ART. XXVI. Private property may be kept in the club house by permission of the captain, and on such terms as the executive committee may prescribe. Such property shall not be used without the owner's permission. Berths shall not be let to persons not members of the club. Private property.
- ART. XXVII. No crew shall move a boat from its berth until a captain has been elected, to whose orders they shall be subject until it is by them properly housed. Those members who arrive first at the club house shall have a prior claim to pull in any boat they may select, except such as may be reserved by the executive committee. Use of boats.
- ART. XXVIII. Captains of crews, and persons using single sculls, shall be responsible for the good use of the boats, shall see them and their equipments properly housed; and, should injury occur to the same while under their charge, they shall report the damage to the proper officer. They shall also make proper record of all pulls in the log-book, in the manner provided in Article V. Responsibility for boats, and logs.
- ART. XXIX. Members shall be accountable for their use of the club property, and should injury occur to such, they shall report the same to the proper officers. Wilful or careless injury to property or damage through disobedience of orders, shall render the person causing it, liable to the full extent thereof. Injury to property.
- ART. XXX. None but members shall use the club boats without an officer's permission; and no person shall step or sit in a boat that is not afloat. Members only to use boats.
- ART. XXXI. When a boat is taken for a long cruise, notice of the direction of the trip and the probable time of return must be posted on the bulletin-board. No boat shall be taken from the club house for a longer time than forty-eight hours without permission from the proper officer, nor for more than two weeks, except by consent of the executive committee. Long cruises.
- ART. XXXII. Persons about the club house, on the rafts, or in boats at or near the same shall be decently clothed, wearing at least undershirt and trousers. Clothing.
- ART. XXXIII. The hospitalities of the club house may, at the discretion of the executive committee, be temporarily extended to crews or persons rowing on Charles River. Hospitalities.
- ART. XXXIV. No club property shall be loaned, except by permission of the proper officers. Loan of property.
- ART. XXXV. The club uniform shall be navy blue and white, of such pattern as the executive committee may prescribe. Uniform.
- ART. XXXVI. The club ensign shall be of a dark-blue field, with the letters U. B. C. in white. Ensign.
- ART. XXXVII. These by-laws may be amended or repealed by a vote of four-fifths of the members present at a regular meeting, notice of the general character of such amendment or repeal having been given at the preceding regular meeting. Amendment or repeal.

The Nassau Boat Club, of the City of New York, is an example of an incorporated society formed under the laws of the State of New York. It was organized November 19, 1867; incorporated June 20, 1868; and the present constitution adopted March 9, 1870.

Nassau Boat Club, of the City of New York.

ARTICLES OF INCORPORATION.

We, the undersigned, citizens of the United States, and citizens of the State of New York, and of full age, being desirous of associating ourselves as a society, in pursuance of an Act of the Legislature of the State of New York, entitled "An Act for the Incorporation of Societies or Clubs for certain Social and Recreative Purposes," passed April 4, 1865, and of the Acts supplementary thereto and amendatory thereof, do hereby certify:

Preamble.

That the name and title by which the said society shall be known in law is the "Nassau Boat Club, of the City of New York."

Name.

That the office of said society is in the city of New York.

- Object. That the particular object of such society is to promote physical culture, and, more especially, to encourage the manly art and exercise of rowing.
- Trustees. The number of trustees of the said society is ten.
The names of the trustees of the said society for the first year are as follows:
- | | | | |
|------------------|--------------------|------------------|----------------------|
| Lloyd Aspinwall, | Wilson Cary Smith, | James F. Dwight, | Charles S. Kingsley, |
| John C. Dungey, | J. Loury Hobson, | George H. Henry, | Junius Smith, |
| | John B. Lugar, | John A. Garland. | |
- Capital stock. That the capital of the said company is the sum of twenty-five thousand dollars, in shares of ten dollars each, par value.

Deposition of
the witness to
the subscribers'
signatures.

City and County of New York, ss. :

On the nineteenth day of June, in the year one thousand eight hundred and sixty-eight, before me personally came John C. Babcock, subscribing witness to the foregoing instrument, to me known, who, being by me duly sworn, did depose and say, that he resided in the city of New York; that he was acquainted with Lloyd Aspinwall, Wilson C. Smith, J. F. Dwight, C. S. Kingsley, J. C. Dungey, J. L. Hobson, J. Smith, G. H. Henry, G. S. Walsh, J. H. Miller, H. A. Tappin, F. W. Conklin, O. H. Arkenburgh, G. W. Talman, J. Mills, A. Hay, Jr., F. G. Styles, J. W. Henry, F. G. Brown, J. McNulty, J. A. Garland, W. E. Teunis, T. Markillie, G. W. Scott, H. M. Blanchard, A. W. Speyers, J. F. Ferguson, J. B. White; and knew them to be the individuals described in and who executed the said instrument; that he saw them and each of them sign the same; that each one of them acknowledged in his presence that he executed the same, and that he, the said John C. Babcock, subscribed his name as a witness thereto, at the same time, at their request.

(Signed)

CHARLES P. HARTT,
Notary Public, County of New York.

[L. S.]

Approval of
the Justice of
the First Judi-
cial District.

I, D. P. Ingraham, one of the Justices of the Supreme Court, elected and residing in the First Judicial District, do approve of the incorporation proposed to be formed by the within certificate, and allow of the filing of the within certificate, and duplicate thereof, approved by me at the same present time, to complete the incorporation of the within-named society.

(Signed)

D. P. INGRAHAM,
Justice.

19th June, 1868.

Certificate of
County Clerk.

CLERK'S OFFICE,
City and County of New York, ss. :

I, Charles E. Loew, Clerk of the City and County of New York, do certify that I have compared the preceding copy of the certificate of incorporation of the Nassau Boat Club, of the City of New York, with the original thereof, which was filed in my office on the 19th day of June, 1868, and that the same is a correct transcript therefrom, and of the whole of such original certificate.

5 Cent U. S.
Government
Stamp.
Cancelled.

In testimony whereof, I have hereunto set my hand and affixed my official seal, this 19th day of June, 1868.

(Signed)

CHARLES E. LOEW,
Clerk.

[L. S.]

Certificate of
the Secretary of
State.

STATE OF NEW YORK,
Secretary's Office.

ALBANY, June 20, 1868.

The certificate of incorporation of the Nassau Boat Club, of the City of New York, was received, and filed this day in this office; and I hereby certify that the foregoing is a correct transcript therefrom, and of the whole thereof.

Witness my hand and the seal of the Secretary of State, at the city of Albany, this 20th day of June, 1868.

(Signed)

D. WILLERS, JR.,
Dep. Sec. of State.

[L. S.]

CONSTITUTION.

ARTICLE I. Sec. 1. This association shall be known by the name of the "Nassau Boat Club, of the City of New York." Name.

Sec. 2. It shall be composed of not more than two hundred and seventy-five members; two hundred and fifty of whom shall be active, and twenty-five honorary. Membership.

Sec. 3. None but active members shall be entitled to vote, or eligible to office.

ART. II. Sec. 1. The officers of this club shall be a president, a vice-president, a secretary, a treasurer, a captain, a coxswain, and four others (who shall be the trustees of the club), with the usual powers and duties of such officers. They shall be chosen by ballot annually, on the second Wednesday of November, and together shall constitute a board of management, four members of which shall constitute a quorum, and all of whom shall hold office for one year, or until their successors are duly elected and qualified. Officers. Board of management.

Sec. 2. Vacancies may be filled at any regular meeting of the club.

ART. III. Sec. 1. The property of the club shall be vested in the board of management as trustees. Property.

ART. IV. Sec. 1. The duties of the captain shall be to preside at all meetings in the absence of the president and vice-president; to have full control over the boat-houses and boats; order out crews for drill at least once a week; select and have full command of all racing-crews; and impose all fines for dereliction of duty, disobedience of orders, or violation of house rules. Duties of captain.

Sec. 2. The duties of the coxswain are, in the absence of the captain, to act as such, to keep the log-book, to receive reports from minor coxswains, or stroke-oar, or members in charge of crews. Duties of coxswains.

ART. V. Sec. 1. A stated meeting for the transaction of business shall be held at the club-house, or at such place as the secretary may designate in his call, on the second Wednesday of each month. Twenty-five members shall constitute a quorum. Stated meetings.

ART. VI. Sec. 1. Candidates for membership shall be proposed in writing by a mover and seconder, who shall be members, and who shall record their names, with that of the candidate, in a book which shall be kept in the club house for that purpose. Candidates for membership.

Sec. 2. A member becoming a non-resident of the city, yet desiring to retain his membership, or a member leaving the city for a period of time exceeding six months, may have all fines remitted upon representation of the facts to the board of management, and with its consent.

Sec. 3. Every member shall, within thirty days after his election, subscribe his name to the constitution and by-laws in a book to be provided by the secretary for that purpose.

ART. VII. Sec. 1. Non-residents and candidates for election may be admitted to the privileges of the club as guests for a period not exceeding thirty days, upon request in writing of a member to the secretary. Such privileges may be revoked by the board of management. Privileges of the club.

ART. VIII. Sec. 1. There shall be elected at each annual meeting of the club a committee on admissions, to consist of ten members, who shall hold office until their successors shall be elected. Vacancies in such committee shall be filled by the board of management. Seven members of such committee shall constitute a quorum. Its proceedings in executive session shall be secret and confidential. The names of all candidates duly proposed and seconded shall be submitted to said committee. It shall proceed to make careful examination, and receive and consider all communications, in reference to each individual proposed, and it shall pass upon each name separately—*vis à vis*. Three negative votes shall exclude. It shall report the names of such persons as shall have been elected to the club at the next stated meeting. No member of such committee shall propose or second a candidate. Committee on admissions.

Sec. 2. Honorary members may be elected at any regular meeting, without previous notice, provided the ballot shall be unanimous.

ART. IX. Sec. 1. The entrance fee shall be fifty dollars, and the dues thirty-six dollars per annum, payable quarterly in advance, at the regular meetings in November, February, May, and August of each year, and in like proportion for any fractional part of a quarter. Fees.

Sec. 2. Any member-elect failing to pay his entrance fee within thirty days after election, and any member in arrears for dues for three months, shall forfeit his right to membership, unless satisfactory reasons are given for such default.

Sec. 3. All resignations to be made in writing to the secretary.

ART. X. Sec. 1. Members may be expelled for cause at a regular meeting of the club by a vote of two-thirds of the members present, one month's previous notice having been served upon such member, with Expulsion of members and removal of officers.

a copy of the charge preferred against him. Any officer may be removed for cause, upon similar notice and like vote.

Auditing committee.

ART. XI. Sec. 1. The board of management shall appoint, from its own number, an auditing committee of three, whose duty it shall be to audit and certify all bills and accounts before the same shall be paid by the treasurer.

Reports.

ART. XII. Sec. 1. At each quarterly meeting, the board of management shall submit a report of the accounts and condition, financial and general, of the club.

Amendments to the constitution.

ART. XIII. Sec. 1. The constitution may be amended at any regular meeting of the club, provided such proposed amendment be first submitted to and approved of by the board of management, and be posted in the club house thirty days next preceding the meeting at which the same is acted upon.

BY-LAWS.

Order of business.

1st. The order of business shall be as follows:

1. Calling the roll.
2. Reading the minutes.
3. Collections of dues and fines.
4. Reports.
5. Deferred business.
6. New business.
7. Roll-call.
8. Adjournment.

Uniform.

2d. The uniform of the club shall be as prescribed by the bill of dress.

Fines.

3d. Absence at roll call of any regular meeting, fifteen cents. Absence, twenty-five cents. Absence at drill, fifty cents. Interfering with or obstructing coxswain or stroke-oar when in charge of boat, one dollar. For taking a boat posted on bulletin in club house, two dollars for each offender. Neglect by person in charge of boat, one dollar. A club boat shall not be taken out unless three-fourths of the crew are members, under penalty of ten dollars. For any damage to club boats, which may occur through disobedience of orders, or carelessness on the part of any of the crew, the members so offending shall be responsible to the club. Breach of orders not otherwise specified, violation of house rules, or insubordination, fifty cents. Any member using the private property of another, without permission, shall be subject to expulsion.

Miscellaneous.

4th. The names of members ordered for drill shall be posted on the bulletin by the captain or coxswain at least three days before the proposed drill, and six days' notice in writing by mail shall be given such members previous to such drill. Members failing to appear at drill at the time specified, shall be subject to fine.

5th. The names of all members failing to pay their dues and fines, within one month after the same are payable, shall be posted in the club house at the expiration of that period.

6th. No visitor shall be admitted to any business meeting of the club.

7th. The fine for absence from standing committee meetings shall be twenty-five cents, which fine shall be reported to the secretary of the club.

8th. The by-laws may be amended at any regular meeting of the club, provided notice of such proposed amendment be posted in the club-house for fifteen days previous to, or by the unanimous consent of those present at, such meeting, without previous notice.

House rules.

No person except a member, guest, or visitor introduced by a member, shall be admitted to the club house.

Games of hazard are strictly forbidden in the club house.

No part of the furniture of the meeting-room shall be removed therefrom.

Fire-buckets shall be kept filled with fresh water, and stationed throughout the house. This water shall not be used by members.

Colors to be raised during the boating season at twelve M., in pleasant weather; on holidays, at sunrise, and to be lowered at sunset.

House to be lighted at sundown; light to be lowered at ten P.M., unless the house be occupied by members. Float-light to be kept burning until all crews return. On lowering the ensign, a red lantern shall be hoisted as a night-signal.

No member shall dress or undress except in the dressing-room, under penalty of fine.

Application must be made to the captain for position for private boats.

These rules may be altered, amended, or additions made thereto, by the board of management, as occasion may require.

Adopted at a regular meeting of the Nassau Boat Club, of the City of New York, held at their club house, in the city of New York, this 9th day of March, 1870.

(Signed)

LLOYD ASPINWALL, President.

Attest:

C. S. KINGSLEY, Secretary.

The Alcyoné Boat Club, of the City of Brooklyn, New York, was organized May 11, 1859, and the present form of constitution adopted July 11, 1867.

Alcyoné Boat Club, of Brooklyn, N. Y.

CONSTITUTION.

ARTICLE I. Sec. 1. The association existing under this constitution shall be known as the "Alcyoné Boat Club," of Brooklyn, Kings County, State of New York. Name.

ART. II. Sec. 1. The property of this club, real and personal, shall be vested in the board of trustees, and shall be represented to the members by one share of common stock to each member. Par value of said stock being twenty-five dollars. Said stock is subject to such assessments as may from time to time be made by the club, and is pledged to the redemption of the preferred stock. Property.

Said stock is not transferable to other than a member of the club. Each share is entitled to one vote, the holder thereof being under no pecuniary obligation to the club.

Sec. 2. The preferred stock of this club, consisting of one hundred shares, the par value of which is twenty-five dollars per share, is issued to the members in proportion as they have furnished funds to the club for the erection of a boat-house.

It shall bear interest at the rate of seven per cent. per annum, payable semi-annually on the first days of January and July.

The preferred stock shall be secured by a reservation from the income of the club, of a sum not less than three hundred dollars each year; and it shall be further secured by the pledge of the entire property of the club.

The club claims the right, and is hereby pledged, to use the surplus funds, as above or otherwise accumulated, to the redemption and cancellation of the preferred stock—choice to be annually made from among those holding the largest number of shares.

The holders of preferred stock shall be entitled to one vote for each share owned by them. The preferred stock is subject to no assessment.

Holders of common or preferred stock may vote by written proxy.

ART. III. Sec. 1. The management of the club shall be confided to a board of trustees, consisting of president, vice-president, secretary, treasurer, captain, and seven members, who shall manage the property and affairs of the club, subject to such directions as shall from time to time be given by the club. Management.

Their term of office shall expire on the first Thursday in May, 1868 (except it be a public holiday, when they will continue in office one week), and so yearly afterward. The offices shall be filled by the club by ballot, and two-thirds of the votes present shall be necessary for a choice.

ART. IV. Sec. 1. The number of its active members shall not exceed sixty.

Sec. 2. Candidates for membership must be proposed in writing, by a member, at a regular meeting previous to that of election. Names shall not be presented for ballot unless they shall have been favorably reported upon by the investigating committee. Membership.

Sec. 3. No candidate shall be elected except by a unanimous vote at a regular meeting, where one-half of the active members are present.

Sec. 4. Honorary membership may be conferred upon any member whose term of service shall not be less than three years, by a unanimous vote of those present, at any regular meeting, due notice of which shall have been given to every member, said candidate being under no pecuniary obligation to the club. Honorary.

Honorary members.

Honorary members must surrender all stock held by them without consideration, subject to the exception that such stock as is now held by honorary members shall be valid and entitled to all the privileges until redeemed, subject to the further exception that a member may sell his preferred stock to any candidate elected to fill the vacancy made by his becoming an honorary member.

No boat or boats can be kept in the house by an honorary member.

They can hold no office.

They shall have a voice, but no vote, at all meetings, and shall be exempt from all fines, dues, and assessments.

Active honorary members.

Sec. 5. The active honorary roll shall consist of such honorary members as shall signify, in writing, their desire to participate actively in the proceedings of the club, and shall be elected in the following manner:

1. Each application for such membership shall be referred to the investigating committee, when, on being favorably reported upon, a ballot shall be taken.

Upon receiving a unanimous vote of those present at any regular meeting, the candidate shall be declared placed on the active honorary roll.

2. Active honorary members shall have the privilege of voting at the meetings on all questions, excepting those relating to finance.

They cannot hold any office, but may be appointed to serve on committees.

3. They shall be allowed to keep boats in the house, subject to the direction of the captain.

4. The dues of active honorary members shall be two dollars per month, payable in advance. They shall be exempt from all assessments and from all fines, except in cases of committees.

5. The term of such membership, commencing from date of election, shall cease at any time on a written resignation being presented to the club, at a regular meeting.

Initiation fee.

ART. V. Sec. 1. The initiation fee shall be fifty dollars, which, upon election, shall entitle a person to membership and one share of the common stock, the par value of which is twenty-five dollars.

Committees.

ART. VI. Sec. 1. The president, vice-president, secretary, treasurer, and captain shall constitute an investigating committee.

Sec. 2. Committee of repairs and supplies shall consist of the captain and two members, to be appointed annually by the president.

Duties of officers. — President.

ART. VII. Sec. 1. It shall be the duty of the president to preside at all meetings, and to enforce all laws and regulations of the club. He shall call special meetings whenever he shall deem it necessary, or upon the written request of five members. He shall appoint all committees not otherwise provided for.

Sec. 2. In case of absence of the president, the same duties shall devolve upon the vice-president; in case of both presiding officers being absent, the club shall elect a chairman *pro tem*.

Secretary.

Sec. 3. It shall be the duty of the secretary to keep a true record of all meetings, with the names of the members present, in a book provided for that purpose; to keep a roll of the members, numbered in the order of their election; to furnish a copy of said roll to the treasurer and captain; to file all documents and communications connected with the business of the club; to notify members of their election or expulsion; to notify each member of each meeting at least twenty-four hours prior thereto; and to send out such notices as may from time to time be required by the by-laws or president. In case of inability to attend any meeting, he shall cause the books and papers to be conveyed to the place of meeting.

Treasurer.

Sec. 4. The treasurer shall collect all moneys due the club, and deposit the same in some institution to be approved by the club. He shall keep the stock-ledger and transfer-book. He shall pay all bills approved by the president and captain, not exceeding twenty-five dollars, for which no special appropriation has been made. He shall pay the rent quarterly, pay the interest on preferred stock, and keep a correct account of the same in a book provided for that purpose. At each regular meeting, he shall make a verbal report of the financial condition of the club, and report the name of any member who may be in arrears three months for fines, dues, and assessments. At the annual meeting, he shall make a written report of all receipts and disbursements, with vouchers for the same.

Captain.

Sec. 5. The captain shall have entire control of the boats, boat-houses, and all property of the club in the house. It shall be his duty to see that the same are kept in good order. He shall be authorized to order out crews for practice, when he shall deem it necessary.

ART. VIII. Sec. 1. It shall be the duty of the investigating committee to examine the qualifications of candidates for membership; also, to hear and investigate all complaints of conduct of members prejudicial to the interest or character of the club. Duties of committees.

Sec. 2. It shall be the duty of the committee of repairs and supplies to keep the property of the club in good condition, and make such purchases as may be necessary therefor, providing the same does not exceed ten dollars per month.

ART. IX. Sec. 1. Officers may be removed at a regular meeting by two-thirds of the entire vote of the club; notice of such action having been given one month previous. Removal of officers and expulsion of members.

Sec. 2. Any member who shall be in arrears three months for fines, dues, and assessments shall be liable to expulsion, without trial, by a two-thirds vote of the club at a regular meeting. For no other cause shall a member be expelled without a fair trial, due notice of which shall be given to each member at least ten days prior to the same. In case of expulsion, the club shall redeem all stock held by said member at its par value, less his pecuniary obligations to the club.

ART. X. Sec. 1. No alteration or amendment to this constitution shall be made, except by two-thirds of all votes of the club, at a regular meeting; nor then, unless such alterations or amendments shall have been submitted in writing, at a regular meeting, at least one month previous to its adoption. Amendments.

BY-LAWS.

ART. I. Sec. 1. The regular meetings shall be held on the first Thursday of each month, except when it shall occur on a public holiday, when it shall be postponed one week. Meetings.

Sec. 2. Special meetings shall be called as provided for in the constitution. Notice of same shall specify the object for which they are called, and no other business shall be in order.

Sec. 3. A quorum for the transaction of business, involving no change in these by-laws or constitution or expenditure of money, shall consist of not less than ten members, representing at least one-half of the votes of the club.

In all other meetings, when the vote is not otherwise provided for, two-thirds of the votes of the club shall be required for a quorum.

ART. II. Sec. 1. Any member engaging a boat for an excursion shall act as coxswain, or delegate said authority. Coxswains.

Sec. 2. The coxswain shall have full and entire control of boat and crew, and be responsible for the proper management of the same.

Sec. 3. In all other cases, when the captain is present, he shall designate the person who shall act as coxswain.

Sec. 4. In cases not provided for, the members may elect their own coxswain.

ART. III. Sec. 1. The boats of the club shall not be taken out of the house unless manned as follows: Boats.

Eight-oared boats, by not less than five members.

Six-oared " " " four "

Four-oared " " " two "

Two-oared " " " one "

Sec. 2. No boats belonging to the club shall be taken out on the Sabbath, under penalty of expulsion.

Sec. 3. Strangers are not allowed to go out in the boats to the exclusion of members.

Sec. 4. No member shall go out in the "Alcyoné" or "Kelpie" except in full uniform.

ART. IV. Sec. 1. The uniform of the club shall consist as follows: Blue seamless cap, with letter A in gold on ribbon; blue flannel shirt, with monogram of club embroidered in white and red on the breast; blue flannel pants; black silk neckerchief; white belt, with the name "Alcyoné" in red on the back. Uniform

Sec. 2. Dress uniform shall consist of the above, and a navy jacket with a double row of gilt buttons.

Sec. 3. Every person elected to membership shall, within three months thereafter, provide himself with undress uniform prescribed as above.

ART. V. Sec. 1. The dues shall be two dollars a month, payable in advance. Finance.

Sec. 2. All expenses for excursions shall be paid by members participating therein.

Sec. 3. The fines for absence from regular meeting shall be fifty cents, for absence from special meeting twenty-five cents. Any member not present at roll-call shall be considered absent. Any member being absent from a meeting, by reason of absence from the city, shall be excused from fine.

Any member of a committee absent from a meeting regularly called by the chairman thereof, shall be fined twenty-five cents. Any member absent from a drill ordered by the captain shall be fined fifty cents. The captain, if absent from same, shall be fined one dollar.

Sec. 4. No member shall have authority to contract any bills for the club, except those empowered by the constitution, or by a special resolution of the club in accordance therewith.

Conduct in
the house and
boats.

ART. VI. Sec. 1. Members using any of the property of the club shall restore the same to its proper place before leaving the house.

Sec. 2. No profanity, obscenity, gambling, or intoxication allowed in the house or boats.

Sec. 3. Any member whose carelessness shall cause injury or destruction of any of the property of the club, shall replace the same at his own expense.

Order of busi-
ness.

ART. VII. The order of business shall be as follows :

1. Roll-call.
2. Reading of minutes not previously passed upon.
3. Collection of dues.
4. Reports of committees and officers.
5. Proposals and election of members.
6. Election of officers.
7. Miscellaneous business.
8. Adjournment.

The above order of business may at any time, for an occasion, be changed or dispensed with, by a two-thirds vote of all the members present at the meeting.

Amendments.

ART. VIII. No alteration or amendment of these by-laws shall be made, except by two-thirds vote of those present at a regular meeting; nor then, unless such alteration or amendment shall have been submitted in writing, at a regular meeting, at least one month previous to its adoption.

University
Barge Club, of
Philadelphia,
Pa.

The University Barge Club, of the City of Philadelphia, Pa., was organized April 25, 1854, and incorporated March 7, 1870. It is an example of a chartered association, organized under the laws of the State of Pennsylvania.

C H A R T E R .

Preamble.

Whereas, James H. Peabody, John B. Thayer, Henry B. Coxé, . . . and their associates, have for many years past been joined together under the name, style, and title of "The University Barge Club, of Philadelphia," for the purpose of instruction and improvement in, and enjoyment of, the art of rowing, and the cultivation of a friendly feeling in all who participate in this amusement and exercise, and have felt the necessity and are now desirous of being incorporated for these purposes, agreeably to the provisions of the Acts of the General Assembly of the Commonwealth of Pennsylvania in such case made and provided, they therefore declare the following to be the objects, articles, and conditions of their said association, agreeably to which they wish to be incorporated, viz.:

Powers and
authority.

ART. I. James H. Peabody, John B. Thayer, Henry B. Coxé, Harry Connelly, Frank D. Wetherill, Henry Pepper, William F. Lewis, John T. Lewis, Jr., Howell W. Bickley, James D. Winsor, George G. Lennig, Harry W. Biddle, G. Assheton Carson, F. G. C. Headman, Charles E. Van Pelt, Edward S. Miles, Charles Kuhn, Theodore Fassitt, Frank H. Clark, George Emlen, William Brooke Rawle, Edward F. Hoffman, William H. Hooper, Robert Young, William N. Whelen, Beauveau Borie, Harry P. Norris, Samuel W. M. Peters, John A. King, James A. Bayard, Jr., Cadwalader Evans, James Duval Rodney, Charles Eliot Furness, Francis Wister, Edward Emlen Conner, Thomas McKean, Samuel Betton, George Biddle, and such other persons as have been, or may hereafter be, associated with them for the purposes of said association, are hereby erected into and declared to be a body politic and corporate, in deed and in law, by the name, style, and title of "The University Barge Club, of Philadelphia," to have succession, to plead and be impleaded, to sue and be sued in all courts of record or elsewhere, to have a common seal, and the same to break, alter, or renew at pleasure, and shall be capable and have power to take, hold, and enjoy lands, tenements, hereditaments, goods, and chattels, and the same from time to time to sell, grant, demise, alien, and dispose of; and in particular to erect and construct a suitable building, or buildings, or future extensions thereof, for the purposes of association, and, in order to provide a fund for the payment of the expenses

thereof, to make and issue certificates of indebtedness bearing lawful interest; provided that the clear yearly income of the real estate so held by the said association shall at no time exceed in value the sum of five thousand dollars; and provided further, that the certificates of indebtedness so made and issued shall at no one time exceed the sum of five thousand dollars lawful money of the United States of America.

ART. II. This club or association shall consist of active and honorary members. Of the active members, at least two-thirds must be, or must have been, graduates or undergraduates of, or have been connected with, the University of Pennsylvania in any of its departments. No such restriction shall be required in regard to the remaining one-third of the active members. All the estate, real and personal, belonging to the club, shall be deemed vested in the active members thereof.

Members.

The honorary roll shall consist of such members as shall have served on the active roll for the term of two years, and complied with the requirements of this charter and the by-laws of the club regarding them, and they shall be liable to no dues or assessments, have no vote, nor hold any office in the club.

ART. III. The officers of the club shall consist of a president, a vice-president, a secretary, a treasurer, a coxswain, assistant coxswain, and executive committee. The president, vice-president, secretary, treasurer, coxswain, and assistant coxswain shall be elected by the club at any meeting thereof, and shall serve for the term of one year. The executive committee shall consist of three of the active members of the club, who shall be appointed by the president, with the approbation of the club, at the first meeting at which he presides after his election to office, or as soon thereafter as practicable, and shall also serve for the term of one year.

Officers.

The duties, powers, and privileges of the officers of the club shall be regulated by the by-laws and resolutions thereof, within the limits of this charter.

ART. IV. Any member of the club may be expelled therefrom by a two-thirds vote, in secret ballot, of the active members present at any meeting specially called for the purpose as hereinafter required, for any act against the club or corporation which may tend to its destruction and injury, or for any offence against his duty as a corporator, or upon his conviction in a court of justice of an infamous offence, or for permitting his indebtedness to the club to accumulate to the amount of thirty dollars; provided, in the latter case, such member shall have received a notice in writing of such indebtedness from the treasurer. Such meeting shall be called by the president upon the written demand of three active members, and a written notice by three members of their intention to offer thereat a motion for such expulsion and the cause thereof, and thirty days' notice of the time, place, and object of such meeting, and the charge made against him shall be served personally upon the member for whose expulsion such motion is intended to be made.

Expulsion, resignation and disfranchisement.

In case of any such action on the part of the club, or in case of resignation of any member from the active roll, such member so expelled or resigning shall forfeit to the club all the benefits, privileges, and franchises created by this charter.

ART. V. The number of active members of the club which shall constitute a quorum at any meeting thereof, for the transaction of business, shall be regulated by the by-laws, and the action of any such meeting shall be binding upon all the members of the club, provided a notice in writing of the time and place of such meeting shall have been served by the secretary, either in person, or by mail to, or leaving at, the residence, place of business, or habitual resort of each active member, or by publishing the same in one daily newspaper, at least two days before stated meetings and twelve hours before special meetings, which latter notice shall specify the cause or object thereof.

Meetings.

ART. VI. The club shall have power and authority to ordain, establish, alter, and repeal such by-laws, rules, and regulations for its government as are not inconsistent with the Constitution and laws of the United States, or of the Commonwealth of Pennsylvania, or of this its charter of incorporation.

Power to make by-laws, etc.

BY-LAWS.

ART. I. Sec. 1. The number of active members shall be limited to fifty.

Membership.

Sec. 2. No member shall be placed upon the honorary roll unless he shall have served on the active roll for the term of two years, exclusive of the period for which he may have taken advantage of the provisions of Article VII., Section 3, of these by-laws, and have paid to the treasurer of the club all sums of money due by him thereto, and have been elected such as hereinafter required.

Sec. 3. In case of the departure of an active member from the city or its neighborhood with the intention of not returning thereto for more than one year, or in case of the tender of resignation of any member without any application to be made an honorary member, he may be placed upon the honorary roll,

provided the provisions of the charter of the club and these by-laws in relation to such have been complied with.

Sec. 4. The resignation of no active member from the club shall be accepted until all moneys due thereto by him have been paid in full.

Sec. 5. Resignations of members shall not go into effect until after the meeting at which they have been accepted.

Duties and
powers of off-
icers.

ART. II. Sec. 1. It shall be the duty of the president to preside at the meetings of the club, and to decide all questions which may arise under these by-laws, subject, however, in the latter case, to an appeal by three members to the club. He shall have power to inflict fines, at his discretion, for disorderly conduct during meetings.

Sec. 2. It shall be the duty of the vice-president to exercise all the functions of the office of president during the absence of that officer.

Sec. 3. It shall be the duty of the secretary :

1. To record the proceedings of all the meetings of the club.
2. To keep complete records of the members of the club.
3. To notify members of their election.
4. To send to newly elected active members printed copies of the charter and by-laws of the club.
5. To notify all active members of meetings to be held, in manner required by Articles IV. and V. of the charter of the club, and to mention in the notices thereof the names of all persons whose nominations for active membership are to be acted upon at such meetings.
6. To take charge of and preserve all the records of, and data of interest to, the club.
7. To notify the treasurer of the names of members elected to the active and honorary rolls, of all resignations of members, and of fines inflicted and assessments ordered.
8. To make whatever notices and communications may be required by order of the club or the president thereof.

Sec. 4. It shall be the duty of the treasurer :

1. To take charge of all funds belonging to the club.
2. To send notices of and to collect and receive all entrance-fees, dues, assessments, fines, or other moneys owing to the club.
3. To make all necessary disbursements upon the order of the president, or, during his absence, of the vice-president, or, in the absence of both of these officers from the city, of a majority of the executive committee.

4. To report at every stated meeting, and oftener if required, the state of the treasury of the club.

Sec. 5. It shall be the duty of the coxswain, in addition to the rules regarding him prescribed in Article XII. of these by laws :

1. To take command of the boats of the club when ordered out by the commanding officer of the Schuylkill Navy (if at the time the club belong to that organization), or upon any other occasion which he may deem necessary, and to form crews for these occasions.
2. To inflict fines for the purpose of preserving order in the boats and boat-house (subject, however, to an appeal to the club), and to notify the treasurer thereof.
3. To represent the club at the meetings of the Schuylkill Naval Board under the direction of the club (if at the time the club belong to that organization), and to report fully and accurately the transactions thereof.
4. In case of his inability to attend to any of the said duties, to notify the assistant coxswain to attend to them, or, in case of such inability on the part of the assistant coxswain, to procure some active member of the club to act for him.

Sec. 6. It shall be the duty of the assistant coxswain to exercise all the functions of the office of coxswain during the absence of that officer.

Executive
committee.

ART. III. Sec. 1. The executive committee shall consist of three active members of the club. It shall have complete control, under the direction of the club and within the limits of the charter and by-laws thereof, of all the affairs of the club, so far as regards the boats and boat-houses belonging to the club, and shall have power to enforce fines (subject, however, to an appeal to the club) for non-compliance with the rules of these by-laws regarding them.

Sec. 2. In case no appointment of the executive committee has been made in accordance with Article III. of the charter of the club, the former committee shall continue in office until the appointment

of a new one, or the reappointment of the same, and the president shall, upon a majority vote of the club at any meeting, make changes therein.

ART. IV. Sec. 1. Special committees may be appointed by the president for any designated purpose, in order to carry out the resolutions of the club.

Special committees.

Sec. 2. A committee shall be appointed by the president at the stated meeting next preceding the last stated meeting during the term of office of the treasurer, or upon the resignation of that officer, or as soon after those occasions as practicable, to audit, settle, and adjust his accounts, which committee shall make their report at the next stated meeting following, or the special meeting called in lieu thereof as hereinafter provided.

ART. V. Sec. 1. The annual election of officers shall take place at the stated meeting held during the month of March, or as soon thereafter as practicable. In case of vacancy in any office, the same may be filled, for the unexpired term, by election at any meeting of the club.

Election of officers.

Sec. 2. Elections of officers shall be determined by majority vote in secret ballot, and the officers elected shall enter upon their duties immediately after the meeting at which they have been elected, and they shall hold their offices for the term of one year from the date of the annual election, or until the election of their successors.

ART. VI. Sec. 1. Nominations for membership shall be considered withdrawn if no action is taken thereon for the period of six months.

Nomination and election of members.

Sec. 2. No person shall be proposed as an active member of the club unless he shall have expressed his desire, and given his unqualified consent, to become such.

Sec. 3. The election of active members shall be held at the meeting, either stated or special, subsequent to that at which their nominations have been made.

Sec. 4. The election for active membership shall be determined by secret ballot without one dissenting vote, except in the case provided for in Section 9 of this by-law.

Sec. 5. In case the election of an active member is not consummated by the payment of entrance-fees within six months after such election, the same shall be considered null and void.

Sec. 6. Any person who has failed to be elected a member of the club shall not be renominated for membership within the period of three months.

Sec. 7. Any active member who has complied with the provisions of the charter and by-laws of the club, and is desirous of becoming an honorary member, shall apply in writing to the secretary to that effect, and the election of such to the honorary roll may be held at the meeting at which such application is presented, but shall not go into effect until after its adjournment.

Sec. 8. Election to the honorary roll shall be *viva voce* by a majority vote of the members present at any meeting.

Sec. 9. In case of the election of an honorary member to the active roll, no entrance-fees shall be required. Such election shall be held in like manner as is required in other elections to the active roll, excepting where a member has been placed upon the honorary roll without resigning, or without application on his part as hereinbefore provided, in which cases such member may be elected to the active roll by a majority vote at the meeting at which his application to that effect is made.

ART. VII. Sec. 1. Upon joining the active roll, all persons shall pay to the treasurer of the club the sum of fifteen dollars, except in the case provided for in Article VI., Section 9, of these by-laws.

Entrance-fees, dues and assessments.

Sec. 2. The annual dues of active members shall be six dollars, which shall be payable on the first days of the months of March and September in each year, but shall be apportionable monthly.

Sec. 3. In case of the non-residence of any active member within the city or its neighborhood for the period of one year or more, he may, upon application to the treasurer to that effect, be relieved from the payment of dues or assessments during that time.

ART. VIII. Sec. 1. Ten active members of the club shall constitute a quorum at any meeting for the transaction of business, and no representation or voting by proxy shall be allowed.

Meetings.

Sec. 2. Stated meetings of the club shall be held upon the evening of the last Thursday in each month when practicable.

Sec. 3. Special meetings of the club may be called by the president at his own discretion or upon the request of three active members, and like business may be transacted thereat as at stated meetings. In case the regular stated monthly meeting of the club has, for any cause, not been held, the next ensuing special meeting shall be considered in all respects to have been called in lieu of such stated meeting.

Sec. 4. The order of business at meetings shall be as follows:

1. Calling of the roll.
2. Reading of minutes of previous stated and of intervening special meetings, and action thereon.
3. Election or appointment of officers.
4. Nominations for membership.
5. Ballot for membership.
6. Treasurer's report.
7. Reports of committees.
8. Deferred business.
9. General business.
10. Adjournment.

Sec. 5. The presiding officer at any meeting of the club shall have no vote thereat, except in balloting for the election or expulsion of a member, or in case of a tie vote, in which cases he shall be allowed that privilege.

Suspension of
rul.s.

ART. IX. Sec. 1. The rules declared in Article VIII., Section 1, of these by-laws may be suspended for the time being by a unanimous vote of the active members present at any meeting. No other suspension of the rules of these by-laws shall be allowed.

Uniforms.

ART. X. Sec. 1. The uniform of crews of the club shall consist of a red flannel shirt bound with black braid, jet buttons, and falling collars with black silk stars in the corners; black pantaloons in winter and white in summer; black patent-leather belt with "U. B. C." in raised silver-plated letters thereon; black silk neck-tie; black morocco jockey cap in winter, and in summer a white mackinaw straw hat bound with black, with "University" in gold letters on the ribbon, and the initials of the owner painted in black on the crown.

Sec. 2. The coxswain or acting coxswain shall wear a belt with a German silver plate having inscribed thereon "Coxswain U. B. C.," and any other distinctive mark that may be required by the Naval Board or the Commodore of the Schuylkill Navy, if, at the time, the club belong to that organization.

Sec. 3. In the cases of training and racing crews, the rules of Sections 1 and 2 of this by-law may be dispensed with by permission of the coxswain in charge.

Sec. 4. Each member, upon joining the active roll of the club, shall provide himself with a full set of equipments as required by these by-laws, and shall procure new ones at any other time when so required by a vote of the club at any meeting thereof. The coxswain and executive committee shall see that such requirements are enforced.

Club flags.

ART. XI. Sec. 1. The flags of the club to be carried by the boats thereof, when practicable, upon occasions of ceremony, shall be as follows:

Stern-flag—two broad dark-blue stripes, crosswise, with one white stripe between of equal breadth.

Bow-pennant—plain dark blue, with "University" in gold letters thereon.

Boats and
boat-houses.

ART. XII. Sec. 1. The number of members necessary for taking out a six or eight oar boat shall be three—a four-oar boat, two—and a smaller boat, one.

Sec. 2. No boat shall be taken out without a member of the club in charge of it, and such member in charge shall assume all responsibility connected with it. In case there is no coxswain acting as such, the bow-oar shall assume such responsibility. Such responsibility shall continue while the members of the club or crew are in the boats or boat-house from the time of their entering to that of their leaving the same. For the proper execution of the rules of this article he shall have power to inflict fines (subject, however, to an appeal to the club), of which he shall notify the treasurer.

Sec. 3. It shall be the duty of the coxswain, or of the member in charge, to see:

1. That every member is fully equipped before entering the boat, except as hereinbefore provided for in cases of training and racing crews.

2. That proper care is taken of the boat, and that it is properly housed upon its return.

3. That every member puts away his equipments in his closet.

4. That no person enters the light shell-boats with boots or shoes.

5. That before leaving the house all lights are put out, and that the house is properly closed.

6. That in case of the probability of a boat being out after dark, a boat lantern is taken along, which shall be lighted at dark.

Sec. 4. The coxswain or member in charge shall be responsible for the carrying out of the rules of this article, and, in case of his neglecting to do so, or in case of any injury caused by negligence on his part, he shall be amenable to any penalty imposed by the club at its next meeting within the limits of the charter of the club.

ART. XIII. Sec. 1. Proposed alterations of these by-laws, or additions thereto, shall be presented in writing at any meeting of the club, and shall be acted upon at the meeting subsequent to that at which such presentation has been made, and shall require a two-thirds vote for their adoption.

Alteration of
by-laws.

The Detroit Boat Club, of the City of Detroit, Michigan, was organized August 23, 1856. Its constitution and by-laws, as herewith presented, were revised and approved September 2, 1869. It does not appear that this is either a chartered or incorporated organization under the laws of the State.

Detroit Boat-
Club, of De-
troit, Mich.

CONSTITUTION.

ARTICLE I. Sec. 1. This club shall be known and designated as the "Detroit Boat Club."

Name.

ART. II. Sec. 1. The officers of the club shall consist of a president, a vice-president, a secretary and treasurer, a coxswain, and three assistant coxswains, to rank according to the order of their election.

Officers and
their duties.

Sec. 2. It shall be the duty of the president to preside at all meetings of the club; to call special meetings at any time; to audit all bills and accounts; and to exercise a general supervision over the affairs of the club.

Sec. 3. It shall be the duty of the vice-president to act in the absence of the president.

Sec. 4. It shall be the duty of the secretary and treasurer to keep a record of the proceedings of the club; to keep a correct roll of the members thereof; to keep a file of all papers relating to the business of the club; to notify members of meetings of the club, and of their appointment on committees, and all candidates elected of their election as members of the club; to keep a correct account with each member of the club, and collect all fines and dues; to pay all bills and accounts when ordered by the club, or audited by the president; to keep a correct account of all moneys received or disbursed, and to render a correct report thereof at every annual meeting, or when requested by the club.

Sec. 5. It shall be the duty of the coxswain to take charge of, and he shall be accountable for, all boats, oars, equipments belonging to the club, and he shall make a report of the amount and condition thereof at the first monthly meetings in April and October, and oftener if required by the club; he shall take command of the boat at all meetings for exercise, or otherwise; he shall see that the members of the committee on boat-house perform their duties, and report to the club the names of all delinquents; or, if a steward be employed by the club in place of this committee, he shall see that such person properly performs his duties.

It shall be the further duty of the coxswain to report, at the annual meeting in April, statistics, as follows, to be derived from the log:

1. Total number of miles pulled in each boat for the preceding year.
2. Aggregate number of miles pulled.
3. Total number of miles pulled by each member.
4. Total number of miles travelled by the coxswain while in command.
5. Same by each assistant coxswain.
6. Same by each acting coxswain.
7. Names of active members not out at all.
8. Quickest time made, name of boat, name of crew, course, and under what circumstances.
9. Names of guests, and such other facts as the log may furnish.

Sec. 6. It shall be the duty of the assistant coxswains to act, in the absence of the coxswain, according to rank, and to be under the general authority of the coxswain, excepting when in command of a boat's crew.

ART. III. Sec. 1. The officers of the club shall be elected annually, on the first Thursday of April, and shall hold office for one year, and until their successors are elected.

Election of
officers.

Sec. 2. Elections to fill vacancies shall be held at such time and place as the president may order.

Sec. 3. The form of election of officers shall be as follows: an informal ballot shall be taken, and the two persons receiving the largest number of votes shall be declared the candidates; a formal ballot shall then be taken, and the candidate receiving the highest number of votes shall be declared duly elected.

ART. IV. Sec. 1. Every application for active membership must be made to the club in the handwriting of a member of the club in good standing. At the next regular meeting thereafter, a ballot shall be taken upon the application, and, if two or more ballots are cast with the word "No" written thereon,

Active mem-
bership.

such candidate shall be rejected; otherwise he shall be declared a member of the club, to take effect upon his signing the constitution and by-laws.

Sec. 2. Any member may be honorably discharged by a vote of the club at any regular meeting: provided that the person wishing the discharge shall produce satisfactory evidence that all dues, fines, and assessments have been paid.

Sec. 3. Any active member, desiring to be retired, may be transferred to the honorary department by a two-thirds vote of the club at any regular meeting: provided that the candidate for such transfer shall have paid all just dues, fines, and assessments; and, further, that his name shall have been borne upon the active roll at least three years continuously. In cases of removal from the city only, exceptions may be made as to the period named.

Honorary
membership.

ART. V. Sec. 1. There shall be an honorary department, of which any person whose name is proposed at any regular meeting may become a member by a unanimous vote of the club at any subsequent regular meeting, or by a two-thirds vote, upon the payment into the treasury of the club, in advance, the sum of twenty dollars.

Sec. 2. Honorary members shall have no voice in the management of the affairs of the club, but shall be permitted to enjoy all the other privileges of active members.

Sec. 3. Honorary members shall be exempt from ordinary club duties; shall not be liable for any fines, dues, or assessments, unless habitually turning out with the club, in which event they shall pay the regular monthly dues, and shall be liable to such fines as may be reported by the coxswain.

Honorary ser-
vice roll.

ART. VI. Sec. 1. There shall be an honorary service list of the club, upon which may be enrolled such retired active members as shall have distinguished themselves by long and marked service to the club, whose rights and privileges shall be the same as those defined in Article V. for honorary members.

A candidate for this distinction shall not be eligible unless he shall have been borne upon the active roll of the club, in good standing, at least five years (except such members as entered the United States military service during the rebellion), and, to determine good standing, reference must be had to the log as well as other records. The manner of enrolment shall be as follows: At a regular meeting the name of a candidate shall be proposed, and, at the next regular meeting thereafter, a ballot shall be taken; and if three or more black balls (or ballots with the word "No" written thereon) are cast, such candidate shall be rejected; otherwise he shall be enrolled upon said honorary service roll, and a certificate to such effect, signed by the president and secretary, shall be issued to him.

Limitation on
membership.

ART. VII. Sec. 1. No person under eighteen years of age shall be admitted a member of the club.

Sec. 2. No person, whether an active member or otherwise, shall be eligible to honorary membership or to the honorary service roll of this club who is an active or honorary member of any other boat club now or hereafter organized in the city of Detroit.

Initiation fees,
dues and penal-
ties.

ART. VIII. Sec. 1. No application for membership shall be received by the secretary, or presented to the club, unless actually accompanied by the sum of ten dollars, which shall be returned by the Secretary in case the applicant is rejected.

Sec. 2. Every active member of the club shall pay to the secretary and treasurer at each monthly meeting such dues and fines as shall be established by the by-laws; and, if such monthly dues or fines shall remain unpaid by any member thirty days after being notified or called upon to pay the same, it shall be the duty of the secretary to remind such delinquent of the fact by a written notice through the mail or otherwise, and, if still unpaid at the next regular meeting thereafter, the secretary shall report to the club the circumstances and the name of such delinquent for its action.

Sec. 3. Any member, for any cause deemed sufficient, may be expelled by a two-thirds vote of the club at any regular meeting: provided, however, that any member, conceiving himself aggrieved by such sentence, may, at the first or second subsequent regular meeting after receiving official notice of the same, present a petition for a rehearing, setting forth specifically the matters of grievance whereof he complains, and thereupon the club may take such action as shall seem just, two-thirds of the club concurring.

Property.

ART. IX. All boats, oars, equipments, as well as books and furniture, purchased by the club, shall be the property of the club; and all persons discharged, expelled, or otherwise losing membership, shall forfeit all right and title to such property.

Executive
committee.

ART. X. Sec. 1. There shall be an executive committee of five members (of which the coxswain shall be *ex officio* a member) appointed by the president at the next regular meeting after his election, who shall hold their places until others are appointed: provided, a vacancy may be filled at any regular meeting

by the president or acting president; and provided, further, that any member may be removed from such committee on the recommendation of the president, two-thirds of the club concurring.

Sec. 2. It shall be the duty of such committee to lay before the club, from time to time, such matters as in their judgment may require its action; to look after its interest, and to especially exert themselves for its benefit and advancement.

ART. XI. Whenever, in the constitution or by-laws of the club, the action of the club, by vote or otherwise, is mentioned, it shall be construed to mean the action of the active members present, and, unless otherwise specified, the action of a majority thereof: provided always that a sufficient number be present to constitute a quorum.

Construction
of terms.

ART. XII. All proposed amendments to the constitution shall be submitted in writing to the club, at any regular meeting, and, if accepted, entered at length upon the record, and, at the next regular meeting, taken up under the head of "Unfinished Business appearing on the Minutes," and, if approved by a two-thirds vote of the club, shall become a part of this constitution.

Amendments
to the constitu-
tion.

BY-LAWS.

By-laws.

RULE 1. There shall be a regular monthly meeting of the club on the first Thursday of each month, at half-past seven o'clock P.M.

RULE 2. The regular monthly dues of the active members shall be one dollar, payable in advance, at each regular meeting.

RULE 3. At each regular meeting of the club, there shall be a committee of three appointed, to serve until the next regular meeting, whose duty it shall be to keep the boats, boat-house, and lamps in order. If a person should be employed by vote of the club to perform these duties, then this committee need not be appointed.

RULE 4. Each member shall be fined for the following delinquencies, in such sums as is set opposite thereto, and the fines shall be collected as provided for by the constitution: Absence from regular meeting, twenty-five cents; absence from special meeting, fifty cents.

RULE 5. Any member of the club making use of the uniform of another, without permission from the owner, shall be fined fifty cents.

RULE 6. Fines can only be remitted by a vote of the club at the next regular meeting; and, unless members immediately notify the secretary, through the mail, or otherwise, of their inability to attend any meeting that may have been called, it shall be the duty of the secretary to charge up the fines at once.

RULE 7. Nine active members, present in person, shall constitute a quorum for the transaction of all business.

RULE 8. No boat shall be taken from the boat-house, with less than four oars, without uniform, or on Sunday.

RULE 9. In the absence of the coxswain and assistant coxswains, the members composing the crew may elect their own coxswain.

RULE 10. The coxswain shall have entire control of the boat and appurtenances, from the time of leaving the boat-house until they are returned in their proper places.

RULE 11. The coxswain shall have power to fine any member neglecting or refusing to obey his orders while out with the boat the sum of twenty-five cents, providing that such member, considering himself aggrieved, may appeal to the club at the next regular meeting.

RULE 12. The coxswain shall, immediately on his return to the boat-house, station his men in different quarters, who shall see that everything under their direction is in its proper place; they shall not be allowed to leave without the permission of the coxswain; failing in any of these duties, they shall be fined twenty-five cents for each offence.

RULE 13. The coxswain shall see that everything is in its proper place before dismissing his men to dress.

RULE 14. The coxswain of the club shall keep the log closely written up, and shall leave the same in the dressing-room for general reference.

RULE 15. The coxswain of the club shall keep a bulletin-board in the boat-house, and the particulars of each "pull" shall be entered thereon upon the return of the boat, by the person in command of the same. When a party for a barge is made up, immediate notice thereof must be published upon the bulletin-board.

RULE 16. The crew of each boat shall attend to the hoisting and stowing of their own boat, should both arrive at the same time.

RULE 17. The uniform of this club shall consist of a blue woollen shirt, trimmed with white, a pair of blue cloth pants, pearl-buttoned, a blue cloth cap, and slippers.

RULE 18. These by-laws may be amended by a two-thirds vote of the club, at any regular meeting; and any rule may be temporarily suspended at any special or regular meeting, if no objection is made.

Order of business.

ORDER OF BUSINESS.

1. Calling to order.
2. Calling roll.
3. Reading minutes of previous meeting.
4. Unfinished business appearing on the minutes.
5. Collection of fines and dues.
6. Reports of committees.
7. Balloting for candidates.
8. Proposing new members.
9. Reading communications.
10. Miscellaneous business.

Organization of boat-clubs at colleges and other seminaries of learning.

Our remarks concerning the formation of boat-clubs in towns and cities are not entirely applicable to the case of young men at colleges, academies, or graded schools, where the undergraduates or students are arranged in classes, whose course of study embraces a period of from two to five years. At such institutions, where the classes are large—each, for instance, numbering fifty or more members—it will be well for each class to have its own boat-club, as is now the practice at Yale and some other colleges. The administrative officers may be the same as the class officers; but since the latter may, in some cases, as individuals, take little or no interest in rowing, we would advise a separate and entirely independent organization.

From the best oarsmen in each of these class crews, may be selected the college or university crew, to compete with similarly chosen crews from other institutions at annual regattas. Where the classes are small, they may all unite in organizing a single club, or, better, to form two clubs, each composed of all those interested in rowing in two of the classes. At colleges, where secret societies are established, the rowing men often form clubs bearing the names of their respective societies; but, as a rule, such organizations are not successful because, of the two interests, that of the secret society is, in such cases, usually paramount, and the rowing takes a secondary place.

In whatever manner, however, the boat-clubs may be organized from the material at hand, it is always desirable to have more than one, in order that the rivalry excited shall better stimulate exertion, and act as a constant spur on the members.

Regarding the method of perfecting the details in getting such clubs into working trim, our remarks in the case of boat-clubs in towns and cities are equally applicable here; and, with the hints we have there thrown out, the information afforded by the constitutions and by-laws just given, and the statistical data in regard to college boat-clubs presented in Part Fourth, no set of men, however inexperienced, should be at a loss how to go to work to set on foot, organize, and equip a club of this kind.

CHAPTER VI.

ON SWIMMING—INSTRUCTIONS FOR SAVING DROWNING PERSONS—DIRECTIONS FOR RESTORING THE APPARENTLY DROWNED.

THE importance of a knowledge of the art of swimming to the rowing man cannot be overestimated. No matter how skilful he may be, in the ordinary course of events accidents to boats will occur; if, then, he is a swimmer, he is fortunate, and the chances of his saving his life when thrown into the water are good; but, if he is ignorant of this art, the chances are all against him, and it will be a miracle if he escape death.

Importance to
oarsmen of a
knowledge of
the art of swim-
ming

Although we are aware that many men who handle the oar, even professional seamen, cannot swim, this fact does not make the rule that all oarsmen should be familiar with this art any the less imperative; and now that swimming-schools are established in our largest cities—or, where they are wanting, expert swimmers willing to instruct beginners can always be found—it is criminal in any rowing man to get into a boat without a knowledge of how to sustain and propel himself in the water.* It is when some distressing accident occurs, accompanied by the loss of one or more valuable lives, perhaps of some intimate friend, that we have most forcibly brought home to us the value of such knowledge, and, furthermore, how very desirable it is that every one living near the water, or whose business or pleasure involves the use of boats, should be familiar with the proper means to be employed for saving life in all cases connected with accidents on the water.

And of rescu-
ing drowning
persons.

As it is our desire to make this volume as useful as possible to the rowing man, a brief chapter on this subject will not be out of place. We, therefore, lay before the reader the very clear and judicious directions for rescuing drowning persons and for restoring the apparently drowned, published by the Royal National Life-Boat Institution of England.†

The following instructions are intended for the guidance of those who, being themselves able to swim, go to the aid of their drowning fellow-creatures. The writer of them, Mr. JOSEPH H. HODGSON, of Sunderland (England), known in that neighborhood by the appellation of the "Stormy Petrel," is perhaps more competent to pronounce a practical opinion on the subject than any other person in the United King-

* An excellent and exhaustive article on this subject will be found at page 512 of "British Rural Sports," to which the attention of those desirous of becoming adepts in the art is recommended.

† "Instructions for the Management of Open Boats in Heavy Surfs or Broken Water," etc. Third Edition. Published by the Royal National Life-Boat Institution, 14 John St., Adelphi, London, W. C. 1863.

dom, he having made it a study from boyhood, and having probably saved more persons from drowning by swimming to their aid than any other person in these islands.

INSTRUCTIONS FOR SAVING DROWNING PERSONS BY SWIMMING TO THEIR RELIEF.

1. When you approach a person drowning in the water, assure him, with a loud and firm voice, that he is safe.
2. Before jumping in to save him, divest yourself as far and quickly as possible of all clothes—tear them off if necessary—but, if there is not time, loose, at all events, the foot of your drawers if they are tied, as, if you do not do so, they fill with water and drag you.
3. On swimming to a person in the sea, if he be struggling, do not seize him then, but keep off for a few seconds till he gets quiet, for it is sheer madness to take hold of a man when he is struggling in the water, and if you do you run a great risk.
4. Then get close to him, and take fast hold of the hair of his head, turn him as quickly as possible on to his back, give him a sudden pull, and this will cause him to float, then throw yourself on your back also, and swim for the shore, both hands having hold of his hair, you on your back and he also on his, and, of course, his back to your stomach. In this way you will get sooner and safer ashore than by any other means, and you can easily thus swim with two or three persons; the writer has even, as an experiment, done it with four, and gone with them forty or fifty yards in the sea. One great advantage of this method is that it enables you to keep your head up, and also to hold the person's head up you are trying to save. It is of primary importance that you take fast hold of the hair, and throw both the person and yourself on your backs. After many experiments, I find this vastly preferable to all other methods. You can, in this manner, float nearly as long as you please, or until a boat or other help can be obtained.
5. I believe there is no such thing as a death-grasp, at least it must be unusual, for I have seen many persons drowned and have never witnessed it. As soon as a drowning man begins to get feeble and to lose his recollection, he gradually slackens his hold until he quits it altogether. No apprehension need, therefore, be felt on that head when attempting to rescue a drowning person.
6. After a person has sunk to the bottom, if the water be smooth, the exact position where the body lies may be known by the air-bubbles, which will occasionally rise to the surface, allowance being of course made for the motion of the water, if in a tide-way or stream, which will have carried the bubbles out of a perpendicular course in rising to the surface. A body may be often regained from the bottom before too late for recovery, by diving for it in the direction indicated by these bubbles.
7. On rescuing a person by diving to the bottom, the hair of the head should be seized by one hand only, and the other used in conjunction with the feet in raising yourself and the drowning person to the surface.
8. If in the sea, it may sometimes be a great error to try to get to land. If there be a strong "out-setting" tide, and you are swimming either by yourself or having hold of a person who cannot swim, then get on to your back, and float till help comes. Many a man exhausts himself by stemming the billows for the shore on a back-going tide, and sinks in the effort, when, if he had floated, a boat or other aid might have been obtained.
9. These instructions apply alike to all circumstances, whether the roughest sea or smooth water.

DIRECTIONS FOR RESTORING THE APPARENTLY DROWNED.

1. Send immediately for medical assistance, blankets, and dry clothing; but proceed to treat the patient instantly, on the spot, in the open air, whether on shore or afloat.
2. The points to be aimed at are, first and immediately, the restoration of breathing and the prevention of any further diminution of the warmth of the body; and, secondly, after breathing is restored, the promotion of warmth and circulation.
3. The efforts to restore breathing, and to prevent any further diminution of the warmth of the body, must be commenced immediately and energetically, and must be persevered in for several hours, or until a medical man has pronounced that life is extinct. Efforts to promote warmth and circulation must be deferred until natural breathing has been restored.

TO RESTORE BREATHING.

TO CLEAR THE THROAT.

1. Place the patient face downwards, with one of his arms under the forehead, in which position all fluids will escape by the mouth, and the tongue itself will fall forward, leaving the entrance into the windpipe free. Assist this operation by wiping and cleansing the mouth.

2. If satisfactory breathing commences, adopt the treatment described below in "Treatment after Natural Breathing has been Restored." If there be only slight breathing, or no breathing, or if it fail, then—

3. Turn the patient well and instantly upon the side, and—

TO EXCITE BREATHING.

4. Excite the nostrils with snuff, hartshorn, smelling-salts, or the throat with a feather, etc., if they are at hand. Rub the chest and face warm, and dash cold water on it.

5. If there be no success, lose not a moment, but instantly

TO IMITATE BREATHING.

6. Replace the patient on the face, raising and supporting the chest well on a folded coat or other article of dress.

7. Turn the body very gently on the side and a little beyond, and then briskly on the face, back again; repeating these measures deliberately, efficiently, and perseveringly, about fifteen times in the minute, or once every four seconds, occasionally varying the side: [By placing the patient on the chest, the weight of the body forces the air out; when turned on the side, this pressure is removed, and air enters the chest.]

8. On each occasion that the body is replaced on the face, make uniform but efficient pressure with brisk movement, on the back between and below the shoulder-blades or bones on each side, removing the pressure immediately before turning the body on the side. [The first measure increases the expiration, the second commences inspiration.]

* * * The result is—respiration or natural breathing; and, if not too late, life.

CAUTIONS.

1. Be particularly careful to prevent persons crowding round the body.

2. Avoid all rough usage and turning the body on the back.

3. Under no circumstances hold the body up by the feet.

N.B.—The directions are printed in parallel columns to avoid confusion, and to ensure that the efforts to obtain both objects shall be carried on at the same time.

TREATMENT AFTER NATURAL BREATHING HAS BEEN RESTORED.

1. Commence rubbing the limbs upwards, with firm grasping pressure and energy, using handkerchiefs, flannels, etc. [By this measure the blood is propelled along the veins towards the heart.] The friction must be continued under the blanket or over the dry clothing.

2. Promote the warmth of the body by the application of hot flannels, bottles or bladders of hot water, heated bricks, etc., to the pit of the stomach, the armpits, between the thighs, and to the soles of the feet.

TO PREVENT ANY FURTHER DIMINUTION OF WARMTH.

N.B.—These efforts must be made very cautiously, and must not be such as to promote warmth and circulation rapidly; for, if circulation is induced before breathing has been restored, the life of the patient will be endangered. No other effect, therefore, should be sought from them than the prevention of evaporation and its result, the diminution of the warmth of the body.

Detailed method of proceeding to restore breathing, and how to regulate and preserve the warmth of the body.

1. Expose the face, neck, and chest, except in severe weather (such as heavy rain, frost, or snow).

2. Dry the face, neck, and chest as soon as possible with handkerchiefs or anything at hand, and then dry the hands and feet.

3. As soon as a blanket or other covering can be obtained, strip the body; but if no covering can be immediately procured, take dry clothing from the bystanders, dry and reclothe the body, taking care not to interfere with the efforts to restore breathing.

CAUTIONS.

1. Do not roll the body on casks.
2. Do not rub the body with salt or spirits.
3. Do not inject tobacco-smoke or infusion of tobacco.
4. Do not place the patient in a warm bath.

What not to do.

To promote warmth and circulation.

Fresh air.

3. If the patient has been carried to a house after respiration has been restored, be careful to let the air play freely about the room.

Fluids to be given.

4. On the restoration of life, a teaspoonful of warm water should be given; and then, if the power of swallowing have returned, small quantities of wine, warm brandy and water, or coffee, should be administered. The patient should be kept in bed, and a disposition to sleep encouraged.

General observations.

The above treatment should be persevered in for several hours, as it is an erroneous opinion that persons are irrecoverable because life does not soon make its appearance, cases having been successfully treated after persevering for many hours.

Appearances which generally accompany death.

Breathing and the heart's action cease entirely; the eyelids are generally half-closed; the pupils dilated; the jaws clinched; the fingers semi-contracted; the tongue approaches to the under edges of the lips, and these, as well as the nostrils, are covered with a frothy mucus. Coldness and pallor of surface increase.

The leading principles of the above instructions are those of the late Dr. Marshall Hall, for the restoration of the apparently dead from drowning, and are the results of the latest discoveries. The favorable opinion of the principal medical bodies, and of three hundred medical men in this country, as also those of the chief medical bodies on the Continent, have been obtained by the Royal National Life-Boat Institution on the subject.

PART THIRD.

CHAPTER I.

BOAT-RACING — REGATTAS AND THE DUTIES OF THEIR OFFICERS — LAWS OF BOAT-RACING.



BOAT-RACE is a comparative trial of the speed with which two or more boats can be driven through the water by their respective crews, rowing over the same course at the same time. Unless other means of propulsion are specially designated, it is understood that the oar alone is used.

Boat - racing defined.

Since the object of the trial, if fairly conducted, is to ascertain which is the best oarsman or the best crew, it is of essential importance that all the circumstances attending the efforts of each contestant should be identically the same; that is to say, in addition to rowing at the same time and place, the boats should be of the same class and of the same dimensions and weight. Owing to the variety of models or lines on which two boats may be built, even where the dimensions are exactly the same, there may be quite as much difference in the speed of the respective boats as between the physical merits of the oarsmen themselves, and hence it by no means follows that, as usually conducted, boat-races are true criterions of the relative skill and powers of the participants.

It is here that the advantages of paper over wooden boats for racing purposes are very manifest, since from the mode of construction two of the former can be made exactly alike in dimensions, lines, and weight, a result very much more difficult, if not quite impossible, to accomplish with boats as ordinarily constructed of wood. Four distinct modes of boat-racing are in vogue, viz.: breast or level races, bumping, time, and handicap races. Breast or level races are those in which the sheet of water moved over is wide enough for all the boats entering to start abreast, and to maintain this position until they reach the other extremity of the course. As it is necessarily the fairest and most satisfactory of all the different forms of racing, it is the only generally recognized and standard mode practised, both in this country and in England.

Various modes of racing.

Breast races.

Breast races may be further divided into straight-away and turning races. In the former, the whole distance to be rowed over is laid out in as straight a stretch as possible between the starting and terminal points; but as it very frequently occurs that the sheet of water selected for this purpose is not long enough to admit of the whole course being laid down in this way, the turning-race must be resorted to. In this case, a buoy, stake, or boat is moored in mid-channel, at a distance from the point of departure usually equal to one-half the length of the prescribed course; the contestants rowing to the stake, rounding it, and returning to the starting-point over the same water. At

Straight-away and

Turning races.

regattas, where the character of the water and the approaches will admit of it, and on occasions when the convenience and interest of the public are of more importance than exhibitions of the highest speed, in order that the spectators may be enabled to see the middle of the race, as well as its commencement and finish, the points of departure and return are often fixed between two sets of buoys or stakes; the boats passing from the starting-point to and around one set of stakes, thence rowing directly to the other set, after rounding which they return to the place of beginning. This plan brings the whole course within the range of ordinary vision, but the two turns made necessarily detract from the speed, and considerably increase the time of execution.

In turning races, where the rival crews are very closely matched, and there is but one stake or buoy, fouls or delays are very apt to occur at the turn, even when all parties honestly endeavor to avoid it. To obviate this difficulty, whether due to accident or design, each boat should have its own stake or buoy about which to turn, placed at such a distance from the others—say fifty or one hundred yards—that all possibility of interference with other boats will be avoided. All the boats make the turn in the same way as may have been previously mutually agreed upon.

Bumping
races.

Bumping races are not known in the United States, where all competitive rowing in which any numbers are engaged is done on comparatively wide water. But in England where every little stream may be said to echo the splash of the oar, trial-races, for want of better facilities, are often rowed on streams so narrow, and of which the curves are so sharp, that there is not sufficient room for two outriggered boats to move abreast. It is in such situations that bumping or time races are resorted to.

In the bumping race, the boats start one in front of the other, as it were in a row, a stated distance intervening between them, and a post being fixed for each to start from. Each boat endeavors to bump or touch the boat in front of it, and, when this is accomplished, both the boat bumping and the boat bumped draw on one side, and allow the remainder of the competitors to pass onward. The result of a bump is, that at the next trial-race the two boats concerned, whether making an ordinary bump or bumping over two places, change position.

Bumping over two places results as follows: If out of four boats close together, the two in the middle touch and draw aside, and the last one, rowing on, overtakes and bumps the first of the quartette, that is called a bump over two places. Excepting in eight-oared races, the boats bumped are disqualified from further competition. Rowing past a boat is equivalent to bumping it.

Time races.

In time races, the boats start in the same manner as before, from posts a fixed distance apart, and finish at posts separated by a like interval; the endeavor of each being to get to its own post first. They are usually rowed as a wind-up, after all the competing boats, except two or three, have been bumped out, or when there are but few entries.

These are less objectionable than bumping races, which frequently resolve themselves into efforts to run into one another by a quick start, or by putting on a spurt at sharp corners. The time races, on the other hand, are better tests of merit, as they must be rowed through from beginning to end. In both cases, the wash of preceding boats leads to much unsteady rowing. But neither bumping nor time races are as true a criterion of respective excellence as breast races, for it frequently occurs that boats which did not succeed in bumping their leaders have defeated them in a fair breast race.

Bumping and time races, as here described, are almost exclusively confined to the trials of the various college crews at the Universities of Oxford and Cambridge, England, where the facilities for rowing, owing to the narrowness and sharp turns in the streams, are by no means good. The want of room, and the crowd of large racing-boats, principally eights, which the college crews turn out, as already briefly alluded to in our introduction, render the plan of bumping races an absolute necessity, in order to sift out from the crowd of competitors for positions in the University crews those who are most worthy of this honor.

Where this disparity in skill between individual oarsmen or crews is so great, and so well understood, as to prevent any races between them in the ordinary way, or when there are such differences in the build, equipment, or speed of the respective boats as of themselves to materially affect the result of a contest, handicapping is resorted to, in order to equalize as nearly as may be the conditions of the contest, and thus bring out the best talent, and encourage men who would otherwise never think of entering into competition with their superiors.

Handicaps.

This is done by giving an allowance of time or weight, as the case may be, to the less skilful contestants, or in favor of the inferior boat. In practice, this may be done, by either allowing the former to start a certain time before their opponents, or, if all start at once, to subtract from the time made by each the amount of the handicap.

Where boats of the same class, carrying an unequal number of oars, are rowed, against each other, the handicap is usually given in terms of seconds per oar, the ordinary allowance for shell-boats being from three to four seconds per oar per mile.

A regatta is a series of races, each of which is between two or more boats, occurring on the same or upon consecutive days, over the same course.

Regattas.

They are usually managed by a body of gentlemen, called in some places stewards, in others the committee, who together form a board of management for the affair. Where the regatta is given under the auspices of an association, organized with the special object of encouraging boat-racing, the officers of the association usually constitute the board.

Officers.

The duties of the board, after electing a secretary, consist in arranging the terms of the various races, and fixing the times at which they are to be rowed; in receiving through the hands of their secretary the entries and entrance-fees of intending competitors; in investigating and disposing of any objections made against particular crews or individuals; in considering any proposed alterations in the conduct of the races which the exigencies of the moment may render necessary; and in awarding the prizes according to the decision of the umpire and judges, who are the appointees of the committee.

One error they should particularly avoid, and that is, entertaining any objections from disqualified or dissatisfied competitors against the decision of their umpire, in cases of fouling or other disobedience to the rules which he is appointed to administer. It is utterly impossible that any body of committee-men, who may be mostly ashore, or at the winning-post or return station, can form a correct opinion upon any race, if they have not accompanied it and watched every incident from the start to the finish. It is to obviate this very difficulty that an umpire is appointed, under the laws of boat-racing, and his duty in this matter is there clearly laid down.

Duties of the
umpire or referee.

The executive officers connected with a race, or a regatta, are the umpire, or, as he is often called, the referee, the judges, and the starter. The umpire is the official representative of the committee, and, as such, should be an eye-witness of every part of the race, since from the commencement to the finish it is under his charge. To enable him to do this, he should accompany the contestants either in a fast gig or a steamer, provided for his use, holding himself at such a distance off the quarter of the line of boats as will cause his craft in no way to interfere with them, and yet will enable him to see every stroke taken, so as to decide upon fouls, should any occur. If the race is rowed fairly out upon its merits, without accident or collision, his post is not an arduous one; but when fouling—the bane of the rowing-match—does unfortunately take place, he must then act in accordance with the rules prescribed and his own judgment. If, as sometimes happens, he has to perform the unpleasant task of disqualifying an offender, he should make up his mind at once, carry his judgment into execution, and, above all things, abide by it. He is almost sure to offend one party or the other, both naturally enough, in the heat and excitement of the race, considering themselves the offended, and not the offending party; but this cannot be helped. He has a duty to perform, and it must be done without fear or favor.

It is unnecessary to enter minutely into all the rules by which he is to be guided, as they will be found with annotations and explanatory directions under the head of "Laws of Boat-Racing," given herewith.

Judges.

Two judges are usually nominated for each side, one acting at one extremity of the course, and the second at the other. Their duties are to note that the boats start at exactly the same moment, under the direction of the starter, and of watching which of the competing boats first passes the stake, buoy, or post indicating the end of the course. To enable them to do this, a couple of plainly marked posts should be set up, one on each side of the course, in a conspicuous position, so that they may have an accurate and fixed line of sight. If the water is too wide and deep to admit of this arrangement, buoys or boats should be securely anchored, so as to afford the same means of observation. The posts, buoys, or boats should be surmounted with flags, the better to enable the competitors to distinguish the limits of the course. It should be clearly understood that it forms no part whatever of the judge's duty to offer any opinion upon the merits of the race; he is simply to name the boat which passes his flag or line first; in breast races, judging the race by the bows of the boats and not by their sterns. At Oxford University the custom is, in time races, to judge boats by their sterns, and as each rudder passes the post a pistol is fired.

The starter.

Whether the umpire act as starter, as is now usually the custom, or this duty is performed by a person specially designated for the purpose, the readiest and simplest mode of effecting a start is for him to inform the competitors that he will ask *once* "Are you ready?" and that if he receives no reply, for which he will allow a reasonable time to elapse, he will say "*Go!*" upon which the race will commence. Should any of the men not be prepared when he asks his preliminary question, they should sing out in a loud voice "*No!*" After allowing a sufficient time to pass, the starter should again ask the question, and, no answer being received, should give the word. The command "*Go!*" given after asking once only if the men are ready, is much to be preferred to the word "*off,*" as the former is easier of utterance in a loud and marked manner, and is more readily caught by the oarsmen or scullers, as they lie at the line ready to start.

Prizes may be of two kinds, presentation or challenge. Presentation prizes are those which become at once the absolute property of the winner. Challenge prizes have certain conditions attached to their acceptance. Frequently, challenge cups or other prizes are offered with the condition that they must be won two or three years consecutively by the same man, crew, or club before they become their absolute property. When this is the case, a row over by a single crew, in the absence of a rival, must be considered as a win, and the prize should be handed over to them, even supposing there was but one entry, otherwise much injustice is liable to be done.

Prizes.

In order that our readers may have access to the best authorities on the laws of boat-racing, we present herewith the code as settled and approved by the Universities of Oxford and Cambridge and the principal boat-clubs of London, with annotations by "Argonaut," and also the "Rules of Boat-Racing adopted for the Thames National Regatta," which touches on some points not fully elucidated in the first code. As rowing and racing are far more extensively practised in England than with us, and as the law and literature of these exercises have received, at the hands of the educated, far more attention there than in this country, it is reasonable to presume that these codes, embodying, as they do, the results of many years' experience, must possess a value which any rules improvised or based upon a more limited experience could not have.

Laws of boat-racing.

We subjoin, also, the rules adopted by the executive committee of the National College Regatta Association, on the 3d of June, 1871, which governed the regatta which took place at Ingleside, near Springfield, Massachusetts, July 21, 1871. This code embodies all the best points of the English ones, and embraces some other valuable details not touched upon in the former. We offer it as an excellent guide in all regattas:

LAW OF BOAT-RACING AS SETTLED AND APPROVED BY THE UNIVERSITIES OF OXFORD AND CAMBRIDGE, AND THE PRINCIPAL BOAT-CLUBS OF LONDON.

Oxford, Cambridge, and London rules.

I. All boat-races shall be started in the following manner: The starter, on being satisfied that the competitors are ready, shall give the signal to start.*

II. If the starter considers the start false, he shall at once recall the boats to their stations, and any boat refusing to start again shall be distanced.†

III. No fouling whatever shall be allowed.

IV. It is the province of the umpire, when appealed to, but not before, to decide a foul, and the boat decided by him to have fouled shall be distanced.‡

* The most satisfactory mode of starting boats has already been described. It is the practice for competitors, when expecting the signal, to lie at the post with their oars or sculls reached out at full length over the stretcher, and there is no objection to their doing so.

† This law gives an umpire power to recall competitors eager to steal a march on him, and get the best of the start. It frequently happens that as soon as the words "Are you ready?" are uttered by him, one or more bolt off, in the hope that the word "Go" will follow almost immediately. To avoid unfairness, it is proper to wait long enough to see whether any one attempts to move before giving the final signal.

‡ An appeal to the umpire can be made either by word of mouth or signal. It is usual, when a foul takes place, for a competitor to hold up his hand, as this action is generally accepted to signify that a foul is claimed. After passing the winning post, the competitor, before leaving his boat, should formally make his claim to the umpire by word of

Oxford, Cambridge, and London rules.

V. In case of a foul, the umpire, if appealed to during the race, shall direct the non-fouling boat to row on, which shall in every case row over the remainder of the course in order to claim the race.*

VI. It shall be considered a foul when, after a race has commenced, any competitor, by his oar, boat, or person, comes in contact with the oar, boat, or person of another competitor; and nothing else shall be considered a foul.

VII. Any competitor who comes into contact with another competitor, as defined in Rule VI., by crossing into his competitor's water, commits a foul; but when a boat has once fairly taken another boat's water, by a clear lead, it has a right to keep the water so taken.†

VIII. A boat shall be held to have a clear lead of another boat when its *stern* is clearly past the *stem* of that other boat.‡

IX. It shall be held that a boat's own water is the straight or true course from the station assigned to it at starting; but, if two boats are racing, and one fairly takes the other's water by a clear lead, it shall be entitled to keep the water so taken to the end of the course; and, if the two boats afterwards come into contact, while the leading boat remains in the water so taken, the boat whose water has been so taken shall be deemed to have committed a foul; but if they come into contact by the leading boat's departing from the water so taken, the leading boat shall be deemed to have committed a foul.§

X. The umpire shall be sole judge of a boat's straight or true course during every part of the race.

XI. If in any race in which more than two boats start a foul takes place, and the boat adjudged by the umpire to have been fouled reaches the winning-post first, the race shall be decided as the boats come in; but, if the boat fouled does not come in first, or if the umpire is unable to decide which boat has committed the foul, the race shall be rowed over again, unless the umpire shall decide that the boat which came in

mouth. It should here be noted that the person who has the sole power to decide questions of foul is the umpire, so that the boat decided *by him* to have fouled shall be distanced. This renders the umpire absolute, and allows a committee no power whatever to reopen questions of fouling.

* When a foul takes place, it is seldom that either the boat fouling or the boat fouled stops to appeal to the umpire otherwise than by signal; and it is just as well they should not, for, if the boat fouled comes in first, there is nothing to adjudicate upon. It is the best plan not to give a decision upon a foul until all the competitors have passed the post; and, if a competitor who is fouled stops to claim, to order him simply to row on. He may yet come in first, and win on his merits.

† By this rule it is enacted that, if one boat, leaving its own water, bores another, and a foul results from that boring, the boat which is out of its proper water commits a foul, and is subject to the penalty for so doing; but if the boat boring is so lucky as to take the water of its competitor without coming into collision, it is thereafter entitled to the water and course so taken.

‡ The stem is the bow or nose of the boat.

§ If two boats are racing, and one takes the other's water, when it has a clear lead, it is not only entitled to the water and course so taken, but is morally bound to keep them; and, if the hindermost boat rows over and on to the boat which has taken its water, while in that water, the hindermost boat commits a foul; because, from the moment the leading boat took the hindermost boat's water, their courses were exchanged, and the water which previously belonged to the leading boat thenceforth became the proper water of its antagonist; and, if the leading boat returns to its previous water, which no longer belongs to it, and the sternmost boat comes up and touches it, the leading and not the sternmost boat is to blame. It often happens that a leading boat which has once taken a competitor's water returns to its original water for the purpose of washing and dodging its competitor; but it does so at its peril, and is in danger of disqualification if touched.

first had a sufficient lead at the moment of the foul to warrant its having the race assigned to it.*

XII. Whenever the umpire shall direct a race to be rowed over again, any boat refusing so to row again shall be distanced.

XIII. Every boat shall stand by its accidents.†

RULES OF BOAT-RACING AT THE THAMES NATIONAL REGATTA.

Thames National Regatta rules.

I. All boats shall be at the starting-post at the time stated on the card. Any crew or competitor not complying with this rule will be considered distanced.

II. All races shall be started in the following manner: The starter shall ask the question, "Are you ready?" and, receiving no reply, shall give the signal to start.

III. If the umpire considers the start unsatisfactory, he shall at once recall the boats to their stations, which will be done by ringing a bell; and all boats must return immediately or be disqualified.

IV. No race shall be awarded to any competitor or crew, unless he or they shall have rowed over the whole of the course.

V. No fouling whatever shall be allowed. Any boat committing a foul will be considered distanced.

VI. In the event of a foul between the leading boats, owing to which any boat previously astern might be enabled to obtain the leading place, which, in the opinion of the umpire, would not have been the case had not the boats been impeded by the collision, the umpire has the power, if appealed to (after disqualifying the boat which committed the foul), of restarting the other competitors, either from the starting-post or from the place of the foul, as he may determine.

VII. The umpire, when appealed to, and not before, shall decide all questions as to a foul, and any other disputed point.

VIII. A claim of foul (which must be tendered by the competitor himself, and not by any one in his behalf) must be made to the umpire previously to the man fouled getting out of his boat.

IX. The umpire shall be sole judge of a boat's straight or proper course.

* This rule is somewhat obscure, and is the only one of the whole code which requires simplifying or explaining, as it is liable to misconstruction. Its meaning is as follows: First, that, if several boats are racing and a foul takes place, and the boat which is fouled comes in first, it is the winner, as against the remainder of the field; secondly, that, if the boat fouled does not come in first, but is left astern by some other boat not concerned in the foul, then the race shall be rowed over again, unless, at the moment of the foul, the boat which eventually came in first had such a lead of the two which fouled as to warrant its having the race assigned to it; and, thirdly, that, if the umpire is unable to decide which boat has committed the foul, he may send them all back to row the race anew; but it does not mean that, if the boat fouled comes in second, and is preceded by the boat committing the foul, the race shall be rowed over afresh and the offender be permitted to start again, because the boat committing the foul has incurred the penalty of fouling, and is no longer in the race, under Rule IV. These points are very clearly defined in the "Local Rules of the Thames National Regatta," given above, for they enact as follows: "Rule V. No fouling whatever shall be allowed. Any boat committing a foul will be considered distanced." And Rule VI. says: "In the event of a foul between the leading boats, owing to which any boat, previously astern, may be enabled to obtain the leading place, which, in the opinion of the umpire, would not have been the case had not the boats been impeded by the collision, the umpire has the power, if appealed to (after disqualifying the boat which committed the foul), of restarting the other competitors, either from the starting-post or from the place of the foul, as he may determine." So, likewise, if three boats are racing, and a foul occurs between the two leaders, the boat committing the foul is distanced, and the boat hitherto third is entitled to the second place, if it comes in astern of the boat fouled; but, if before it, as already explained, the race must be rowed over again—of course to the exclusion of the boat which committed the foul.

† This rule refers to accidents occurring after the race has actually commenced.

X. Every boat shall stand by its own accidents occurring during the race.

XI. In the event of a dead heat taking place, the same crews shall contend again, or the crew or crews refusing shall be adjudged to have lost the heat.

XII. No boat shall be allowed to accompany a competing boat for the purpose of directing its course, or affording other assistance; and the umpire shall be at liberty to declare any competing boat distanced that may have derived an unfair advantage thereby.

XIII. The decision of the umpire shall in all cases be final.

Rules of the
National Col-
lege Regatta
Association of
the United
States.

RACING RULES FOR THE NATIONAL COLLEGE REGATTA ASSOCIATION, AS ADOPTED
BY THE DELEGATES FROM THE NEW ENGLAND COLLEGES, JUNE 3, 1871.

I. All races shall be started in the following manner: The starter shall ask the question, "Are you ready?" and receiving no reply, after waiting at least five seconds, shall give the signal to start, which shall be the word "Go!"

II. If the starter considers the start unfair, he shall at once recall the boats to their stations; and any boat refusing to start again shall be ruled out of the race.

III. A start shall be considered unfair if, during the first ten strokes, any of the competing boats shall be disabled by the breaking of an oar, or any other accident.

IV. No fouling whatever shall be allowed.

V. It is the province of the referee, when appealed to, but not before, to decide a foul; and the boat decided by him to have fouled shall be ruled out of the race.

VI. In case of a foul, the umpire, if appealed to during the race, shall direct the non-fouled boat to row on, which shall in every case row over the remainder of the course in order to claim the race.

VII. It shall be considered a foul when, after a race has commenced, any competitor, by his oar, boat, or person, comes in contact with the oar, boat, or person of another competitor; and nothing else shall be considered a foul.

VIII. Any competitor who comes into contact with another competitor, as defined in Rule VI., by crossing into his competitor's water, commits a foul; but, when a boat has once fairly taken another boat's water by a clear lead, he has a right to keep the water so taken.

IX. A boat shall be decided to have a clear lead of another boat when its stern is clearly past the bow of that other boat.

X. It shall be held that a boat's own water is the straight or bow course from the station assigned to it at starting; but, if two boats are racing, and one fairly takes the other's water by a clear lead, it shall be entitled to keep the water so taken to the end of the course; and, if the two boats afterwards come into contact, while the leading boat remains in the water so taken, the boat whose water has been so taken shall be deemed to have committed the foul; but, if they come into contact by the leading boat's departing from the water so taken, the leading boat shall be deemed to have committed a foul.

XI. The referee shall be sole judge of a boat's straight or bow course during every part of the race.

XII. If, in any race in which more than two boats start, a foul takes place, and the boat adjudged by the umpire to have been fouled reaches the winning-post first,

the race shall be decided as the boats come in; but, if the boat fouled does not come in first, or, if the referee is unable to decide which boat has committed the foul, the race shall be rowed over again, unless the referee shall decide that the boat which came in first had a sufficient lead, at the moment of the foul, to warrant the race being assigned to it.

XIII. A claim of foul (which must be entered by the captain of the crew considering itself fouled, and not by any one in his behalf) must be made to the referee previously to the crew fouled getting out of their boat.

XIV. Every boat shall stand by its own accidents occurring during the race.

XV. In the event of a dead-heat taking place, the same crews shall contend again, or the crew or crews refusing shall be adjudged to have lost the race.

XVI. No boat shall be allowed to accompany a competing boat for the purpose of directing its course, or affording other assistance; and the referee shall be at liberty to declare any competing boat out of the race that may have derived an unfair advantage thereby.

XVII. No race shall be awarded to any competitor or crew, unless he or they shall have rowed over the whole of the course.

XVIII. The decision of the referee shall in all cases be final.

RULES OF THE HUDSON AMATEUR ROWING ASSOCIATION FOR THE GOVERNMENT OF REGATTAS.

Rules of the
Hudson Ama-
teur Rowing
Association, of
New York.

1. The standard course shall be three miles, unless otherwise agreed upon by the contending clubs.

2. The races shall be either on a straight course with the tide, or with but one turn, at the option of the challenged party.

3. The challenged party shall name the time and place, and the race shall be rowed within one month from the date of receipt of the challenge.

4. Each party shall appoint two judges, who will agree upon a referee—judges and referee shall not belong to the club of either contending party.

5. In case the race be with one turn, one judge, representing each contestant, shall be stationed in the stake-boat, the others at the starting-point.

6. No boat shall take the water of another, unless she has a clear lead of a boat's length.

7. The starter shall start the boats, and, at the termination of the race, each crew shall report to its respective judge, prior to any decision being given.

8. In all races rowed between the clubs composing this association, the crews shall be *bona-fide* members of the respective clubs at the time of the acceptance of the challenge.

9. No man who has rowed for money, or has rowed in regattas open to all comers, or has been at any time ready or willing to be matched for money against any oarsman, shall be allowed to row in any race under the auspices of this association.

10. The boats of this association shall be classed as follows: First class—skeleton-lapstreaks and shells. Second class—outrigged gigs. Third class—barges.

Rules of the
Hudson Amateur
Rowing
Association, of
New York.

11. The first class shall allow the second class eighteen seconds per mile. The second class shall allow the third class eleven seconds per mile. Five seconds per oar per mile shall be allowed by boats pulling the greater number of oars.

12. A fine of ten dollars shall be charged for four, six, or eight oared boats, and a fine of five dollars shall be charged for single or double scull boats, against such clubs by whom they are entered, for any regatta under the auspices of this association, if they fail to put in an appearance on the day of such regatta.

13. No boat shall be allowed to enter in any regatta of this association until its classification shall have been *first decided* by the executive committee.

14. Any club presenting the name of any member to row in any regatta under a fictitious name shall be for ever afterwards debarred from rowing in any regatta of this association.

CHAPTER II.

RACES WON IN PAPER BOATS FROM 1868 TO 1871 — BOAT-RACING AT AMERICAN COLLEGES — THE HARVARD-YALE AND INTER-COLLEGIATE RACES, 1852 TO 1871 — CITIZENS' REGATTAS, WORCESTER, MASS., 1859 TO 1870 — ANNUAL REGATTAS OF THE NEW ENGLAND ROWING ASSOCIATION, HUDSON AMATEUR ROWING ASSOCIATION, AND NORTHWESTERN AMATEUR BOATING ASSOCIATION, 1867 TO 1871 — OXFORD AND CAMBRIDGE ANNUAL RACES, 1829 TO 1871 — RACES OF THE ST. JOHN (N. B.) CREW, 1867 TO 1871.

FOR rowing men, the best evidence of the merits of the paper racing-boats, and their superiority over those of wood as usually built, is the record of the races won in them from their introduction in 1868 up to the present time, as herewith given in detail.

Comparison of best time made in paper and wooden shells.

An impression seems to have prevailed among some of the more enthusiastic admirers of these boats that it was only necessary for an oarsman to use a paper shell as against one of wood to be ensured a victory. While it were idle to make such extravagant claims to excellence as this, we distinctly assert that, all other conditions being the same, paper shells are faster than wooden ones, and that this statement is proved by the record. For convenience of reference, we subjoin some of the best times made by different kinds of shells during the period named as compared with some of the best made in wooden ones.

Single Shells—Straight-Away Breast Races.

Best average speed over the Henley Course (England) in the 10 years 1853 to 1865 inclusive (length of course: 1 mile 2 furlongs 20 perches = 6,930 feet), 10'.3½", or one mile in 7'.40".

Best speed ever made over the Henley Course (Mitchell, 1865), 9'.5", or one mile in 6'.55½".

John Tyler, Jr., at Hoboken, N. J., June 24, 1868, rowing paper shell, 10" x 35', made 2 miles in 11'.20¼", or one mile in 5'.40¼".

Single Shells—Two Miles Turning Breast Races.

Walter Brown's best two miles against time, Worcester, July, 1867, rowing wooden shell, 15'.15".

Josh. Ward's best two miles against time, rowing wooden shell, 15'.15".

Walter Brown at Lachine, Ca., July 24, 1869, rowing a paper shell, 12" x 30½', made two miles in 13'.23".

E. T. Owen won the Southworth cup at Lake Saltonstall, Ct., June 28, 1870, rowing paper shell, 15" x 28', two miles, in 14'.11½".

J. Tyler, Jr., Lake Quinsigamond, Worcester, Mass., July 24, 1868, rowing paper shell, 9½" x 33', made two miles in 14'.52".

Single Shells—Three Miles Turning Breast Races.

James Hamill's best time, rowing wooden shell, 22'.27".

Walter Brown's best time, rowing wooden shell, July, 1866, 22'.30".

P. Harrington (defeated by J. J. O'Leary at Worcester, Mass., Sept. 14, 1870), rowing wooden boat, 22'.11½".

Comparison of
best time made
in paper and
wooden shells.

J. J. O'Leary, Lake Quinsigamond, Worcester, Mass., Sept. 14, 1870, rowing paper shell, 12" x 30½', 22'5".

J. Kaye, Jr., Lower Monongahela Course, Pittsburg, Pa., August 6, 1870, rowing paper shell, 21'42".

Single Shells—Five Miles Turning Breast Races.

W. Brown, Monongahela River Course, Pittsburg, Pa., Sept. 9, 1868, defeated Coulter, rowing paper shell, 12" x 30½', 34'28½".

H. Coulter, Monongahela River Course, Pittsburg, Pa., Aug. 19, 1869, defeated Hamill, rowing paper shell, 12" x 30½', 37'51".

Double Sculls—Two Miles Turning Breast Race.

J. Tyler, Jr., and J. S. Fay, Jr., Boston, July 4, 1868, rowing paper shell, 15" x 36', made two miles in 14'24½".

Four-Oared Shells—Straight-Away Races.

Best average speed over the Henley Course for 11 years, 4 oars, carrying coxswain, one mile in 6'31½".

Best speed over above course, 3d Trinity, 1865, carrying coxswain, one mile in 6'11½".

Regatta at Columbus, Ga., Nov. 4, 1870. Four-oared paper shell, "Aphrodite," with coxswain, one mile in 4'40".*

Regatta at Savannah, Ga., June 1, 1871. Four-oared paper shell, "Annie Huger," no coxswain, one mile in 5'24".†

Regatta at Savannah, Ga., June 1, 1871. Four-oared paper shell, "Lucille," no coxswain, one mile in 5'25".

Empire City Regatta, Harlem River, N. Y., Sept. 10, 1860. Biglin brothers, in four-oared wooden shell, 5 miles in 30'44¾". (No paper fours have as yet been rowed a five-miles straight race.)

Citizens' Regatta, Worcester, Mass., July 27, 1866. Leary crew, of New York, rowing wooden shell, 19'41". Best time ever made by professional crew.

Four-Oared Shells—Three Miles Turning Breast Races.

Anniversary Regatta at Buffalo, N. Y., July 5, 1871. McKee crew of Birmingham, Pa., rowing paper shell, 17¼" x 40¾', 20'9½".

Midshipmen vs. Quaker City crew, Annapolis, Md., May 28, 1870. Rowing paper shell, 19" x 42½', 20'25".‡

Four-Oared Shells—Six Miles Turning Breast Race.

St. John, N. B., crew, August 23, 1871, rowing wooden shell, 39'20¾". (No paper shell has yet been used in a six miles turning race.)

Six-Oared Shells—Three Miles Turning Race.

Best time ever made in the United States: the Ward brothers at Worcester, Mass., 1868, 3 miles in 17'40¼", wooden shell.

The paper six-oared shells have only been recently introduced, but, judging from the success of the paper four-oared shells in 1870 and 1871, there is every reason to believe that the six-oared shells will soon earn a similar reputation.

* Favorable current of two miles per hour.

† The quickest time ever made at the South in a racing-boat.

‡ Water very rough.

SEASON OF 1868.

1. Charles River Course, Boston, Mass., May 13, 1868.—2 miles Turning Race for the possession of the Champion Cup, presented by the Union Boat Club, of Boston, Mass.

Four entries—one paper and three wooden Single Sculls.

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| 1. J. S. Fay, Jr., PAPER BOAT, | Time, 17' 30" | —6' ahead of all. |
| 2. L. S. King, wooden boat, | " — — | Boat filled with water. |
| 3. E. Henshaw, " " | " — — | |
| 4. E. B. Robbins, " " | " — — | |

Water was very rough, and weather very unfavorable.

2. Annual Regatta New England Rowing Association, Boston, Mass., May 22, 1868.—2 miles Turning Race for Single Sculls over the Charles River Course. Prize, the Gold Medal of the Association and the Championship of the Charles River.

Eight entries—Single Sculls, two paper and six wooden boats.

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| 1. John Tyler, Jr., PAPER BOAT, | Time, 15' 31" |
| 2. J. S. Fay, Jr., " " | " 15' 44" |
| 3. W. Brown, wooden boat, | " 16' 9" |
| 4. Randall, " " | " 16' 14" |
| 5. Clary, " " | " 16' 38" |
| 6. Appleton, " " | " 16' 40" |
| 7. Williams, " " | " 16' 57" |
| 8. Bath, " " | " 17' —" |

3. Charlestown Regatta, Charlestown, Mass., June 17, 1868.—2 miles Turning Race, Single Sculls. First Prize, \$40; Second Prize, \$20.

Six entries—Single Sculls, two paper and four wooden boats.

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|---------------------------------|--------------|
| 1. J. S. Fay, Jr., PAPER BOAT, | Time, 15' 2" |
| 2. Ellis Ward, wooden boat, | " 15' 24" |
| 3. Wm. Appleton, paper boat, | " 15' 40" |
| 4. L. E. Kingsley, wooden boat, | " 16' 5" |
| 5. D. E. Poast, " " | " 16' 22" |
| 6. C. A. Blanchard, " " | " 16' 40" |

4. Schuylkill River Course, Philadelphia, Pa., June 18, 1868.—3 miles Turning Race. Match between John Tyler, Jr., of Boston, and Walter Brown, of Portland, Me., for \$1,000.

Both parties using paper boats.

1. John Tyler, Jr.; boat, 10 in. beam x 35 ft. long. Time, 21' 57½"
Won by 2 ft. BEST TIME ON RECORD, for 3 miles Single Scull Race.

2. Walter Brown; boat, 9½ in. beam x 33 ft. long.

5. Hoboken, N. J., Course, June 24, 1868.—2 miles Straight Race. Match between John Tyler, Jr., of Boston, and Walter Brown, of Portland, Me., for \$1,000.

Both parties using paper boats.

1. John Tyler, Jr.; boat, 10 in. beam x 35 ft. long. Time, 11' 20¼"
Beat by one length.

2. Walter Brown; boat, 9½ in. beam x 33 ft. long.

6. Mutual Boat Club Course, Albany, July 3, 1868.—3 miles Turning Race. Match between H. Gardner and W. Hill, of Albany, N. Y.

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| 1. H. Gardner, PAPER BOAT, | Time, 25' 33" |
| 2. W. Hill, wooden boat, | " 26' 13" |

7. Anniversary Regatta, Boston, Mass., July 4, 1868.—Single Scull, 2 miles Turning Race. First Prize, \$100; Second Prize, \$50.

Three entries—two paper and one wooden boats.

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| 1. Walter Brown, PAPER BOAT, "Flirt," | Time, 15' 35" |
| 2. John Hancox, wooden boat, "Coldspring," | " 15' 59" |
| 3. John Tyler, Jr., paper boat, | " 16' 56" |

John Tyler, Jr., ran into the Stake Boat, came to a full stop, and had to have the bow of his boat extricated from the Stake Boat before he could proceed.

8. Double Sculls, 2 miles Turning Race. First Prize, \$100; Second Prize, \$50.

Six entries—one paper and five wooden boats.

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| 1. Tyler, Jr., and Fay, Jr., PAPER SHELL, ———, | Time, 14' 24½" |
| 2. Holdrege & Willis, wooden shell, "Unknown," | " 14' 48½" |
| 3. Butler & Wells, " " "L'Hirondelle," | " 15' 10½" |
| 4. Brennan & McKee, " " "Lizzie," | " 15' 10½" |
| 5. Charles & T. W. Helm, " " "Gertrude," | " 15' 54½" |
| 6. Bagnells & Law, " " "Francis Law," | " — —" |

9. Anniversary Regatta, Providence, R. I., July 4, 1868.—2 miles course, Single Scull Turning Race. First Prize, \$50 and the Narragansett Boat Club's Champion Sculler's Gold Badge, valued at \$60; Second Prize, \$25.

Three entries—one paper and two wooden shells.

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| 1. E. G. West, PAPER BOAT, "Experiment," | Time, 19' 19" |
| 2. W. A. Cady, wooden boat, "Irene," | " 21' 49" |
| 3. G. R. Budding, " " "Walter Green," | " — —" |

10. Anniversary Regatta, Lowell, Mass., July 4, 1868.—2 miles Turning Race, Single Sculls. First Prize, \$75; Second Prize, \$50.

Four entries—one paper and three wooden shells.

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| 1. J. S. Fay, Jr., Boston, PAPER BOAT, | Time, 15' 49" |
| 2. McDonald, Lowell, wooden boat, | " 17' 56" |
| 3. H. Howard, Boston, " " | " 18' —" |
| 4. Sanders, Lowell, " " | " 18' 41" |

11. Narragansett Club's Course, Providence, R. I.—2 miles Turning Race, Single Sculls, for the possession of the Champion Sculler's Gold Badge, July 18, 1868.

Two entries—one paper and one wooden shell.

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| 1. E. G. West, PAPER BOAT, "Experiment," | Time, 16' 40" |
| 2. W. H. Cady, wooden boat, "Irene," | " — —" |

Mr. West rounded the Stake Boat in 7 minutes 9 seconds (Cady ¾ mile astern), and then pulled leisurely home.

12. College Regatta, Quinsigamond Lake Course, Worcester, Mass., July 24, 1868.—2 miles Turning Race. Match between John Tyler, Jr., of Boston, Mass., and John McKiel, of Coldspring, N. Y., for \$500.

Two entries—one paper and one wooden boat.

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|---------------------------------|---------------|
| 1. John Tyler, Jr., PAPER BOAT, | Time, 14' 52" |
| 2. John McKiel, wooden boat, | " 15' 18½" |

Tyler won easily by 12 lengths, and MADE THE BEST TIME IN A SINGLE SCULL TWO MILES RACE EVER MADE ON THIS LAKE.

In 1867, at the College Regatta, Quinsigamond Lake.

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|---|--------------------|
| John McKiel made | 2 miles in 15' 54" |
| Gilbert Ward made | " 15' 57" |
| John Tyler, Jr., made | " 16' 2" |
| G. W. Holdrege made | " 16' 4" |
| Walter Brown's best time, 2 miles against time, | 15' 15" |
| Josh Ward's | " 15' 15" |

All used wooden boats.

13. Monongahela River Course, Pittsburgh, Sept. 9, 1868.—5 miles Race for the Championship of America, and stakes amounting to \$2,000. 2½ miles to a Stake Boat, rounding it and return.

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| 1. Walter Brown, PAPER BOAT, "John H. Flagler," | Time, 34' 28½" |
| 2. Henry Coulter, wooden boat, | " 35' 36" |

Brown came in over 200 yards in advance, MAKING THE BEST TIME EVER MADE IN AMERICA.

14. Race for the Championship of Maine, at New Brunswick, Maine, Oct. 30, 1868.—2 miles course; a Turning Race.

Nine entries—eight wooden single shells, one paper shell.

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| 1. J. W. Randall, PAPER BOAT (12 in.), | Time, 15' 25" |
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SEASON OF 1869.

1. Annual Races at the U. S. Naval Academy, Annapolis, Md., June 4, 1869.—3 miles Turning Race on the Severn River. Prize, the Champion Flag, presented by Admiral Porter, U.S.N.

1. FOUR-OARED PAPER SHELL BOAT, "Nautilus," manned by Midshipmen W. M. Wood (stroke), Holliday, Hubbard, Merrian (bow), of 2d Class, no coxswain. Time, 21' 16"

2. Six-oared wooden shell boat, "Decatur," manned by Midshipmen Garvin (stroke), Wright, Bolles, Pacries, Osborne, Stuart (bow), J. C. Wilson (cox.), of 1st Class. Time, 21' 33"

The race was rowed in very rough water, a stiff east wind prevailing; the "Decatur" swamped on home stretch, when two-thirds of the distance from the turning stake, the stroke of the "Nautilus" being even with the "Decatur's" bow when the latter went down.

2. Annual Regatta, New England Rowing Association, Boston, Mass., June 15, 1869.—2 miles Turning Race, for Single Sculls, over Charles River Course. Prize, the Gold Medal of the Association and the Championship of the Charles River.

Seven entries—two wooden and five paper boats.

1. Walter Brown, PAPER BOAT, Time, 16' 48"
2. W. Appleton, Jr., " " 17' 10 $\frac{1}{2}$ "
3. W. Randall, " " 17' 34 $\frac{1}{2}$ "
4. John Tyler, Jr., " " not taken.
5. E. G. West, " " "
6. J. H. Butler, wooden boat, " "
7. T. Doyle, Jr., " " "

3. Annual Regatta, Charlestown, Mass., June 17, 1869.—2 miles Turning Race, for Single Shells, over the Mystic River Course. Prizes, first, \$40; second, \$10.

Four entries—two wooden and two paper boats.

1. Walter Brown, PAPER BOAT, Time, 14' 17"
2. T. Doyle, Jr., wooden " " 17' 33"
3. S. L. King, paper " " distanced.
4. J. H. Butler, wooden " " "

4. Hudson River Course, Albany, N. Y., July 3, 1869.—3 miles Turning Race, for Single Sculls. Three entries.

1. A. B. Lathrop, PAPER BOAT, Time, 25' 15"
2. H. Gardner, " " 25' 30"
3. Wm. R. Hills, wooden boat, " 25' 33"

5. Anniversary Regatta, Boston, Mass., July 3, 1869.—2 miles Turning Race, for Single Sculls, over the Charles River Course. Prizes, first, \$125; second, \$50; third, \$25.

Six entries—three wooden and three paper boats.

1. W. Brown, PAPER BOAT, Time, 15' 23"
2. John McKiel, wooden boat, " 15' 37 $\frac{1}{2}$ "
3. J. W. Randall, paper " " 15' 43"
4. T. Doyle, Jr., wooden " " 15' 50"
5. John Hamill, paper " " 15' 52"
6. H. Carlton, wooden " " "

6. Anniversary Regatta, Providence, R. I., July 5, 1869.—2 miles Turning Race, for Single Sculls, over Seekonk River Course. Prizes, first, \$30; second, \$20.

Five entries—three wooden and two paper boats.

1. E. G. West, PAPER BOAT, "Experiment," Time, 17' 2"
2. W. H. Cady, " "Toothpick," " 17' 54"
3. N. R. Knight, wooden boat, "Irene," " 18' 4"
4. Geo. West, " " " " " "
5. G. R. Budlong, " "Gipsy," " " "

7. Annual Regatta of the Shatemuc Club, Poughkeepsie, N. Y., July 10, 1869.—First, 3 miles Turning Race, for Single Shells, Hudson River Course. Prize, Pair Gold Oars.

1. G. C. Bayley, PAPER BOAT, "Josie," Time, 28' 18"
2. Geo. Van Vliet, wooden " "Lottie," " not taken.

8. Second.—3 miles Turning Race, for Single Shells, same course.

1. Henry B. LeRoy, PAPER BOAT, "Josie," Time, 27' 6"
2. R. W. Bagley, wooden " "Lottie," " not taken.

9. Regatta at Savannah, Ga., July 14, 1869.—1 mile Straight Course, on the Savannah River. Prize, \$150. Three entries.

1. 4-oared PAPER SHELL BOAT, "Aphodrite," with coxswain, Time, 5' 46 $\frac{1}{2}$ "
2. 6-oared wooden boat, "Belle Boyd," with cox., " 5' 46"
3. 4-oared " " "Irene," " 6' 56"

The "Belle Boyd" being a six-oared boat, by the terms of the race, allowed 7 seconds to the 4-oared boats. The "Aphrodite" was declared the winner by 6 $\frac{1}{2}$ seconds, and took the prize.

10. Lachine Regatta, Lachine, Canada, July 24, 1869.—2 miles Straight Race, for Single Shells, over St. Lawrence River Course.

Four entries—one paper and three wooden boats.

1. Walter Brown, PAPER BOAT, Time, 13' 23"
2. R. H. Haycock, wooden boat, " 13' 40 $\frac{1}{2}$ "
3. T. Tinning, " " 14' 3"
4. T. Loudon, " " not taken.

11. Regatta at Toronto, Canada, August 7, 1869.—2 miles Turning Race, for Single Shells, Toronto Bay Course. Prizes, the Championship of the Bay of Toronto and Canada, and Silver Cup, or option of \$50. Four entries.

1. R. H. Haycock, PAPER BOAT "Sweetheart," Time, 16' 45"
2. R. Berry, wooden boat, "Whip," " distanced.
3. T. Loudon, paper boat, "Skylark," } withdrawn.
4. T. Tinning, wooden boat, "Cigar," }

The water was so rough in this race that the two last entries were withdrawn in consequence. The sea broke heavily on Haycock's back, and it was with difficulty he kept in the boat.

12. Toronto Bay Course, Toronto, Canada, August 7, 1869.—2 miles Turning Race, for Single Shells. Prizes, the Championship of Junior Oarsmen, Canada, and Silver Cup, or option of \$25. Three entries.

1. C. Fellows, PAPER BOAT, "Sweetheart," Time, 17' 00"
2. R. J. Tinning, wooden boat, "Cigarette," " 17' 20"
3. G. Donnelly, " "Gladiator," " distanced.

13. Hudson River Course, Troy, N. Y., July 27, 1869.—3 miles Turning Race. Two entries.

1. W. Benedict, PAPER BOAT, Time, 26' 38"
2. W. Buckley, " " distanced.

14. Monongahela River Course, Pittsburgh, Pa., August 19, 1869.—5 miles Turning Race. Stakes, \$1,000.

1. Henry Coulter, PAPER BOAT, } A "foul" was made shortly after the
2. John Hamill, " } start, and the race was declared a
"draw" by the referee.

* 9' x 32", built by Clasper, of England.

15. Monongahela River Course, Pittsburgh, Pa., August 19, 1869.—5 miles Turning Race. Stakes, \$2,000.

1. Henry Coulter, PAPER BOAT, . . . Time, 37' 51"
2. John Hamill, " " . . . distanced by 50 yards.

The men rowed in 12-inch paper shells, moulded on the same form, and precisely alike.

16. Hudson River Amateur Association Regatta, Hoboken, N. J., Sept. 9, 1869.—3 miles Turning Race, for Double Sculls, over the Association Course. Prize, Gold Badge.

Three entries—one paper and two wooden boats.

1. Jas. O'Neil and R. B. Deely, PAPER BOAT, "Harriot Balch," won easily in . . . Time, 28' 49¹/₂"
2. Mathews and Spear, wooden boat, "Ginger," . . . " 30' 17"
3. ——— " " "American Eagle," Withdrawn.

17. Annual Fall Regatta of the Shatemuc Boat Club, Poughkeepsie, N. Y., Sept. 11, 1869.—3 miles Turning Race, for Single Shells.

Four entries—one paper and three wooden boats.

1. H. B. LeRoy, PAPER BOAT, "Josie," . . . won easily in 28' 50"
2. G. C. Bayley, wooden boat, "Kate," . . . distanced.
3. G. Van Vliet, " " "Nellie," . . . " "
4. G. Burnet, " " "Grace," . . . " "

18. Ohio River Course, at Louisville, Ky., Sept. 24, 1869.—3 miles Turning Race, for Single Shells. Three entries.

1. James Hamill, PAPER BOAT . . . Time, 24' 20"
2. William Haley, wooden boat, . . . " 24' 22"
3. Lewis Mulholland, " " . . . " 24' 30"

19. Hudson River Course, Albany, N. Y., Sept. 27, 1869.—3 miles Turning Race, for Single Shells. Prize, the Championship of the Mutual Boat Club. Five entries.

1. P. H. Ewing, Jr., PAPER BOAT, . . . Time, 27' 8"
2. G. A. Schwartz, wooden boat, . . . " — —
3. J. Parker, " " . . . " — —
4. J. Shattuck, " " . . . " — —
5. J. C. Armatage, " " . . . " — —

Water was very rough and unsuited for rowing; one boat swamped.

20. Regatta on Dundee Lake, Paterson, N. J., Sept. 30, 1869.—2 miles Turning Race, for Double Sculls. Prize, Silver Cup. Two entries.

1. G. W. Low and J. A. Beckwith, PAPER SHELL, "Fanchon," . . . Time, 18' 5"
2. M. Clark and T. C. Oakman, paper shell, "Capt. Wragge," . . . " 19' 3"

21. 2 miles Turning Race, for Single Sculls. Prize, Gold Badge. Two Entries.

1. Isaac Newton, Jr., PAPER BOAT, won by 7 lengths, in 16' 55"
2. Purdy, " " . . . Time, 17' 42"

22. Regatta at Providence, R. I., October 9, 1869.—2 miles Turning Race, for Single Shells, Seekonk River Course. Prize, Champion Badge.

Four entries—three paper and one wooden boat.

1. H. Butterworth, Jr., PAPER BOAT, "Toothpick," . . . Time, 17' 35"
2. N. R. Knight, wooden boat, "Gipsy Boy," . . . " 17' 50"
3. W. H. Cady, paper boat, "Flirt," . . . " 17' 54"
4. E. G. West, " " "Experiment," . . . " 18' 6"

23. Allegheny River Course, Pittsburgh, Pa., Oct. 9, 1869. 3 miles Turning Race.

1. J. V. Hays, PAPER BOAT, . . . Time, 24' 30"
2. William Worthington, wooden boat, . . . " 26' 15"

24. Nassau Boat Club Course, Hudson River, New York, Oct. 11, 1869.—3 miles Straight Course. Prize, Champion Pennant, Nassau Boat Club, of New York.

Two entries—one paper and one wooden boat.

1. Geo. Henry, PAPER BOAT, . . . won easily in 24' 00"
2. John Dunyon, wooden boat, . . . Time, 24' 30"

25. Bowdoin College Regatta, Brunswick, Me., October 14, 1869.—2 miles Turning Race, over Androscoggin River Course. Prize, the Championship of Maine. Four entries.

1. H. B. Keazer, PAPER BOAT, . . . Time, 15' 45"
2. W. R. Shaw, wooden boat, . . . " 15' 50"
3. E. P. Banks, paper boat, . . . " 17' 00"
4. W. C. Dole, Jr., wooden boat, . . . " 17' 2"

26. Saltonstall Regatta, Saltonstall Lake, New Haven, Conn., Oct. 27, 1869.—2 miles Turning Race, for Single Shells. Prize, a Silver Cup and the Championship of the University. Four entries.

1. J. W. Griswold, PAPER BOAT, "Grace," . . . Time, 16' 3"
2. R. Terry, " " "Lady Alice," . . . " 16' 38"
3. R. Colgate, Jr., wooden boat, "Alice," . . . " — —
4. E. T. Owen, " " " — —

SEASON OF 1870.

1. **Annual Class Races at the United States Naval Academy, Annapolis, Md., April 28, 1870.**—3 miles Turning Race, on the Severn River, Md. Prize, the Champion Flag, presented by Admiral Porter, U.S.N.
 1. 4-oared PAPER SHELL, "Lillie," manned by Midshipmen G. A. Merrjam (bow); W. M. Wood, 2; W. S. Holliday, 3; J. Hubbard (stroke). Time, 21' 1"
 2. 4-oared paper shell, "Niagara," manned by Midshipmen A. Ward (bow), F. Guertin, 2; C. D. Galloway, 3; R. C. Wood (stroke). Time, 21' 28"

The weather was thick and rainy, and the water somewhat rough.
2. **Opening Day of the Hudson Amateur Rowing Association, May 18, 1870.**—3 miles Turning Race, over the Association Course, Hoboken, N. J. Prize, a Gold Badge, presented by the Commodore of the Association.
 1. John C. O'Neil, Columbia Boat Club of N. Y., PAPER WORKING BOAT. Time, 24' 55"
 2. O. Van Winkle, Vesper Boat Club of Yonkers, wooden working boat. Time, 25' 1"
 3. Thomas Moore, of Gulick Boat Club of N. Y., wooden working boat. Time, —
 4. J. Russell, of the Atlantic Boat Club of Hoboken, N. J., wooden working boat. Time, —
3. **Race between the Champion Scullers of the McKee and Chambers Boat Clubs, of Birmingham, Pa., May 23, 1870.**—3 miles Turning Race, over the Upper Monongahela Course. Prize, the stakes of \$100 a side.
 1. Nick Denmarsh, of the McKee B. C., PAPER BOAT, Time, 23' 40"
 2. Harry Moore, of Chambers B. C., wooden boat, " 24' 20"

Won easily.
4. **Second Annual Regatta of the Chatham County Regatta Association, at Savannah, Ga., First Day, May 25, 1870.**—1 mile Straight Race, on the Savannah River, for 4-oared Shell Boats. Prize, purse of \$100. Three entries.
 1. 4-oared PAPER SHELL, "Queen," 19 in.x42½ ft., entered by Forest City Rowing Club, manned by G. Titcomb (bow), F. Grosclaude, 2; E. L. Beard, 3; G. G. Kimball (stroke). Time, 7' 46"
 2. 4-oared paper shell, "Aphrodite," 30 in.x45 ft., entered by Couper Boat Club, manned by L. C. Berrian (bow), W. L. Walthour, Jr., 2; W. W. Colquitt, 3; E. J. Marston (stroke), T. F. Screven (cox.). Time, 8' 21½"
 3. 4-oared mahogany shell, "Flirt," entered by Forest City Rowing Club, and manned by O. Cohen (bow), J. B. Duckworth, 2; L. Cohen, 3; G. A. Wilkins (stroke), S. Wheaton (cox.). Time, 9' 24"

This race was rowed against a strong wind and tide.
5. **Same Regatta, Second Day, May 26, 1870.**—1 mile Straight Race, on the Savannah River, for winning Shell and Canoe Boats of first day's races. Prize, purse of \$200. Three entries.
 1. 4-oared PAPER SHELL, "Queen," 19 in.x42½ ft., entered by Forest City Boat Club, manned by G. Titcomb (bow), F. Grosclaude, 2; E. L. Beard, 3; G. G. Kimball (stroke). Time, 6' 55¼"
 2. Four-oared wooden shell, "Irene," manned by D. Dunovan (bow); L. Demorest, 2; J. Delaney, 3; J. McIlhenn (stroke); J. J. Leacey (cox.). Time, 7' 2¼"
 3. Four-oared wooden canoe boat, "Anonyma," manned by L. C. Berrian (bow); W. L. Walthour, 2; W. W. Colquitt, 3; E. J. Marston (stroke); T. F. Screven (cox.). Time, 7' 16¼"
6. **Same Regatta, Third Day, May 27, 1870.**—1 mile Straight Race, on the Savannah River, for the defeated Shells of the second day. Prize, a purse of \$100. Two entries.
 1. Four-oared PAPER SHELL "Aphrodite," 30 in.x45 ft., manned by G. S. Haines (bow); J. W. Schley, 2; Geo. Elliott, 3; R. Elliott (stroke); B. B. Ferrill (cox.). Time, 6' 35"
 2. Four-oared wooden shell "Flirt," 19 in.x47 ft., manned by G. G. Kimball (bow); F. Hull, 2; F. Grosclaude, 3; G. Titcomb (stroke); Dr. Wm. Duncan (cox.). Distanced.
7. **Same Regatta, Fourth Day, May 28, 1870.**—1 mile Straight Race, on the Savannah River, for the winning boats of the previous day. Prize, a purse of \$200 and the Champion Pennant of the Savannah River. Four entries.
 1. Four-oared PAPER SHELL, "Queen," manned by G. Titcomb (bow); F. Grosclaude, 2; E. L. Beard, 3; G. G. Kimball (stroke). Time, 5' 42¾"
 2. Four-oared canoe boat, "King Cotton," manned by R. Elliott (bow); G. S. Haines, 2; J. W. Schley, 3; R. B. Habersham (stroke); R. Turner (cox.). Time, 5' 45¾"
 3. Four-oared paper shell, "Aphrodite," manned by L. C. Berrian (bow); W. L. Walthour, 2; W. W. Colquitt, 3; G. Elliott (stroke); T. F. Screven (cox.). Time, 5' 47"
 4. Four-oared wooden shell, "Irene," manned by J. Delaney, (bow); G. Hawkins, 2; D. Dunovan, 3; J. McIlhenn (stroke); J. J. Leacey (cox.). Time, 5' 52½"
8. **Fourth Day, May 28, 1870, Continued.**—1 mile Straight Race, over the Association Course, Savannah River. Prize, the Wiltberger Prize.* Four entries.
 1. Four-oared PAPER SHELL, "Aphrodite," 30 in.x45 ft., manned by G. S. Haines (bow); J. W. Schley, 2; G. Elliott, 3; R. Elliott (stroke); B. B. Ferrill (cox.). Time, 5' 53¾"
 2. Four-oared wooden shell, "Irene," 32x40 ft., manned by J. McIlhenn (bow); D. Dunovan, 2; G. Hawkins, 3; J. Delaney, stroke; J. J. Leacey (cox.). Time, 6' 6"
 3. Four-oared wooden canoe, "King Cotton," withdrawn.
 4. Four-oared wooden canoe, "Anonyma," " "
9. **Regatta of the Union Boat Club, of Boston, Mass., May 26, 1870.**—2 miles Turning Race, on Charles River Course. Prize, the Champion Cup presented by the Union Boat Club, of Boston, Mass. Three entries.
 1. J. S. Fay, Jr., 9½ in. PAPER SHELL. Time, 16' 54"
 2. Wm. Appleton, Jr., 10 in. paper shell, " 19' 9"
 3. E. B. Robbins, 12 in. paper shell, " 19' 9"

An easterly storm was prevailing, and the water was very rough, entirely unsuited for shell-boat racing.
10. **Race between Picked Crews from the Midshipmen of the U. S. Naval Academy, Annapolis, Md., and the Quaker City Barge Club, of Schuylkill Navy, Philadelphia, Pa., May 28, 1870.**—3 miles Turning Race, on the Severn River, Annapolis, Md.
 1. Four-oared PAPER SHELL, "Lillie, '73," manned by Midshipmen J. A. Post (bow), W. M. Wood, 2; C. D. Galloway, 3; J. Hubbard (stroke). Time, 20' 25"
 2. Four-oared wooden shell, "Nautilus," built by Elliott, New York, manned by Messrs. F. W. Wood (bow), J. E. Reyburn, 2; C. R. Adams, 3; J. D. McBeath (stroke). Time, 20' 58"

The midshipmen came in ten lengths ahead of their opponents, with one of their oars disabled from the turning buoy to the starting point. A high wind was blowing, and, during the race, a cold rain fell. Water rather rough.

* This prize consisted of a silver-bound cut-glass barrel, with faucet, funnel, and cup of silver attached, mounted on silver skids, representing oak limbs.

11. Race between the Champions of the McKee Boat Club and the Chambers Boat Club, of Birmingham, Pa., May 28, 1870.—3 miles Turning Race, over the Upper Monongahela Course. Prize, the stakes of \$100 a side.

1. C. Meinhart, of McKee B. C., PAPER BOAT,	Time, 23' 55"
2. A. Troutman, of Chambers B. C., wooden boat, built by "McKay,"	Time, 25' 00"

Troutman beaten by 100 yards.

12. Opening Day of the Mutual Boat Club, of Albany, N. Y., June 6, 1870.—3 miles Turning Race, on the Hudson River South Course. Prize, a Silver Cup, presented by the Mutual Boat Club.

Five entries—three paper and two wooden boats.

1. A. J. Graves, Jr., 15 in. PAPER BOAT, "J. R. Lindsay,"	Time, 27' 22"
2. A. P. Adams, wooden boat, "Unknown,"	" 28' 07 1/2"
3. G. A. Schwartz, paper boat, "C. A. Armitage,"	" 28' 37"
4. J. B. Killup, " "Galatea,"	" 29' 37"
5. J. Parker, wooden boat, "Art Marchant,"	—

A strong south wind had blown up the course all day. The water was very rough, and very unsuitable to shell-boat racing.

13. Dundee Lake Course, Paterson, N. J., June 8, 1870.—2 miles Turning Race. Prize, a Superb Gold Badge, presented by the Dundee Boat Club, and the Championship of the Club. Two entries.

1. J. A. Beckwith, PAPER BOAT,	Time, 16' 16"
2. Isaac Newton, Jr., " "	—

Beckwith won easily.

14. Amateur Rowing Match for Working Boats, June 14, 1870.—3 miles Turning Race, over the Elysian Fields Course, Hoboken, N. J. Prize, a Handsome Chronograph, presented by the Commodore of the Hudson Amateur Rowing Association. Three entries.

1. John C. O'Neil, N. Y., PAPER WORKING BOAT,	Time, 25' 40"
2. J. Springstein, wooden working boat, built by Christ-hom,	Time, 25' 44"
3. W. C. Mainland, wooden working boat, built by Geo. Rohr,	Time, 26' 00"

15. Bunker Hill Anniversary Regatta, Boston, Mass., June 17, 1870.—2 miles Turning Race, over the Charles River Course. First prize, \$50; second prize, \$25. Four entries.

1. T. C. Butler, WOODEN BOAT,	Time, 15' 41"
2. W. Appleton, PAPER BOAT,	" 15' 45"
3. J. H. Butler, wooden boat,	" 17' 15"
4. Thomas Doyle, Jr., wooden boat,	withdrawn.

16. Race between the Champions of the McKee Boat Club and the Chambers Boat Club, of Birmingham, Pa., June 25, 1870.—3 miles Turning Race, over the Monongahela River Course. Prize.

1. G. W. Werner, McKee Boat Club, PAPER BOAT,	Time, 26' 10"
2. Geo. Klein, Chambers B. C., wooden boat,	" 27' 15"

Klein beaten by 120 yards.

17. Saltonstall Races, Saltonstall Lake, New Haven, Conn., June 28, 1870.—2 miles Turning Race, for Single Shells. Prize, the Southworth Cup, presented by the Southworth Brothers, of Springfield, Mass., value \$300. Five entries.

1. E. T. Owen, 15 in. PAPER SHELL, "Nellie,"	Time, 14' 11 1/2"
2. G. E. Dodge, 12 in. " "Lady Alice,"	" 14' 35 1/2"
3. W. W. Lee, 12 in. " "The Nameless,"	" 14' 57 1/4"
4. C. W. Gould, 15 in. " "Grace,"	" 15' 03"
5. T. G. Peck, 12 in. " "Louise,"	" 15' 19 3/4"

18. Lake Dundee Course, Paterson, N. J., July 1, 1870.—1 1/2 miles Straight-Away Race. Prize, a Single Scull Paper Boat, presented by D. B. Grant, Esq., President Grant Locomotive Works, Paterson, N. J. Six entries.

1. E. B. Atterbury, Jr., PAPER BOAT,	Time, 6' 51"
2. W. M. Prall,	—
3. Mortimer Clark,	—
4. W. G. Oakman,	—
5. T. C. Oakman,	—
6. J. H. Demarest,	—

19. Anniversary Regatta, Portland, Maine, July 4, 1870.—2 miles Turning Race, in the Front Harbor. First prize, \$35; second prize, \$25; third prize, \$15. Five entries.

1. J. W. Randall, PAPER BOAT, "Ma Mignonne,"	Time, 17' 37"
2. H. B. Keazer, wooden boat, "Spotted Tail,"	" 17' 52"
3. C. Henry, " "F. A. Cooley,"	" 18' 02"
4. R. Williams, paper boat, "English Blonde,"	—
5. W. H. Jenkins, wooden boat, "Avon,"	withdrawn.

All the contestants in this race had previously rowed two miles in the four-oared race which preceded this one. Williams overset, got into his boat again, and came in a good fifth.

20. Anniversary Regatta, Providence, R. I., July 4, 1870.—2 miles Turning Race, over the Seekonk River Course. First prize, \$30; second prize, \$10. Three entries.

1. E. G. West, PAPER BOAT, "Experiment,"	Time, 16' 35"
2. M. E. Allen, " "Toothpick,"	" 18' 24"
3. H. West, wooden boat, "Gipsy Boy,"	" 18' 38"

21. First Annual Regatta, Rutherford Park Boating Association, July 4, 1870.—Second Race.—2 miles Turning Race, for Single Shells, Passaic River Course. Prize, a Gold Badge. Two entries.

1. J. Newton, Jr., Dundee Boat Club, Paterson, N. J., PAPER BOAT, "Swallow,"	Time, 16' 17"
2. T. Roberts, Nassau Boat Club, N. Y., wooden boat,	—

22. Fourth Race.—2 miles Turning Race, for Double Shells, over Passaic River Course. Prize, Two Gold Badges.

1. A. S. Sevan and H. H. Zabriskie, of La Favorite Boat Club, rowing PAPER SHELL, "Sappho,"	Time, 14' 52"
2. A. J. Dupignac and J. W. Penson, Jr., of Passaic Boat Club, rowing wooden shell, "Passaic,"	—
3. F. W. Hamilton and E. M. Crane, of Atlantic Boat Club, rowing wooden shell, "Amelia,"	—

23. Anniversary Regatta, Albany, N. Y., July 4, 1870.—2 miles Turning Race, over the Hudson River Course. First prize, \$100; second prize, \$25. Presented by the Mutual Boat Club, of Albany, N. Y.

1. A. J. Graves, Jr., PAPER BOAT, "J. R. Lindsey,"	Time, 24' 44"
2. G. A. Schwartz, " "C. H. Armatage,"	" 25' 28"
3. J. B. Killup, " "Galatea,"	" 25' 35"

24. Anniversary Regatta, Rochester, N. Y., July 4, 1870.—1 3/4 miles (scant) Turning Race, over Genesee River Course. Prize, Silk Flag, presented by the Commodore of the Genesee Rowing Association. Two entries.

1. Theron E. Parsons, PAPER SHELL, 15 in x 28 ft.,	Time, 11' 00"
2. C. R. Sumner, wooden shell, 15 in x 27 ft.,	Time not taken.

Won easily.

25. Anniversary Regatta, St. Paul, Minnesota, July 4, 1870.—1 3/4 miles Turning Race, over Mississippi River Course.

1. Norman Wright, PAPER SHELL,	Time, 13' 00"
2. J. W. L. Corning,	" 13' 15"

26. Second Race, Same Course.

1. C. T. Corning, PAPER SHELL,	Time, 11' 30"
2. N. Wright and J. W. L. Corning, in wooden double,	" 11' 35"

Won by 1 1/2 lengths.

27. Regatta, Howard Boat Club, at Ross's Grove, near Pittsburgh, Pa., July 4, 1870.—3 miles Turning Race. Four entries. Prize, \$20 in gold for Single Shells.

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| 1. Eph. Morris, Clipper Boat Club, PAPER BOAT, | Time, 26' 00" |
| 2. R. Miller, McKee Boat Club, " " | not taken. |
| 3. " " " " " " " " | distanced. |
| 4. " " " " " " " " | " " |

Single Scull Racing at Providence, R. I., July 6, 9, and 13, 1870.—2 miles Turning Race, over Seekonk River Course.

Best two races in three, for a prize of \$100.

28. July 6.

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| 1. E. G. West, PAPER BOAT, "Experiment," | Time not taken. |
| 2. W. R. Knight, " " "Toothpick," | " " |
- Very rough water. Knight upset at the turning stake, and, although Mr. West came in ahead, he gave up all claim to this race.

29. July 9.

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| 1. E. G. West, PAPER BOAT, "Experiment," | Time, 16' 39" |
| 2. W. R. Knight, " " "Toothpick," | " 17' 02" |
- West won by four lengths.

30. July 13.

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| 1. E. G. West, PAPER BOAT "Experiment," | Time, 16' 35" |
| 2. W. R. Knight, " " "Toothpick," | " 16' 58" |
- Water rather rough.

31. Second Annual Regatta of the Northwestern Amateur Boating Association, Detroit, Michigan, July 14, 1870.—1½ miles Turning Race, over the Detroit River Course. Prize, the Championship of the Association and a Silver Cup.

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| 1. W. B. Curtis, of Chicago, PAPER BOAT, 13 in. x 32 ft., "Nettie Saxton," | Time, 12' 43½" |
| 2. W. H. Snyder, of Chicago, wooden boat, 12 in. x 32 ft., "Camille," | Time, 13' 53" |
| 3. Frank Turner, East Saginaw, tin boat, 13 in. x 34½ ft., | " 14' 58" |
- Water very lumpy, and a three-mile current.

32. University Regatta, Worcester, Mass., July 22, 1870.—2 miles Turning Race over the Quinsigamond Lake Course.

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| 1. J. J. O'Leary, PAPER BOAT "Minnie," | Time, 16' 11½" |
| 2. Ed. B. Hamilton, " " "E. F. H.," | " 16' 23" |

33. Match Race over the Lower Monongahela Course, Pittsburgh, Pa., July 30, 1870.—3 miles Turning Race. Prize, a purse of \$400.

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| 1. Rooney Miller, of McKee Boat Club, Birmingham, PAPER BOAT, | Time, 26' 15" |
| 2. E. Morris, of Clipper Boat Club, Pittsburgh, paper boat, | Time, 27' 17" |

Won easily by Miller.

34. Match Race over the Lower Monongahela Course, Pittsburgh, Pa., August 6, 1870.—4 miles Turning Race. Prize, a purse of \$500.

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| 1. W. Scharff, of the McKee Boat Club, PAPER BOAT, | Time, 35' 55" |
| 2. Henry Best, of the Chambers Boat Club, " " | " 38' 21" |

35. Match Race over the Lower Monongahela Course, Pittsburgh, Pa., August 20, 1870.—3 miles Turning Race. Prize, a purse of \$400.

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| 1. J. Kaye, Jr., of Pittock Boat Club, PAPER BOAT, | Time, 21' 42" |
| 2. M. A. Denmark, of McKee Boat Club, paper boat, | " 21' 55" |

Won by five lengths.

36. Regatta at Glenwood, near Pittsburgh, August 20, 1870.—2 miles Turning Race. Prize, purse of \$20 in gold.

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| 1. P. Schweitzer, of Chambers Boat Club, PAPER BOAT, | Time, 16' 52" |
| 2. Conrad Schugart, of Clipper Boat Club, PAPER BOAT, | " — " |

37. Allegheny River Course, Pittsburgh, Pa., August 20, 1870.—3 miles Turning Race. Prize, purse of \$200.

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| 1. M. Hamcon, Howard Boat Club, PAPER BOAT, | Time, 27' 20" |
| 2. A. Miller, " " " " " " | " 27' 39" |

38. Match Race over Allegheny River Course, Pittsburgh, Pa., August 23, 1870.—Suspension Bridge to Duquesne Boat-House, 1¼ miles straight race. Prize, a purse of \$200.

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| 1. Conrad Schugart, Clipper Boat Club, PAPER BOAT, | Time, 8' 15" |
| 2. Joseph Scott, Pittock Boat Club, wooden boat, | " 8' 25" |

Won by three lengths.

39. Match Race over Lower Monongahela River Course, Pittsburgh, Pa., Oct. 27, 1870.—3 miles Turning Race. Prize, purse of \$200.

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| 1. Henry Sweitzer, Chambers Boat Club, PAPER BOAT, | Time, 25' 00" |
| 2. John V. Hays, Howard Boat Club, " " | " 25' 36" |

40. Regatta on Lower Monongahela River Course, Pittsburgh, Pa., Sept. 3, 1870.—3 miles Turning Race for Single Shells. First prize, purse of \$75; second prize, purse of \$25. Five entries.

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| 1. W. Scharff, McKee Boat Club, PAPER BOAT, | Time, 24' 40" |
| 2. C. Wright, J. B. Jones Boat Club, " " | " 24' 59" |
| 3. Geo. Klein, Chambers Boat Club, wooden boat, | " 25' 15" |
| 4. C. Schugart, Clipper Boat Club, paper boat, | " 25' 40" |
| 5. J. Scott, Pittock Boat Club, " " | " 26' 10" |

41. Fourth Annual Regatta of the Hudson Amateur Rowing Association, Sept. 5, 1870.—3 miles Turning Race for Six-oared Shells. Prize, the Champion Flag of the Association and a Gold Medal for each of the Winning Crews.

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| 1. Six-oared PAPER SHELL, "Henry Smith," entered by Gulick Club. Manned by R. Deely (bow), W. Gannon, W. H. Spear, J. C. Gilbert, J. O'Neil, H. Tuax (stroke), | Time, 18' 28½" |
| 2. Six-oared wooden shell, "Ransom Parker, Jr.," built by Elliott, entered by the Atlanta Club. Manned by E. Smith (bow), J. Van Raden, A. Hardy, H. B. Le Roy, L. Waterbury, R. Withers (stroke), | Time, 18' 31½" |
| 3. Six-oared wooden shell, "Mutual," built by Fearon. Manned by C. Piepenbrink (bow), A. P. Adams, G. Hughes, W. S. Mosley, G. A. Schwartz, G. P. Whitney, (stroke), | Time, 20' 32" |

The course was down the river, round the stake boats, and return. The tide was flood on the outside position, and slightly ebb on the inside. The "Mutual" drew the inside position, the Atlanta the next, and the Gulicks, in the paper boat, the outside. The difference in position was worth thirty seconds to the inside boat.

After turning the stake, the Atlanta struck, with the bow of their boat, the Gulick boat near the rudder. The shock did not injure the paper boat in the least, but the cutwater of the Atlanta's boat was fractured.

42. Allegheny River Course, Pittsburgh, Pa., Sept. 10, 1870.—3 miles Turning Race. Prize, purse of \$200.

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| 1. August Miller, PAPER BOAT, | Time, 27' 30" |
| 2. Wm. Hanna, " " " " " " | " — " |

Miller rowed over the course.

43. Lake Quinsigamond Course, Worcester, Mass., Sept. 14, 1870.—3 miles Turning Race. Prize, the Stakes, \$500 (\$250 a side).

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| 1. J. J. O'Leary, PAPER BOAT, | Time, 22' 05" |
| 2. P. Harrington, of Springfield, Mass., wooden boat, | " 22' 11½" |

The time made by both parties is unprecedented—the best previous three-mile time being 22' 27", made by Hamill.

"The best time ever made in a similar race on Lake Quinsigamond was in 1867, when Walter Brown pulled the three miles against time in 23'."—N. Y. Clipper, Sept. 24, 1870.

44. Second Regatta of the Brookline Boat Club, Brookline, Mass., Sept. 21, 1870.—*Course on Jamaica Pond, from Baptist Point to a Stake Boat near the Ice-Houses and return, 7 8ths of a mile. First prize, \$10; second prize, \$5. Six entries.*

1. W. F. Weld, PAPER SHELL,	"La Favorite,"	Time, 7' 43"
2. R. C. Head, "	"Sadie,"	" 7' 45"
3. N. C. Gorham, mahogany shell,	"Lily,"	" 7' 52"
4. F. C. Bird, cedar shell,	"Viking,"	" 8' 15"
5. W. B. Bird, paper shell,	"Bismarck,"	" 8' 22"
6. J. W. Edmunds, paper shell,	"Ripple,"	" 8' 45"

45. Genessee River Course, Rochester, N. Y., Sept. 24, 1870.—*1 1/2 miles Turning Race.*

1. T. E. Parsons, PAPER BOAT,	Time, 11' 20"
2. R. W. Lansing, wooden boat,	" — —

Parsons won easily by five lengths.

46. Dundee Lake Course, Paterson, N. J., Oct. 4, 1870.—*2 miles Turning Race. Prize, the Championship of the Paterson Boat Clubs. Two entries.*

1. G. A. Low, of Dundee Boat Club, PAPER BOAT,	Time, 16' 19"
2. N. F. Palmer, of Passaic Boat Club, paper boat,	" 16' 30"

47. Annual Regatta of H. M. A. Association, Paterson, N. J., Oct. 17, 1870.—*Dundee Lake Course. 3 miles Turning Race.*

1. PAPER SHELL, "Capt. Wragge," rowed by T. C. Oakman and M. Prall,	Time, 16' 30"
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2. Paper shell, "Mrs. Wragge," rowed by W. G. Oakman and M. Clark, — —
3. Paper shell, "Fanchon," rowed by Isaac Jackson and E. B. Atterbury, Jr., — —

48. Annual Regatta, Saltonstall Lake, New Haven, Conn., Oct. 21, 1870.—*2 miles Turning Race, for Single Shells. First prize, Silver Cup; second prize, Silver Cup. Five entries.*

1. W. P. Hall, Jr., Class of '72, Yale College, PAPER BOAT,	Time, 17' 24 1/2"
2. C. Dewing, Class of '73, Yale College, paper boat,	" 18' 04"
3. E. C. Troxel, " '73, " "	" 19' 13"
4. S. Merritt, " '73, " "	" 19' 29"
5. J. K. Howe, " '71, " "	withdrawn.

49. Toronto Bay Course, Toronto, Canada, Oct. 24, 1870.—*2 miles Turning Race. Prize, purse of \$75.*

1. Thomas Loudon, PAPER BOAT,	Time, 14' 58"
2. Benj. Wooden, " "	" 17' 00"

Loudon distanced his opponent by 150 yards.

50. Regatta at Columbus, Ga., Nov. 4, 1870.—*Chattahoochee River Course. 1 mile Straight Race.*

1. Four-oared PAPER SHELL, "Aphrodite," manned by J. Schley (bow), G. G. Kimball, 2; H. Schley, 3; G. Elliott, (stroke), A. McC. Duncan (cox.),	Time, 4' 40"
2. Four-oared wooden shell, "Savannah," of the Chattahoochee Club, manned by R. M. Norman (bow), R. H. Nesbitt, 2; C. G. Jordan, 3; W. C. Coats (stroke), L. E. O. Keefe (cox.),	Time, 4' 44"

"Aphrodite" won by 1 1/2 lengths.

SEASON OF 1871.

Opening Day of the Chicago Rowing Club, Chicago, Ill., April 29, 1871.—Course, on the Chicago Basin. Seven-eighths of a mile and return— $1\frac{3}{4}$ miles.

1. Single Shell Race.

1. W. H. Snyder, 13 in. PAPER SHELL, "Nettie Saxton," Time, 15' 45"
2. J. J. Newman, 10 in. " " "No Name," " 16' 02"

2. Paper Single Shell vs. Wooden Double Shell.

1. W. B. Curtis, 11 $\frac{1}{2}$ in. PAPER SHELL, "Miss S.," Time, 14' 36"
2. Jas. Haggerty and John Preston in 18 in. wooden double shell, "S. Roberts," " 14' 40"

3. Matched Race between the Picked Crews of the St. John's College Boat Club, of Annapolis, Md., and the Au-Revoir Boat Club of the U. S. Naval Academy, Annapolis, Md., May 6, 1871.—3 miles Turning Race on the Severn River Course. Prize, the Championship of the Severn River.

1. Four-oared PAPER SHELL, "Au-Revoir, '72," 17 $\frac{1}{4}$ in. x 40 $\frac{3}{4}$ ft., manned by Cadet Midshipmen R. H. McLean (bow), W. H. Whitlock, 2; C. A. Thompson, 3; O. W. Lowrey (stroke), " Time, 20' 18"
2. Four-oared PAPER SHELL, "Niagara," 19 in. x 42 $\frac{1}{2}$ ft., manned by Thomas Patton (bow), T. Munroe Elliott, 2; Geo. Stone, 3; James D. Gleharte (stroke), " Time, 24' 00"

Weather heavy, raining hard, and blowing a half gale of wind. The shipmen report that in practice they have made the same course in 19' 15".

First Annual Regatta of the Regatta Association of the State of Georgia, held at Savannah, Ga. Second Day. May 31, 1871.

4. Third Race, for four-oared Shell Boats. Course, Straight, 1 mile on the Savannah River, from a point opposite the Lower Hydraulic Press to opposite the Upper Hydraulic Press. Prize, a purse of \$150.

1. Four oared PAPER SHELL, "Annie Huger," 18 in. x 41 ft. Entered by the Couper Boat Club, and manned by Joseph Bryan (bow), W. Walthour, 2; L. C. Berrian, 3; G. Elliott (stroke), " Time, 5' 48 $\frac{1}{4}$ "
2. Four-oared wooden shell, "Alice White," 19 in. x 47 ft. Entered by the Vernon Boat Club, and manned by James Schley (bow), H. Schley, 2; Geo. Schley, 3; Geo. Haines (stroke), " Time, 5' 53 $\frac{1}{4}$ "
3. Four-oared paper shell, "Queen," 19 in. x 42 $\frac{1}{2}$ ft. Entered by the Forest City Rowing Club, and manned by G. Titcomb (bow), F. Grosclaude, 2; E. L. Beard, 3; G. G. Kimball (stroke), " Time, 6' 10 $\frac{1}{4}$ "
4. Four-oared paper shell, "Lucille," 19 in. x 42 $\frac{1}{2}$ ft. Entered by the Forest City Rowing Club, and manned by W. W. West (bow), C. J. Miller, 2; F. McIntire, 3; J. McIntire (stroke), " — —"

5. Same Regatta. Third Day. June 1, 1871.—Second Race. Between Losing Shell and Canoe Boats of previous Races. Course, Straight, 1 mile, same as previous day. Prize, a purse of \$75.

1. Four-oared PAPER SHELL, "Lucille," 19 in. x 42 $\frac{1}{2}$ ft. Entered by Forest City Rowing Club, and manned by G. Titcomb (bow), C. J. Miller, 2; Frank McIntire, 3; G. G. Kimball (stroke), " Time, 5' 25"
2. Four-oared canoe, "Brick Pomeroy," 31 in. x 41 ft. Entered by Floyd Boat Club, Brunswick, Ga. Manned by Daniel Hotch (bow), John Hotch, 2; Jacob Hotch, 3; Wm. Talbot (stroke), G. W. Stockwell (cox.), " Time, 5' 37"

3. Four-oared canoe, "Ida," 42 in. x 40 ft. Entered by Independent Boat Club, and manned by A. D. Kimson (bow), J. H. McGee, 2; Wm. Connerat, 3; L. H. De Montmollin (stroke), C. Connerat (cox.), " Time, 5' 49 $\frac{1}{2}$ "
4. Four-oared canoe, "King Cotton," 40 in. x 36 ft. 9 in. Entered by King Cotton Boat Club, and manned by S. M. A. White (bow), Frank Winter, 2; G. B. Pritchard, 3; J. P. Dent (stroke), W. W. Duncan (cox.), " Time, 5' 59 $\frac{1}{2}$ "

6. Third Race between the Winning Shell and Canoe Boats of Previous Races.—Course, 1 mile Straight Race, same as for previous races. Prize, a purse of \$100 and the Champion Flag of the Association.

1. Four-oared PAPER SHELL, "Annie Huger," 18 in. 41 ft. Entered by Couper Boat Club, and manned by J. Bryan (bow), W. Walthour, 2; L. C. Berrian, 3; Geo. Elliott (stroke), " Time, 5' 24"
2. Four-oared paper shell, "Lucille," 19 in. x 42 $\frac{1}{2}$ ft. Entered by Forest City Rowing Club, and manned by Geo. Titcomb (bow), C. J. Miller, 2; Frank McIntire, 3; G. G. Kimball (stroke), " Time, 5' 38 $\frac{1}{4}$ "
3. Four-oared canoe, "Vernon," 36 in. x 38 ft. Entered by Vernon Boat Club, and manned by James Schley (bow), Hall Schley, 2; Geo. Schley, 3; Geo. Haines (stroke), " Time, 5' 42 $\frac{1}{4}$ "

7. Fourth Annual Review and Regatta of the Laureate Boat Club, of Troy, N. Y., at Troy, Thursday, June 1, 1871.—Single Shell Turning Race. Course, 2 miles from the Club-House, one mile up the Hudson, and return. Prize, the Championship of the Club. Three entries.

1. J. W. Griswold, PAPER SHELL, "Nellie," " Time, 16' 32 $\frac{3}{4}$ "
2. R. H. Thompson, " " "Cecchino," " 16' 50"
3. Fred. W. Orr, " " "Gracie," " — —

8. Double Scull 3 miles Turning Race. Course, from the Club-House, one and a half miles up the Hudson, and return. Two entries.

1. PAPER SHELL, "Lillian," rowed by F. Y. Van Schomhoven and E. M. Green, " Time, 23' 33"
2. Paper shell, "Madaline," rowed by L. G. Cramer and W. G. Crissey, " — —"

9. Third Annual Regatta of the Analoatan Boat Club of Washington, D. C., Thursday, June 8, 1871.—2 miles Turning Race, on the Potomac River, from a point off G Street Wharf, down the river one mile, and return. Prize, the Championship of the Club.

1. Four-oared PAPER SHELL, "Analoatan," 19 in. x 42 $\frac{1}{2}$ ft. Manned by S. T. Lewis (bow), F. W. Gilmore, 2; C. G. Gould, 3; W. N. Roach (stroke)—average weight, 139 lbs., " Time, 13' 45"
2. Four-oared wooden shell, "William Blaikie," 21 in. x 43 ft. Manned by O. L. Prescott (bow), E. Maunder, 2; M. A. Tappan, 3; H. M. Gurley (stroke)—average weight, 165 lbs., " Time, 14' 18"

10. Chicago Rowing Club, Chicago, Ill., Saturday, June 10, 1871.—Handicap Scullers' Race. Course, on Lake Michigan, outside the I. C. R. R.'s Breakwater, from a stake-boat, one mile south, and return. Four entries.

1. W. B. Curtis, 11 $\frac{1}{2}$ in. PAPER SHELL, "Miss S.," Time, 15' 34"
2. R. S. Cleveland, 13 in. paper shell, "Nettie Saxton," allowed a start of 50". Time, 16' 34"; corrected time, 15' 44"
3. H. F. French, 10 in. paper shell, "No Name," allowed a start of 60". Time 17' 10"; corrected time, 16' 10"
4. T. W. Allcock, 12 in. wooden shell, "Miss Wheeler," allowed a start of 1' 30". Time 19' 26"; corrected time, 17' 56"

11. Schuylkill Navy Regatta, Philadelphia, Pa., Saturday, June 10, 1871.—Course, 3 miles Straight-away Race, from William Tell Rock to lower end of Undine Boat-House. Prizes, the Champion Flag of the Schuylkill Navy, a Solid Silver Cup, and Badges for the Winning Crew.

1. Four-oared PAPER SHELL, "Wasp," 17 $\frac{1}{4}$ in. x 40 $\frac{3}{4}$ ft. Entered by Quaker City Barge Club, and manned by F. W. Wood (bow), J. D. McBeath, 2; H. C. Townsend, 3; C. R. Adams (stroke). Time, 20' 15 $\frac{1}{2}$ "
2. Four-oared wooden shell, "Crescent," 17 $\frac{1}{2}$ in. x 42 ft. Entered by Crescent Boat Club, and manned by S. Welch (bow), C. Wyle, 2; W. Haines, 3; W. W. Khen (stroke). —

Water, very rough, and a strong head wind prevailing. The two coxswains report one minute better time in practice.

12. Fourth Annual Regatta and Opening Day of the Shatemuc Boat Club, at Poughkeepsie, N. Y., Saturday, June 10, 1871.—Single Shell Race. Course, 2 $\frac{1}{2}$ miles Turning Race on the Hudson River, from a point opposite Boat-House, 1 $\frac{1}{4}$ miles up the river and return. Four entries.

1. Geo. S. Burnap, PAPER SHELL, "Virginia," Time, 22' 15"
2. John Grubb, Jr., "No Name," " 23' 10"
3. E. R. Brevoort, cedar shell, "No Name," " 25' 00"
4. Geo. Van Vliet, paper shell, "Lotta," " —

The water was very rough, a stiff north-west wind prevailing, entirely unsuited for shell-boat rowing.

13. New Haven, Conn., Saturday, June 10, 1871.—Race for Single Shells. 2 miles Turning Race, from the R. R. Docks, one mile across the Harbor, and return. Prize, the White Cup, valued at \$25. Three entries.

1. Charles H. Ferry, Yale, '72, PAPER SHELL, Time, 18' 37 $\frac{1}{2}$ "
2. J. K. Howe, Yale, '71, " " 18' 52"
3. J. W. Smith, Yale, '74, " " not taken.

"Water very rough."—Yale Courant.

14. Schuylkill River Course, Philadelphia, Saturday, June 10, 1871.—2 miles Turning Race for Single Shells. Prize the Champion Belt, Schuylkill Navy. Three entries.

1. John Lavens, Jr., PAPER SHELL, "Gipsy," Time, —
2. —
3. —

15. Schuylkill River, Philadelphia, Pa., June 17, 1871.—1 mile Straight-away Race, between four-oared crews, Quaker City Barge Club. From point on Schuylkill River, 1 $\frac{1}{2}$ miles above Fairmount Dam, down river 1 mile.

1. Four-oared PAPER SHELL, "Wasp," 17 $\frac{1}{4}$ in. x 40 $\frac{3}{4}$ ft. Manned by F. W. Wood (bow), S. Stinson, 2; S. Gornly, 3; H. C. Townsend (stroke). Time, —
2. Four-oared wooden shell, "Nautilus," 19 in. x 48 ft. Manned by J. D. McBeath (bow), T. Maybin, 2; J. Watson, 3; J. D. Ferguson (stroke). Time, —

Very rough water and head wind. Time not taken.

16. Regatta on Jamaica Pond, Brookline, Mass., June 17, 1871.—Seven-eighths of a mile Turning Race, from Perkins Street across the Pond to Pond Street, and return. Single Shell Race. Three entries.

1. W. F. Weld, of Brookline, PAPER SHELL, Time, 7' 06"
2. H. Gardner, Boston, lapstreak shell, " 7' 18"
3. — Brown, Brookline, mahogany shell, withdrawn.

17. Williams Rowing Association, Review and Races, Williamstown, Mass., June 28, 1871.—1 $\frac{1}{4}$ miles Straight-away Race, from the Ripples to the Dam.

1. James O'Neill, PAPER SINGLE SHELL, Time, 7' 45"
2. Paper double shell, "Gracie," rowed by B. Jermain and J. W. Burden (stroke), " 8' 15"
3. Geo. H. Thacher, Jr., paper shell, "Lurlic," " 8' 30"

18. Regatta of the Dundee Boat Club, Paterson, N. J., July 4, 1871.—First Race for Single Shells. Two miles Turning Race on Dundee Lake, from Sherwood's Island down the Lake one mile, and return. Prize, a Gold Badge.

1. G. W. Lowe, of Dundee Boat Club, PAPER BOAT, Time, 17' 31"
2. J. A. Beckwith, " " " 18' 01"
3. — Jackson, of Argonauta Boat Club, wooden boat, 18' 52"
4. — Williams, of Passaic Boat Club, " 20' 01"
5. — Dupignac, of Atlantic Boat Club, " withdrawn.

19. Third Race for Double Shells. 2 miles Turning Race, same course as for Single Shells. Two entries.

1. PAPER DOUBLE SCULL, "Fanchon," rowed by Porter Kinne and John Nottingham, of Dundee Boat Club, Time, 18' 45"
2. Paper double scull, "Mrs. Wragge," rowed by Neilson and Walsh, of the Oneida Boat Club, —

20. Match Race over the Hudson River Course, Troy, N. Y., July 4, 1871.—2 miles Turning Race, from the Laureate Boat-House, 1 $\frac{1}{2}$ miles up the river, and return.

1. Geo. H. Thacher, Jr., of Albany, N. Y., rowing PAPER SHELL, "Lurlic," 9 $\frac{1}{2}$ in. x 31 ft., Time, 25' 12"
2. Robert H. Nott, of Albany, N. Y., rowing paper shell, 12 in. x 30 $\frac{1}{2}$ ft., Time, 26' 00"

21. Anniversary Regatta at Buffalo, N. Y., Wednesday, July 5, 1871.—Four-oared Turning Race for Professional Crews. Course, 3 miles on Black Rock Harbor, from opposite Pratt's Rolling Mill, 1 $\frac{1}{2}$ miles, to the Water Works, and return. Prizes, first, \$500; second, \$175; third, \$75. Four entries.

1. Four-oared PAPER SHELL, "Sellers McKee," 17 $\frac{1}{4}$ in. x 40 $\frac{3}{4}$ ft. Entered by the McKee Barge Club, of Birmingham, Pa. Rowed by Geo. Verner (bow), E. Ernwen, 2; C. Minehart, 3; W. Scharff (stroke). Total weight of crew, 544 lbs., Time, 20' 09 $\frac{1}{2}$ "
2. Four-oared wooden shell, —, 18 in. x 43 ft. Entered by Tinning Crew, of Toronto, Canada. Rowed by R. Tinning (bow), John Tinning, 2; T. Tinning, 3; G. M. Donnelly (stroke). Total weight of crew, 593 lbs., Time, 21' 04"
3. Four-oared wooden shell. Entered by Dillon Crew, of Toronto, Canada. Rowed by John Davy (bow), T. Loudon, 2; James Douglass, 3; Wm. Dillon (stroke). Total weight of crew, 588 lbs., Time, 21' 09 $\frac{1}{4}$ "
4. Four-oared wooden shell, "Buffalo Belle." Entered by Banshee Boat Club, of Buffalo, N. Y. Rowed by Jas. Nunan (bow), Wm. Jones, 2; P. Hurley, 3; C. Dunovan (stroke). Total weight of crew, 599 lbs. Boat overset and withdrawn.

22. Same Regatta.—Four-oared Amateur Turning Race. Course, 3 miles, over same course as that for the Professional Crews. Prizes, first, \$175; second, \$75; third, \$50. Five entries.

1. Four-oared WHITE PINE SHELL, "Zephyr," 25 in. by 43 ft. 6 in. Entered by Live Oak Boat Club, of Buffalo, N. Y. Rowed by H. H. Wallis (bow), Jas. Carroll, 2; Samuel Carroll, 3; M. Hazel (stroke), J. Higgins (cox.) Total weight of crew, 665 lbs., Time, 22' 27 $\frac{1}{4}$ "
2. Four-oared paper shell, "Peerless," 17 $\frac{1}{4}$ in. x 40 ft. 9 in. Entered by Riverside Rowing Club, Rochester, N. Y. Rowed by R. L. Lansing (bow), J. R. Campbell, 2; T. E. Parsons, 3; W. R. Calkins (stroke). Total weight of crew, 582 lbs., Time, 22' 55"
3. Four-oared wooden shell, —, 30 in. x 38 ft. 6 in. Entered by Buffalo Rowing Club, Buffalo, N. Y. Rowed by C. W. Baldy (bow), David Bent, 2; J. Green, 3; Charles Dunbar (stroke), C. E. Williams (cox.) Total weight of crew, 675 lbs., Time, 23' 05 $\frac{1}{2}$ "
4. Four-oared wooden shell, "Deacon," 34 in. x 42 ft. Entered by O. O. O. Association of Buffalo, N. Y. Rowed by C. C. Sears (bow), J. V. B. Thayer, 2; H. Walbridge, 3; A. E. L. Kaye (stroke), E. Williams (cox.) Total weight of crew, 662 lbs., Time, 24' 09 $\frac{3}{4}$ "

5. Four-oared wooden shell, "Old Grimes," 35 in. x 38 ft. Entered by Hibernia Boat Club, of Buffalo, N. Y. Rowed by J. McLaughlin (bow), Samuel Jones, 2; Hugh Massey, 3; M. Hickey (stroke), Jas. Dunovan (cox.) . . . Time, 25' 09 $\frac{1}{2}$ "

23. Anniversary Regatta at Evanston, Illinois, Tuesday, July 4, 1871.—*Race for Six oared Boats. Course, 2 miles Turning Race, on Lake Michigan, from University Dock to a Boat one mile south, and return. Two entries.*

1. Six-oared PAPER SHELL, "Chicago," 20 in. x 49 ft. Manned by W. H. Snyder (bow), E. Fauntleroy, 2; S. Powell, 3; W. B. Curtis, 4; J. S. Newman, 5; C. H. Shaver (stroke). . . Time, not taken.
2. Six-oared wooden gig, "Dwight W. Keyes." Manned by R. D. Cleveland (bow), T. A. Allcock, 2; G. R. Quinn, 3; W. Young, 4; H. G. Ottignon, 5; H. F. French (stroke). . . Time, not taken.

Paper shell won easily by six lengths. Water quite rough.

24. Saltonstall Races, Saltonstall Lake, New Haven, Conn., July 12, 1871.—*2 miles Turning Race, for Single Shells. Prize, the Southworth Cup, presented by the Southworth Brothers, Springfield, Mass., value \$300. Five entries.*

1. C. Phelps, Law Department, Yale College, PAPER SHELL, . . . Time, 16' 46 $\frac{1}{2}$ "
2. J. W. Smith, Yale, '73, paper shell, . . . " 17' 05"
3. J. B. Mills, Yale, '73, . . . " 17' 07"
5. W. P. Hall, Yale, '72, paper shell, . . . " 17' 35"
5. C. H. Ferry, Yale, '72, . . . " 17' 45"

Won easily by Phelps.

25. Third Annual Regatta of the Northwestern Amateur Boating Association, at Oconomowoc, near Milwaukee, Second Day, July 13, 1871.—*Four oared Shell Turning Race. Course, 3 miles, on Lac La Belle. Prizes, Gold-lined Silver Cup, and Gold Badges for each of the Winning Crew. Valued at \$150. Four entries.*

1. Four-oared PAPER SHELL, "Sarah A. Bullock," 22 in. x 43 ft. Entered by Wah-Wah-Sum Boat Club, of Saginaw City, Mich. Manned by V. B. Paine (bow), P. M. Gunn, 2; H. Smith, 3; T. Slenou (stroke), C. E. Wheeler (cox.) Total weight of crew, 734 lbs., . . . Time, 21' 01 $\frac{1}{4}$ "
2. Four-oared wooden shell, "Lady Evelyn," 21 in. x 49 ft. Entered by Milwaukee Boat Club, and manned by Geo. R. Wright (bow), C. S. Norris, 2; Charles O. Collins, 3; W. H. S. Wright (stroke). Total weight of crew, 624 lbs., . . . Time, 21' 10"
3. Four-oared lapstreak shell, "Sprite," 23 in. x 43 ft. Entered by Neptune Boat Club, of East Saginaw, Mich. Manned by D. R. Brown (bow), L. T. Hunt, 2; B. G. Glynn, 3; J. Stringham, Jr. (stroke). Total weight of crew, 605 lbs., . . . Time, —
4. Four-oared paper shell, "Sylph," 17 $\frac{1}{4}$ in. x 40 $\frac{3}{4}$ ft. Entered by Neptune Rowing Club, East Saginaw, Mich. Rowed by J. S. Wilkins (bow), C. W. Hammond, 2; Geo. Mann, 3; F. G. Wilkins (stroke). Total weight of crew, 580 lbs., . . . Time, —

Although the day was pleasant, the wind was very fresh, and the water quite rough. The "Sylph," being a very narrow boat, and low, shipped a large quantity of water early in the race, which practically disabled her. The other boats, being wider and higher, were much dryer.

Upon the presentation of the prizes at the Newhall House, Milwaukee, after the race was over, the crew of the "Sarah A. Bullock" declined to accept those won by them, on account of the decision of the judges in the six-oared shell race, which they claimed was won by them the previous day.

25. Albany, New York, Monday, July 17, 1871.—*3 miles Turning Race, on the Hudson River Upper Course. Prize, the Championship of Mutual Boat Club.*

1. J. H. Girvin, PAPER SHELL, "A. S. Girvin," 12 in. by 28 ft. . . Time, 25' 30"
2. A. B. Lathrop, paper shell, 15 in. x 28 ft., . . . " 25' 50"
3. A. G. Graves, Jr., " 12 in. x 30 $\frac{1}{2}$ ft., . . . " 26' 00"

27. Match Race at Albany, New York, Thursday, July 27, 1871.—*3 miles Turning Race, on the Hudson River, Lower Course.*

1. J. H. Girvin, PAPER SHELL, "A. S. Girvin," . . . Time, 24' 00"
2. S. W. Mosely, " "Sylph," . . . " 24' 03"

28. Match Race, Shatemuc Boat Club, Poughkeepsie, N. Y., July 27, 1871.—*3 miles Turning Race, from Shatemuc Boat-House, 1 $\frac{1}{2}$ miles up the Hudson, to Stake-Boat, near East Shore, and return. Prize, Miniature Shell of Gold.*

1. Guy C. Bayley, PAPER SHELL, "Grace," . . . Time, 27' 00"
2. Geo. Van Vliet, " "Lotta," . . . distanced.

Water choppy, wind abeam, and raining.

29. First Annual Race for the Championship, New York Athletic Club, on Harlem River, Saturday, July 29, 1871. *2 miles Straight-away Race, from the Powder Boat, above Third Avenue Bridge, to High Bridge. Prize, the Single Shell Championship and the Club Medal.*

1. W. B. Curtis, PAPER SHELL, 12 in. x 30 ft., . . . Time, 14' 00"
2. J. C. Babcock, wooden shell, 10 in. x 29 ft. . . not taken.

30. Match Race, at Toronto, Canada, Saturday, Aug. 19, 1871. *—2 miles Turning Race on Toronto Bay. Two entries. Prize, the Champion Belt and \$25.*

1. Thomas Loudon, of Toronto Rowing Club, rowing PAPER SHELL, . . . Time, 15' 30"
2. Richard Tinning, of Toronto Rowing Club, rowing wooden shell, . . . Time, not taken.

Loudon won by three feet.

31. Match Race, at Albany, N. Y., Tuesday, Aug. 22, 1871.—*2 miles Turning Race, on the Hudson River, over the Lower Course.*

1. J. H. Girvin, of Beaverwyck Boat Club, rowing PAPER SHELL "A. S. Girvin," . . . Time, 24' 23"
2. Charles Piepenbrink, of Mutual Boat Club, rowing paper shell —, . . . Time, 24' 53"

32. Match Race, at Albany, N. Y., Friday, Aug. 25, 1871.—*2 miles Turning Race on the Hudson River, over the Lower Course.*

1. James Wilson, of Beaverwyck Boat Club, rowing PAPER SHELL, . . . Time, 24' 55"
2. Charles Piepenbrink, of Mutual Boat Club, rowing paper boat, . . . Time, not taken.

Wilson won by several lengths.

(Races up to August 25, 1871, only.)

BOAT-RACING AT AMERICAN COLLEGES.

The history of boat-racing by the undergraduates of American colleges, up to the year 1871, is mainly comprised in a narrative of the contests between the rival oarsmen of Harvard and Yale, since, on the few occasions where crews from other colleges have contended at the Annual College Regattas, they have, until the present year, been so far behind the representatives of the red and blue, in skill and training, as to have excited in the public an interest subordinate to, and often quite eclipsed by, that taken in their associates.

History of college boat-racing up to 1871 mainly embraced in that of Harvard vs. Yale.

Several causes, some of which have been alluded to in the Introduction to this work, have combined to produce this result, but it is due principally to the fact that at Cambridge and New Haven rowing has been longer practised than at any of the other collegiate towns, and that, notwithstanding the repeated efforts which have been made for sixteen years, to bring together at the annual regatta the oarsmen of the prominent New England Colleges, Harvard and Yale have during that period been too often the sole contestants for the prize of victory.

The newly awakened interest in rowing at many of the most noted seats of learning in the country, where heretofore little, if any, attention has been paid to this branch of athletic exercise, will undoubtedly lead, in time, to a great increase in the number of candidates for aquatic honors at future annual regattas, and bring to notice undergraduate crews, which may yet rival the performances of their predecessors.

The result of this year's college races, in which Harvard, who has so long held the field, was defeated by a new and hitherto unknown rival, will do much to encourage new organizations, and give an additional impulse to the public interest in the art.

Before presenting the statistics of the regattas which have taken place since 1852, a brief account of their origin and the principal circumstances attending each may not be uninteresting, and as the two oldest colleges in the country have, during the nineteen years since these contests were inaugurated, played the most important part in them, it is but proper that their direct relation to these races should be particularly dwelt upon.

The history of these races may be divided into three periods: the first embracing the irregular trials which took place from 1852 to 1860 inclusive; the second extending from 1864 to 1870 inclusive; and the third dating from 1871, when Yale, for the first time since 1852, failed to be present at the annual meeting, and straight-away racing was inaugurated.

Three periods of this history.

Rowing, as a pastime and physical exercise, came into vogue at Harvard and Yale Colleges about the same time, dating back at Yale to the year 1843,* and at Harvard to 1844;† but it was not until 1852 that the practice of the art was sufficiently advanced, and the interest in it correspondingly developed, to so excite the rivalry of the oarsmen of the two colleges as to lead to a trial of skill between them.

First period, 1852 to 1860.

The first boat-race between their representatives originated in a challenge from Yale, inviting Harvard to meet her at such time and place as should be mutually agreed upon, "to test the superiority of the oarsmen of the two colleges." This challenge was accepted, and Centre Harbor, on Lake Winnipiseogee, situated in Northern

First regatta at Lake Winnipiseogee, N. H., Aug. 3, 1852.

* "Four Years at Yale," p. 328.

† Peverelly's "American Pastimes," p. 117.

New Hampshire, was selected as the scene of the first contest,* which took place on the 3d of August, 1852. We are not to understand that the participants in this affair represented the best oarsmen of their respective colleges, selected from the whole body of undergraduates, as has been the custom in late years, but the race was simply a trial of skill between certain of the class crews then in existence, but which inaugurated that series of contests which have since figured so largely in the history of rowing in America.

At this meeting, Harvard appeared in the persons of the Class Boat Club of 1853, rowing the eight-oared boat "Oneida," while Yale was represented by the Shawmut Boat Club Class of 1853, with their boats, the "Halcyon," "Undine," and "Atalanta," the latter of which was subsequently ruled out on account of being a racing-boat hired in New York City for the occasion.

The day was fine, the atmosphere clear, the lake scarcely ruffled by a breeze. A preliminary trial or "scrub" race took place in the morning, in which the "Oneida" came in first, winning a handsome silk flag, obtained by private subscription, followed successively by the "Halcyon," "Undine," and "Atalanta." In the afternoon, the decisive trial took place, as officially reported, in which the Harvards, in the "Oneida," won by two lengths, and received the first prize.

Second regatta at Springfield, Mass., July 27, 1855.

In June, 1855, the citizens of Springfield, Mass., being desirous of celebrating the ensuing Fourth of July with more than ordinary *éclat*, got up a regatta for that day, to be rowed on the Connecticut River, opposite the city, to which the boat clubs of the Yale Navy and those of Harvard College were specially invited. The Yale oarsmen accepted, and this action on their part led to the holding of the third annual regatta of the Yale Navy at this place on the Fourth of July, 1855, in which five boats were entered by the Yale men, and took the prizes provided for the occasion. No Harvard clubs or crews were present. The disappointment of Yale at not meeting the Harvard led to their sending to the latter, on the same day, the challenge which resulted in the second College regatta.

This was held at Springfield, on Saturday, the 21st of July, 1855, picked crews and the best boats from the two colleges being present. "Yale entered the two six-oared boats "Nereid" and "Nautilus," each carrying a coxswain; Harvard, the "Y. Y.," four ours, no coxswain, and the "Iris," eight oars, with the same coxswain who steered the "Oneida" three years before. The course was one and a half miles down the stream and return. A handicap of eleven seconds per oar for the whole three miles was allowed the smaller boats. The prize to the winning crew was a handsome set of silk boat-flags, consisting of pennant, jack, and ensign, offered by the citizens of Springfield.

The times made, deducting the allowances, were, "Iris," 22'; "Y. Y.," 22' 27"; "Nereid," 24'; and "Nautilus," 25'. In the evening of the same day, three of the "Y. Y.'s" crew and three Boston oarsmen rowed over the course in the "Nereid" in 21' 45", or in 15" less than the winning eight-oared boat. The superiority of the Yale boat and of the Harvard oarsmen was thus still further demonstrated.

* Peverelly says, "This challenge was promptly accepted." The author of "Four Years at Yale" says, quoting from other writers: "Harvard was at first loth to assent to a regatta, and required much persuasion, but finally representatives of Yale and Harvard accepted the invitation of the hotel-keeper at the lake (Winnipiseogee), who paid all expenses, in view of the crowd of spectators which the race would attract to his house."

In 1858, the boating men at Harvard proposed to the undergraduates of the principal New England colleges, and those of New York City, where rowing was then practised, the establishment of an inter-collegiate regatta, to occur annually, at which all the college clubs should be participants, in imitation of the annual meetings of the English University eights. In accordance with this proposition, a meeting was held at New Haven, May 26, 1858, to which Harvard, Brown, Trinity, and Yale Colleges each sent a delegate;* the representatives of Dartmouth and Columbia (N. Y. City), to whom invitations were extended, did not appear. At this meeting, the following arrangements for the next regatta were made, and these rules adopted:

Organization
of the Union-
College Regatta,
May 26,
1858.

"That the regatta of that year be held on Friday, July 23, and that the place be Springfield, provided sufficient pecuniary inducements be offered by the citizens thereof; that at each regatta the time and place of holding the next one be determined; that none but academical undergraduates (including the graduating class) take part therein; that each college enter as many boats as it chooses, and row them with or without coxswains; that the course be three statute miles in length, and that an allowance of 12" per oar be given the smaller boats; that the position of the boats be determined by lot; that each college entering appoint an umpire, and the umpires appoint a referee; and that a set of silk colors, with suitable inscriptions, be given the winning boat—the cost of the same not to exceed \$25, and to be met by the entrance fees required of the contesting boats."

Union-Col-
lege Regatta
rules, 1858.

The secretary was also instructed to invite other colleges to join the association, and take part in the coming and subsequent races.

Six days before the time appointed for the race, Saturday night, July 17, 1858, while the Yale boat was taking a practice pull on the river at Springfield, a collision with another craft overturned it, and the stroke oarsman, George E. Dunham, of the Class of 1850, was drowned. This melancholy accident broke up the race, and the crews from Yale and Harvard—those from Brown University, Providence, R. I., and Trinity College, Hartford, Ct., not having arrived—separated without making arrangements for any future contest.

A meeting of delegates from Harvard, Yale, and Trinity Colleges, and Brown University was held at Providence, R. I., on February 23, 1859, and the arrangements made in 1858 by their predecessors were again adopted. It was also decided that the next regatta should be held on the 22d of July following, either at Springfield or Worcester, Mass. Subsequently, by mutual agreement, Lake Quinsigamond, near the latter city, was selected as the place of trial.

Second meet-
ing of college
delegates, Feb.
23, 1859.

This lake, better known in the vicinity as Long Pond, is situated some two miles east of the city of Worcester, and is one of the most picturesque of the numerous small sheets of water which lie scattered over New England. It is very irregular in outline, some five miles in length, with an average breadth of about one-fourth of a mile. Only the northern arm has a sufficient depth of water, and the necessary length and directness of channel, to admit of a proper racing-course, and is the portion lying north of the causeway, over which the eastern turnpike from the city crosses the pond at a distance of a little over one and a half miles from its northern extremity. Being bounded on

Description of
the course on
Lake Quinsi-
gamond.

* The following were the delegates present: From Harvard College, Benjamin W. Crowninshield; Yale, William P. Bacon; Trinity, Hartford, Ct., G. A. Stedman, Jr.; Brown University, Providence, R. I., Charles M. Smith.

the north and west by high, rolling, and wooded hills, it is well protected from wind, and thus affords one of the best sheets of inland water in Massachusetts for shell-boat racing, when a short or a turning race is required, and the number of contestants is small.

At the time this course was selected in 1859, it seemed to fulfil the required conditions, and, judged in the light of the racing experience of that day in the United States, was probably as eligible a place as could then have been chosen, affording as it did a fair three miles turning course for two boats, being centrally located as regarded the New England colleges, and very accessible from all points of the compass by rail. But the history of the University races, from 1859 to 1870, proves conclusively that both the course and the locality are wanting in the essential requisites for a first-class—not to speak of a “national”—regatta.

The custom has been to have but one stake, a plan which almost invariably causes a “foul” at the turn, when the contestants are closely matched, and which, in this particular instance, owing to the nature of the shore line on the east side of the course, gives the holder of the “inside” or westerly position, at the start, a very perceptible advantage.

The other alternative is to have two or more stakes, according to the number of the boats, as is now the custom in the best appointed matches for turning races, but the narrowness of the lake at the part where the turn must be made for three-mile turning races will not admit of properly placing more than two, or at most three, stakes, and as will be seen by the subjoined letter,* if they are placed so as to be seen from the starting-point, and the course straightened, it is of necessity shortened about one hundred feet. A straight-away three-mile course is not obtainable.

Third Regatta at Worcester, Mass., July 26, 1859.

Here, on the afternoon of Tuesday, July 26, 1859, was held the First Union-College Regatta, at which four boats from three colleges† contended for the championship and

* From the *New York Clipper*, of January 21, 1871:

“THE QUINSIGAMOND THREE-MILE COURSE.

“Another survey of the Lake Quinsigamond Course has been made lately, the result proving that the course surveyed by the regatta committee in 1868 was correct—full three miles. In races which have taken place there within a year or two, however, the buoys have not been properly placed, thereby considerably shortening the distance. We have received the following, concerning the matter, from a prominent citizen of Worcester, and a strong advocate of rowing sport, at whose instance the survey was made:

“WORCESTER, MASS., January 14, 1871.

“FRANK QUEEN—SIR: In order that the *Clipper*, as well as other parties interested, may be satisfied in regard to the length of the three-mile course at Lake Quinsigamond, I have taken the trouble to procure a reliable surveyor, and had the course measured, foot for foot. This was done Thursday afternoon, January 12, on the ice, in the presence of Stedman Clark, stroke-oar of the Bay State Crew, and the Woodcock brothers, of the Union Crew. The course surveyed was the same as measured by the regatta committee in the spring of 1868, and the one always used previous to 1869. To cover three miles, it is necessary to go around the “point,” so-called, on the east side of the lake, and keep in a straight line until you reach the point, or line, between two large stone posts erected on either side of the lake by the regatta committee. This gives a full three-mile course, with plenty of room for two or three boats to turn. The stake-boat was always placed at this point previous to 1869, so that the Ward brothers’ time may be taken as correct. But in 1869, interested parties thought to have a course so that the judges and referee could see the turn made, and they placed the buoy out nearer the western shore, thereby reducing the distance forty or fifty feet one way, amounting to eighty or a hundred in the full three miles. In 1870, the buoy was placed still further out, and the course made shorter again. If any one doubts this statement, he has only to measure the course for himself, and he will be satisfied. I enclose a certificate from Messrs. Buttrick and Wheeler, who did the surveying, and who stand ready to make oath to the correctness of the measurement. In future, it behooves those interested in having a fair, square race, to see to it that the stake boat is properly placed, and, as Mr. Wheeler made a plan of the grounds, he is able to place a stake-boat just on the mark every time. The mile course is a long one, but marks were placed by which a true course will hereafter be rowed.

“Yours respectfully,

FREEMAN BROWN.”

† Harvard, Yale, and Brown University.

the flags, rowing over the three-mile course, extending from the causeway one and a half miles to the north end of the lake and return. A "citizens' regatta" took place the next day, in the six-oared race of which, Harvard and Yale again met to contest for the prize offered by the city of Worcester.

Although Yale had been defeated by the Harvards the previous day, its crew were on this occasion the victors by four seconds better time than that of their opponents the day before. *

The success of Yale in this contest inspired its three lower classes to challenge the corresponding classes of Harvard for the regatta of 1860.

The Harvard Juniors declined, but the Sophomores and Freshmen accepted.

The Second Annual Union-College Regatta took place on Tuesday, July 24, 1860. The first race between the Freshmen crews of Harvard and Yale was won by the former, in 19' 40". The Sophomore race was won by the Harvards, the Yale boat having been withdrawn in consequence of the sudden illness of one of the crew just after turning the stake.

Fourth Regatta at Worcester, July 24, 1860.

In the third, or, as it from this time was called, the *University race*, entries were made by the picked crews of Brown, Harvard, and Yale. It was won by the Harvards in 18' 53", the Yale crew coming in second, and that of Brown third.

In the "Citizens' Regatta," arranged for the ensuing day by the committee representing the citizens of Worcester, it was expected that, as in the previous year, the selected crew from Harvard and Yale would appear. The Harvards declined to do so on account of the sickness of one of their crew; and, although a second race was arranged between the Yale Sophomores and the Harvard Sophomore and Freshman crews; in consequence of a foul just after the start, the Yale Sophomores withdrew, leaving the Harvard Freshmen to defeat with ease their senior rivals.

In the last race in this regatta, the six-oared University crew of Yale, with coxswain; the "Gersh Banker," six-oared shell, with coxswain weighing forty pounds, manned by the Ward brothers; a four-oared shell from the Union Boat Club, of Boston; and the "Quickstep," a four-oared Worcester shell, were matched together for a three-mile turning race, in which the Ward brothers won the first prize (\$100), in the then unprecedented time of 18' 37"; the Yale crew, the second prize (\$60), in 19' 00", followed by the Union in 19' 41", which, deducting an extraordinary handicap of 15 seconds per oar, which was allowed, reduced the time of the latter boat to 19' 11".

This regatta terminates the first period of college races, and may be said to have practically demonstrated the failure of the union-college regatta plan, as then devised, since, in both the years of its trial, but one college (Brown) other than Harvard and Yale had appeared to enter the lists, out of all those to whom invitations had been extended, and who were expected to be present.

Failure of the Union-College Regatta plan.

Rowing, except at Harvard and Yale, was too little practised and met with too little pecuniary and personal support from the students at other colleges to enable such

* It should be mentioned that the terrific stroke of 48 to 60 to the minute kept up by the Yale crew in this race was necessitated by the shortness of the oars, which, by a blunder of the builder, were only ten and a half feet long. In spite of this drawback and spite of the foul, the time made (19' 14") was the fastest ever made in America to that date, and has never been equalled by a six oared American crew, carrying an adult coxswain. The "Gersh Banker," of the Ward brothers which next year made 18' 37", was fully equipped, and had a forty-pound boy for coxswain.—"Four Years at Yale."

a system to be maintained. The change in public opinion on the subject of athletic exercises and their relation to physical education had then scarcely begun; the intense local rivalry necessary to sustain such a plan was to a great extent wanting; the plan, as proposed, was in fact in advance of the times, and failure was the consequence.

The hiatus of
1861-1863.

Early in 1860, the corporation of Yale College passed a resolution forbidding the students to enter any race, during term-time, against crews not connected with the college. The effect of this regulation was to limit such meetings to the period of the summer vacation, extending from the middle of July to the middle of September, and to require that the usual preparations should be commenced very early in the year.

Just at this time broke out the great Rebellion. The intense excitement which the advent of a civil war occasioned, at once put an end to any preparations for a contest that year. Considering the number of students the conflict withdrew from our colleges, the manner in which it absorbed the public mind to the exclusion of all minor matters, and with the whole country under arms, it is not surprising that for this and the two subsequent years rowing at most of the colleges was either greatly neglected or entirely abandoned.

Second period,
1864 to 1870.

We now come to the second of the periods into which we have divided these races.

As the races rowed from 1864 to 1870 all took place on Lake Quinsigamond under similar circumstances, it is not necessary that each should be described in detail; we shall therefore only touch upon some general points of interest connected with them, which do not appear in the formal records which follow.

Challenges.

The contests between Harvard and Yale were renewed in 1864 upon a challenge sent by the Yale Navy to the boating representatives of the first-named college. The custom has since been for the challenge to emanate from the successors of the defeated crew of the previous year, the challenged party naming the locality for the race, which must take place on neutral waters. As by the regulation just alluded to the Yale crew could not meet a rival during term-time, the races have always been rowed in the month of July, on the day after commencement at Yale, which is two or three weeks after that of Harvard. Although such "Seniors" as are in the university crews are graduates in the strict acceptance of the word, they are held to be undergraduates within the meaning of the regatta regulations.

Boats.

The boats used by all the crews have been six-oared wooden shells fitted for rowing without coxswains, ordinarily from 19 to 22 inches beam and from 48 to 53 feet long, weighing without the oars 165 to 200 pounds.

Prizes.

The prizes contested for have been either flags, medals, or pieces of plate (cups). Up to 1867 two flags were presented to the champion crew, both of silk—one of blue, having the following inscription in gilt letters: "*College Regatta, Champion, University, Worcester, July —, 18—;*" the other an American ensign, upon the six white stripes of which the names of the victorious oarsmen were afterwards inscribed. Their cost has usually been about \$60, the expense in some cases being defrayed by the colleges themselves, each paying one-half, at other times borne by the citizens of Worcester when presented by them.

Flags—where
preserved.

The flags won by Yale are preserved in the Art Building, in the room opening

out of the South gallery and over the Chapel Street entrance; those won by Harvard are placed in an alcove in the library.

Since 1867, in addition to the champion flags, handsome gold medals, costing \$50 each, have been given to each member of the winning crew by the citizens of Worcester. The face of the medal is die-cut, and represents a racing-crew pulling. "Lake Quinsigamond, Worcester," is the inscription, with the date of the race. The reverse, in relief, displays a crown and laurel wreath, surrounding a space for the insertion of the name of the winner. Similar medals, struck in silver, were also given to the winning Freshman crew of 1869 and 1870 in place of the silver cups presented to them in 1867.

A partisan of the vanquished crew usually presents the flags to the victors, but the same set is never used twice.

The color of Harvard is red, usually magenta, while that of Yale is blue.

Colors.

The racing-dress is simply a pair of flannel drawers, or pantaloons, and a sleeveless knit undershirt or Jersey, although the Harvard crew is usually naked from the waist up, handkerchiefs of the distinguishing color, bound about the head, serve to designate the crews at a distance.

Dress.

The course rowed over is that already alluded to, namely, three miles, commencing at the lower or causeway end of the lake, thence one and a half miles up the lake to a stake, which must be turned from port to starboard, and thence back to the stake boat. The positions at starting are drawn by lot.

Course.

Each crew chooses its own judges, of which there have been two in later years, both graduates of the colleges they represent. The umpire chosen by the judges is generally a professional or amateur oarsman belonging to neither college. One judge for each college, together with the umpire, is stationed at the starting-point; the other judges occupy a boat at the stake.

Judges and umpire.

The results of the races during this period may be summed up as follows:

Summary of the results of the racing—second period.

The university crews of Harvard and Yale met eight times, seven of which meetings were at the College Regatta and one in a Citizens' Regatta—all at Worcester. Of these, Yale won *three*, namely, those of July 29, 1864; July 28 and July 29, 1865. Harvard, *five*, being those of July 27, 1866; July 19, 1867; July 24, 1868; July 23, 1869; and July 22, 1870.

The Sophomore crews have met once (July 29, 1864), when Harvard rowed over the course, Yale having withdrawn at the start.

The Freshman crews met three times, of which Yale won *twice*, July 19, 1867, and July 22, 1870; and Harvard, *once*, July 23, 1869.

The crews of the Scientific Schools of Harvard and Yale, *twice*, the Harvards winning once, July 27, 1866, and the Yales once, June 22, 1870, this last race having been rowed on Lake Saltonstall, near New Haven, Conn.

In 1870, July 22, the Freshman race was won by Brown.

The intense feeling of dissatisfaction engendered among the Yale crew and their friends by the decision of the umpire in the case of the University race, at Worcester, in July, 1870, culminated in a pledge being made by the members of the crew to each other, that they would never again enter another contest on Lake Quinsigamond, and this decision was subsequently endorsed by the action of the Yale University Boat Club, in voting that no crew from that college ever *should* row there again. This

Third period, commencing 1871.

Yale declines to enter another race at Lake Quinsigamond, and challenges Harvard for a straight-away race.

decision was in nowise affected by the tenor of the challenge of Yale to Harvard,* dated the 10th December, 1870, since, as has already been stated, a three-mile straight-away course could not be obtained on Lake Quinsigamond, should Harvard have chosen to select that locality again, by virtue of its privilege as the challenged party.

In reply to this challenge, the Harvard University Boat Club addressed the Yale University Boat Club, on the 7th of March, 1871, to the effect that their challenge had been received, and that action would be taken on it in a few weeks.†

Harvard's
reply.

On the 27th of March, 1871, Harvard sent the promised reply to Yale,‡ in which a general acceptance of the challenge was coupled with an invitation to send two delegates to a convention to be held at Springfield, Massachusetts, on the 15th of April, 1871, for the purpose of establishing a Union Regatta of American Colleges.

It is not necessary for our purpose to enter into the merits of the voluminous discussion which grew out of the determination of Yale never to row again at Worcester, or to meet Harvard in any but a straight-away race. The reports of the race of 1870, by correspondents of the principal daily journals, together with a large amount of other interesting matter pertaining to the whole subject of Harvard *vs.* Yale, are to be found in a pamphlet recently published,§ and to this we would refer those who desire to investigate the controversy for themselves.

Yale takes no
part in the con-
vention or the
races of 1871.

Organization
of the Rowing
Association of
American Col-
leges at Spring-
field, Mass.,
April 15, 1871.

It is sufficient to state that Yale sent no delegate to the convention at Springfield, and took no part whatever in the college races of 1871.

The convention met at the time and place appointed, representatives being present from Bowdoin College, Brunswick, Maine; Harvard University, Cambridge, Massachusetts; Amherst College, Amherst, Massachusetts; and Brown University, Providence, Rhode Island. These proceeded to organize "The Rowing Association of

*
TO GEORGE BASS, PRESIDENT OF H. U. B. C.:

NEW HAVEN, December 10, 1870.

DEAR SIR: The undersigned, in behalf of the Yale University Crew, hereby challenge the Harvard University Crew to row a straight-away six-oared shell race, upon the 14th of July, 1870, on any course hereafter agreed upon.

J. H. FORD, President.

L. S. BOOMER, Secretary of Y. U. B. C.

†
MR. J. H. FORD, PRESIDENT Y. U. B. C.:

CAMBRIDGE, March 7, 1871.

SIR: We have been directed to notify the Yale University Boat Club that their challenge has been received, and that action will be taken upon it in a few weeks.

Yours very truly,

ROBERT A. RUSSEL, President.

WINTHROP MILLER, Secretary.

‡
GENTLEMEN: At a meeting of the executive committee of the H. U. B. C., held to consider the challenge of the Y. U. B. C., it was decided that the H. U. B. C. is willing to meet the Y. U. B. C. in any race in which all parties are sure of fair play. In order, therefore, to attain this desirable end, you are requested to send two delegates to a convention to be held at the Massasoit House, Springfield, Massachusetts, on Saturday, April 15, 1871, for the purpose of establishing a Union Regatta of American Colleges. An early notification of your intention of attending the convention would greatly favor the undersigned.

Yours very respectfully,

C. H. GOULD, President H. U. B. C.

H. S. MUDGE, Secretary H. U. B. C.

§ "Yale and Harvard Boat-Racing." Tuttle, Morehouse & Taylor, Printers, 221 State Street, New Haven. 1871.

American Colleges," to frame and adopt a constitution and by-laws, and to appoint the necessary officers.*

At a subsequent meeting of the executive committee, held in Boston, June 3, 1871, the final preliminaries of the regatta were determined upon, and the rules to govern the contest were drawn up and adopted. These we have already given.

The race was fixed for Friday, July 21, 1871, and the course selected was that at Ingleside, on the Connecticut River, six miles above Springfield, Massachusetts.

First regatta,
July 21, 1871.

Here took place the twelfth college regatta, in which crews from Harvard, Brown, and Amherst Agricultural College participated. The course was from a stake-boat anchored three miles above the Chicopee Bridge, down the river to the bridge. The river being low, there was only a slight current. In the Freshman race, Harvard and Brown were the only contestants, Harvard winning.

Three crews entered for the University race—Harvard, Brown, and that of the Amherst Agricultural College. The latter was victorious, making the three miles, as first reported, in seventeen minutes forty-seven seconds, and, as afterwards corrected, in sixteen minutes forty-seven seconds.

As this year witnessed the first straight-away race which has ever been rowed by college crews—without doubt the fairest method of ascertaining their relative merits—and, as the champions will probably insist on a similar race next year, we may reasonably consider straight-away racing in the college contests of future years as an established fact, and that, with the regatta just alluded to, opens another or third period of college racing in the United States.

The inaugura-
tion of straight-
away racing
marks the third
period of col-
lege races.

We shall now proceed to present the details of each of the twelve regattas, made up from the best authorities attainable, after much research and considerable expense. The want of a systematic, carefully arranged, and reliable report of these races has been often felt by every one at all interested in them; and it is this want which we have endeavored to supply.

Remarks on
the detailed ac-
counts of the
twelve re-
gattas.

The only connected statement of them ever published before the present year is to be found in Mr. Peverelly's book, and his account only extends to 1866. In "Four Years at Yale," just published, the author has given a great mass of carefully compiled information concerning the later of these regattas, bringing the record up to 1870.

The meagreness of the contemporary accounts of the earlier races, however, has made it impossible to give all the details in regard to them which are desirable, and which make the reports of later years so valuable for purposes of reference. Still, they afford the means of comparing, to a certain extent, the results of different years, and of noting the steady progress made at all the New England colleges in a more systematic and thorough course of training in this department of physical culture.

* These were, President, C. C. Luther, of Brown; Vice-President, R. S. Russel, of Harvard; Secretary, E. P. Mitchell, of Bowdoin; Treasurer, A. B. Mooney, of Amherst; Regatta Committee, G. F. Roberts, of Harvard, H. Cornett of Brown, Leverett Bradley, of Amherst, F. A. Ricker, of Bowdoin.

AMERICAN COLLEGE BOAT RACES.

1852.

FIRST REGATTA.

At Centre Harbor, Lake Winnipiscogee, N. H., Tuesday, August 3, 1852.

COURSE: LAKE WINNIPISCOGEE, TWO MILES.—A straight-away race to windward, from a stake boat placed down the lake two miles up to the town.

WEATHER: Clear and warm. WIND: none, calm. WATER: smooth. TIME: afternoon.

PRIZES: FIRST—A pair of silver-mounted black-walnut sculls. SECOND—A silver-mounted black-walnut boat-hook.

COLLEGES REPRESENTED: Harvard College, Cambridge, Mass.; Yale College, New Haven, Conn.

1. THE HARVARD EIGHT-OARED BARGE "ONEIDA,"

ENTERED BY THE CLASS OF 1853 BOAT CLUB, AND MANNED BY

Charles Miles,	Roxbury,	Mass.,	Class '53,	Bow.	Boat built by Holbrook, of Chelsea, Mass., in 1843.	Won by two lengths.
Charles F. Livermore,	Cambridge,	"	"	2.		
Wm. H. Cunningham,	Boston,	"	"	3.	— inches beam. 37 feet long. Painted black.	Time not taken.
John Dwight,	Springfield,	"	"	4.		
Charles J. Paine,	Boston,	"	"	5.	— inches beam. 37 feet long. Painted black.	Time not taken.
Sidney Willard,	"	"	"	6.		
Charles H. Hurd,	Charlestown,	"	"	7.	Stroke. Coxswain.	
Thomas J. Curtis,	Boston,	"	"	'52,		
Joseph M. Brown,	"	"	"	'53,		

2. THE YALE EIGHT-OARED BARGE "HALCYON,"

ENTERED BY THE SHAWMUT BOAT CLUB, CLASS 1853, AND MANNED BY *

James Hamilton,	—	Class '53,	Stroke and	Boat built in Boston, Mass, in 1850.	Time not taken.
Richard Waite,	Toledo, Ohio,	"	Captain. Coxswain.		
				— inches beam. 39 feet long.	

3. THE YALE EIGHT-OARED BARGE "UNDINE,"

ENTERED BY THE SHAWMUT BOAT CLUB, CLASS 1853, AND MANNED BY

A mixed crew from the club and the citizens of Centre Harbor, made up on the day of the race.	Boat built by Brooks & Thatcher, New Haven, Conn., in 1852.	Time not taken.
	— inches beam. 30 feet long.	

* The records of this race are exceedingly imperfect. No list of the Yale crews is to be found in any of the papers or periodicals of that date to which we have referred; but we hope, through the courtesy of Mr. Richard Waite, who has kindly promised to assist us in perfecting the record, to be able to fill up all the matter wanting in time for our edition of 1872.

1855.

SECOND REGATTA.

At Springfield, Mass., Saturday, July 21, 1855.

COURSE: ON THE CONNECTICUT RIVER, OPPOSITE THE CITY—From the foot of — Street, down stream one and a half miles to a stake boat, and return.

WEATHER: Cloudy; rained before and after the races. WIND: light. WATER: smooth. TIME: afternoon.

PRIZE: A set of silk colors, pennant, jack, and ensign, presented by the citizens of Springfield.

COLLEGES REPRESENTED: Harvard College, Cambridge, Mass.; Yale College, New Haven, Conn.

1. THE HARVARD EIGHT-OARED BOAT "IRIS,"

MANNED BY						
			Class	Bow.		
Josiah N. Willard,	Boston,	Mass.,	'57,	2.	Boat built in Chelsea, Mass., March, 1854.	Time, 22' 00"
Wm. G. Goldsmith,	Andover,	"	"	3.		
Channing Clapp,	Cambridge,	"	'55,	4.		
Charles F. Walcott,	Salem,	"	'57,	5.		
Benj. W. Crowninshield,	Boston,	"	'58,	6.	— inches beam. 40 feet long. Painted white.	
William H. Elliott,	Savannah,	Ga.,	'57,	7.		
John Homans,	Boston,	Mass.,	'58,	Stroke.		
Samuel B. Parkman,	Savannah,	Ga.,	'57,	Coxswain.		
Joseph M. Brown,	Boston,	Mass.,	'53,			

2. THE HARVARD FOUR-OARED BOAT "Y. Y.,"*

MANNED BY						
			Class	Bow.		
Alex. E. R. Agassiz,	Cambridge,	Mass.,	'55,	2.	Boat b't in St. John, N.B., spring of 1855. — inches beam. 38 feet long. White.	Time, 22' 47"
Stephen G. Perkins,	Boston,	"	'56,	3.		Less, 44"
Langdon Erving,	Baltimore,	Md.,	'55,	Stroke.		
John Erving,	Ch'rl'stn, S. C.,	L'w. Dpt.	'53,			Correct, 22' 03"

3. THE YALE SIX-OARED BOAT "NEREID,"

MANNED BY						
			Class	Bow.		
Adrian Terry,	Knoxville,	Tenn.,	'52,	Port bow.	Boat built by James, of Brooklyn, N. Y., spring of 1855.	Time, 24' 00"
Charles F. Johnson,	Owego,	N. Y.,	'55,	Starb'd waist.		Less 22"
Henry W. Painter,	West Haven,	Conn.,	'57,	Port waist.		
Theodore W. E. Belden,	West Springfield,	Mass.,	'55,	Starb'd stroke.		Correct, 23' 38"
Storrs O. Seymour,	Litchfield,	Conn.,	"	Stroke.	— inches beam. 40 ft. 9 in. long.	
Joseph W. Wilson,	Norwalk,	"	Law Dept.,	Coxswain.		
Nathan'l W. Bumstead,	Boston,	Mass.,	'55,			

4. THE YALE SIX-OARED BOAT "NAUTILUS,"

MANNED BY						
			Class	Bow.		
Joseph Garrard,	Cincinnati,	Ohio,	'58,	Port bow.	Boat built by James, of Brooklyn, N. Y., in 1854.	Time, 25' 00"
Edward Curtis,	New York,	N. Y.,	Sci. Sch'l,	Starb'd waist.		Less 22"
George Lampton,	Quebec,	Can.,	'55,	Port waist.		
Granville T. Pierce,	South Britain,	Conn.,	'56,	Starb'd stroke.		Correct, 24' 38"
George M. Dorrance,	Bristol,	Penn.,	'57,	Stroke.	— inches beam. 40 ft. 9 in. long.	
Samuel Scoville,	West Cornwall,	Conn.,	"	Coxswain.		
George Tucker,	Hamilton, Bermuda Is'd,	"	"			

NOTE.—A handicap of eleven seconds per oar was allowed to the four and six oared boats.

JUDGES:	H. C. Allibone,	Union Boat Club,	Boston,	Mass.,	For Harvard.	REFEREE, { Col. James M. Thompson, Springfield, Mass.
	H. D. W. Allen,	"	"	"		
	Geo. W. Smalley,†	Yale,	'53,	Troy,		
	Geo. W. James,	"	"	Brooklyn,	For Yale.	

"Nereid," of Yale, took the lead at the start, and kept it for the first 400 yards; but, at the stake boat, the Harvard crew were ahead, and so they came in. In the evening three of the 'Y. Y.' crew and three of the Union Club, of Boston, manned the 'Nereid,' working her with the 'Iris's' oars, and went over the course against time. Though unpractised together, and with a coxswain who had never been over the course before, they pulled the favorite Yale boat over the three miles in 21' 45", or 15" less than the winning eight-oared 'Iris' had made the same distance. This fully substantiated the 'Nereid's' merits, and the superiority of the Boston and Harvard oarsmen. The Harvard men were, it is true, of much more powerful physical development than those of Yale; but they also showed much more skill and coolness in handling their oars. The stroke of the Yale boat was very convulsive and quick, and almost impossible to maintain for any distance."—*Four Years at Yale.*

* The first boat in these regattas steered with a "traveller."

† Now London Correspondent of the *New York Tribune.*

1859.

THIRD REGATTA.

(Being the First Union College Regatta.)

At Worcester, Mass., Tuesday, July 26, 1859.

COURSE: LAKE QUINSIGAMOND—From a line near the Causeway Bridge, up the lake one and a half miles to a stake, and return.

WEATHER: Cloudy, with showers at the close of the race. **WIND:** east, gusty and high. **WATER:** fair. **TIME:** afternoon. Boats started at 4h. 38' 10" P.M.

PRIZES: The Champion Flags (a pennant with suitable inscriptions, and a national flag, both of silk), presented by the citizens of Worcester.

COLLEGES REPRESENTED: Harvard College, Cambridge, Mass.; Yale College, New Haven, Conn.; Brown University, Providence, R. I.

POSITIONS AT STARTING: Western or inside, 1. "Atalanta"; 2. "Harvard"; 3. "Yale"; 4. "Avon."

1. THE HARVARD SIX-OARED SHELL "HARVARD."

MANNED BY

Joseph H. Ellison,	Waltham, Mass.,	Class '59,	Bow.	Boat built by McKay,	Time, 19' 18"
Joseph W. Wales,	Boston, "	" '61,	Port bow.	St. John, N. B., in	
Henry S. Russell,	West Roxbury, Mass.,	" '60,	Starboard waist.	1858, of pine.	
Edward G. Abbott,	Lowell, Mass.,	" " "	Port waist.	— inches beam by 40	
William H. Forbes,	Milton, "	" '61,	Starb'd stroke.	feet long.	
Casper Crowninshield,	Boston, "	" '60,	Stroke.	Weight of the crew,	854 lbs.

2. THE YALE SIX-OARED SHELL "YALE,"

MANNED BY

Frederick H. Colton,	Longmeadow, Mass.,	Class '60,	Bow.	Boat built in New	Time, 20' 18"
Charles H. Owen,	Hartford, Conn.,	" " "	Port bow.	York City in 1859,	
Henry W. Camp,	" "	" " "	Starboard waist.	of Spanish cedar.	
Joseph H. Twitchell,	Plantsville, Conn.,	" '59,	Port waist.	— inches beam.	
Charles T. Stanton,	Stonington, "	" '61,	Starb'd stroke.	45 feet 5 inches long.	
Henry N. Johnson,	West Meriden, Conn.,	" '59,	Stroke.	Weight of the crew,	998 lbs.
Hezekiah Watkins,	Liberty, N. Y.,	" " "	Coxswain.		

3. THE HARVARD SIX-OARED LAPSTREAK BOAT "AVON,"

MANNED BY

Alpheus H. Hardy,	Dorchester, Mass.,	Class '61,	Bow.	Boat, — in. beam by	Time, 21' 13"
George E. Adams,	Chicago, Ill.,	" '60,	Port bow.	42 feet long.	
Edward Carter,	Newtonville, Mass.,	" " "	Starboard waist.	Painted white, with	
Henry J. Doolittle,	Racine, Wis.,	" '61,	Port waist.	green stripe.	
Calvin M. Woodard,	Fitchburg, Mass.,	" '60,	Starb'd stroke.	Weight of the crew,	839 lbs.
Samuel F. Emmons,	Boston, Mass.,	" '61,	Stroke.		

4. THE BROWN SIX-OARED LAPSTREAK BOAT "ATALANTA,"

MANNED BY

Pardon S. Jastram,	Providence, R. I.,	Class '60,	Bow.	Boat, — in. beam by	Time, 24' 40"
Charles D. Cady,	" "	" '61,	Port bow.	44½ feet long.	
Charles H. Perry,	Worcester, Mass.,	" '60,	Starboard waist.	Painted light straw	
Edward H. Sears,	Providence, R. I.,	" '62,	Port waist.	color.	
Elnathan Judson,	Plymouth, Mass.,	" '59,	Starb'd stroke.	Weight of the crew,	902 lbs.
Adoniram Judson,	" "	" " "	Stroke.		
William H. Ames,	New London, Conn.,	" '61,	Coxswain.		

JUDGES: { Gerard C. Tobey for Harvard,
S. Davis Page for Yale,
Charles M. Smith for Brown. }

REFEREE: James McKay, of New York.

"At the signal-gun, the four boats got off well together. The starting was admirable. The Brown boat held her course 'straight as a line.' But the high wind forced the lighter boats towards the west shore. The contest was very close till out of sight."—*Peeverelly*.

This race was followed the next day by the "Citizens' Regatta" (Wednesday, July 27, 1859), in which the "Harvard" and "Yale" crews again met, resulting in the defeat of the "Harvard." See "Citizens' Regatta," Worcester, Mass., page 265.

1860.

FOURTH REGATTA.

(Being the Second Union College Regatta.)

At Worcester, Mass., Tuesday, July 24, 1860.

COURSE: LAKE QUINSIGAMOND—From a line near the Causeway Bridge, north, up the lake one and a half miles to a stake, and return.

WEATHER: Fine and clear. WIND: light. WATER: fairly smooth, except at the stake-boat, where it was a little rough. TIME: afternoon. First race started at 3.30 P.M.

PRIZES: three sets of champion flags—one for each of the winning crews.

COLLEGES REPRESENTED: Harvard College, Cambridge, Mass.; Yale College, New Haven, Conn.; Brown University, Providence, R. I.

First Race—Harvard vs. Yale Freshmen.

1. THE HARVARD SIX-OARED LAPSTREAK BOAT "THETIS."

COLORS: ORANGE. MANNED BY

Horace S. Dunn,	Boston, Mass.,	Class '63,	Bow.	} Time, 19' 40½"
William Greenough,	" "	" "	Port bow.	
John C. Warren,	" "	" "	Starboard waist.	
Arthur Lawrence,	" "	" "	Port waist.	
Edward D. Boit,	West Roxbury, Mass.,	" "	Starboard stroke.	
Charles W. Amory,	Boston, Mass.,	" "	Stroke.	

2. THE YALE SIX-OARED LAPSTREAK BOAT "GLYUNA."

COLORS: LIGHT BLUE. MANNED BY

John H. Woodruff,	Auburn, N. Y.,	Class '63,	Bow.	} Time, 20' 20"
Edward L. Keyes,	New York, N. Y.,	" "	Port bow.	
Henry C. Ewin,	Nashville, Tenn.,	" "	Starboard waist.	
Theodore C. Bacon,	New Haven, Conn.,	" "	Port waist.	
William G. Grant,	New York, N. Y.,	" "	Starboard stroke.	
Thomas D. Kimball,	Oxford, Mass.,	" "	Stroke.	
James H. Eakin,	Shelbyville, Tenn.,	" "	Coxswain.	

Second Race—Harvard vs. Yale Sophomores.

1. THE HARVARD SIX-OARED LAPSTREAK BOAT "HAIDEE."

COLORS: BLUE. MANNED BY

Arthur A. Sibley,	Chelsea, Mass.,	Class '62,	Bow.	} Time, 20' 17"
William T. Washburn,	Boston, "	" "	Port bow.	
William Hedge,	Plymouth, Mass.,	" "	Starboard waist.	
Joseph S. Read,	Boston, "	" "	Port waist.	
Henry Mathes,	Portsmouth, N. H.,	" "	Starboard stroke.	
Henry H. Burney,	Roxbury, Mass.,	" "	Stroke.	

NOTE.—This crew led the Yale crew five seconds at the stake.

2. THE YALE SIX-OARED LAPSTREAK BOAT "THULIA."

COLORS: WHITE. MANNED BY

Israel Minor, Jr.,	New York, N. Y.,	Class '62,	Bow.	} Withdrawn in consequence of the sudden illness of one of the crew just after turning the stake.
Walter L. McClintock,	Pittsburg, Penn.,	" "	Port bow.	
Richard Morse,	New York, N. Y.,	" "	Starboard waist.	
William B. Seely,	Beverly, Ohio,	" "	Port waist.	
Henry P. Johnston,	Smyrna, Turkey,	" "	Starboard stroke.	
Grosvenor Starr,	New Haven, Conn.,	" "	Stroke.	
Jacob S. Bockee,	Norwich, N. Y.,	" "	Coxswain.	

Third or University Race for the Championship.*

1. THE HARVARD SIX-OARED SHELL "HARVARD."

COLORS: RED. MANNED BY

Joseph W. Wales,	Boston, Mass.,	Class '61, Bow,	140 lbs.	Boat built by McKay, St. John, N. B., in 1858.	Time, 18' 53"
Henry Ropes,	" "	" '62, Port bow,	146 "		
William H. Ker,	Natchez, Miss.,	" " Starboard waist,	149 "		
Edward G. Abbott,	Lowell, Mass.,	" '60, Port waist,	149 "		
Calvin M. Woodward,	Fitchburg, Mass.,	" " Starb'd stroke,	150 "		
Casper Crowninshield,	Boston, "	" " Stroke,	160 "	27 inches beam, 40 feet long.	
Weight of crew: 894 lbs.		Boat: 175 lbs.	Oars: 40 lbs.	Total displacement: 1,109 lbs.	

2. THE YALE SIX-OARED SHELL "YALE."

COLORS: BLUE. MANNED BY

Henry B. Ives,	New Haven, Conn.,	Class '61 Bow,	150 lbs.	Boat built by McKay, New York, in 1859. Of Spanish cedar.	Time, 19' 05½"
Eugene L. Richards,	Brooklyn, N. Y.,	" '60 Port bow,	140 "		
Edward P. McKinney,	Binghamton, N. Y.,	" '61 Starboard waist,	150 "		
William E. Bradley,	New Canaan, Conn.,	" '60 Port waist,	147 "		
Charles T. Stanton,	Stonington, "	" '61 Starb'd stroke,	148 "		
Henry L. Johnson,	Jewett City, "	" '60 Stroke,	148 "	23 inches beam, 48 feet long.	
Charles G. Merrill,	Newburyport, Mass.,	" '61 Coxswain,	112 "		
Weight of crew: 995 lbs.		Boat: 182 lbs.	Oars: 40 lbs.	Total displacement: 1,220 lbs.	

3. THE BROWN SIX-OARED SHELL "BROWN."

COLORS: BLACK. MANNED BY

Edward H. Sears,	Providence, R. I.,	Class '62, Bow,	148 lbs.	Boat built in New York.	Time, 21' 15"
Amos M. Bowen,	" "	" '63, Port bow,	135 "		
Oscar Lapham,	Burrillville, "	" " Starboard waist,	133 "		
Edward P. Brown,	Rehoboth, "	" " Port waist,	133 "		
Charles D. Cady,	Providence, "	" '61, Starb'd stroke,	128 "		
Pardon S. Jastram,	" "	" " Stroke,	126 "		
William H. Ames,	New London, Conn.	" " Coxswain,	105 "		
Weight of crew: 908 lbs.		Boat: 120 lbs. (reported).†	Oars: 40 lbs.	Total displacement: 1,068 lbs.	

JUDGES: { J. H. Ellison, Waltham, Mass.; Harvard, '60; for Harvard.
C. H. Owen, Hartford, Conn.; Yale, '60; for Yale.
S. V. Woodruff, for Brown. } REFEREE: Nathanael Paine, Atalanta Boat Club, Worcester, Mass.

The judges were stationed at the starting line, the referee at the stake boat.

In the "Citizens' Regatta," which took place the next day, of the College crews, Yale only entered the six-oared shell race, and were defeated by the Ward brothers in the "Gersh Banker." See page 267.

* "At the word 'Give way!' all got off in fine style. The Harvard, with a tremendous leap, shot ahead of the other two, the Yale pressed close after, while the Brown at once fell behind. These relative positions were kept to the end. The Brunonians, with a boat that, though built specially for the occasion, was poor and almost feather weight, 'showed their pluck by entering the race, and their judgment by backing Harvard.' The champion colors were presented to the winning crew by Charles H. Owen, of '60.—*Four Years at Yale*.

† "The new shell built for Brown, said to weigh but 120 lbs., though of very elegant and delicate construction, proved to be hardly suitable for racing. It was so light that it rocked with the efforts of the rowers, and the water, somewhat rough, overflowed the sides so much that it came in weighted down with water, and with one of the foot-braces broken. Most of the water was shipped at the stake boat."—*Worcester Spy*, July 25, 1860.

1864.

FIFTH REGATTA.

At Worcester, Mass., Friday, July 29, 1864.

COURSE: LAKE QUINSIGAMOND—From a line near the Causeway Bridge, up the lake one and a half miles to a stake, and return.

WEATHER: Fine and clear. WIND: none. WATER: smooth. TIME: afternoon.

PRIZES: Two sets of champion flags, one for each of the winning crews. Presented by the citizens of Worcester, Mass.

COLLEGES REPRESENTED: Harvard College, Cambridge, Mass.; Yale College, New Haven, Conn.

First Race—Harvard vs. Yale Sophomores.

1. HARVARD'S SIX-OARED SHELL.

COLORS: RED. MANNED BY

Charles H. McBurney,	Roxbury, Mass.,	Class '66,	Bow.	} Time, 19' 05"
Edward H. Clark,	St. Louis, Mo.	" "	Port bow.	
S. A. B. Abbott,	Lowell, Mass.,	" "	Starboard waist.	
William Blaikie,	Boston, "	" "	Port waist.	
Edward T. Wilkinson,	Cambridge, "	" "	Starboard stroke.	
Frederick Crowninshield,	Boston, "	" "	Stroke.	

2. YALE'S SIX-OARED SHELL.*

COLORS: BLUE. MANNED BY

Frank Brown,	Newburg, N. Y.,	Class '66,	Bow.	} Time, 20' 16"
Charles F. Bacon,	Boston, Mass.,	" "	Port bow.	
Lucius D. Bulkley,	New York, N. Y.,	" "	Starboard waist.	
Isaac Pierson,	Hartford, Conn.,	" "	Port waist.	
Albert B. Herrick,	Burlington, Vt.,	" "	Starboard stroke.	
Charles Roosevelt,	New York, N. Y.,	" "	Stroke.	

Second or University Race for the Championship.

POSITIONS AT STARTING: Western or inside, Yale; 2. Harvard.

1. THE YALE SIX-OARED SHELL "YALE."

COLORS: BLUE. MANNED BY

Wm. W. Scranton,	Scranton, Pa.,	Class '65,	Bow,	148 lbs.	} Boat built by McKay, of New York, of Spanish cedar. 21 inches beam. 49 feet long. } Time, 19' 01"
Edmund Coffin,	Irvington, N. Y.,	" '66,	Port bow,	147 "	
Edward B. Bennett,	Hampton, Conn.,	" " "	Starb'd waist,	16c "	
Louis Stoskopf,	Freeport, Ill.,	" '65,	Port waist,	165 "	
Morris W. Seymour,	Litchfield, Conn.,	" '66,	Starb'd stroke,	146 "	
Wilbur R. Bacon,	New Haven, "	" '65,	Stroke,	150 "	

Weight of crew: 916 lbs. Boat: 185 lbs. Oars: (estimated) 40 lbs. Total displacement: 1,141 lbs.

2. THE HARVARD SIX-OARED SHELL "HARVARD."

COLORS: RED. MANNED BY

Edwin Farnham,	Beverly, N. J.,	Class	'66, Bow.	} Boat built by Elliott, of Green Point, L.I., N. Y., of Spanish cedar. 22 inches beam. 48 feet long.	} Time, 19' 43½"
Edward C. Perkins,	Cincinnati, Ohio,	"	" Port bow.		
John Greenough,	Jamaica Plains, Mass.,	"	'65, Starb'd waist,		
Thomas Nelson,	Boston,	"	'66, Port waist.		
Robert S. Peabody,	"	"	" Starb'd stroke.		
Horatio G. Curtis,	"	"	'65, Stroke.		

*Weight of crew: 936 lbs. Boat: 185 lbs. Oars: (estimated) 40 lbs. Total displacement: 1,161 lbs.*JUDGES: { A. L. Hickey, ——— for Harvard. } REFEREE: Robert F. Clark, Boston, Mass.
 { William Wood, New York, for Yale. }

In the "Citizens' Regatta," which took place the next day (Saturday, July 30), only the Harvard University crew rowed in the six-oared shell race, the Yale crews having withdrawn. For account of this regatta see page 268.

* "One of the Yale crew gave out at the stake boat."

1865.

SIXTH REGATTA.

At Worcester, Mass., Friday, July 28, 1865.

(Being the first day of the "Citizens' Regatta" of Worcester.)

COURSE: LAKE QUINSIGAMOND—From a line near the Causeway Bridge, up the lake one and a half miles to a stake, and return.

WEATHER: Warm and clear. WIND: none. WATER: smooth. TIME: afternoon. University race started at 5h. 26' 10" P.M.

PRIZES: The champion flags, presented by the citizens of Worcester.

COLLEGES REPRESENTED: Harvard College, Cambridge, Mass.; Yale College, New Haven, Conn.

First Race for Four-Oared Shell Boats belonging to Worcester.

(For report of this race, see "Citizens' Regatta" report, page 269.)

Second or University Race for the Championship.

POSITIONS AT STARTING: Western or inside, Yale; 2. Harvard.

1. YALE'S SIX-OARED SHELL.

COLORS: BLUE. MANNED BY

Wm. W. Scranton,	Scranton, Pa.,	Class '65,	Bow,	148 lbs.	Boat built by McKay, of New York, of Spanish cedar. Time, 17' 42½"
Edmund Coffin,	Irvington, N. Y.,	" '66,	Port bow,	147 "	
Isaac Pierson,	Hartford, Conn.,	" "	Starb'd waist,	150 "	
Louis Stokopf,	Freeport, Ill.,	" '65,	Port waist,	165 "	
Edw. B. Bennett,	Hampton, Conn.,	" '66,	Starb'd stroke,	160 "	
Wilbur R. Bacon,	New Haven, "	" '65,	Stroke,	150 "	22 inches beam. 48 ft. 8 in. long.
Weight of crew: 920 lbs.		Boat: 176 lbs.		Oars: 42 lbs.	Total displacement: 1,138 lbs.

2. HARVARD'S SIX-OARED SHELL.

COLORS: RED. MANNED BY

Chas. H. McBurney,	Roxbury, Mass.,	Class '66,	Bow,	131 lbs.	Boat built by Law- ler, of Chelsea, Mass. Time, 18' 09"
Edward H. Clarke,	St. Louis, Mo.,	" "	Port bow,	124 "	
Edward N. Fenno,	Boston, Mass.,	" '67,	Starb'd waist,	145 "	
William Blaikie,	" "	" '66,	Port waist,	142 "	
Edward T. Wilkinson,	Cambridge, "	" "	Starb'd stroke,	146 "	
Fred. Crowninshield,	Boston, "	" "	Stroke,	138 "	25 inches beam. 46 feet long.
Weight of crew: 826 lbs.		Boat: 185 lbs.		Oars: 42 lbs.	Total displacement: 1,053 lbs.

JUDGES: { S. A. B. Abbott, of Lowell, Mass., for Harvard. }
 { William Woods, of New York, for Yale. } REFEREE: Joshua Ward, of Cornwall, N. Y.

The time of the winning boat in this race, as first officially announced by the authorized time-keeper, was that given above (17' 42½"). This time received the approval of the judges, and is found as here recorded in a number of the published statements of the race. Soon after, the referee came out in a card, denied that he had endorsed the time of 17' 42½", and stated the correct time to be 18' 42½". These diversities of statements gave rise to a controversy between the friends of the two crews as to which of the above times was the true one. We have read with great care the voluminous statements of fact and the arguments as presented by both sides, and are satisfied that the weight of evidence is clearly in favor of the shorter time. 1. All the circumstances of the race conspired to make the time remarkably good: the Yale crew were an unusually fine set of oarsmen, they were thoroughly trained by over a year's practice together, on the day of the race they were in perfect condition, they rowed the best boat they had ever had; the day itself was propitious, the air clear, no wind, and water perfectly smooth; in short, here were all the elements of a sharp, quick race. 2. Viewed in the light of the experience of that day, the time was remarkable; but neither this nor the fact that the crew did not do as well the next day, proves it impossible; the fact that it has since been diminished on the same course, and, also, very closely approached by another college crew, quite neutralizes all arguments in that direction. 3. The strongest proof of the correctness of the time adopted being the true one is the entire unanimity in the statements of no less than six gentlemen who personally witnessed and timed the boats as to the number of minutes required for them to pass over the course, and which have been given the public in the form of affidavits. These parties are competent witnesses, the character of whose testimony cannot be questioned. Their evidence will be found in the issue of *Wilkes's Spirit of the Times* for December 5, 1868.

In the "Citizens' Regatta" the next day (second day), the University crews again met, in the six-oared shell race, in which Harvard was again defeated. See page 269.

I 866.

SEVENTH REGATTA.

(Forming part of the "Citizens' Regatta" at Worcester, of this date.)

At Worcester, Mass., Friday, July 27, 1866.

COURSE: LAKE QUINSIGAMOND—From a line near the Causeway Bridge, up the lake one and a half miles to a stake, and return.

WEATHER: Showery. Rain began to fall as the University boats took position. Race rowed in a shower. WIND: light. WATER: smooth. TIME: afternoon.

PRIZES: The champion flags, presented by the citizens of Worcester.

COLLEGES REPRESENTED: Harvard College, Cambridge, Mass.; Yale College, New Haven, Conn.

FIRST RACE.*—In "Citizens' Regatta," for single shells.

SECOND RACE.*—In "Citizens' Regatta," for all four-oared shells.

THIRD RACE.*—In "Citizens' Regatta," for Worcester four-oared shells.

Fourth Race—Lawrence Scientific of Harvard vs. Sheffield Scientific of Yale.

1. THE LAWRENCE SCIENTIFIC SCHOOL SIX-OARED SHELL,

MANNED BY

Sidney K. Holdridge,	Irvington, N. Y.,	Bow.	Boat built by McKay,	Time, 18' 53 $\frac{1}{2}$ "
Samuel M. F. Peters,	England,	Port bow.	New York, of Spanish	
Charles E. Deane,	Cambridge, Mass.,	Starboard waist.	cedar.	
Edward L. Hodges,	Worcester, Mass.,	Port waist.	22 $\frac{1}{2}$ inches beam.	
Thomas Motley, Jr.,	Boston, Mass.,	Starboard stroke.	49 feet long.	
Charles Dunning,	Lenox, Mass.,	Stroke.		

2. THE SHEFFIELD SCIENTIFIC SCHOOL SIX-OARED SHELL,

MANNED BY

Joseph T. Whittlesey,	New Haven, Conn.,	Bow.	Boat built by McKay,	Time, 19' 38"
Thomas G. Bennett,	" " "	Port bow.	New York, of Spanish	
P. H. Grove,	Danville, Penn.,	Starboard waist.	cedar.	
John K. Besson,	Uniontown, Penn.,	Port waist.	20 $\frac{1}{2}$ inches beam.	
Theron Skeele,	Newbury, N. J.,	Starboard stroke.	51 feet long.	
A. S. Palmer,	New York, N. Y.,	Stroke.		

Fifth, or University Race for the Championship.

POSITIONS AT STARTING: Western or inside, Yale; 2, Harvard.

1. HARVARD'S SIX-OARED SHELL.

COLORS: RED. MANNED BY

Charles H. McBurney,	Roxbury, Mass.,	Class '66, Bow,	142 lbs.	Boat built by Eli-	Time, 18' 43 $\frac{1}{2}$ "
Alden P. Loring,	Boston, Mass.,	" '69, Port bow,	145 "	liot, Green Point,	
Robert S. Peabody,	" "	" '66, Starboard waist,	165 "	L.I., N.Y., of Spa-	
Edward N. Fenno,	" "	" '67, Port waist,	165 "	nish cedar.	
Edward T. Wilkinson,	Cambridge, Mass.,	" '66, Starb'd stroke,	165 "	19 inches beam.	
William Blaikie,	Boston, Mass.,	" " Stroke,	152 "	56 feet long.	

Weight of crew: 934 lbs.

Boat: 185 lbs.

Oars: 42 lbs.

Total displacement: 1,161 lbs.

2. YALE'S SIX-OARED SHELL.

COLORS: BLUE. MANNED BY

Frank Brown,	Newburg, N. Y.,	Class '66, Bow,	146 lbs.	Boat built by Mc-	Time, 19' 10"
Edward Coffin,	Irvington, N. Y.,	" " Port bow,	150 "	Kay, New York,	
A. D. Dissell,	Buffalo, N. Y.,	" '67, Starboard waist,	152 "	of Spanish cedar.	
William E. Wheeler,	Portville, N. Y.,	" '66, Port waist,	150 "	20 $\frac{1}{2}$ inches beam.	
William A. Copp,	Grafton, Mass.,	" '69, Starb'd stroke,	163 "	49 feet long.	
Edward B. Bennett,	Hampton, Conn.,	" '66, Stroke,	163 "		

Weight of crew: 924 lbs.

Boat: 175 lbs.

Oars: 42 lbs.

Total displacement: 1,141 lbs.

JUDGES:	At the starting line.	{ A. E. R. Agassiz, Cambridge; Harvard, '55; for Harvard.	REFEREE: W. H. Carpenter, Providence, R. I.
		{ Wilbur R. Bacon, New Haven; Yale, '65; for Yale.	
	At the stake.	{ J. H. Ellison, Waltham, Mass.; Harvard, '59; for Harvard.	

* For details of these races, see page 270.

1867.

EIGHTH REGATTA.

(Forming part of the "Citizens' Regatta" at Worcester, of this date.)

At Worcester, Mass., Friday, July 19, 1867.

COURSE: LAKE QUINSIGAMOND—From a line near the Causeway Bridge, up the lake one and a half miles to a stake, and return.

WEATHER: Cloudy and rainy. Cleared up during the early races, followed by heavy showers at close of University Race. **WIND:** strong breeze. **WATER:** rather rough. **TIME:** afternoon.

PRIZES: FOR THE WINNERS OF THE FRESHMAN RACE, a set of colors and six silver cups, presented by the citizens of Worcester. FOR THE WINNERS OF THE UNIVERSITY RACE, a set of colors and six gold medals, presented by the citizens of Worcester.

COLLEGES REPRESENTED: Harvard College, Cambridge, Mass.; Yale College, New Haven, Conn.

FIRST RACE.*—In "Citizens' Regatta," Walter Brown in single shell, three miles against time.

SECOND RACE.*—In "Citizens' Regatta," single shell race. Two miles.

THIRD RACE.*—In "Citizens' Regatta," for Worcester four-oared shells.

Fourth Race—Yale Freshmen vs. Harvard Freshmen.

1. YALE'S SIX-OARED SHELL†

COLORS: BLUE. MANNED BY

Henry A. Cleveland,	New Haven, Conn.,	Class '70, Bow,	131 lbs.	Boat built by Eliot, Green Point,	Time, 19' 38½"
John E. Curran,	Utica, N. Y.,	" " Port bow,	131 "	N. Y., June, 1867,	
Charles U. Chadwick,	Old Lyme, Conn.,	" " Starboard waist,	132 "	of Spanish cedar,	
Thomas F. Hinds,	Richfield Springs, N. Y.,	" " Port waist,	145 "	20½ inches beam.	
Roderick Terry,	Irrington, N. Y.,	" " Starb'd stroke,	148 "	53 feet long.	
Thompson McClintock,	Pittsburg, Penn.,	" " Stroke,	145 "		
Weight of crew: 832 lbs.		Boat: 185 lbs.	Oars: 42 lbs.	Total displacement: 1,059 lbs.	

2. HARVARD'S SIX-OARED SHELL.

COLORS: RED. MANNED BY

G. Willis,	Cornwall, N. Y.,	Class '70, Bow,	144 lbs.	Boat built by Eliot, Green Point,	Time, 20' 06"
Brooks Adams,	Quincy, Mass.,	" " Port bow,	147 "	L. I., N. Y.	
Henry M. Lowe,	Brooklyn, N. Y.,	" " Starboard waist,	152 "		
Stephen Van R. Thayer,	Boston, Mass.,	" " Port waist,	165 "	19 inches beam.	
Theophilus Parsons,	Brookline, Mass.,	" " Starb'd stroke,	149 "	51 feet long.	
J. W. Sanger,	Boston, Mass.,	" " Stroke,	152 "		
Weight of crew: 909 lbs.		Boat: 185 lbs.	Oars: 42 lbs.	Total displacement: 1,136 lbs.	

Fifth or University Race for the Championship.

POSITIONS AT STARTING: Western or inside, Yale; outside, Harvard.

1. HARVARD'S SIX-OARED SHELL.

COLORS: RED. MANNED BY

George W. Holdridge,	Irrington, N. Y.,	Class '69, Bow,	146 lbs.	Boat built by Eliot, Green Point,	Time, 18' 12½"
William W. Richards,	New York, N. Y.,	" '68, Port bow,	155 "	L. I., June, 1867,	
Robert C. Watson,	Milton, Mass.,	" '69, Starboard waist,	149 "	of Spanish cedar,	
Thomas S. Edwards,	Newton, Mass.,	" '67, Port waist,	156 "	20 inches beam.	
William H. Simmons,	Concord, Mass.,	" '69, Starb'd stroke,	170 "	53 feet long.	
Alden P. Loring,	Boston, Mass.,	" '69, Stroke,	153 "		
Weight of crew: 929 lbs.		Boat: 176 lbs.	Oars: 42 lbs.	Total displacement: 1,147 lbs.	

2. YALE'S SIX-OARED SHELL.

COLORS: BLUE. MANNED BY

George A. Adece,	Westchester, N. Y.,	Class '67, Bow,	134 lbs.	Boat built by McKay, New York,	Time, 19' 23½"
William H. Ferry,	Chicago, Ill.,	" '68, Port bow,	141½ "	July, 1867, of Spanish cedar,	
James Coffin,	Irrington, N. Y.,	" '68, Starboard waist,	150½ "		
William H. Lee,	Chicago, Ill.,	" '70, Port waist,	160 "	22 inches beam.	
Samuel Parry,	Chester, N. J.,	" '68, Starb'd stroke,	156 "	49 feet long.	
William A. Copp,	N. Engl'd Village, Mass.,	" '69, Stroke,	159 "		
Weight of crew: 901½ lbs.		Boat: 180 lbs.	Oars: 42 lbs.	Total displacement: 1,123½ lbs.	

JUDGES: { William Blaikie, Boston; Harvard, '66; for Harvard. } REFEREE: Robert M. Clark, Boston.
 { E. D. Dissell, Buffalo; for Yale. }

* For details, see page 271.

† "The stake was turned in 23 seconds. Harvard claimed a foul on the way out and Yale a foul at the stake, but both were disregarded by the judges. The six silver goblets, valued at \$150, were awarded the winning crew by the Mayor of Worcester, and William Blaikie, of Harvard, presented the champion flags."

1868.

NINTH REGATTA.

At Worcester, Mass., Friday, July 24, 1868.

(Being the second day of the "Citizens' Regatta," at Worcester.)

COURSE: LAKE QUINSIGAMOND—From a line near the Causeway Bridge, up the lake one and a half miles to a stake, and return.

WEATHER: Cloudy and threatening. Commenced raining just at the close of the University race. WIND: light. WATER: smooth. TIME: afternoon. University race started at 4:30 P.M.

PRIZES: A set of champion colors and six gold medals, presented by the citizens of Worcester.

COLLEGES REPRESENTED: Harvard College, Cambridge, Mass.; Yale College, New Haven, Conn.

FIRST RACE.*—In "Citizens' Regatta"—match race, single shells, John Tyler, Jr., of Boston, Mass., vs. John McKiel, Cold Spring, N. Y.

SECOND RACE.*—In "Citizens' Regatta"—four-oared race. Three miles.

Third, or University Race for the Championship.

POSITIONS AT STARTING: Western or inside, Harvard; outside, Yale.

1. HARVARD'S SIX-OARED SHELL.

COLORS: RED. MANNED BY

Geo. W. Holdridge,	Irvington, N. Y.,	Class '69,	Bow,	148 lbs.	Boat built by Elliott, of Green Point, L.I., N. Y., in 1867, of Spanish cedar. 20 inches beam. 53 feet long.	Time, 17' 48 $\frac{1}{2}$ "
Wm. W. Richards,	New York, "	" '68,	Port bow,	160 "		
John W. McBurney,	Roxbury, Mass.,	" '69,	Starb'd waist,	150 "		
Wm. H. Simmons,	Concord, "	" "	Port waist,	168 "		
Robert C. Watson,	Milton, "	" "	Starb'd stroke,	155 "		
Alden P. Loring,	Boston, "	" "	Stroke,	150 "		

Weight of crew: 931 lbs. Boat: 176 lbs. Oars: 42 lbs. Total displacement: 1,149 lbs.

2. YALE'S SIX-OARED SHELL.

COLORS: BLUE. MANNED BY

Roderick Terry,	Irvington, N. Y.,	Class '69,	Bow,	148 lbs.	Boat built by Elliott, of Green Point, L.I., N. Y., July, 1868, of Spanish cedar. 20 $\frac{1}{2}$ inches beam. 53 feet long.	Time, 18' 38 $\frac{1}{2}$ "
Sylvester F. Bucklin,	Marlboro, Mass.,	" "	Port bow,	148 "		
George W. Drew,	Winterport, Me.,	" '70,	Starb'd waist,	167 "		
William H. Lee,	Chicago, Ill.,	" "	Port waist,	160 "		
William A. Copp,	N'w Eng. Vil., Mass.,	" '69,	Starb'd stroke,	161 "		
Samuel Perry,	Clinton, N. J.,	" '68,	Stroke,	158 "		

Weight of crew: 945 lbs. Boat: 180 lbs. Oars: 42 lbs. Total displacement: 1,167 lbs.

JUDGES:	At the starting line.	William Blaikie,	Boston,	Mass.,	Harvard,	'66,	For Harvard.	REFEREE: Arthur F. Dexter, Prov., R.I.
		Edward N. Fenno,	"	"	"	'67,		
		Frank Brown,	Newburg,	N. Y.,	Yale,	'66,		
		George A. Ade,	Westchest'r,	"	"	'67,	For Yale.	
	At the stake boat.	N. H. Cleveland,	Hartford,	Conn.,	For Yale.			
		Charles Dunning,	Lenox,	Mass.,	For Harvard.			

"Harvard drew the inside, and the boats got off at the word 'Go!' Harvard gaining a slight lead. They went up the lake at a prodigious rate, but Harvard drew still further from Yale, gradually increasing the gap till at the stake boat. The time of the Harvards was 8' 15" (to the stake), the Yales coming later in 8' 55", both pulling 44 strokes to the minute. The former made a rather poor turn compared to the splendid one of Wednesday, though the Yales improved the opportunity, gaining a few seconds by making a quick turn, and went after their opponents with as cheering a pull as though it were not a losing race."—*Worcester Spy*, July 25, 1868.

In the "Citizens' Regatta," first day, Wednesday, July 22, the Harvard University crew entered the three miles six-oared race, with the Ward brothers among other competitors, making the distance in 17' 53", to the Wards' 17' 40 $\frac{1}{2}$ ". For details of this race, see page 272.

* For details, see page 272.

I 869.

TENTH REGATTA.

At Worcester, Mass., Friday, July 23, 1869.

(Forming part of the "Citizens' Regatta," at Worcester, of this date.)

COURSE: LAKE QUINSIGAMOND—From a line near the Causeway Bridge, up the lake one and a half miles to a stake, and return.*

WEATHER: Warm, with hazy sky. **WIND:** none. **WATER:** very smooth. **TIME:** afternoon.

PRIZES: FOR THE WINNER OF THE FRESHMAN RACE—A set of champion colors and six silver medals, presented by the citizens of Worcester. FOR THE WINNER OF THE UNIVERSITY RACE—A set of champion colors and six gold medals, presented by the citizens of Worcester.

COLLEGES REPRESENTED: Harvard College, Cambridge, Mass.; Yale College, New Haven, Conn.

FIRST RACE:†—In "Citizens' Regatta," for four-oared Worcester lap-streak boats.

Second Race, Harvard Freshmen vs. Yale Freshmen.

POSITIONS AT STARTING: Western or inside, Harvard; outside, Yale.

1. HARVARD'S SIX-OARED SHELL.

COLORS: RED. **MANNED BY**

Henry St. John Smith,	Portland, Me.,	Class '72,	Bow.	Boat built by Elliott, of Green Point, L.I., N. Y., of Spanish cedar.	Time, 19' 30"
George H. Gould,	New York, N. Y.,	" "	Port bow.		
Eugene Treadwell,	" "	" "	Starboard waist.		
William C. Loring,	Boston, Mass.,	" "	Port waist.	19 inches beam.	
Alanson Tucker,	" "	" "	Starboard stroke.	51 feet long.	
Robert S. Russell,	" "	" "	Stroke.		

2. YALE'S SIX-OARED SHELL.

COLORS: BLUE. **MANNED BY**

Lucius S. Boomer,	Chicago, Ill.,	Class '72,	Bow.	Boat built by Elliott, of Green Point, L.I., N. Y., June, 1869, of Spanish cedar.	Time, 19' 58½"
Frank L. Hall,	Akron, O.,	" "	Port bow.		
Elbert H. Hubbard,	Sioux City, Iowa,	" "	Starboard waist.	19 inches beam.	
Frank G. B. Swaine,	Columbus, O.,	" "	Port waist.	51 feet long.	
William L. Cushing,	Bath, Me.,	" "	Starboard stroke.		
John P. Studley,	Ansonia, Conn.,	" "	Stroke.		

THIRD RACE:†—In "Citizens' Regatta," four-oared Worcester shells, for the championship of the lake.

Fourth, or University Race for the Championship.

POSITIONS AT STARTING: Western or inside, Harvard; outside, Yale.

1. HARVARD'S SIX-OARED SHELL.

COLORS: RED. **MANNED BY**

Nathaniel G. Read,	Cambridge, Mass.,	Class '71,	Bow,	133 lbs.	Boat built by Elliott, of Green Point, L.I., N. Y., in 1867, of Spanish cedar.	Time, 18' 02"
George Irving Jones,	Templeton, " "	" "	Port bow,	155 "		
G. Willis,	Cornwall, N. Y.,	" '70,	Starb'd waist,	152 "		
Joseph S. Fay, Jr.,	Boston, Mass.,	Law School,	Port waist,	155 "	20 inches beam.	
Theophilus Parsons,	Brookline, " "	Class '70,	Starb'd stroke,	153 "	53 feet long.	
Francis O. Lyman,	Hilo, Hawaiian Is.,	" '71,	Stroke,	153 "		

Weight of crew: 901 lbs. Boat: 176 lbs. Oars: 42 lbs. Total displacement: 1,119 lbs.

2. YALE'S SIX-OARED SHELL.

COLORS: BLUE. **MANNED BY**

Roderick Terry,	Irvington, N. Y.,	Class '70,	Bow,	155 lbs.	Boat built by Elliott, of Green Point, L.I., N. Y., June, 1868, of Spanish cedar.	Time, 18' 11"
Edgar D. Coonley,	Greenville, " "	" '71,	Port bow,	155 "		
William H. Lee,	Chicago, Ill.,	" '70,	Starb'd waist,	164 "	20½ inches beam.	
David McCoy Bone,	Petersburg, " "	" "	Port waist,	160 "	53 feet long.	
William A. Copp,	N'w Eng. Vil., Mass.,	" '69,	Starb'd stroke,	164 "		
George A. Drew,	Winterport, Me.,	" '70,	Stroke,	168 "		

Weight of crew: 966 lbs. Boat: 180 lbs. Oars: 42 lbs. Total displacement: 1,188 lbs.

JUDGES:	At the starting line.	{ S. A. Holdridge,† Irvington, N. Y., For Harvard.	REFeree: { H. H. Chamberlin, Worcester, Mass.
		{ Wm. W. Scranton, Scr'nt'n, Pa., Yale '65, For Yale.	
	At the stake.	{ F. P. Terry, For Yale.	TIME-KEEPER: { Chas. B. Pratt, of Worcester.
		{ F. W. Kidder, For Harvard.	

* The course was shortened from fifty to one hundred feet by the change in the position of the stake this year. See Mr. Freeman Brown's letter, given on page 242.

† For details, see page 273.

‡ For the Freshmen race, Mr. F. B. Rice, of Worcester, acted in Mr. Holdridge's place pending his absence.

1870.

ELEVENTH REGATTA.

(Forming part of the "Citizens' Regatta" at Worcester, of this date.)

At Worcester, Mass., Friday, July 22, 1870.

COURSE: LAKE QUINSIGAMOND—From a line near the Causeway Bridge, up the lake one and a half miles to a stake, and return.

WEATHER: Clear and favorable. **WIND:** a fresh east wind which had blown in the early part of the day had quite subsided when the races took place. **WATER:** very smooth. **TIME:** afternoon. Freshman race called at 4.30 P.M.; University race, at 6.10 P.M.

PRIZES: FOR THE WINNERS OF THE FRESHMAN RACE—A set of champion colors and six silver medals, presented by the citizens of Worcester. FOR THE WINNERS OF THE UNIVERSITY RACE—A set of champion colors and six gold medals, presented by the citizens of Worcester.

COLLEGES REPRESENTED: Harvard College, Cambridge, Mass.; Yale College, New Haven, Conn.; Brown University, Providence, R. I.; Amherst College, Amherst, Mass.

FIRST RACE.*—In "Citizens' Regatta," for Worcester single shells. Two miles.

SECOND RACE.*—In "Citizens' Regatta," for four-oared Worcester shells.

Third Race—The Freshman Crews of the Four Colleges, for the Championship.

POSITIONS AT STARTING: Western or inside, Amherst; 2. Brown; 3. Yale; 4. Harvard.

1. BROWN'S SIX-OARED SHELL.†

COLORS: BROWN. **MANNED BY**

Edgar H. Luther,	Worcester, Mass.,	Class '73,	Bow.	Boat built by Elliott,	} Time, 19' 21"
Arthur D. McClellan,	Grafton, Mass.,	" "	Port bow.	Green Point, N. Y.,	
William E. Caldwell,	Providence, R. I.,	" "	Starboard waist.	in June, 1870, of	
Arvin A. Smith,	Richford, Vt.,	" "	Port waist.	Spanish cedar.	
George T. Brown,	Newport, R. I.,	" "	Starb'd stroke.	18½ inches beam.	
Frederick A. Gower,	Sedgewick, Maine,	" "	Stroke.	50 feet long.	

2. YALE'S SIX-OARED SHELL.

COLORS: BLUE. **MANNED BY**

Simeon L. Boyce,	Chicago, Ill.,	Class '73,	Bow.	Boat built by T. Fearon,	} Time, 19' 45"
George M. Browne,	Cary, N. Y.,	" "	Port bow.	Yonkers, N. Y.,	
Jeremiah Day,	Catskill, N. Y.,	" "	Starboard waist.	April, 1870, of Span-	
Daniel Davenport,	Wilton, Conn.,	" "	Port waist.	ish cedar.	
Charles S. Hemingway,	Fair Haven, Conn.,	" "	Starb'd stroke.	19 inches beam.	
Frederick W. Adey,	Westchester, N. Y.,	" "	Stroke.	51 feet long.	

3. HARVARD'S SIX-OARED SHELL.

COLORS: RED. **MANNED BY**

John O. Shaw,	Boston, Mass.,	Class '73,	Bow.	Boat built by W. Blaikie,	} Time, 20' 00"
George H. Lyman,	" "	" "	Port bow.	Cambridge,	
Thomas C. Johnson,	New York, N. Y.,	" "	Starboard waist.	Mass., of Spanish	
William J. Lloyd,	Pottsville, Penn.,	" "	Port waist.	cedar.	
Henry G. Johnson,	Cambridge, Mass.,	" "	Starb'd stroke.	— inches beam.	
John Bryant,	Boston, Mass.,	" "	Stroke.	— feet long.	

4. AMHERST'S SIX-OARED SHELL.

COLORS: PURPLE. **MANNED BY**

Thomas J. Grey,	Boston, Mass.,	Class '73,	Bow.	Boat built by Elliott,	} Time, not taken.
Edward P. Bliss,	Cambridge, Mass.,	" "	Port bow.	Green Point, N. Y.,	
Kingsley F. Norris,	Sodus, N. Y.,	" "	Starboard waist.	1870, of Spanish ce-	
George W. Hale,	Montague Centre, Mass.,	" "	Port waist.	dar.	
Leverett Bradley, Jr.,	Methuen, Mass.,	" "	Starb'd stroke.	19 inches beam.	
Luther J. Warner,	Northampton, Mass.,	" "	Stroke.	50 feet long.	

* For details, see page 274.

† "At the signal, Amherst shot a little ahead, but the Brown soon got even with them. Harvard and Yale followed close together. At the upper stake Brown and Amherst were side by side. As they came down the lake for home, it was reported that Harvard was leading, but the Brown colors soon told the story as that crew came near Regatta Point, and she swiftly rowed to the score, winning the race in 19' 21". The Yale came in about six lengths behind Brown, and the Harvards, who charged the Yales with a foul, came in third. About fifteen minutes afterwards the Amherst came in with a broken rudder, charging a 'foul' upon Brown, but the Referee decided that the Brown was entitled to the prize, and it was so awarded."—*Wilkes's Spirit of the Times*.

Fourth, or University Race for the Championship.

POSITIONS AT STARTING: Western or inside, Harvard; outside, Yale.

1. HARVARD'S SIX-OARED SHELL.*

COLORS: RED. MANNED BY

Nathaniel G. Read,	Cambridge, Mass.,	Class '71, Bow,	133 lbs.	Boat built by Blaikie, Cambridge, Mass., of Spanish cedar. 21 inches beam, 50 feet long.	Time, 20' 30"
Robert S. Russell,	Boston, Mass.,	" '72, Port bow,	145 "		
James S. McCobb, ¹	Portland, Maine,	" '71, Starboard waist,	155 "		
G. Willis,	Cornwall, N. Y.,	" '70, Port waist,	152 "		
George I. Jones,	Templeton, Mass.,	" '71, Starb'd stroke,	150 "		
Francis O. Lyman,	Hilo, Hawaiian Islands,	" '71, Stroke,	153 "		
Weight of crew: 888 lbs.		Boat: 185 lbs.	Oars: 42 lbs.	Total displacement: 1,110 lbs.	

2. YALE'S SIX-OARED SHELL.

COLORS: BLUE. MANNED BY

Carrington Phelps,	North Colebrook, Conn.,	Class '70, Bow,	155 lbs.	Boat built by Elliott, Green Point, L. I., 1870, of Spanish cedar. 22 inches beam, 48 feet long.	Time, 18' 45"
Wilbur W. Flagg,	Yonkers, N. Y.,	" '73, Port bow,	155 "		
William L. Cushing,	Bath, Maine,	" '72, Starboard waist,	160 "		
Edgar D. Coonley,	Greenville, N. Y.,	" '71, Port waist,	160 "		
Willis F. McCook,	Pittsburg, Penn.,	" '73, Starb'd stroke,	155 "		
David McCoy Bone,	Petersburg, Ill.,	" '70, Stroke,	160 "		
Weight of crew: 945 lbs.		Boat: 178 lbs.	Oars: 42 lbs.	Total displacement: 1,165 lbs.	

JUDGES:	At the starting line.	William Blaikie,	Washington, D. C.,	Harvard, '66,	for Harvard.	REFEREE: Edwin Brown, Worcester, Mass.
		A. L. Clarke,	Newton, Mass.,	Yale, '58,	for Yale.	
		George A. Stockwell,	Worcester, Mass.,	Brown, '72,	for Brown.	
	At the stake boat.	John A. Deady,	New York, N. Y.,	Amherst, '64,	for Amherst.	
		George H. Gould,	New York,	Harvard, '72,	for Harvard.	
		George A. Adey,	Westchester, N. Y.,	Yale, '67,	for Yale.	
		John Blue,	New York,		for Amherst.	
		Leonard T. Brownell,	Caledonia, N. Y.,	Brown, '72,	for Brown.	

STARTER: Charles B. Elliott,† Green Point, L. I., N. Y.

TIME-KEEPER: Charles B. Pratt, Worcester, Mass.

* This race was decided by the Referee in favor of the Harvards upon a foul at the stake claimed by that crew. All the accounts of the race agree that the boats started exactly at the same moment; that, although Harvard veered from the direct course up the lake, and, as Yale claims, crowded their boat out of the course, the boats did not come in contact; and that the Harvards reached the stake at least half a length ahead. At this point the controversy commences as to whether it was the Harvard boat which fouled the stake, loosing its rudder in making a short, square turn, or the Yale boat which ran into the Harvard boat and disabled its steering apparatus. The testimony of the newspaper correspondents on this point is very conflicting, but the Referee decided that Yale was the party in error, and gave Harvard the race.

Those desirous of reading the reports of the race, by the correspondents of the principal New York and Boston daily newspapers, and also the controversial articles which grew out of the decision, will find a number of them in the pamphlet entitled "Yale and Harvard Boat Racing," to which reference has already been made.

† "Mr. Charles B. Elliott, the boat builder, was expected to act as starter, but he did not appear to assume that office. In his place, Mr. Blaikie, whose ringing voice has pronounced the initial words for so many well-contested races, again appeared, and called the Freshmen to the line."

1871.

TWELFTH REGATTA.

At Ingleside, Mass., Friday, July 21, 1871.

COURSE: ON THE CONNECTICUT RIVER—From stake boats anchored opposite Ingleside, down the stream three miles to a line 50 feet north of Chicopee Bridge, marked by boats.

WEATHER: Clear and fine. **WIND:** gentle air. **WATER:** smooth. **TIME:** afternoon. Single-shell race started at 4h. 43' P.M.; Freshman race, at 5h. 20' P.M.; University race, at 7h. 05' 31½" P.M.

PRIZES: FOR THE WINNERS OF THE FRESHMAN RACE—A set of champion colors and six silver cups, presented by the Springfield Club. FOR THE WINNERS OF THE UNIVERSITY RACE—A set of champion colors and six pieces of plate, also presented by the Springfield Club.*

COLLEGES REPRESENTED: Harvard College, Cambridge, Mass.; Brown University, Providence, R. I.; Amherst Agricultural College, Amherst, Mass.

First Race—The Springfield Club Race, for Single Shells.

COURSE.—From stake boats opposite Ingleside, one mile down the river, and return.

PRIZES.—First, \$75; second, \$25.

POSITIONS AT STARTING: Eastern or inside, Ten Eyck; 2. Butler; 3. Harrington; 4. Hurley; 5. Ward.

1. Ellis Ward,	Cornwall,	N. Y.,	Rowing wooden shell.	Time,	14' 42"
2. Thomas C. Butler,	Boston,	Mass.,	" " " "	"	14' 46½"
3. Patrick Harrington,	Springfield,	"	" " " "	"	14' 51"
4. James Ten Eyck,	Peekskill,	N. Y.,	" " " "	"	not taken.
5. Michael Hurley,	Chicopee,	Mass.,	" " " "	"	not taken.

Second Race—Harvard Freshmen vs. Brown Freshmen.

POSITIONS AT STARTING: Eastern or inside, Brown; outside, Harvard.

1. HARVARD'S SIX-OARED SHELL.

COLORS: MAGENTA. **MANNED BY**

Arthur L. Devens,	Cambridge,	Mass.,	Class '74,	Bow,	143 lbs.	Boat built by W. Blaikie, 1871, Cambridge, Mass., of Spanish cedar. 20 inches beam. 49 feet long.	Time, 20' 18"
George W. White,	Charlestown,	"	"	Port bow,	142 "		
William C. Sanger,	Brooklyn,	N. Y.,	"	Starb'd waist,	158 "		
Hosea B. Morse,	Medford,	Mass.,	"	Port waist,	156 "		
Wendell Goodwin,	Jamaica Plains,	"	"	Starb'd stroke,	157 "		
Richard H. Dana,	Boston,	"	"	Stroke,	148 "		
Weight of crew: 904 lbs.				Boat: 160 lbs.	Oars: 42 lbs.	Total displacement: 1,106 lbs.	

2. BROWN'S SIX-OARED SHELL.

COLORS: BROWN. **MANNED BY**

Philip A. Sayles,	Providence,	R. I.,	Class '74,	Bow,	139 lbs.	Boat built by Elliott, of Green Point, L. I., N. Y., June, 1871, of Spanish cedar. 19 inches beam. 49 feet long.	Time, 20' 45"
John L. Lincoln, Jr.,	"	"	"	Port bow,	147 "		
Philip H. Case,	Newport,	"	"	Starb'd waist,	140 "		
William L. Hurd,	Foster,	"	"	Port waist,	138 "		
Albert Gallup,	Providence,	"	"	Starb'd stroke,	146 "		
Henry Cornett,	"	"	"	Stroke,	148 "		
Weight of crew: 858 lbs.				Boat: 166 lbs	Oars: 42 lbs.	Total displacement: 1,066 lbs.	

NOTE.—Both crews were stripped to the waist. Average age, 19 years.

* The cups for the University men were "in the form of shallops, gold-lined, with cherubs at the prow handling pairs of antique oars, and resting on plateaux of plate glass mirrors, representing placid water, set handsomely in silver." "The cups for the Freshmen were of the ordinary shape, gold-lined, engraved on one side with the representation of a racing crew, beneath crossed oars and flags. 'Presented by the Springfield Club, July 21, 1871,' was the inscription upon each of the cups. Those for the University cost \$500, and those for the Freshmen \$300, and all were made of solid silver by the Gorham Manufacturing Company. The two American ensigns measured 32x45 inches. The blue flags were about the same size, and were surrounded with yellow fringe, and adorned on each side with the representation of an American eagle. Below the eagle on each side was the same inscription, 'Ingleside, July 21, 1871,' and above on one side was 'College Regatta,' and on the other side 'University' on one of the flags, and 'Freshmen' on the other."

Third, or University Race for the Championship.

POSITIONS AT STARTING: 1. Eastern or inside, Brown; 2. Harvard; 3. Amherst Agricultural.

1. AMHERST AGRICULTURAL'S SIX-OARED SHELL.

COLORS: WHITE. MANNED BY									
George Leonard,	New Bedford, Mass.,	Class	'71,	Bow,	141 lbs.	Boat built by Elliott, of Green Point, L.I., N. Y., 1870, of Span- ish cedar. 19 inches beam. 50 feet long.	Time,* as first announced, 17' 46½". As corrected, 16' 46½".		
Arthur D. Norcross,	Monson,	"	"	Port bow,	138 "				
Henry B. Simpson,	Hudson, N. Y.,	"	'73,	Starb'd waist,	149 "				
Gideon H. Allen,	Marion, Mass.,	"	'71,	Port waist,	150 "				
Frederick M. Somers,	Greenfield,	"	'72,	Starb'd stroke,	152 "				
Frederick C. Eldred,	Sandwich,	"	'73,	Stroke,	149 "				
Weight of crew: 879 lbs. Boat: 170 lbs. Oars: 42 lbs. Total displacement: 1,091 lbs.									

2. HARVARD'S SIX-OARED SHELL.

COLORS: MAGENTA. MANNED BY									
Nathaniel G. Read,	Cambridge,	Mass.,	Class '71,	Bow,	137 lbs.	Boat built by W. Blaikie, Cambridge, Mass., 1871, of Spanish cedar. 20 inches beam. 49 feet long.	Time, as first announced, 18' 23½". As corrected, 17' 23½".		
William T. Sanger,	"	"	" '71,	Port bow,	156 "				
William C. Loring,	Boston,	"	" '72,	Starb'd waist,	156 "				
George I. Jones,	Templeton,	"	" '71,	Port waist,	154 "				
Alanson Tucker,	Boston,	"	" '72,	Starb'd stroke,	160 "				
George Bass,	Chicago,	Ill.,	" '71,	Stroke,	160 "				
Weight of crew: 923 lbs. Boat: 165 lbs. Oars: 42 lbs. Total displacement: 1,130 lbs.									

3. BROWN'S SIX-OARED SHELL.

COLORS: BROWN. MANNED BY									
Edgar H. Luther,	Worcester,	Mass.,	Class '73,	Bow,	156 lbs.	{ Boat built by Elliott, of Green Point, L.I., N. Y., 1871, of Span- ish cedar. 20 inches beam. 49 feet long.	Time, as first announced, 18' 47½". As corrected, 17' 47½".		
Arthur D. McClellan,	Grafton,	"	" "	Port bow,	118 "				
William H. Reeby,	Worcester,	"	" '74,	Starb'd waist,	143 "				
Alfred M. Smith,	N'w Eng. Vil.,	"	" '73,	Port waist,	156 "				
Wm. E. Caldwell,	Providence,	R. I.,	" "	Starb'd stroke,	140 "				
Charles C. Luther,	Worcester,	Mass.,	" '71,	Stroke,	153 "				
Weight of crew: 866 lbs. Boat: 170 lbs. Oars: 42 lbs. Total displacement: 1,078 lbs.									

AVERAGE AGES OF THE CREWS.—Amherst's, 22 years; Harvard's, 23 years; Brown's, 20 years.

DRESS.—Amherst's, white flannel caps, shirts, and drawers; Harvard's and Brown's, drawers and head-handkerchiefs only.

BETTING.—In the pools on the day of the race, Harvard was rated at \$15 to \$18; Brown, \$8 to \$12; Amherst, \$2 to \$4.

JUDGES:	At the starting boat.	Theophilus Parsons, Boston, Mass.,	Harvard, '70,	for Harvard.	REFEREE: A. G. Baxter, of the Union Boat Club, Boston.
		A. F. Bowers, Clinton, "	Brown, '71,	for Brown.	
		John A. Deady, New York, N. Y.,	—	for Amherst.	
		Sylvester W. Rice, Roseburg, Oregon,	Harvard, '71,	for Harvard.	
		Arthur D. Paine, Providence, R. I.,	Brown, '71,	for Brown.	
	At the finish.	Luther J. Warner, Northampton, Mass.,	Amherst, '73,	for Amherst.	

TIME-KEEPERS: L. J. Powers and Charles A. Nichols, of the Springfield Club, Springfield, Mass.

* On the 25th of July, Messrs. L. J. Powers and C. L. Nichols, the time-keepers, discovered, on examining the memorandum of the times of departure and arrival of the boats in the University race, that an error of one minute in the time had been committed. They immediately communicated this fact to the *Springfield Republican* for the information of the public in the following statement:

"To whom it may concern: The undersigned, time-keepers for the University six-oared three-mile race, rowed on the Ingleside course on the 21st inst., under the auspices of the 'Rowing Association of American Colleges,' having ascertained that the time announced for that race was erroneous, publish the following statement as an act of justice not only to the winning crew, but to all the contestants in the race: Two stop-watches were used to ascertain the time, and were placed precisely together as to hour, minute, second, and quarter-second. In order to prevent the possibility of mistake, Mr. T. Parsons, Jr., of Boston, the Harvard judge, carried a watch which was timed precisely with the other two, and he, with the time-keeper at the upper stake boat, noted the moment when the word 'go' was given, and afterwards confirmed the time-keeper's statement that the hour was 7 o'clock 5 minutes 31½ seconds. At the lower stake boat, the time-keeper was assisted by Mr. H. S. Hyde, of this city, who confirms his declaration that the Amherst Agricultural crew crossed the line at 7 o'clock 22 minutes 18 seconds; that the Harvard University crew crossed the line at 7 o'clock 23 minutes; and that the Brown University crew crossed the line at 7 o'clock 23 minutes 19 seconds. On comparison after the race, the three watches were found to agree perfectly.

"The mistake in announcing the time of the winning crew as 17 minutes 46½ seconds was caused by an error in the subtraction, as the original memorandum in our possession conclusively shows; and the time of the Harvard and Brown crews, being computed therefrom, was likewise declared to be one minute slower than it actually was.

"We, therefore, declare and place on record our firm belief and conviction that the time of the three contesting crews in the race above referred to was as follows: Amherst Agricultural College crew, 16 minutes 46½ seconds; Harvard University crew, 17 minutes 23½ seconds; Brown University crew, 17 minutes 47½ seconds.

"L. J. POWERS, time-keeper, lower stake boat.

"CHARLES A. NICHOLS, time-keeper, upper stake boat."

1871.

Match between the Six-Oared Crews of the Yale University Boat Club, Yale College, New Haven, Conn., and the Atalanta Boat Club, of New York, N. Y.

At New Haven, Conn., Monday, July 10, 1871.

COURSE: ON LAKE SALTONSTALL*—Over the usual University course, a three miles turning race.
WEATHER: Clear. WIND: none. WATER: smooth. TIME: afternoon. Race started at 5h. 28' 30".
POSITIONS AT STARTING: Inside, next stake boat, Atalanta; outside, Yale.

1. THE ATALANTA'S SIX-OARED SHELL.

COLORS: MAGENTA. MANNED BY

Edward Smith,	New York, N. Y.,	Bow,	136 lbs.	Boat built by George Roahr, New York, June, 1871, of pine. 19 inches beam. 48 feet long.	Time, 19' 06½"
Henry B. Le Roy,	" " "	Starboard bow,	146 "		
Alexander Handy,	" " "	Port waist,	138 "		
Leander Waterbury,	" " "	Starboard waist,	150 "		
Theodore Van Raden,	" " "	Port stroke,	148½ "		
Russell Withers,	" " "	Stroke,	151 "		
Weight of crew: 869½ lbs.		Boat: 135½ lbs.	Oars: 42 lbs.	Total displacement: 1,046 lbs.	

2. THE YALE'S SIX-OARED SHELL.

COLORS: BLUE. MANNED BY

Frederick W. Adee,	Westchester, N. Y.,	Class '73, Bow,	138 lbs.	{ Boat built by T. Fearon, Yonkers, N. Y., April, 1870, of Spanish cedar. 19 inches beam. 50 feet long. }	} Time, 19' 15½"
Charles S. Hemingway,	Fair Haven, Conn.,	" " Port bow,	145 "		
Jeremiah Day,	Catskill, N. Y.,	" " Starboard waist,	155 "		
Daniel Davenport,	Wilton, Conn.,	" " Port waist,	168 "		
Willis F. McCook,	Pittsburg, Penn.,	" " Starb'd stroke,	150 "		
Wilbur W. Flagg,	Yonkers, N. Y.,	" " Stroke,	160 "		
Weight of crew: 916 lbs.		Boat: 140 lbs.	Oars: 42 lbs.	Total displacement: 1,098 lbs.	

AVERAGE AGE of the Atalantas, 26 years; of the Yales, 19½ years.

DRESS: Atalantas, magenta-colored regatta shirts; Yales, stripped to the waist.

JUDGES: { George B. Springstein, New York, ——— for Atalanta. } REFEREE: John C. Babcock.
 { George A. Adee, Westchester, N. Y., Yale Class '67, " Yale. } Captain Nassau B. C., N. Y.

STARTER: Joshua Ward, Cornwall, N. Y.

THE RACE.

"A stake boat was provided for each crew, to avoid all danger from fouling. The challenge for the race was sent from the Yale crew. About 5.20 P.M., the Yale six, stripped to the waist, pulled slowly out from the shore, and, after a short turn up the lake, took their place on the line. The Atalantas, in magenta-colored regatta shirts, followed after a short interval, and, having won the toss, took the inside position near the stake boat. Without any of the customary confusion of backing and hauling up, the word was given at 5h. 28' 30", and both crews made the start in admirable style. Withers, stroke of the Atalantas, with one magnificent effort, at the imminent risk of breaking an oar, contrived to gain a decided advantage, which, followed by concerted action on the part of the crew, gave them a 'spurt' which landed them fully one-half length ahead one moment after the start. This distance was increased by persistent effort to more than a length before a quarter of a mile was passed. The Atalantas then crossed the bow of their opponents, giving them their wash. The Atalantas had started off at 44 strokes per minute to Yale's; but both soon settled down to about 40 strokes. Flagg, stroke-oar of the Yale crew, kept his head down between his arms, and pulled a strong, steady oar. Phelps, the 'coach' of the Yale crew, kept alongside his pupils for a considerable distance in a single scull, and did all in his power to revive their drooping spirits. The Atalantas kept up the centre of the lake, and at the end of one mile both crews settled down to about 38 strokes to the minute. The Atalantas maintained the lead to the stake boat without any apparent difficulty, and, after turning deliberately, pulled across the lake, thus affording the Yale crew an opportunity, which was gallantly improved, of regaining lost ground. The Yale boys hugged the eastern bank, and were compelled by a projecting point of land to make a long curve. The Atalantas, however, from having gained the western bank, were enabled to pull a straight course for the home stake. As the two boats were seen coming in on the home-stretch exactly abreast of each other, the excitement on shore became intense; but, as the distance grew less, and the red breasts of the Atalantas could be distinguished from the brown shoulders of their antagonists, the favorites were seen fully two lengths astern. The race, although hopelessly lost for the Yale boys, was finished in good style, the Atalantas making a spurt when within five or six length, and passing the line at 40 strokes per minute. The Yale crew at once challenged the Atalantas to row, July 19, the day following their race with Harvard, at Springfield. The challenge was instantly accepted; but, upon investigation, it was found that the Yale crew could not be got together, and the challenge was withdrawn."—*Correspondent N. Y. Tribune.*

* A beautiful sheet of water, situated five miles east of the city of New Haven, reached by the Shore Line Railroad.

† Reported from 115 to 135 lbs. The latter is probably the nearest correct.

Match between the Six-Oared Crews of the Harvard University Boat Club, Harvard College, Cambridge, Mass., and the Atalanta Boat Club, of New York, N. Y.

At Ingleside, Mass., Wednesday, July 19, 1871.

COURSE: ON THE CONNECTICUT RIVER—A straight-away race from a stake boat anchored opposite Ingleside, three miles down the stream to stake boats placed 50 feet north of Chicopee Bridge.

WEATHER: Cloudy and cool. **WIND:** slight. **WATER:** smooth. **TIME:** afternoon. Race started at 6.27 P.M.

POSITIONS AT STARTING: Eastern (inside), Harvard; outside, Atalantas.

1. THE ATALANTA'S SIX-OARED SHELL.

COLORS: MAGENTA. **MANNED BY**

Edward Smith,	New York, N. Y.,	Bow,	136 lbs.	Boat built by George Roahr, New York, in June, 1871, of pine, 20 inches beam, 48 feet long.	Time, 18' 19½"
Alexander Handy,	" "	Starboard bow,	138 "		
Henry B. Le Roy,	" "	Port waist,	146 "		
Leander Waterbury,	" "	Starboard waist,	150 "		
Theodore Van Raden,	" "	Port stroke,	148½ "		
Russell Withers,	" "	Stroke,	151 "		
<i>Weight of crew:</i> 869½ lbs.			<i>Boat:</i> 135 lbs.	<i>Oars:</i> 42 lbs.	<i>Total displacement:</i> 1,046 lbs.

2. THE HARVARD'S SIX-OARED SHELL.

COLORS: RED. **MANNED BY**

Nathaniel G. Read,	Cambridge, Mass.,	Class '71, Bow,	137 lbs.	Boat built by W. Blaikie, Cambridge, Mass., 1871, of Spanish cedar, 20 inches beam, 49 feet long.	Time, 19' 22½"
William T. Sanger,	" "	" '71, Port bow,	156 "		
William C. Loring,	Boston,	" '72, Starboard waist,	156 "		
George I. Jones,	Templeton,	" '71, Port waist,	154 "		
Alanson Tucker,	Boston,	" '72, Starb'd stroke,	160 "		
George Bass,	Chicago, Ill.,	" '71, Stroke,	160 "		
<i>Weight of crew:</i> 923 lbs.			<i>Boat:</i> 165 lbs.	<i>Oars:</i> 42 lbs.	<i>Total displacement:</i> 1,130 lbs.

AVERAGE AGE of the Atalantas, 26 years; of the Harvards, 23 years.

DRESS: Atalantas: white drawers, magenta shirts and handkerchiefs. Harvard: stripped to the waist.

On the boat to follow contestants.	Theophilus Parsons,	Boston,	Harvard, '70,	for Harvard.
	James Watson,	New York,	"	Atalanta.
JUDGES: At the finish.	Sylvester W. Rice,	Roseburg, Oregon,	Harvard, '71,	" Harvard.
	Captain E. C. Pierce,	Springfield, Mass.,	"	Atalanta.

REFEREE AND STARTER: John C. Babcock, Captain Nassau Boat Club, New York.

TIME-KEEPER: R. C. Hooper, Boston.

"The Atalantas row a few rods, and then immediately assume the outside position, Harvard having won, as usual, on the toss, and taken the inside. The Harvards are bare-headed, and only two of them wear shirts, the others displaying their backs, breasts, and arms. Their average weight is about 154 lbs., but they look no heavier than their rivals. They row for four or five minutes, and then come to the starting point, directly opposite the boat-houses. In response to the customary enquiry, Captain Withers announces that he is ready; Captain Read responds cheerily for his crew, and, with an 'Are you ready? Go!' both crews take the water at the same instant. A very even start is witnessed, and the struggle has begun. Harvard pulls 45½ strokes and the Atalantas 45 per minute. They have not made half a dozen lengths before the Atalantas appear to have a slight advantage, and their training and skill begin to tell. With the start at 6.27 they show more than a length ahead at 6.29, and at 6.30 they have made it two lengths. Now the spectators at Ingleside have a fine view of the contest, and the ladies and gentlemen there are wild with excitement, which continues for several minutes. The Harvards are evidently hugging the shore, and the Atalantas, who continue their work with the precision of a crack military company going through the manual, are steadily gaining. At 6.30½ Harvard puts in more muscle at 42½ strokes per minute, and makes a slight gain. Half a minute later the Atalantas are still leading, but the Harvards have covered one of the lengths in the gap. At 6.32 the New Yorkers begin to gain once more, and in 30 seconds their magnificent rowing leaves the discouraging space of four lengths for their rivals to blot out, though it is not apparently within the range of possibilities with them. At 6.35 the gap is widening every second, and a minute later a count of the strokes show 43 for Harvard to 39 for the Atalantas. Now all doubts of the result seem to be removed, the question turning on time, and the ratio of defeat within the Magenta shall sustain. Five lengths ahead for the Atalantas are recorded at 6.34½, and the lead is increased another length at 6.36. At this point of the course, which looked nearly straight from the banks, but was found to be one continuous curve on the water, it is rather rough for a quarter of a mile or so, the rest of the three miles being very smooth, and favorable for fair time. At 6.30 the New Yorkers begin to gain again, and three minutes later they seem to be fully ten lengths ahead. At this point both crews distance the little steamer on which are some of the correspondents, judges, and time-keeper, though here the spectators at the Chicopee Bridge began to get a correct view of the contest. At that point it is seen that the Atalantas have every advantage, while the few hundred spectators gathered there cheer the New Yorkers lustily while passing the stake boat, which is passed by the Harvards one minute and three seconds later."

CITIZENS' REGATTA, WORCESTER, MASS.

1859.

FIRST REGATTA.

Wednesday, July 27, 1859.

COURSES: LAKE QUINSIGAMOND—The three miles turning race, from a line near the Causeway Bridge, up the lake one and a half miles to a stake, and return. The two miles turning race, for single shells, from same point of departure, one mile up the lake to a stake, and return.

WEATHER: Clear and cool. **WIND:** strong from the west across the course. **WATER:** a little rough. **TIME:** afternoon. Six-oared race started at 2.15 P.M. Four-oared race, at 3 P.M. Single shell race, at 3.45 P.M.

PRIZES: *For the Six-Oared Shell Race*—First, \$100; second, \$75.

For the Four-Oared Shell Race—First, \$75; second, \$50.

For the Single Shell Race—First, \$50; second, \$25.

First Race, for Six-Oared Shells.

A THREE MILES TURNING RACE. FOUR ENTRIES.

POSITIONS AT STARTING: Inside, Yale; outside, Harvard.

1. YALE'S SIX-OARED SHELL "YALE,"*

MANNED BY

Fred. H. Colton,	Longmeadow, Mass.,	Class '60, Bow.	} Time, 19' 14"
Charles H. Owens,	Hartford, Conn.,	" '60, P't bow.	
Henry W. Camp,	" "	" '60, St. waist.	
Jos. H. Twitchell,	Plantsville, Conn.,	" '59, P't waist.	
Chas. T. Stanton,	Stonington, "	" '61, St. stroke.	
Henry N. Johnson,	West Meriden, Conn.,	" '59, Stroke.	
Hezekiah Watkins,	Liberty, N. Y.,	" '59, Coxswain.	

Boat built in New York City in 1859, of Spanish cedar; — inches beam by 45 feet 5 inches long.

Weight of the crew, 998 lbs.

2. HARVARD'S SIX-OARED SHELL "HARVARD,"†

MANNED BY

Joseph H. Ellison,	Waltham, Mass.,	Class '59, Bow.	} Time, 19' 16"
Joseph W. Wales,	Boston, Mass.,	" '61, P't bow.	
Henry S. Russell,	W. Roxbury, Mass.,	" '60, St. waist.	
Edward G. Abbott,	Lowell, Mass.,	" '60, P't waist.	
William H. Forbes,	Milton, "	" '61, St. stroke.	
C. Crowninshield,	Boston, "	" '60, Stroke.	

Boat built by McKay, St. John, N. B., in 1858, of pine; — inches beam by 40 feet long.

Weight of crew, \$54 lbs.

The "Atalanta" of Brown and the second Harvard boat, the "Huron," both of which were entered, did not appear.

* "Harvard took the lead, but about a mile up Yale closed with and passed her, the bow of the former fouling Yale's star-board oars. The terrific stroke of 48 to 60 to the minute, kept up by the Yale crew in this race, was necessitated by the shortness of the oars, which, by a blunder of the builder, were only 10½ feet long. Spite of this drawback, and spite of the foul, the time made (19' 14") was the fastest ever made in America to that date, and has never been equalled by a six-oared American crew, carrying an adult coxswain. The 'Gersh Banker' of the Ward brothers, which next year made 18' 37", was fully equipped, and had a 40-pound boy for coxswain. Before the second day's race of 1859 bets of \$100 to \$5 were freely offered in favor of Harvard."—*Four Years at Yale*, p. 375.

† "At twenty-two minutes past two o'clock the gun was fired, and both boats got a beautiful start. The Harvard began to show her stern at the start, but as the two went up the course Yale held her own, and shortly after she took the lead and passed the upper stake just twenty seconds in advance. Soon after turning, the Harvard again took her place in front. The Yale boat kept close to the shore, while the Harvard kept the centre of the pond, having the whole force of the wind to contend with. The consequence of this manœuvring was fatal to Cambridge, for as the boats neared each other again, just before reaching home, the Yale showed a clear three lengths ahead, and all that Harvard could do in the short space was to reduce the distance a little more than half, leaving the Yale to come in ahead by a trifle over a length, and the Harvard boys to experience the unwonted feeling of a defeat.

"To the judges of rowing who witnessed this race, the cause of the Harvard defeat, notwithstanding her decided victory of the day previous, was very apparent. The course was nearly due south and north, and at the time of the race a strong wind was blowing from the westward directly across the course. The Harvard, carrying no coxswain, had to be guided by her oars. In order to keep the boat on a straight course, the stroke on the weather side had to lessen his stroke. The Yale boat carried a coxswain, which enabled her crew to pull both on the weather and on the leeward side, giving her a decided advantage."—*Peverelly's American Pastimes*, p. 126.

Second Race, for Four-Oared Shells.

A THREE MILES TURNING RACE. FOUR ENTRIES.

1. FOUR-OARED MAHOGANY SHELL "LEADER," OF NEW YORK.

38 feet long.

ENTERED BY CHARLES WETHERELL, AND MANNED BY

J. Sellers, Bow. T. Sellers, 2. Wm. Sellers, 3. } Time, 21' 01"
C. Wetherell, Stroke. — Lord, Coxswain. }**2. FOUR OARED PINE SHELL "GEO. J. BROWN," OF BROOKLYN, N. Y.**

40 feet long.

ENTERED BY CHARLES MCKAY, AND MANNED BY

John Leary, Bow. Michael Valory, 3. } Time, 21' 09"
Thos. Farrel, 2. J. Musgrave, Stroke. }**3. FOUR-OARED LAPSTREAK SHELL "QUICKSTEP," OF BOSTON, MASS.**

26 feet long.

ENTERED BY J. A. SCOTT, AND MANNED BY

J. A. Scott, Bow. J. Hurley, 3. } Time, 21' 34"
J. Driscoll, 2. Robert Donovan, Stroke. }

Weight, 585 lbs.

4. FOUR-OARED CEDAR SHELL "JEREMIAH DONELLY," OF NEW YORK.

ENTERED BY CHARLES MCKAY, AND MANNED BY

Andrew Fay, Bow. Hugh Burns, 3. } Distanced
Peter Fay, 2. Thomas Burns, Stroke. } (did not round stake).

Weight, 580 lbs.

Third Race, for Single Shells.

A TWO MILES TURNING RACE. FIVE ENTRIES.

	SHELLS.	TIME.
1. John Hancon, Newburg, N. Y.,	Theo. Grovier, 155 lbs.,	16' 20"
2. Thos. Doyle, Boston, Mass.,	140 "	16' 18"
3. Hugh Burns,		17' 33"
4. J. Wells, Somerville, Mass.,	Horace Jenkins,	18' 14"
5. Thomas Dorr, New York,	Olivia Roberts,	Distanced.

JUDGES for all the races: { D. W. Lincoln, Worcester. Robert Pratt, Boston.
Edwin Bymner, " Amos F. Learned, "
Geo. W. Bentley, " Addison L. Clark, N. Y.

1860.

SECOND REGATTA.

Wednesday, July 25, 1860.

COURSE: LAKE QUINSIGAMOND—For the first and second races, a two miles course; from the Causeway Bridge, one mile up the lake to a stake boat, and return. For the third and fourth races, from a line near the Causeway Bridge, one and a half miles up the lake to a stake, and return.

WEATHER: Clear and warm. **WIND:** none. **WATER:** smooth. **TIME:** afternoon. Single shell race started at 2.30 P.M.

PRIZES: For the Single Shell Race—First, \$50; second, \$25.

For the Double Scull Race—First, \$50; second, \$20.

For the Four and Six Oared Lapstreak Race—First, \$75; second, \$35.

For the Four and Six Oared Shell Race—First, \$100; second, \$50.

First Race, for Single Shells.

A TWO MILES TURNING RACE. FIVE ENTRIES.

POSITIONS AT STARTING: Inside, Bacon; 2, Ward; 3, Doyle; 4, Kinsley.

	TIME.
1. Joshua Ward, Newburg, N. Y., Shell Oscar Teed,	15' 17 1/2"
2. Thos. Doyle, Boston, Mass., " Friendship,	15' 33"
3. Leo'd Kinsley, Charlestown, Mass., Lapst'k Unknown,	16' 08"
4. W. R. Bacon, New Haven, Conn., Shell	Not taken
5. T. B. Wells, Worcester, Mass., " ———	Withdrawn

Second Race, for Double Sculls.

A TWO MILES TURNING RACE. FOUR ENTRIES.

POSITIONS AT STARTING: Inside, Mary Louise Ludlum; 2, Le Voyageur; 3, E. K. G.; 4, Who'd ha' tho't it.

1. SHELL "MARY LOUISE LUDLUM," OF NEWBURG, N. Y.,

COLORS: WHITE. ROWED BY

D. W. Brown and Charles F. Jane, Time, 16' 10"

2. SHELL "LE VOYAGEUR," OF BOSTON, MASS.

COLORS: WHITE. ROWED BY

Thomas Doyle and P. H. Colbert, Time, 16' 18"

3. LAPSTREAK "E. K. G.," OF WORCESTER, MASS.

COLORS: RED. ROWED BY

Thomas Daily and M. F. Wells, Time, 16' 48"

4. SHELL "WHO'D HA' THO'T IT," OF WILLIAMSBURG, N. Y.,

ROWED BY

James Sellers and William Sellers, Distanced.

Third Race, for Six and Four Oared Lapstreak Boats.*

The four-oared boats allowed a handicap of 30".

POSITIONS AT STARTING: Inside, Thetis; 2, Thulia; 3, Haidee.

1. THE HARVARD SOPHOMORES IN THE "HAIDEE."

COLORS: BLUE. MANNED BY

Arthur N. Sibley,	Chelsea, Mass.,	Class '62,	Bow.	Time, 19' 44½"
Wm. T. Washburn,	Boston, Mass.,	" "	Port bow.	
William Hedge,	Plymouth, Mass.,	" "	St. waist.	
Joseph S. Read,	Boston, Mass.,	" "	P't waist.	
Henry Mathes,	Portsmouth, N. H.,	" "	St. stroke.	
Henry H. McBurney,	Roxbury, Mass.,	" "	Stroke.	

2. THE HARVARD FRESHMEN IN THE "THETIS."

COLORS: ORANGE. MANNED BY

Horace S. Dunn,	Boston, Mass.,	Class '63,	Bow.	Time, 20' 13"
William Greenough,	" "	" "	Port bow.	
John C. Warren,	" "	" "	St. waist.	
Arthur Lawrence,	" "	" "	P't waist.	
Edward D. Boit,	W. Roxbury, Mass.,	" "	St. stroke.	
Charles W. Amory,	Boston, Mass.,	" "	Stroke.	

3. THE YALE SOPHOMORES IN THE "THULIA."

COLORS: WHITE. MANNED BY

Israel Minor, Jr.,	New York, N. Y.,	Class '62,	Bow.	Withdrawn during the race.
W. L. McClintock,	Pittsburg, Penn.,	" "	Port bow.	
Richard Morse,	New York, N. Y.,	" "	St. waist.	
William B. Seely,	Beverly, Ohio,	" "	P't waist.	
Henry P. Johnston,	Smyrna, Turkey,	" "	St. stroke.	
Grosvenor Starr,	New Haven, Conn.,	" "	Stroke.	
Jacob L. Bockee,	Norwich, N. Y.,	" "	Cox.	

Fourth Race, for Four and Six Oared Shells.†

A THREE MILES TURNING RACE. SIX ENTRIES.

POSITIONS AT STARTING: Inside, Gersh Banker; 2, Yale's Yale; 3, Union; 4, Quickstep.

1. SIX-OARED SHELL "GERSH BANKER," OF NEWBURG, N. Y.

COLORS: WHITE. BUILT BY GEORGE W. SHAW, OF NEWBURG, N. Y., AND MANNED BY

Peter Hunt,	Bow.	Ben Marvel,	4.	Cox.	Time, 18' 37"
Chas. Service,	2.	G. W. Shaw,	5.	(40 lbs.)	
Wm. Tuttle,	3.	Joshua Ward,	Stroke.		

2. SIX-OARED SHELL "YALE," OF YALE COLLEGE, NEW HAVEN, CONN.

Built by McKay, 23 inches by 48 feet; 182 lbs.

COLORS: BLUE. MANNED BY

Henry B. Ives,	New Haven, Conn.,	Class '61,	Bow.	Time, 19' 10"
Eug. L. Richards,	Brooklyn, N. Y.,	" '60,	Port bow.	
E'd P. McKinney,	Binghamton, N. Y.,	" '61,	St. waist.	
Wm. E. Bradley,	New Canaan, Conn.,	" '60,	P't waist.	
Chas. T. Stanton,	Stonington, "	" '61,	St. stroke.	
Henry L. Johnson,	Jewett City, "	" '61,	Stroke.	
Chas. G. Merrill,	Newburyport, Mass.,	" '61,	Cox.	

3. FOUR-OARED SHELL "UNION," OF UNION BOAT CLUB, BOSTON, MASS.

Built at Newcastle, England, 22½ inches by 42½ feet; 130 lbs.

MANNED BY

H. Whitman,	Bow,	148 lbs.	Time, 19' 41"
A. G. Dexter, Jr.,	2,	150 "	
W. H. Carpenter,	3,	145 "	
A. Whitman,	Stroke,	168 "	Correct, 19' 11"
F. B. Cotton,	Cox.,	70 "	

4. FOUR-OARED SHELL "QUICKSTEP," OF BOSTON, MASS.

COLORS: PINK AND WHITE. MANNED BY

M. Long,	Bow,	Robert Donovan,	3.	Time, 21' 26"
J. Driscoll,	2.	James Scott,	Stroke.	

5. SIX-OARED SHELL "BRUNONIA," OF BROWN UNIVERSITY, PROVIDENCE, R. I.

Built by McKay, 200 lbs.

COLORS: BLACK. MANNED BY

Charles D. Cady,	Providence, R. I.,	Class '61,	Bow.	Withdrawn.
Parton S. Jastrom,	" "	" '61,	Port bow.	
Edward P. Brown,	Rehoboth, "	" '63,	St. waist.	
Oscar Lapham,	Burrillville, "	" '63,	P't waist.	
Edward H. Sears,	Providence, "	" '62,	St. stroke.	
Amos M. Bowen,	" "	" '63,	Stroke.	
William H. Ames,	New London, Conn.,	" '61,	Cox.	

6. SIX-OARED SHELL "HARVARD," OF CAMBRIDGE, MASS.

MANNED BY

The University crew (winners on July 24, 1860, of the championship in College races.) } Withdrawn.

JUDGES for all the races:	T. W. Higginson,	Worcester, Mass.
	G. W. Bentley,	" "
	F. B. Rice,	" "
	Robert B. Prall,	Boston, "
	John Markoe,	Philadelphia, Penn.

* "The boats all started simultaneously in capital style, but they had proceeded but a short distance when the Harvard Sophomores, who were about a length ahead, thinking they had plenty of room, steered a little ahead of the 'Thulia,' and did not clear themselves until they had fouled with that boat, which then gave up the race and returned to the judges' line. The two Harvard boats did not slacken their stroke. The judges ruled out the two Sophomore boats on account of the fouling of the 'Thulia' by the Harvard Sophomores, and the first prize of \$75 was given to the 'Thetis.' The second prize was not awarded."—*Worcester Spy*, July 26, 1860.

† "Considerable disappointment was caused by the non-appearance of the Harvards. Mr. Ropes, of that crew, had been taken ill, which, with Mr. Wales hardly recovered from his illness, made it impossible to row in this race. The Brown students were again unfortunate. Their new 'Brown' was found unsatisfactory, and the 'Brunonia' leaked so badly before the time for starting that they withdrew from the race."—*Worcester Spy*, July 26, 1860.

1865.

FOURTH REGATTA.

First Day, Friday, July 28, 1865.

COURSE: LAKE QUINSIGAMOND—From a line near the Causeway Bridge, up the lake one and a half miles to a stake, and return.

WEATHER: Warm and clear. **WIND:** none. **WATER:** smooth. **TIME:** afternoon. Four-oared race started at 4 P.M.; University race, at 5h. 26' 10" P.M.

PRIZES: *In the Four-Oared Race*—The championship of the lake, and a stand of colors, presented by the citizens of Worcester.*

In the University Race—The champion flags, presented by the citizens of Worcester.

First Race, for Four-Oared Worcester Boats.

A THREE MILES TURNING RACE. TWO ENTRIES.

1. PINE SHELL "QUINSIGAMOND."

COLORS: CORN. MANNED BY

E. B. Hamilton, Bow. Edwin Brown, 3. } Time, 21' 08"
Stedman Clark, 1. John G. Hayward, Stroke. }

2. CEDAR SHELL "UNION."

COLORS: RED. MANNED BY

L. D. Thayer, Bow. Henry J. Temple, 3. } Time,
Jas. L. Anthony, 2. Timothy R. Green, Stroke. } not taken.

Second Race, the University Crews in College Regatta.

(See page 254.)

JUDGES: { S. A. B. Abbott, Lowell, Mass., Class '66, Harvard.
William Woods, New York.

REFEREE: Joshua Ward, Cornwall Landing, N. Y.

Second Day, Saturday, July 29, 1865.

COURSE: LAKE QUINSIGAMOND—For the first race, a two-mile course from the Causeway Bridge, one mile up the lake to a stake boat, and return. For the second and third races, from a line near the Causeway Bridge, one and a half miles up the lake to a stake, and return.

WEATHER: Clear and fine. **WIND:** strong; blowing all day. **WATER:** rough. **TIME:** morning. Single shell race started at 10 A.M.

PRIZES: *For the Single Shell Race*—First, \$75; second, \$50; third, \$25.

For the Four-Oared Race—First, \$125; second, \$50.

For the Six-Oared Race—One prize of \$200.

First Race, for Single Shells.

A TWO MILES TURNING RACE. EIGHT ENTRIES.

POSITIONS AT STARTING: Inside, 1. Driscoll; 2. McKiel; 3. Radford; 4. Biglin; 5. Hills; 6. Ward; 7. McKee; 8. Doyle.

	TIME.
1. Joshua Ward, Cornwall, N. Y., Shell B. B. Odell.	15' 15"
2. J. A. Biglin, New York, " Charles B. Elliott.	15' 40"
3. J. H. Radford, " " Emma Lovett.	16' 48"
4. John McKiel, Cold Spring, " " Unknown.	16' 54"
5. J. Driscoll, Boston, Mass., " Eastern.	17' 10"
6. C. C. Hills, Chelsea, " " Admiral Farragut. Not taken.	
7. And. McKee, Boston, " " " C. E. H." "	
8. T. F. Doyle, " " " Charles River. "	

Second Race, for Four-Oared Shells.

A THREE MILES TURNING RACE. TWO ENTRIES.

1. SHELL "GEORGE B. McCLELLAN," OF BOSTON.

MANNED BY

P. Regan, Bow. J. Cleary, 3. } Time, 20' 40"
C. Regan, 2. J. McGahey, Stroke. }

2. SHELL "UNION," OF WORCESTER.

MANNED BY

Henry J. Temple, Bow. Walter Dabney, 3. } Time, 21' 53"
James L. Anthony, 2. Robert S. Peabody, Stroke. }

Third Race, for Six-Oared Shells.

A THREE MILES TURNING RACE. TWO ENTRIES.

POSITIONS AT STARTING: 1. Inside, Yale; 2. Harvard.

1. YALE'S SIX-OARED SHELL†

COLORS: BLUE. MANNED BY UNIVERSITY CREW.

	TIME.
Wm. W. Scranton, Scranton, Pa., Class '65, Bow.	19' 05 1/2"
Edmund Coffin, Irvington, N. Y., " '66, P't bow.	
Isaac Pierson, Hartford, Conn., " " St. waist.	
Louis Stokopf, Freeport, Ill., " '65, P't waist.	
Edw. B. Bennett, Hampton, Conn., " '66, St. stroke.	
Wilbur R. Bacon, New Haven, " " '65, Stroke.	

2. HARVARD'S SIX-OARED SHELL.

COLORS: RED. MANNED BY UNIVERSITY CREW.

Chas. H. McBurney, Roxbury, Mass., Class '66, Bow.	19' 20 1/2"
Edward H. Clarke, St. Louis, Mo., " " P't bow.	
Edward N. Fenno, Boston, Mass., " '67, St. waist.	
William Blaikie, " " '66, P't waist.	
Edw. T. Wilkinson, Cambridge, " " St. stroke.	
Fred. Crowninshield, Boston, " " " Stroke.	

JUDGES: { S. A. B. Abbott, Lowell, Mass., Harvard, '66.
William Wood, New York.

REFEREE: Joshua Ward, Cornwall Landing, N. Y.

* The colors were a national flag and a tri-colored ensign, bearing the inscription "Lake Quinsigamond, July 28, 1865."

† The course (for the single shells) is an exact mile, as measured on the ice last winter, and is considerably shorter than the course which has been previously rowed, so that the time made last year will be no criterion for to-day."—*Worcester Spy*, July 29, 1865.

‡ Both crews came in easily, and seemed to be nearly as fresh and vigorous as at the start."—*Worcester Spy*, July 31, 1865.

I 866.

FIFTH REGATTA.

Friday, July 28, 1866.

(Forming part of the College Regatta of this date.)

COURSE: LAKE QUINSIGAMOND—For both two and three miles turning races, same as preceding year.

WEATHER: Showery. WIND: light. WATER: smooth. TIME: afternoon. Single shell race started at 2.30 P.M., second race, at 3 P.M.

PRIZES: For the Single Shell Race—First, \$75; second, \$35.

For the Four-Oared Race—First, \$150; second, \$75.

First Race, for Single Shells.

A TWO MILES TURNING RACE. TWO ENTRIES.

- | | | |
|------------------|-----------------|---------------|
| 1. Walter Brown, | Portland, Me. | Time, 15' 15" |
| 2. Joshua Ward, | Cornwall, N. Y. | " 15' 33" |

Second Race, for all Four-Oared Shells.

A THREE MILES TURNING RACE. FIVE ENTRIES.

POSITIONS AT STARTING: 1. Inside, P. L. Tucker; 2. Volunteer; 3. Frank Queen; 4. J. F. Tapley.

1. SHELL "FRANK QUEEN,"* OF NEW YORK.

MANNED BY

- | | | | |
|--------------------|---------------|---------|-----------------|
| Walter Brown, Bow. | John Blue, | 3. | } Time, 19' 41" |
| Robert Ellis, 2. | Dennis Leary, | Stroke. | |

2. SHELL "P. L. TUCKER," OF NEW YORK.

MANNED BY

- | | | | |
|----------------------|------------------|---------|-----------------|
| Bernard Biglin, Bow. | James H. Biglin, | 3. | } Time, 20' 10" |
| J. J. Eckerson, 2. | John H. Biglin, | Stroke. | |

3. SHELL "J. F. TAPLEY," OF SPRINGFIELD, MASS.

MANNED BY

- | | | | |
|-------------------|----------------|---------|-----------------|
| John Holden, Bow. | George Ring, | 3. | } Time, 20' 20" |
| M. Leonard, 2. | P. Harrington, | Stroke. | |

4. SHELL "VOLUNTEER," OF BOSTON, MASS.

MANNED BY

- | | | | |
|---------------------|----------------|---------|--------------------|
| M. J. Gleason, Bow. | Edward Rogers, | 3. | } Time, not taken. |
| Daniel Brennan, 2. | James Cleary, | Stroke. | |

5. SHELL "UNION," OF NEWBURG, N. Y.

MANNED BY

- | | | | |
|-------------------|---------------|---------|--------------|
| Joshua Ward, Bow. | Charles Ward, | 3. | } Withdrawn. |
| Gilbert Ward, 2. | Henry Ward, | Stroke. | |

Third Race, for Four-Oared Worcester Boats.

A THREE MILES TURNING RACE. TWO ENTRIES.

PRIZE: The championship of the lake, and a set of silk colors.

1. SHELL "QUINSIGAMOND,"† OF WORCESTER.

COLORS: CORN. MANNED BY

- | | | | |
|----------------------|----------------|---------|-----------------|
| E. B. Hamilton, Bow. | Stedman Clark, | 3. | } Time, 21' 04" |
| John G. Heywood, 2. | Edwin Brown, | Stroke. | |

2. SHELL "UNION," OF WORCESTER, MASS.

COLORS: LILAC. MANNED BY

- | | | | |
|-------------------|-----------------|---------|-----------------|
| T. R. Green, Bow. | T. A. Woodcock, | 3. | } Time, 21' 50" |
| John McKeon, 2. | Geo. Woodcock, | Stroke. | |

Fourth Race, in College Regatta.

LAWRENCE SCIENTIFIC VS. SHEFFIELD SCIENTIFIC.

(See page 255.)

Fifth Race, in College Regatta.

THE UNIVERSITY CREWS.

(See page 255.)

- | | | | |
|---------|---------------|--|-----------------|
| JUDGES: | At the start. | { Charles B. Pratt,†
Francis B. Rice,
W. A. Smith,
W. D. Hobbs,
C. A. Chase, | } of Worcester. |
| | | | |

* This boat was owned by the Quinsigamond Boat Club, of Worcester, and, having been lent to this crew, was called the "Frank Queen" only for this occasion.

† The same boat used by the Leary crew, and entered by them as the "Frank Queen." The difference in the time, made in the same boat, well illustrates the difference between a professional and an amateur crew.

‡ Chairman.

1867.

SIXTH REGATTA.

Friday, July 19, 1867.

(Forming part of the College Regatta of this date.)

COURSE: LAKE QUINSIGAMOND—For both two and three miles turning races, same as preceding year.

WEATHER: Cloudy and rainy; cleared up during the early races, followed by heavy showers at close of University race. WIND: strong breeze. WATER: rather rough. TIME: afternoon.

PRIZES: *Second Race, for Single Sculls*—First, \$100; second, \$50.*Third Race, for Four-Oared Worcester Shells*—\$75.

First Race, Walter Brown.

THREE MILES AGAINST TIME.

Spanish cedar shell, 10 inches beam by 33 feet	} Time,* 23' 00"
long, weighing 35 lbs. His weight, 165 lbs.	

Second Race, for Single Shells.

A TWO MILES TURNING RACE. FOUR ENTRIES.

1. John McKiel,	wooden shell	No Name.	Time, 15' 54"
2. Gilbert Ward,	"	" C. E. Loew.	" 15' 57"
3. John Tyler, Jr.,	"	" Steve Roberts.	" 16' 02"
4. S. Holdridge,	"	" Unknown.	Withdrawn.

Third Race, for Four-Oared Worcester Shells.

NO ENTRIES.

Fourth Race, in College Regatta.

YALE FRESHMEN vs. HARVARD FRESHMEN.

(For details, see College Regatta, 1867, page 256.)

Fifth Race, in College Regatta.

HARVARD vs. YALE UNIVERSITY CREWS.

(For details, see College Regatta, 1867, page 256.)

JUDGES: { William Blaikie, of Boston.
 { E. D. Bissell, of Buffalo.

REFEREE: Robert M. Clark, of Boston.

1868.

SEVENTH REGATTA.

Wednesday, July 22, 1868.

COURSE: LAKE QUINSIGAMOND—For both two and three miles turning races, same as preceding year.

WEATHER: Clear. WIND: none. WATER: smooth. TIME: afternoon. First race at 3.30 P.M.

PRIZES: *For the First Race*—For single shells: First, \$25; second, \$15.*For the Second Race*—For four-oared shells: First, \$40; second, \$20.*For the Third Race*—For six-oared shells, \$300.

First Race, for Worcester Single Shells Only.

A TWO MILES TURNING RACE. FOUR ENTRIES.

POSITIONS AT STARTING: 1. Inside, Hamilton; 2. O'Leary;
3. Duncan.

1. E. B. Hamilton,	cedar shell	Phantom,	color,	corn,	TIME,
2. J. O'Leary,	"	" Minnie,	"	white.	18' 04"
3. Harry E. Duncan,	"	" C. O. Russell,	blue.	Not taken.	18' 07 $\frac{1}{2}$ "
4. T. R. Green,	paper	" W. B.,	"	white.	Withdr'n.

Second Race, for Worcester Four-Oared Boats.

A TWO MILES TURNING RACE. THREE ENTRIES.

1. SHELL "UNION."

MANNED BY

T. R. Green,	Bow.	James Kane,	3.	} Time, 14' 53 $\frac{1}{2}$ "
Geo. Woodcock,	2.	J. Woodcock, Jr.,	Stroke.	

* "Brown started with a full, regular stroke of 34 to the minute; on reaching the turning buoy he broke a scull, losing about one-eighth of the blade, besides splitting it, and in this disabled condition he came home, rowing 32 to the minute, and crossed the line in just 23 minutes from the start. A stiff breeze blowing at the time was unfavorable."—*Worcester Spy*, July 20, 1867.

2. SHELL "NO NAME."

MANNED BY

Henry F. Short, Bow.	Daniel Sullivan, 3.	} Time, 15' 20"
Wm. H. Warren, 2.	Jos. Midgeley, Stroke.	

3. LAPSTREAK "SHAMROCK."

MANNED BY

Timothy Foley, Bow.	Thomas Leahy, 3.	} Time, 16' 37"
David Gleason, 2.	Michael Donney, Stroke.	
John Thompson, Coxswain.		

Third Race, for Six-Oared Shells.

A THREE MILES TURNING RACE. FIVE ENTRIES.

1. THE "CHARLES A. PEVERELLY," OF NEW YORK.

COLORS: WHITE. MANNED BY

Joshua Ward, Bow.	Gilbert Ward, 4.	} Time, 17' 40 $\frac{1}{2}$ "*
Ellis Ward, 2.	Charles Ward, 5.	
Geo. Ward, 3.	Henry Ward, Stroke.	

2. HARVARD UNIVERSITY CREW.

COLORS: CRIMSON. MANNED BY

Geo. W. Holdridge, Irvington, N. Y., Class '69.	Bow.	} Time, 17' 53"
Wm. W. Richards, New York, " '68.	P't bow.	
J. W. McBurney, Roxbury, Mass., " '69.	St. waist.	
Wm. H. Simmons, Concord, " " " '69.	P't waist.	
Rob't C. Watson, Milton, " " " " " '69.	St. stroke.	
Alden P. Loring, Boston, " " " " " '69.	Stroke.	

3. THE "NORTH END BOY," OF BOSTON, MASS.

MANNED BY

Geo. Faulkner, Bow.	T. Owens, 4.	} Time, 18' 26 $\frac{1}{2}$ "
M. Foley, 2.	P. Reagan, 5.	
T. Scanlan, 3.	J. Cleary, Stroke.	

4. THE "L. H. POWERS," OF SPRINGFIELD, MASS.

MANNED BY

J. Lynch, Bow.	John Boyle, 4.	} Time, 18' 53"
Frank Parker, 2.	P. O'Brien, 5.	
Geo. Boyle, 3.	John O'Neil, Stroke.	

5. THE "HARBOR BOY," OF NEW LONDON, CONN.

MANNED BY

James Keeney, Bow.	Danforth Beebe, 4.	} Time, not taken.
Wm. Lane, 2.	Alvin Beebe, 5.	
Harris Lane, 3.	Jerry Slate, Stroke.	

JUDGES:	{ At the starting line.	Francis B. Rice,	Worcester, Mass.
		C. W. Gilbert,	" "
		A. A. Goodell,	" "
	{ At the stake.	C. A. Chase,	Boston, "
		H. T. Rockwell,	" "
		T. Kinnicott,	New York, N. Y.
{ At the stake.	H. Bacon,	" "	
	C. C. Baldwin,	Worcester, Mass.	
		W. M. Olin,	Boston, "

Second Day, Friday, July 24, 1868.

(Forming part of the College Regatta of this date.)

COURSE: LAKE QUINSIGAMOND—For both two and three miles races, same as the preceding day.

WEATHER: Cloudy and threatening; commenced raining just at the close of the University race. WIND: light. WATER: smooth. TIME: afternoon. Match race started at 3.30 P.M.; four-oared race, at 4 P.M.; University race, at 4.30 P.M.

PRIZES: For the First Race—Match race between John Tyler, Jr., of Boston, and John McKiel, of Cold Spring, N. Y. The stakes of \$500 a side.

For the Second Race—For four-oared single shell boats, open to all, \$200.

For the Third Race—For the University crews in College Regatta, the champion flags and medals.

First Race, between John Tyler, Jr., of Boston, Mass., and John McKiel, of Cold Spring, N. Y.

TWO MILES TURNING RACE.

1. John Tyler, Jr., rowing PAPER shell,	Time, 14' 52 $\frac{1}{2}$ "†
2. John McKiel, " wooden shell,	" 15' 18 $\frac{1}{2}$ "

Tyler won easily by 12 lengths.

JUDGES:	For { Henry Bacon, Worcester.	} REFEREE: Mr.	
	Tyler. { W. M. Olin, Boston.		Colvin, of the
	For { Henry Munn, New York.		N. Y. Clipper,
	McKiel. { Mr. Soper, " "		New York.

Second Race, for Four-Oared Shells.

A THREE MILES TURNING RACE. FOUR ENTRIES.

POSITIONS AT STARTING: 1. Inside, Jennie Ward; 2. Thetis; 3. Quinsigamond.

1. SHELL "JENNIE WARD," OF CORNWALL, N. Y.

COLORS: WHITE. MANNED BY

Joshua Ward, Bow.	Charles Ward, 3.	} Time, 20' 15 $\frac{1}{2}$ "
Gilbert Ward, 2.	Henry Ward, Stroke.	

2. SHELL "QUINSIGAMOND," OF WORCESTER, MASS.

COLORS: CORN. MANNED BY

E. B. Hamilton, Bow.	Stedman Clark, 3.	} Time, 20' 30 $\frac{1}{2}$ "
J. G. Heywood, 2.	Edwin Brown, Stroke.	

3. SHELL "THETIS," OF WORCESTER, MASS.

MANNED BY

J. Woodard, Bow.	Edward Taft, 3.	} Time, 23' 45 $\frac{1}{2}$ "
Enoch Earle, 2.	H. Ball, Stroke.	

The "George Roahr," of Boston, and the "J. W. Phelps," of Springfield, were both entered for this race, but, failing to appear, the "Thetis" took their places to make up the race. Its crew were entirely without practice.

Third Race, in College Regatta.

HARVARD VS. YALE UNIVERSITY CREWS.

(For details, see College Regatta for 1868, page 257.)

JUDGES:	{ At the starting line.	Charles B. Pratt,†	Worcester, Mass.
		Charles A. Chase,	" "
		A. A. Goodell,	" "
	{ At the stake boat.	Henry Bacon,	" "
		C. A. Gilbert,	" "
		William M. Olin,	Boston, "
		C. C. Baldwin,	Worcester, "

* The best on record. † "Tyler's time is the best ever made on this course."—Worcester Spy, July 25, 1868. ‡ Chairman.

I 869.

EIGHTH REGATTA.

(Forming part of the College Regatta of this date.)

Friday, July 23, 1869.

COURSE: LAKE QUINSIGAMOND—Same as the preceding year, except as to exact distance of three miles.*

WEATHER: Warm, with hazy sky. WIND: dead calm. WATER: very smooth. TIME: afternoon. First race started at 3 P.M.

PRIZES: *For the First Race*—For Worcester lapstreak boats: First, \$50; second, \$25.*For the Second Race*—Harvard vs. Yale Freshmen. A set of champion colors and six silver medals, presented by the citizens of Worcester.*For the Third Race*—For Worcester four-oared shells: First, \$75; second, \$50; third, \$25.*For the Fourth Race*—For University crews in College Regatta: A set of champion colors and six gold medals, presented by the citizens of Worcester.

First Race, for Worcester Four-Oared Lapstreak Boats.

A THREE MILES TURNING RACE. THREE ENTRIES.

1. LAPSTREAK "CURRAN."

COLORS: BLUE. MANNED BY

John Laughlin,	Bow.	Edward Kevan,	3.	} Time, 23' 50"
James Scollan,	2.	John Cannon,	Stroke.	

2. LAPSTREAK "WATER WITCH."

COLORS: NONE. MANNED BY

John Flynn,	Bow.	J. H. Darney,	3.	} Time, 28' 15"
William Nolan,	2.	J. Crane,	Stroke.	

3. LAPSTREAK "EXCELSIOR."

COLORS: RED, WHITE, AND BLUE. MANNED BY

C. T. Brosnihan,	Bow.	Thomas Leahy,	3.	} Time, 35' 00"
J. J. Fitzgerald,	2.	J. J. O'Leary,	Stroke.	

Second Race in College Regatta.

HARVARD VS. YALE FRESHMEN.

(See College Regattas, page 258.)

Third Race, for Worcester Four-Oared Shells.

A THREE MILES TURNING RACE. FIVE ENTRIES.

1. SHELL "S. SALISBURY, JR."

COLORS: RED, WHITE, AND BLUE. MANNED BY

C. T. Brosnihan,	Bow.	J. J. Fitzgerald,	3.	} Time, 19' 36" †
T. Leahy,	2.	J. J. O'Leary,	Stroke.	

2. SHELL "UNION."

COLORS: RED. MANNED BY

James Kane,	Bow.	G. M. Woodcock,	3.	} Time, 19' 50"
F. Bent,	2.	J. H. Woodcock,	Stroke.	

3. SHELL "QUINSIGAMOND."

COLORS: CORN. MANNED BY

E. B. Hamilton,	Bow.	Stedman Clark,	3.	} Time, 20' 43"
John G. Hayward,	2.	Edwin Brown,	Stroke.	

4. SHELL "BAY STATE."

COLORS: WHITE. MANNED BY

C. W. Manning,	Bow.	H. R. Milliken,	3.	} Time, 21' 25"
F. A. Chase,	2.	E. O. Barker,	Stroke.	

5. SHELL "IDA LEWIS."

COLORS: BLUE. MANNED BY

E. Earle,	Bow.	G. F. McKnight,	3.	} Time, 21' 55"
E. P. Taft,	2.	J. Midgeley,	Stroke.	

Fourth Race, in College Regatta.

HARVARD VS. YALE UNIVERSITY CREWS.

(For details, see College Regatta for 1869, page 258.)

JUDGES:	{	At the starting line.	Francis B. Rice, ‡	Worcester, Mass.
			Charles B. Pratt,	" "
			Charles A. Chase,	" "
			Charles W. Gilbert,	" "
	{	At the stake boat.	A. A. Goodell,	" "
		J. P. Hamilton,	" "	
		H. H. Fairbanks,	" "	

TIME-KEEPER: Charles B. Pratt.

* The course was shortened from fifty to one hundred feet this year by the change in the position of the stake, as explained in Mr. Freeman Brown's letter of January 14, 1871, given on page 242.

† This time is 5 seconds better than that of the Ward brothers in "Citizens' Regatta," 1866 (19' 41"), but, as the course was shorter and the water smoother, it can hardly be considered as good time as theirs. It stands, however, among the best four-oared three miles times on record.

‡ Chairman.

1870.

NINTH REGATTA.

(Forming part of the College Regatta of this date.)

Friday, July 22, 1870.

COURSE: LAKE QUINSIGAMOND—For the first race, a two miles course from the Causeway Bridge, one mile up the lake, and return. The three miles course, same as that of 1869.

WEATHER: Clear and favorable. **WIND:** a fresh east wind which had prevailed in the early part of the day, had quite subsided when the races took place. **WATER:** very smooth. **TIME:** afternoon. First race at 3.30 P.M.

PRIZES: *For the First Race*—For Worcester single shells, \$25 and the championship.

For the Second Race—For Worcester four-oared shells: First, \$75 and a champion flag, presented by citizens of Worcester; second, \$50.

For the Third Race—For Freshmen crews in College Regatta: A set of champion colors and six silver medals, presented by the citizens of Worcester.

For the Fourth Race—For the University crews in College Regatta: A set of champion colors and six gold medals, presented by the citizens of Worcester.

First Race, for Worcester Single Shells.

A TWO MILES TURNING RACE. TWO ENTRIES.

1. J. J. O'Leary,	.	.	.	.	.	Time, 16' 11 $\frac{1}{2}$ "
2. E. B. Hamilton,	.	.	.	.	.	" 16' 23"

Second Race, for Worcester Four-Oared Shells.

A THREE MILES TURNING RACE. THREE ENTRIES.

POSITIONS AT STARTING: Inside, Union; 2. Bay State; 3. Nathan Washburn.

1. SHELL "BAY STATE."

COLORS: CORN. MANNED BY

C. W. Manning,	Bow.	H. W. Milliken,	3.	} Time, 20' 20"
E. O. Parker,	2.	Stedman Clark,	Stroke.	

2. SHELL "NATHAN WASHBURN."

COLORS: WHITE. MANNED BY

Chas. L. Hopson,	Bow.	James Kane,	3.	} Time, 21' 00"
H. S. Hall,	2.	G. F. McKnight,	Stroke.	

3. SHELL "UNION."

COLORS: MAGENTA. MANNED BY

C. T. Brosnihan,	Bow.	F. Bent,	3.	} Time, 20' 18"
Thomas Leary,	2.	J. A. Woodcock,	Stroke.	

In consequence of a foul, the first and second prizes were awarded by the judges to the "Bay State" and "Nathan Washburn" respectively.

Third Race, in College Regatta.

FOR FRESHMEN CREWS.

(See College Regatta for 1870, page 259.)

Fourth Race, in College Regatta.

HARVARD VS. YALE UNIVERSITY CREWS.

(See College Regatta for 1870, page 260.)

JUDGES:	At the starting line.	Charles B. Pratt,*	Worcester, Mass.
		Francis B. Rice,	" "
		Charles A. Chase,	" "
		O. L. Hatch,	" "
		N. Washburn,	" "
		A. A. Goodell,	" "
		C. C. Baldwin,	" "
		C. C. Stearns,	" "
	At the stake boat.	W. M. Olin,	Boston, "
		Mr. Edwin Brown,	Worcester, Mass.

REFEREE: Mr. Edwin Brown, Worcester, Mass.

* Chairman.

NEW ENGLAND ROWING ASSOCIATION.

1868.

FIRST REGATTA.

At Boston, Mass., Friday, May 22, 1868.

COURSE: ON THE CHARLES RIVER—From a point about 100 feet in front of the Union Boat Club House, one mile up the river to a stake, and return.*

WEATHER: Clear. WIND: light. WATER: fair. TIME: 5.30 P.M.

PRIZE: The championship of the Charles River, and the gold medal of the New England Rowing Association.

Single Shell Race, Open to All.

EIGHT ENTRIES.

POSITIONS AT STARTING: 1. Inside, Randall; 2. Butler; 3. Tyler; 4. Fay; 5. Cleary; 6. Appleton; 7. Williams; 8. Brown.

			TIME.
1. John Tyler, Jr.,	Boston, Mass.,	paper shell.†	15' 31"
2. Joseph S. Fay, Jr.,	" "	" "	15' 44"
3. Walter Brown,	Portland, Me.,	wooden "	16' 09"
4. John W. Randall,	" "	" "	16' 14"
5. James T. Cleary,	Boston, Mass.,	" "	16' 38"

6. Wm. Appleton, Jr.,	Boston, Mass.,	wooden shell.	16' 40"
7. Robinson Williams,	Portland, Me.,	" "	16' 57"
8. Thomas C. Butler,	Boston, Mass.,	" "	17' 00"

JUDGES:	William Blaikie,	Boston,	Mass.
	Henry F. Lambert,	"	"
	A. F. Dexter,	Providence,	R. I.
	W. H. Brazier,	Portland,	Me.
	Henry T. Wood,	"	"
	B. V. Humphrey,	Albany,	N. Y.

TIME-KEEPER: J. N. George, of Boston.

* This course, as well as the three-mile one used in 1870, is exactly the distance stated, having been accurately surveyed.

† These were the first paper shell-boats ever used in a race in New England.

" At the start, Brown took the lead, closely followed by Tyler and Fay. At the end of the first quarter of a mile Tyler passed Brown, and maintained his lead to the end, winning the race in 15' 31". The time made by Tyler was the best ever achieved on Charles River Course. Tyler reached the stake some two lengths in advance of all the others, Brown next, Fay nearly closing in with Brown. In rounding the stake, Brown got his nose on the wrong side, and, in rounding, struck his bow against the stake, thus necessitating a rear movement, which Fay took advantage of and shot ahead, keeping a wide breach between himself and Brown to the close. In rounding the stake, Randall was about five lengths in rear of Fay, and came in just in rear of Brown. Williams claims to have broken his oar against the wall. The race appears to have demonstrated the superiority of paper boats over wood."—*Boston Post*, Saturday, May 23, 1868.

1869.

SECOND REGATTA.

At Boston, Mass., Tuesday, June 15, 1869.

COURSE: ON THE CHARLES RIVER—For the two-mile race, from a point about 100 feet in front of the Union Boat Club House, one mile straight up the river to a stake boat, and return. For the three-mile race, from the same starting point, one and a half miles straight up the river to a stake boat, and return.

WEATHER: Cloudy, but favorable. **WIND:** rather strong. **WATER:** a little rough, making a difference in the time of about fifteen seconds to the mile. **TIME:** first race, 5 o'clock P.M.; second race, 5.45 P.M.

PRIZES: *For the Single Shell Race*—The championship of the Charles River and the gold medal of the Association. *For the Four-Oared Shell Race*—Four silver cups.

First Race, for Single Shells.

DISTANCE, TWO MILES. EIGHT ENTRIES.

POSITIONS AT STARTING: 1. Inside, Butler; 2. Tyler; 3. Brown; 4. Doyle; 5. West; 6. Appleton; 7. Randall.

				TIME.
1. Walter Brown,	Boston, Mass.,	paper shell.	16' 48"	
2. Wm. Appleton, Jr.,	" "	wooden "	17' 10 ¹ / ₂ "	
3. John W. Randall,	Portland, Me.,	paper "	17' 34 ¹ / ₂ "	
4. John Tyler, Jr.,	Boston, Mass.,	" "	Not taken.	
5. T. Doyle, Jr.,	" "	" "	" "	
6. E. G. West,	Providence, R. I.,	" "	" "	
7. J. H. Butler,	Boston, Mass.,	wooden "	Upset.	
8. L. S. King,	" "	paper "	Withdr'n.	

Second Race, for Four-Oared Shells.

THREE MILES. FOUR ENTRIES.

POSITIONS AT STARTING: 1. Inside, Harvard; 2. J. A. Hurley; 3. George Roahr; 4. Lady E. Given.

1. SHELL "GEORGE ROAHR," OF BOSTON, MASS.

COLORS: PINK. MANNED BY

Geo. Faulkner,	Bow.	L. Brennan,	3.	} Time, 21' 12"
T. Foley,	2.	P. Reagan,	Stroke.	

2. SHELL "HARVARD," OF CAMBRIDGE, MASS.

COLORS: MAGENTA. MANNED BY

A. P. Loring,	Bow.	S. W. Rice,	3.	} Time, 21' 28"
George Bass,	2.	Wm. H. Simmons,	Stroke.	
Arthur Burnham,	Coxswain.			

3. SHELL "J. A. HURLEY," OF BOSTON, MASS.

COLORS: GREEN. MANNED BY

T. Scanlan,	Bow.	M. J. Fenton,	3.	} Time, 21' 48"
T. Owens,	2.	Thos. C. Butler,	Stroke.	

4. SHELL "LADY E. GIVEN," OF EAST BOSTON, MASS.

COLORS: WHITE. MANNED BY

James Warwick, Bow.	Geo. McAndless, 3.	} Time, not taken.
James Cochrane, 2.	John Warwick, Stroke.	

The "George Roahr" having fouled the "Harvard" at the stake, the latter being in advance at the point, the prize was awarded the "Harvard" by the judges.

JUDGES:	David D. Porter,	Vice-Admiral U. S. Navy.
	Edward B. Robins,	Union Boat Club, Boston.
	Edward T. Wilkinson,	Captain Harvard crew, '68.
	George Holdridge,	Irvington, N. Y., Harvard, '69.
	William Blaikie,	Boston, Mass., Harvard, '66.
TIME-KEEPER: J. N. George, Boston, Mass.		

"The 'Roahr' seemed to take the lead, but soon the 'Harvard' was seen to be in advance. On rounding the stake the Harvards had not lost their advantage, but the Roahrs were immediately behind them. The Harvards, having an extremely long boat, required considerable room to turn; the Roahrs attempted to round the stake on the inside, and, in so doing, struck the Harvards amidships, when the cry of 'Foul!' was given by the Harvards. At the stake, the boats got an even start, and for a long distance they so continued, without any seeming advantage on the part of either, but, as they neared the judges' boat, the Roahrs jumped ahead. . . . On the request of Mr. Blaikie, Admiral Farragut (who was present) delivered the prizes. The single scull prize was awarded to Walter Brown; that for the four-oared race, to the 'Harvard' crew."—*Boston Post*, June 16, 1869.

1870.

In consequence of the new boat-house of the Union Boat Club, of Boston, not being finished at the usual season for holding this regatta, and the club being prevented thereby from extending to the association the necessary facilities for its annual races, the regatta did not take place this year.

HUDSON AMATEUR ROWING ASSOCIATION.

1867.

FIRST ANNUAL REGATTA.

At Hoboken, N. J., Thursday, Sept. 12, 1867.

COURSE: Three miles on the Hudson River, starting from the Judges' yacht, moored off the New York Yacht Club House at Hoboken, N. J., up the river one and a half miles to a flag boat, and return.

WEATHER: Fine and clear. WIND: light breeze. WATER: fair. TIME: single scull race started at 3 P.M.; six-oared gig race, at 5h. 43' 55".

First Race, for Single Scull Working Boats.

FOUR ENTRIES.

PRIZE: A gold badge, with the champion flag engraved thereon.

			Time.
1. T. Fearon, Vesper	B. C., Skippie,	Purple,	27' 06"
2. J. H. Koble, Columbia	" Unknown,	Red,	27' 09"
3. J. C. White, Gulick	" Crazy Jane,	White,	Not taken.
4. Chas. Tate, Columbia	" Many Breezes,	Blue,	Distanced.

Second Race, for Double Scull Working Boats.

THREE ENTRIES.

PRIZE: The gold and enamel badge of the Association for each winner.

			Time.
1. H. S. Magrane, } S. J. Hall, }	Atlantic B. C., Mosquito,	{ White } { and blue, }	27' 05"
2. G. M. Young, } W. F. Seilken, }	Columbia " Tilly,	Blue,	27' 20"
3. H. V. Clark, } A. L. Amelung, }	Palisade " Maria,	{ Blue and } { white, }	Not taken.

Third Race, for Inrigged Barges.

THREE ENTRIES.

PRIZE: A set of embroidered colors, a national flag, silver cigar stand, and bow light.

1. SIX-OARED BARGE "DAVID BANKS, JR."

ENTERED BY ATALANTA BOAT CLUB, OF NEW YORK. COLORS: CRIMSON. MANNED BY

A. L. Knapp,	Bow.	Lee Waterbury,	4.
J. D. Probst,	2.	W. M. Haddock,	5.
Jon. A. Ogden,	3.	Wm. H. Webster,	Stroke.
George Roahr, Coxswain.			
Time, 23' 36"			

2. SIX-OARED BARGE "FRAUD."

ENTERED BY COLUMBIA BOAT CLUB, OF NEW YORK. COLORS: RED, WHITE, AND BLUE. MANNED BY

J. Hutchison,	Bow.	W. H. Murphy,	4.
James Rough,	2.	O. B. Sanger,	5.
W. A. Martin,	3.	John C. O'Neill,	Stroke.
Henry G. Hashagen, Coxswain.			
Time, not taken.			

3. EIGHT-OARED BARGE "MEG MERRILIES."

ENTERED BY WAVERLEY BOAT CLUB, OF NEW YORK. COLORS: ORANGE. MANNED BY

G. W. Fortmeyer,	Bow.	Frank Cantrell,	5.
J. Van Loan,	2.	Eugene Heath,	6.
E. G. Waldo,	3.	E. D. McMurray,	7.
John R. Bauer,	4.	W. E. Starr,	Stroke.
Joseph W. Wildey, Coxswain.			
Distanced.			

An allowance of five seconds per oar per mile was made by the eight-oared to the six-oared boats.

Fourth Race, for Six-Oared Outrigged Gigs.

FIVE ENTRIES.

PRIZE: The champion flag of the association, gold badges for each member of the crew, and a set of silver, consisting of five pieces.

1. THE "ATALANTA."

45 feet long; built by George Roahr, of New York.

ENTERED BY ATALANTA BOAT CLUB, OF NEW YORK. COLORS:

CRIMSON. MANNED BY

Alden S. Swan,	Bow.	John R. Lindsey,	4.
W. C. Mainland,	2.	Russell Withers,	5.
Holly Gardner,	3.	George Roahr,	Stroke.
John King, Coxswain.			
Time, 22' 05"			

2. THE "ADAM COOK."

46 feet long; built by George W. Shaw, of Newburg, N. Y.

ENTERED BY MUTUAL BOAT CLUB, OF ALBANY, N. Y. COLORS:

MAGENTA. MANNED BY

C. Piepenbrink,	Bow.	Harmon Bowers,	4.
Wm. H. Snyder,	2.	George Hughes,	5.
James O'Neill,	3.	Henry S. Truax,	Stroke.
Perry H. Ewing, Coxswain.			
Time, 22' 10"			

3. THE "SHANGHAI."

46 feet long; built by James McKay, of New York.

ENTERED BY GULICK BOAT CLUB, OF NEW YORK. COLORS: WHITE.

MANNED BY

William H. Spear,	Bow.	James S. White,	4.
J. G. White,	2.	George Clark,	5.
Thomas Moore,	3.	W. H. Mathews,	Stroke.
George L. Devoe, Coxswain.			
Time, not taken.			

4. THE "DEACON."

46½ feet long; built by S. Lahiton, of New York.

ENTERED BY THE ATLANTIC BOAT CLUB, OF HOBOKEN, N. J. COLORS:

WHITE AND BLUE. MANNED BY

William Mertrus,	Bow.	H. E. Buermeyer,	4.
H. S. Magrane,	2.	Thomas Sturgis,	5.
Wm. B. Curtis,	3.	C. Y. Roosevelt,	Stroke.
T. Tuthill, Coxswain.			
Time, not taken.			

5. THE "COLUMBIA."

45 feet long; built by John McGrady, of New York.

ENTERED BY THE COLUMBIA BOAT CLUB, OF NEW YORK. COLORS:

BLUE. MANNED BY

J. H. Koble,	Bow.	W. F. Seilken,	4.
J. A. Meredith,	2.	Theo. Van Raden,	5.
Peter McIndoe,	3.	H. R. Rough,	Stroke.
Peter Curtan, Coxswain.			
Time, not taken.			

JUDGES: { Hon. William Radford, M. C., Yonkers, N. Y.
Brig.-Gen. Lloyd Aspinwall,
John E. McWhorter,
Alfred W. Craven,
Smith E. Lane, } New York.

REFEREE AND STARTER: Major General Alexander Shaler.

1868.

SECOND ANNUAL REGATTA.

At Hoboken, N. J., Thursday, September 10, 1868.

COURSE: Three miles on the Hudson River, starting from the Judges' boat off the Elysian Fields, Hoboken, N. J., thence north up the river one and a half miles to a flag boat, and return.

WEATHER: Fair and clear. WIND: light airs. WATER: smooth. TIME: afternoon.

First Race, for Double Scull Working Boats.

FIVE ENTRIES.

PRIZE: Two of the gold badges of the association.

		Time.
1. T. Van Raden,	Columbia B. C., New York, Blue,	25' 40"
J. C. O'Neill,		
2. R. S. Church,	Atalanta " " Lavender, 28' 01"	
A. Knapp,		
3. C. Spielman, Jr.,	Atlantic " {Hoboken,} White, {Not	
J. Russell,	{ N. J., } taken.	
4. A. Handy,	Gulick " New York, Red, {With-	
R. B. Deely,		drawn
5. E. R. Ketchum,	Columbia " " Black, {With-	
W. J. Knight,		drawn

Second Race, for Eight-Oared Barges.

THREE ENTRIES.

PRIZE: A silver punch-bowl.

1. THE "VESPER."

ENTERED BY THE ATALANTA BOAT CLUB, OF NEW YORK. COLORS:

CRIMSON. MANNED BY

A. Haddock,	Bow.	W. Haddock,	5.	} Time, 23' 08"
J. H. Lindsey,	2.	L. Waterbury,	6.	
A. Knapp,	3.	J. Ogden,	7.	
R. S. Church,	4.	W. H. Webster,	Stroke.	
L. Noyes, Coxswain.				

2. THE "CONTEST."

ENTERED BY THE GULICK BOAT CLUB, OF NEW YORK. COLORS:

WHITE. MANNED BY

A. Handy,	Bow.	J. Sullivan,	5.	} Time, 23' 41"
W. H. Seaman,	2.	R. Culkin,	6.	
J. Lawrence,	3.	E. Barrett,	7.	
J. Ward,	4.	H. Roome,	Stroke.	
G. Lawrence, Coxswain.				

3. THE "S. H. KNAPP."

ENTERED BY THE COLUMBIA BOAT CLUB, OF NEW YORK. COLORS:

BLUE. MANNED BY

H. G. Hashegan, Bow.	G. M. Young,	5.	} Time, 24' 02"
E. R. Ketchum, 2.	W. Neill,	6.	
J. Rough, 3.	W. A. Martin,	7.	
C. G. Bauer, 4.	W. J. Knight,	Stroke.	
James Hutchinson, Coxswain.			

Third Race, for Single Scull Working Boats.

FIVE ENTRIES.

PRIZE: The champion flag and the gold badge of the association.

1. Thomas Fearon,	Vesper B. C., Yonkers,	Skippie,	23' 10"	Time.
2. G. M. Young,	Columbia " New York,	Flirt,	29' 30"	

Fourth Race, for Six-Oared Outrigged Gigs.

FOUR ENTRIES.

PRIZES: The champion flag of the association, and the gold badge of the association for each of the winning crew.

1. THE "ADAM COOK."

ENTERED BY THE MUTUAL BOAT CLUB, OF ALBANY, N. Y. COLORS: PINK AND MAGENTA. MANNED BY

C. Piepenbrink,	Bow.	C. G. Cook,	4.	} Time, 20' 15"
Wm. H. Snyder,	2.	G. Hughes,	5.	
A. P. Adams,	3.	H. S. Truax,	Stroke.	
H. Ewing, Jr., Coxswain.				

2. THE "ATALANTA."

ENTERED BY THE ATALANTA BOAT CLUB, OF NEW YORK. COLORS: CRIMSON. MANNED BY

H. Gardner,	Bow.	Edward Smith,	4.	} Time, 21' 05"
A. S. Swan,	2.	Russell Withers,	5.	
Wm. C. Mainland,	3.	George Roahr,	Stroke.	
John King, Coxswain.				

3. THE "GULICK."

ENTERED BY THE GULICK BOAT CLUB, OF NEW YORK. COLORS: WHITE. MANNED BY

Wm H. Spear,	Bow.	J. O'Neil,	4.	} Time, 23' 15"
T. Moore,	2.	G. Clark,	5.	
J. Cosgrove,	3.	W. H. Mathews,	Stroke.	
George L. Devoc, Coxswain.				

4. THE "COLUMBIA."

ENTERED BY THE COLUMBIA BOAT CLUB, OF NEW YORK. COLORS: BLUE. MANNED BY

J. A. Meredith,	Bow.	P. McIndoe,	4.	} Time, 25' 20"
Theo. Van Raden,	2.	John C. O'Neil,	5.	
W. F. Seifken,	3.	H. R. Rough,	Stroke.	
J. Hutchinson, Coxswain.				

JUDGES:	Hon. William Radford, M.C.,	Yonkers, N. Y.
	Major-General James T. Hatfield,	Hoboken, N. J.
	Hon. Thomas E. Stewart, M.C.,	New York City.
	Colonel T. Bailey Myers,	

REFEREE AND STARTER: { Major-General Alexander Shaler, New York.

1869.

THIRD ANNUAL REGATTA.

At Hoboken, N. J., Thursday, September 9, 1869.

COURSE: THREE MILES ON THE HUDSON RIVER—From the Judges' boat moored off the Elysian Fields' Dock, north one and a half miles to a stake boat just above the Oil Docks, and return.

WEATHER: Morning cloudy, cleared at 1 P.M.; afternoon clear and pleasant. **WIND:** light airs. **WATER:** smooth.

TIDE: at commencement of first race about half ebb, against boats going up, favorable coming down. **TIME:** first race started at 3 P.M.

First Race, for Double Sculls.

THREE ENTRIES.

PRIZE: The gold badge of the association to each of the winning crew.

1. PAPER BOAT "HARRIOT BALCH."

COLORS: RED. ROWED BY

James O'Neil and R. B. Deely. Time, 28' 49"

2. WOODEN BOAT "GINGER."

COLORS: WHITE. ROWED BY

W. H. Mathews and W. H. Spear. Time, 30' 17"

3. WOODEN BOAT "AMERICAN EAGLE."

ROWED BY

— and —. Withdrawn.

NOTE.—O'Neil and Deely merely rowed over the course without effort.

Second Race, for Six-Oared Gigs.

FOUR ENTRIES.

PRIZE: The gold badge of the association to each of the winning crew.

1. THE "H. S. MAGRANE."

ENTERED BY THE ATLANTIC BOAT CLUB, OF HOBOKEN, N. J. COLORS:

WHITE. MANNED BY

J. W. Benson,	Bow.	Jos. Struthers, Jr.,	4.	} Time, 20' 44½"	
Geo. Courvoiser,	2.	C. Spielman, Jr.,	5.		
L. D. Smith,	3.	Joseph Russell,	Stroke.		
				J. Richards, Coxswain.	

2. THE "ADAM COOK."

ENTERED BY THE MUTUAL BOAT CLUB, OF ALBANY, N. Y. COLORS:

RED. MANNED BY

Chas. H. Armitage,	Bow.	J. Parker,	4.	} Time, 20' 54¼"	
W. Storey,	2.	John Killup,	5.		
E. Crawford,	3.	Geo. Whitney,	Stroke.		
				Charles Piepenbrink, Coxswain.	

3. THE "COLUMBIA."

ENTERED BY THE COLUMBIA BOAT CLUB, OF NEW YORK. COLORS:

BLUE. MANNED BY

James O'Neil,	Bow.	Peter McIndoe,	4.	} Time, 21' 44"	
C. Earwicker,	2.	W. A. Martin,	5.		
W. F. Seilken,	3.	Theo. Van Raden,	Stroke.		
				J. P. Butrell, Coxswain.	

4. THE "LA FAVORITA."

ENTERED BY THE ATALANTA BOAT CLUB, OF NEW YORK. COLORS: RED.

MANNED BY

W. A. Knapp,	Bow.	W. M. Haddock,	4.	} Time, 21' 51"	
A. R. Haddock,	2.	W. C. Mainland,	5.		
Alex. Handy,	3.	W. H. Webster,	Stroke.		
				George Roahr, Coxswain.	

Third Race, for Single Scull Working Boats.

FOUR ENTRIES.

PRIZE: A champion flag, and the gold badge of the association.

1. Thomas Fearon,	Vesper	B. C.,	Yonkers, N. Y.	23' 54½"
2. Richard B. Deely,	Gulick	"	New York.	24' 24½"
3. Edward Losee,	Atalanta	"	"	24' 41½"
4. John C. O'Neil,	Columbia	"	"	Withdrawn.

Fourth Race, for Six-Oared Shells.

TWO ENTRIES.

PRIZE: The champion colors of the association, and the association gold badge for each of the winning crew.

1. SHELL "ATALANTA."

ENTERED BY THE ATALANTA BOAT CLUB, OF NEW YORK. COLORS:

CRIMSON. MANNED BY

A. S. Swan,	Bow.	Edward Smith,	4.	} Time, 19' 19"
J. H. Lindsey,	2.	Russell Withers,	5.	
Lee Waterbury,	3.	Henry S. Truax,	Stroke.	

2. SHELL "MUTUAL."

ENTERED BY THE MUTUAL BOAT CLUB, OF ALBANY. COLORS: PINK

AND MAGENTA. MANNED BY

Chas. Piepenbrink,	Bow.	J. Shattuck,	4.	} Time, 19' 41"
A. P. Adams,	2.	Hy. Wygant,	5.	
G. A. Schwartz,	3.	Perry H. Ewing,	Stroke.	

JUDGES: { Hon. William Radford, M.C., Yonkers, N. Y.
Hon. Thomas E. Stewart, M.C., New York.
General James T. Hatfield, Hoboken, N. J.
General Lloyd Aspinwall, New York.
Colonel T. Bailey Myers, " "

REFEREE AND STARTER: Major-General Alexander Shaler.
TIME-KEEPER: George F. Springstein.

1870.

FOURTH ANNUAL REGATTA.

At Pleasant Valley, N. J., Monday, September 5, 1870.

COURSE: THREE MILES ON THE HUDSON RIVER—From the Judges' boat moored a little south of the dock of the Pleasant Valley Hotel, down the river one and a half miles to a stake-boat, and return.

WEATHER: Fair and clear. WIND: light airs. WATER: fairly smooth. TIDE: the six-oared shell race (fifth) was rowed on the last of flood. TIME: afternoon.

First Race, for Single Shells.

THREE ENTRIES.

PRIZE: The single scull champion flag and a gold-mounted marine glass, presented by John W. Sagman, Esq., of New York.

1. E. Losee,	Atalanta B. C.,	shell C. A. Peverelly.	TIME. 24' 57 $\frac{1}{2}$ "
2. John C. O'Neil,	Columbia "	" Columbia.	26' 27"
3. A. G. Graves, Jr.,	Mutual "	" J. R. Lindsey.	28' 28 $\frac{1}{2}$ "

Second Race, for Four-Oared Shells.

THREE ENTRIES.

PRIZE: A silver water-cooler, salver, and goblets.

1. THE "UNCLE BEN."

ENTERED BY THE VESPER BOAT CLUB, OF YONKERS, N. Y. COLORS:

SOLFERINO. MANNED BY

Thos. Fearon,	Bow.	W. Macfarlane,	3.	} Pulled over course in 21' 17"
O. Van Winkle,	2.	J. H. Keeler,	Stroke.	

2. THE "FIREFLY."

ENTERED BY THE VESPER BOAT CLUB, OF YONKERS, N. Y. COLORS:

SOLFERINO. MANNED BY

H. Bowers,	Bow.	W. B. Upham,	3.	} Withdrawn.
C. E. Waring, Jr.,	2.	C. M. Cumming,	Stroke.	

3. THE "GEORGE ROAHR."

ENTERED BY THE ATALANTA BOAT CLUB, OF NEW YORK. COLORS:

CRIMSON. MANNED BY

A. S. Swan,	Bow.	Edward Smith,	3.	} Withdrawn.
Lee Waterbury,	2.	Russell Withers,	Stroke.	

Third Race, for Six-Oared Gigs.

TWO ENTRIES.

PRIZE: A silver punch-bowl.

1. THE "ALEXANDER KENNEDY."

ENTERED BY THE BEAVERWYCK BOAT CLUB, ALBANY, N. Y. COLORS:

WHITE AND BLUE. MANNED BY

W. H. Morgan,	Bow.	F. Reilly,	4.	} Time, 21' 35"
P. Smith,	2.	Jas. Wilson,	5.	
Wm. Conell,	3.	Wm. Wilson,	Stroke.	
W. R. Hills,	Coxswain.			

2. THE "WILLIAM H. TAYLOR."

ENTERED BY THE MUTUAL BOAT CLUB, OF ALBANY, N. Y. COLORS:

WHITE AND MAGENTA. MANNED BY

John Killup,	Bow.	J. Parker,	4.	} Time, 22' 06"
Wm. Story,	2.	J. A. Brooksby,	5.	
E. M. Crawford,	3.	J. A. Shattuck,	Stroke.	
J. H. Girven,	Coxswain.			

Fourth Race, for Eight-Oared Gunwale Barges.

FIVE ENTRIES.

PRIZE: The "Woodbine" medals, one for each of the winning crew, presented by James E. Nolan, Esq., of New York.

1. THE "VESPER."

ENTERED BY THE VESPER BOAT CLUB, OF YONKERS, N. Y. COLORS:

SOLFERINO. MANNED BY

H. W. Flagg,	Bow.	W. H. Myers,	5.	} Time, 21' 20 $\frac{1}{4}$ "
A. B. Waring,	2.	C. S. Shipman,	6.	
C. E. Keeler,	3.	L. Wells,	7.	
R. C. Elliott,	4.	W. W. Flagg,	Stroke.	
J. T. Howland,	Coxswain.			

2. THE "CONTEST."

ENTERED BY THE GULICK BOAT CLUB, OF NEW YORK. COLORS: RED

AND WHITE. MANNED BY

H. Roome,	Bow.	Thos. Moore,	5.	} Time, 21' 42 $\frac{1}{4}$ "
J. Bryson,	2.	E. Devine,	6.	
W. H. Seaman,	3.	George Clark,	7.	
W. Burns,	4.	Wm. H. Mathews,	Stroke.	
E. J. Blake,	Coxswain.			

3. THE "STEPHEN H. KNAPP."

ENTERED BY THE COLUMBIA BOAT CLUB, OF NEW YORK. COLORS:

BLUE. MANNED BY

W. J. Knight,	Bow.	C. B. Zachman,	5.	} Time, 21' 54 $\frac{3}{4}$ "
John Gourlie,	2.	J. O'Neil,	6.	
J. A. Meredith,	3.	G. M. Young,	7.	
J. T. Logan,	4.	C. Earwicker,	Stroke.	
H. G. Hashegan,	Coxswain.			

4. THE "SHATEMUC."

ENTERED BY THE HUDSON BOAT CLUB, OF JERSEY CITY, N. J. COLORS:

WHITE. MANNED BY

W. Whyte,	Bow.	W. W. Wallis,	5.	} Time, 22' 15 $\frac{1}{4}$ "
W. G. Morgan,	2.	H. Wallis,	6.	
W. W. Vinck,	3.	E. C. Neilson,	7.	
W. P. Douglass,	4.	R. K. Burkman,	Stroke.	
—	—	Coxswain.		

5. THE "ATALANTA."

ENTERED BY THE ATALANTA BOAT CLUB, OF NEW YORK. COLORS:

CRIMSON. MANNED BY

Mathew B. Cox,	Bow.	G. T. Ackerson,	5.	} Time, 23' 24 $\frac{3}{4}$ "
Philip Benjamin,	2.	S. Van Zandt,	6.	
A. Knapp,	3.	F. H. Clark,	7.	
J. Watson,	4.	W. C. Mainland,	Stroke.	
E. Losee,	Coxswain.			

Fifth Race, for Six-Oared Shells.

THREE ENTRIES.

PRIZE: The champion flag of the association, and a gold medal for each of the crew, presented by Messrs. Thomas E. Stewart and Smith E. Lane, of New York.

1. PAPER SHELL "HENRY SMITH."

ENTERED BY THE GULICK BOAT CLUB, OF NEW YORK. COLORS: RED.
MANNED BY

R. B. Deely,	Bow.	J. C. Gilbert,	4.	} Time, 18' 28½"
W. Gannon,	2.	James O'Neil,	5.	
Wm. H. Speer,	3.	H. C. Truax,	Stroke.	

2. WOODEN SHELL "RANSOM PARKER, JR."

ENTERED BY THE ATALANTA BOAT CLUB, OF NEW YORK. COLORS: CRIMSON. MANNED BY

Edward Smith,	Bow.	H. B. Le Roy,	4.	} Time, 18' 31½"
Theo. Van Raden,	2.	Lee Waterbury,	5.	
Alex. Handy,	3.	Russell Withers,	Stroke.	

3. WOODEN SHELL "MUTUAL."

ENTERED BY THE MUTUAL BOAT CLUB, OF ALBANY, N. Y. COLORS: WHITE AND MAGENTA. MANNED BY

C. Piepenbrink,	Bow.	W. S. Moseley,	4.	} Time, 20' 32"
A. P. Adams,	2.	G. A. Swartz,	5.	
George Hughes,	3.	Geo. P. Whitney,	Stroke.	

JUDGES: { Hon. S. S. Cox, M.C.,
Hon. M. T. Brennan,
Hon. Thomas E. Stewart, M.C.,
Colonel T. Bailey Myers,
Charles L. Tiffany, Esq., } of New York.

REFEREE: William Wood,
STARTER: T. M. Tuthill,
TIME-KEEPER: Smith E. Lane, } of New York.

NORTHWESTERN AMATEUR BOATING ASSOCIATION.

1869.

FIRST ANNUAL REGATTA.

At Toledo, Ohio, First Day, Thursday, July 8, 1869.

COURSES: ON THE MAUMEE RIVER—*The one and a half miles course:* From opposite the foot of Cherry Street, down the river in a northeasterly direction three-fourths of a mile to a flag-boat anchored midway between Magnolia and Bush Streets, and return. *The two miles course:* From the Cherry Street Bridge, opposite the foot of Cherry Street, down the river in a northeasterly direction one mile to a flag-boat anchored off the foot of Buffalo Street, and return. *The three miles course:* From the Cherry Street Bridge, opposite the foot of Cherry Street, down the river in a northeasterly direction one and a half miles to a flag-boat anchored opposite the city limits of the "West Side," and return.

WEATHER: Clear, but sultry; light shower before the races. **WIND:** gentle. **WATER:** smooth. **CURRENT:** about two miles per hour. **TIME:** afternoon. First race started at 3 P.M.

First Race, for Pleasure and Working Boats.

ONE AND A HALF MILES TURNING RACE. OPEN TO ALL.
THREE ENTRIES.

PRIZE: A handsome field-glass, valued at \$50.

- | | | | |
|-------------------------|-----------------|----------------|---------------|
| 1. The Pleiss brothers, | "Banner," | Detroit, Mich. | Time, 14' 14" |
| 2. ————— | "No Name," | Toledo, O. | } Not taken. |
| 3. ————— | "Kate Johnson," | Monroe, O. | |

Second Race, for Four-Oared Boats.

A THREE MILES TURNING RACE. FOUR ENTRIES.

PRIZES: First, a silver cup, chain, and whistle, valued at \$75;
second, \$50.

1. THE SHELL "MAUMEE."

37½ feet long by 26 inches beam.

ENTERED BY THE TOLEDO BOAT CLUB, OF TOLEDO, OHIO. COLORS:

- | | | | |
|-------------------------|------------------|---------|-----------------|
| MANNED BY | | | |
| Jonathan Crowell, Bow. | James Dority, | 3. | } Time, 23' 26" |
| J. G. Kaney, | J. Copland, Jr., | Stroke. | |
| A. W. Bailey, Coxswain. | | | |

2. THE SHELL "SPRITE."*

43 feet long by 23 inches beam.

ENTERED BY THE NEPTUNE BOAT CLUB, OF EAST SAGINAW, MICH.

- | | | | |
|--------------------------------|------|----------------|-----------------|
| COLORS: ———. MANNED BY | | | |
| T. E. Hoyt, | Bow. | F. A. Graham, | 3. |
| J. Stringham, Jr., | 2. | F. G. Wilkins, | Stroke. |
| William E. McKnight, Coxswain. | | | } Time, 23' 31" |

3. THE LAPSTREAK "DREAM."

40 feet long by 28 inches beam.

ENTERED BY THE DETROIT BOAT CLUB, OF DETROIT, MICH. COLORS:
MANNED BY

- | | | | |
|----------------------------|----------------|---------------------------|-------------------|
| Hammond Hunter, Bow. | William Hanna, | 3. | } Time not taken. |
| C. T. Patriarche, | 2. | William H. Allen, Stroke. | |
| Thomas Williams, Coxswain, | | | |

4. THE SHELL "YDRAD."

46 feet long by 24 inches beam.

ENTERED BY THE UNDINE BOAT CLUB, OF TOLEDO, OHIO. COLORS:
MANNED BY

- | | | | | |
|--------------------------|------|-----------------|---------|--------------------|
| H. B. Taylor, | Bow. | John Waring, | 3. | } Time, not taken. |
| C. S. Hewitt, | 2. | J. F. Caulkins, | Stroke. | |
| Jno. A. Waite, Coxswain. | | | | |

Third Race, for Single Shells.

TWO MILES TURNING RACE. TWO ENTRIES.

PRIZE: A pin, with miniature boat in gold, a whistle, and other charms, valued at \$50.

- | | | | | |
|--------------------|---------------|-------------|---------------|--------------|
| | | | Wooden Shell. | Time. |
| 1. W. R. Caulkins, | Undine B. C., | Toledo, O., | Chicago, | 19' 15" |
| 2. J. F. Caulkins, | " | " | " | W. J. Chase, |
| | | | | } Not taken. |

* The crew of the "Sprite" entered a protest on the ground that the association tug had interfered by her swells, causing them twice to unship an oar. The Referee consequently awarded the first prize to the "Sprite," and the second to the "Maumee."

Second Day, Friday, July 9, 1869.

COURSES: ON THE MAUMEE RIVER—same as first day.

GRAND REVIEW OF ALL THE BOATS OF THE ASSOCIATION AT 10 A.M.

A prize of a handsome silver cup, offered by the President of the Association to the best appearing boat, was awarded the six-oared shell "Lady Alice" of the Milwaukee Boat Club, of Milwaukee, Wis.

WEATHER: Clear and warm. WIND: scarcely a breath of air. WATER: perfectly smooth. CURRENT: about two miles per hour. TIME: afternoon. First race started at 4 P.M.

First Race, for Six-Oared Shells.

FIVE ENTRIES.

PRIZE: First, the championship of the lakes, the champion flags, and \$150; second, \$75.

1. THE "SPRAY."

52 feet long by 22 inches beam.

ENTERED BY THE UNDINE BOAT CLUB, OF TOLEDO, OHIO. COLORS: ———.

MANNED BY

W. R. Caulkins,	Bow.	J. B. Thomas,	4.	} Time, 20' 23" *
H. B. Taylor,	2.	John Waring,	5.	
C. S. Hewitt,	3.	J. F. Caulkins,	Stroke.	

2. THE LAPSTREAK "KEWADIN."

48 feet long by 28 inches beam.

ENTERED BY THE EXCELSIOR BOAT CLUB, OF DETROIT, MICH.

COLORS: ———. MANNED BY

D. B. McEwen,	Bow.	A. M. Backus,	4.	} Time, 20' 38"
C. A. Mack,	2.	John E. Doyle,	5.	
Geo. K. Stevens,	3.	L. H. Baldwin,	Stroke.	
			J. H. Ford, Coxswain.	

3. THE "LADY ALICE."

50 feet long by 26 inches beam.

ENTERED BY THE MILWAUKEE BOAT CLUB, OF MILWAUKEE, WIS.

COLORS: ———. MANNED BY

} Time,
not taken.

4. THE LAPSTREAK "ATLANTA."†

45 feet long by 36 inches beam.

ENTERED BY THE TOLEDO BOAT CLUB, OF TOLEDO, OHIO. COLORS: ———.

MANNED BY

John Crowell,	Bow.	J. G. Kaney,	4.	} Time, not taken.
Geo. E. Pomeroy, Jr.,	2.	A. Buntin,	5.	
James Dority,	3.	J. Copland, Jr.,	Stroke.	
			A. W. Bailey, Coxswain.	

5. THE LAPSTREAK "VOLANTE."†

42 feet long by 38 inches beam.

ENTERED BY THE UNDINE BOAT CLUB, OF ERIE, PA. COLORS: ———.

MANNED BY

W. L. Haines,	Bow.	C. P. Biddle,	4.	} Time, not taken.
N. Vandeslice,	2.	R. E. Clemens,	5.	
J. P. Metcalf,	3.	W. H. Whitehead,	Stroke.	
			Walter Scott, Coxswain.	

Second Race, for Barges.

ONE AND A HALF MILES TURNING RACE. FOUR ENTRIES.

PRIZE: A silver ice pitcher, tray, and two goblets.

1. THE TEN-OARED BARGE "ONTARIO."

48 feet long by 4 feet 6 inches beam.

ENTERED BY THE EXCELSIOR BOAT CLUB, OF DETROIT, MICH.

MANNED BY

F. Raymond, Jr.,	Bow.	D. B. McEwen,	5.	} Time, 11' 25"
F. S. Campbell,	2.	C. A. Mack,	6.	
Geo. K. Stevens,	3.	John E. Doyle,	7.	
A. M. Backus,	4.	L. H. Baldwin,	Stroke.	
			J. H. Ford, Coxswain.	

2. THE EIGHT-OARED BARGE "TOLEDO."

43 feet long by 4 feet beam.

ENTERED BY THE TOLEDO BOAT CLUB, OF TOLEDO, OHIO.

MANNED BY

John Crowell,	Bow.	James Dority,	5.	} Time, not taken.
D. Bronson,	2.	J. G. Kaney,	6.	
F. C. Mayhew,	3.	J. Buntin,	7.	
Geo. E. Pomeroy, Jr.,	4.	J. Copland, Jr.,	Stroke.	
			A. W. Bailey, Coxswain.	

3. THE SIX-OARED BARGE "XANTHO."

29 feet long by 2 feet 9 inches beam.

ENTERED BY THE XANTHO BOAT CLUB, OF TOLEDO, OHIO.

MANNED BY

J. B. Cooper,	Bow.	J. H. Doyle,	4.	} Time, not taken.
E. E. Smith,	2.	Chas. E. Dustin,	5.	
Chas. F. Shipley,	3.	B. W. Richards,	Stroke.	
			William H. Gorrill, Coxswain.	

4. THE SIX-OARED BARGE "NEPTUNE."

45 feet long by 4 feet beam.

ENTERED BY THE NEPTUNE BOAT CLUB, OF EAST SAGINAW, MICH.

MANNED BY

A. J. Bullard,	Bow.	F. A. Lawrence,	4.	} Time, not taken.
Chas. Braden,	2.	T. E. Hoyt,	5.	
Jos. Stringham, Jr.,	3.	F. G. Wilkins,	Stroke.	
			William E. McKnight, Coxswain.	

JUDGES: { William Tillman, of Detroit, Mich.
L. S. Thorn, Milwaukee, Wis.
J. K. Stevens, East Saginaw, Mich.
W. H. Smith, Toledo, Ohio.
REFEREE: George Baker, Detroit, Mich.

* The official time, as reported, was 21' 23"; but it is evident from the contemporaneous reports that this was an error, and that it should be 20' 23", which agrees with the previous practice record.

† The "Atlanta" and "Volante" fouled, but as they were so far behind it in nowise affected the race.

1870.

SECOND ANNUAL REGATTA.

At Detroit, Mich., First Day, Thursday, July 14, 1870.

COURSES: ON THE DETROIT RIVER—*For the one and a half miles turning race:* From starting boats* moored at the foot of Randolph Street, 12 fathoms apart, up the river east by north three-fourths of a mile to flag-boats, and return. *For the three miles turning race:* From the starting boats moored at the foot of Randolph Street, up the river in an east by north direction one and a half miles to flag-boats, and return.

WEATHER: Fine and clear. **WIND:** southwest and light. **WATER:** fairly smooth. **CURRENT:** about two miles per hour. **TIME:** single shell race, at 4 P.M.; six-oared shell race, at 5 P.M.

First Race, for Single Shells.

ONE AND A HALF MILES TURNING RACE. THREE ENTRIES.

PRIZE: The Championship of the Association and a silver cup.

	Time.
1. W. B. Curtis, Chicago R. C., paper shell Nettie S.,	12' 43 $\frac{1}{2}$ "
2. W. H. Snyder, " " wooden " Camille,	13' 53 $\frac{1}{2}$ "
3. Frank Turner, Neptune B. C., E. Saginaw, Tin shell,	14' 58"

Second Race, for Six-Oared Shells.†

THREE MILES TURNING RACE. FIVE ENTRIES.

PRIZES: *First*, the Champion flag of the Association, silver water urn and goblets for the club, and a gold charm for each member of the crew. *Second*, a silver water urn and goblet.

1. THE "EMILY L. RUSSELL."

48 feet long by 23 inches beam.

ENTERED BY THE EXCELSIOR BOAT CLUB, OF DETROIT, MICH.
COLORS: BLUE. MANNED BY

D. B. McEwen,	Bow.	132 lbs.	} Time, 20' 56 $\frac{1}{4}$ "
C. A. Mack,	2.	140 "	
G. K. Stevens,	3.	152 "	
A. M. Backus,	4.	153 "	
John E. Doyle,	5.	135 "	
L. H. Baldwin,	Stroke.	145 "	

2. THE "NAIAD."

49 feet long by 21 inches beam.

ENTERED BY THE UNDINE BOAT CLUB, OF ERIE, PA. COLORS:
MAGENTA AND BLUE. MANNED BY

R. E. Clemens,	Bow.	136 lbs.	} Time not taken, came in 2 lengths behind the "Russell."
W. L. Haines,	2.	135 "	
R. C. Mayer,	3.	137 "	
C. P. Biddle,	4.	138 "	
J. P. Metcalf,	5.	153 "	
H. Whitehead,	Stroke.	140 "	

3. THE "ENID."

48 feet long by 23 inches beam.

ENTERED BY THE DETROIT BOAT CLUB, OF DETROIT, MICH.

COLORS: BLUE AND WHITE. MANNED BY

W. J. Higham,	Bow.	139 lbs.	} Time not taken.
C. C. Hinchman,	2.	142 "	
J. H. Strachan,	3.	145 "	
P. H. Patriarche,	4.	143 "	
C. J. Reilly,	5.	155 "	
W. H. Allen,	Stroke.	140 "	

4. THE "SPRAY."

52 feet long by 21 inches beam.

ENTERED BY THE UNDINE BOAT CLUB, OF TOLEDO, OHIO. COLORS:
BLUE. MANNED BY

F. T. Haskell,	Bow.	129 lbs.	} Time not taken.
H. B. Taylor,	2.	155 "	
W. R. Caulkins,	3.	158 "	
W. J. Chase,	4.	160 "	
J. B. Thomas,	5.	158 "	
C. P. Hewett,	Stroke.	156 "	

5. THE "TWILIGHT."

52 feet long by 20 inches beam.

ENTERED BY THE NEPTUNE BOAT CLUB, OF EAST SAGINAW, MICH.
COLORS: BLUE AND WHITE. MANNED BY

J. Stringham, Jr.,	Bow.	150 lbs.	} Time not taken.
D. R. Brown,	2.	129 "	
James P. Peter,	3.	148 "	
G. H. Haite,	4.	142 "	
Frank Turner,	5.	150 "	
F. G. Wilkins,	Stroke.	140 "	

* The inside starting boat was moored fifty fathoms from shore.

† The boats turned the stake in the following order: 1. Naiad; 2. Russell; 3. Spray; 4. Enid; 5. Twilight.

Second Day, Friday, July 15, 1870.

COURSES: ON THE DETROIT RIVER—same as previous day.

WEATHER: Threatening, with showers. WIND: east, blowing a half gale. WATER: very rough for shells. CURRENT: about two and a half miles an hour. TIME: four-oared race, at 3.30 P.M.; barge race, at 4.30 P.M.

First Race, for Four-Oared Shells.

THREE MILES TURNING RACE. THREE ENTRIES.

PRIZES: *First*, silver cup and chain for the club, and a gold badge and pendant for each of the crew. *Second*, a pair of silver goblets.

1. THE "CREST."*

45 feet long by 20 inches beam.

ENTERED BY THE TOLEDO BOAT CLUB, OF TOLEDO, OHIO. COLORS:

RED. MANNED BY

J. H. Crowell,	Bow.	140 lbs.	} Time, 24' 27 $\frac{3}{4}$ "
J. G. Kaney,	2.	140 "	
G. E. Pomeroy, Jr.,	3.	150 "	
J. Copland, Jr.,	Stroke.	139 "	
A. W. Bailey,	Cox.	115 "	

2. THE "SPRITE."

45 feet long by 23 inches beam.

ENTERED BY THE NEPTUNE BOAT CLUB, OF EAST SAGINAW, MICH.

COLORS: BLUE AND WHITE. MANNED BY

J. Stringham, Jr.,	Bow.	150 lbs.	} Time, 24' 41 $\frac{3}{4}$ "
G. H. Haite,	2.	142 "	
Frank Turner,	3.	150 "	
F. G. Wilkins,	Stroke.	140 "	

3. THE LAPSTREAK "DREAM."

ENTERED BY THE DETROIT BOAT CLUB, OF DETROIT, MICH. COLORS:

— MANNED BY

W. J. Higham,	Bow.	139 lbs.	} Withdrawn in consequence of rudder catching in anchor rope of start'g boat.
P. H. Patriarche,	2.	143 "	
C. J. Reilly,	3.	152 "	
W. H. Allen,	Stroke.	140 "	

Second Race, for Barges.

ONE AND A HALF MILES TURNING RACE. FIVE ENTRIES.

PRIZES: *First*, coxswain's silver whistle and chain. *Second*, marine glass.

1. THE SIX-OARED BARGE "ECLIPSE."

45 $\frac{1}{2}$ feet long by 42 inches beam.

ENTERED BY THE WAH-WAH-SUM BOAT CLUB, OF SAGINAW, MICH.

MANNED BY

V. B. Paine,	Bow.	145 lbs.	} Time, 11' 45 $\frac{1}{2}$ "
E. A. Behan,	2.	133 "	
Henry Smith,	3.	160 "	
P. McElgan,	4.	164 "	
John Smith,	5.	177 "	
T. Stenou,	Stroke.	162 "	
C. E. Wheeler,	Cox.	130 "	

2. THE TEN-OARED BARGE "ONTARIO."

48 feet long by 54 inches beam.

ENTERED BY THE EXCELSIOR BOAT CLUB, OF DETROIT, MICH.

MANNED BY

F. Raymond, Jr.,	Bow.	G. K. Stevens,	5.	} Time, 12' 20 $\frac{1}{2}$ "
F. S. Campbell,	2.	A. M. Backus,	6.	
D. B. McEwen,	3.	John E. Doyle,	7.	
C. A. Mack,	4.	L. H. Baldwin,	Stroke.	
James H. Ford,	Coxswain,			

3. THE EIGHT-OARED BARGE "S. R. KIRBY."

48 feet long by 48 inches beam.

ENTERED BY THE NEPTUNE BOAT CLUB, OF EAST SAGINAW, MICH.

MANNED BY

J. Stringham, Jr.,	Bow.	James B. Peter,	5.	} Withdrawn.
J. E. Mershon,	2.	G. H. Haite,	6.	
F. A. Ashley,	3.	Frank Turner,	7.	
D. R. Brown,	4.	F. G. Wilkins,	Stroke.	

(Steered with traveller.)

4. THE EIGHT-OARED BARGE "TOLEDO."

43 feet long by 48 inches beam.

ENTERED BY THE TOLEDO BOAT CLUB, OF TOLEDO, OHIO. MANNED BY

John H. Crowell,	Bow.	James Dority,	5.	} Withdrawn.
John Fitch,	2.	J. G. Kaney,	6.	
— Rogers,	3.	G. E. Pomeroy, Jr.,	7.	
T. C. Mayhew,	4.	J. Copland, Jr.,	Stroke.	
A. W. Bailey,	Coxswain,			

5. THE EIGHT-OARED BARGE "CAMILLA."

42 feet long by 60 inches beam.

ENTERED BY THE DETROIT BOAT CLUB, OF DETROIT, MICH.

MANNED BY

Wm. J. Higham,	Bow.	J. H. Strachan,	5.	} Withdrawn.
William Warner,	2.	P. H. Patriarche,	6.	
E. A. Armstrong,	3.	C. J. Reilly,	7.	
C. C. Hinchman,	4.	W. H. Allen,	Stroke.	
T. J. Lyster,	Coxswain,			

Third Race, for Double Sculls.

ONE AND A HALF MILES TURNING RACE. ONE ENTRY.

PRIZE: A unique pair of bronzes.

1. William B. Curtis and William H. Snyder, of Chicago
R. C., in double shell, pulled over course in 12' 40"

JUDGES:	E. H. Norton,	Toledo, O.	REFEREE: H. A. Boyd, Toledo, Ohio.
	Willard F. Parker,	Detroit, Mich.	
	George R. Wright,	Milwaukee, Wis.	
	James F. Brown,	E. Saginaw, Mich.	

* "The betting was even between Saginaw and Toledo, and Toledo against the field. Capt. Jouett, of the U. S. steamer 'Michigan,' had a crew which, for the last year, he had claimed could beat any four-oared crew West, and he started them in this race. The water was very rough, blowing half a gale, and it was almost impossible for a shell to live; but they came to the score, and so were started.

"The word was given before the Toledo boat was ready. She got away a length behind, and the rudder of the Detroit boat fouled in the starting stake boat—so they did not get away at all, the race being between the three others. In ten lengths the 'Crest' was even with the others, and her crew settled into a long heavy stroke of about 42, and commenced to lead the Saginaw men, who were pulling 43. The steamer 'Michigan's' crew were not in the race after the first mile. Gradually the Toledo crew drew away until nearing the stake boat. Owing to some unusually heavy swells, one of the crew caught a 'crab,' and they thereby lost a length or two, but soon made it up, turned the stake a good five lengths ahead, and started for home. When near home, they spurted at a stroke of 47, crossed the score half full of water, seven lengths ahead, in 24' 27 $\frac{3}{4}$ ", the last mile and a half being pulled in a trifle over nine minutes."—*Wilkes's Spirit of the Times*, July 23, 1870.

1871.

THIRD ANNUAL REGATTA.

At Oconomowoc, near Milwaukee, Wisconsin. First Day, Wednesday, July 12, 1871.

COURSE: ON LAC-LA-BELLE—*The two miles course*, from the Judges' boat at the southeastern end of the lake, opposite the Draper House, one mile north-northwesterly to flag-boats between Long and Rockwell's Islands, and return. *The three miles course*, from same starting-point, north-northwesterly up the lake one and a half miles to six flag-boats off Buzzard Point, and return. Each boat turning its own flag-boat.

WEATHER: Clear and warm. **WIND:** northwest, across course, a very light breeze. **WATER:** a slight chopping sea on. **TIME:** six-oared race started at 3 P.M.

First Race, for Pleasure and Working Boats.

(Postponed until the second day.)

Second Race, for Single Shells.

TWO MILES TURNING RACE. FOUR ENTRIES.

PRIZE: A piece of plate, valued at \$35.

	WEIGHT.	PAPER SHELL.	FT. IN.
Thos. A. Alcock, Chicago R'wing Cl'b,	127 lbs.	Miss A.	31X13
R. S. Cleveland, " "	127 "	Nellie.	30X10
Wm. B. Curtis, " "	160 "	Miss S.	31X11½
Jno. C. Babcock, { Wah-Wah-Sum B. }	160 "	Unknown.	
{ C., Saginaw, Mich. }			

NOTE.—In consequence of the withdrawal of the Chicago Rowing Club from all participation in the regatta, this race did not take place as appointed.

Third Race, for Six-Oared Shells.

THREE MILES TURNING RACE. SIX ENTRIES.

PRIZES: *First*, the champion flag of the association, a silver cup, gold-lined, and gold badges for each of the winning crew. *Second*, a gold-lined silver cup, and gold badges for each of the crew.

POSITIONS AT STARTING: 1. Eastern or inside, Twilight; 2. Lady Alice; 3. Emily L. Russell; 4. Ezra Rust; 5. Naiad.

1. THE "EZRA RUST."

Length, 47 ft. 10 in.; beam, 22 in.

ENTERED BY THE WAH-WAH-SUM BOAT CLUB, OF SAGINAW, MICH.
COLORS: WHITE. MANNED BY

V. B. Paine,	Bow.	144 lbs.	Time, 18' 53½"
E. A. Behan,	2.	136 "	
William Smith,	3.	190 "	
P. McElgum,	4.	161 "	
Henry Smith,	5.	160 "	
T. Slenou,	Stroke.	159 "	
C. E. Wheeler,	Cox.	110 "	

Total weight of crew, 1,060 lbs.

2. THE "TWILIGHT."

Length, 52 ft.; beam, 20 in.

ENTERED BY THE NEPTUNE BOAT CLUB, OF EAST SAGINAW, MICH.
COLORS: BLUE. MANNED BY

D. R. Brown,	Bow.	123 lbs.	Time, 19' 04½"
William Bridges,	2.	143 "	
W. S. Malcolm,	3.	152 "	
L. T. Hunt,	4.	165 "	
P. G. Glynn,	5.	160 "	
J. Stringham, Jr.,	Stroke.	150 "	

Total weight of crew, 893 lbs.

3. THE "LADY ALICE."

Length, 51 ft.; beam, 22 in.

ENTERED BY THE MILWAUKEE BOAT CLUB, OF MILWAUKEE, WIS.
COLORS: SCARLET. MANNED BY

George R. Wright,	Bow.	161 lbs.	Time, not taken; 1½ mile behind.
S. Elmore,	2.	135 "	
C. O. Collins,	3.	141 "	
C. S. Norris,	4.	172 "	
H. T. Skelton,	5.	167 "	
W. H. S. Wright,	Stroke.	150 "	

Total weight of crew, 926 lbs.

4. THE "EMILY L. RUSSELL."

Length, 48 ft.; beam, 23 in.

ENTERED BY THE EXCELSIOR BOAT CLUB, OF DETROIT, MICH.
COLORS: MAGENTA. MANNED BY

F. S. Campbell,	Bow.	140 lbs.	Time, not taken; 1½ mile behind.
Frederick Standish,	2.	135 "	
A. M. Hawes,	3.	148 "	
A. M. Campan, Jr.,	4.	130 "	
James Johnston,	5.	133 "	
L. H. Baldwin,	Stroke.	144 "	

Total weight of crew, 830 lbs.

5. THE "NAIAD."

Length, 49 ft.; beam, 21 in.

ENTERED BY THE UNDINE BOAT CLUB, OF ERIE, PA. COLORS: MAGENTA. MANNED BY

R. C. Clemens,	Bow.	125 lbs.	Time, not taken; ¾ mile behind.
M. Downing,	2.	134 "	
Charles Biddle,	3.	136 "	
E. D. Austin,	4.	133 "	
J. P. Metcalf,	5.	144 "	
W. H. Whitehead,	Stroke.	133 "	

Total weight of crew, 805 lbs.

6. THE PAPER SHELL "WAVE."

Length, 49 ft.; beam, 20 in.

ENTERED BY THE CHICAGO ROWING CLUB, OF CHICAGO, ILL.
COLORS: BLUE AND WHITE. MANNED BY

W. H. Snyder,	Bow.	130 lbs.	Withdrawn.
E. Fauntleroy,	2.	137 "	
S. Powell,	3.	165 "	
W. B. Curtis,	4.	160 "	
J. S. Newman,	5.	142 "	
A. P. Harris,	Stroke.	156 "	

Total weight of crew, 890 lbs.

In consequence of the decision of the Judges that the "Ezra Rust" and the "Naiad" had turned the wrong stake, the first prize was awarded to the "Twilight," entered by the Neptune Boat Club, of Saginaw, and the second to the "Lady Alice," entered by the Milwaukee Boat Club, of Milwaukee. Upon the presentation of the prizes in the evening, Captain George R. Wright, of the Milwaukee Boat Club, refused to accept the second prize awarded to his crew, expressing their opinion that they had not earned it.

Second Day, Thursday, July 13, 1871.

COURSES: ON LAC-LA-BELLE—Same as preceding day.

WEATHER: Clear and cool. WIND: fresh, northwest breeze. WATER: quite rough. TIME: morning and afternoon. Single scull working boats started at 11 A.M.; four-oared race, at 11.45 A.M.; barges, at 2 P.M.

First Race, for Single Scull Working Boats.

TWO MILES TURNING RACE. OPEN TO ALL. FOUR ENTRIES.

PRIZE: \$25.

1. Augustus Meyers, of Oconomowoc.	Time, 21' 30"
2. James Jones, ———	" 26' 00"
3. } Names not given.	" not taken.
4. }	

Second Race, for Double Sculls.

TWO MILES. TWO ENTRIES.

PRIZE: A piece of plate, valued at \$50.

1. PAPER SHELL "AUNT EM."

14 in. x 34 ft.

MANNED BY

William B. Curtis and A. P. Harris, of Chicago Rowing Club.
Weight of crew, 316 lbs.

2. WOODEN SHELL "MINNIE POWELL."

17 in. x 34 ft.

MANNED BY

R. D. Cleveland and J. S. Newman, of Chicago Rowing Club.
Weight of crew, 263 lbs.

In consequence of the withdrawal of the Chicago Rowing Club from all races, this one was given up.

Third Race, for Four-Oared Shells.

THREE MILES TURNING RACE. FIVE ENTRIES.

PRIZES: Valued at \$150—*First*, a silver goblet, and a gold badge for each member of the crew. *Second*, a silver goblet.

POSITIONS AT STARTING: Eastern or inside, 1. Sylph; 2. Sarah A. Bullock; 3. Sprite; 4. Lady Evelyn.

1. THE PAPER SHELL "SARAH A. BULLOCK."*

Length, 43 ft.; beam, 22 in.

ENTERED BY THE WAH-WAH-SUM BOAT CLUB, OF SAGINAW, MICH.

COLORS: WHITE. MANNED BY

V. B. Paine,	Bow.	144 lbs.	} Time, 21' 01 1/4"
P. McElgum,	2.	161 "	
Henry Smith,	3.	160 "	
T. Slenou,	Stroke.	159 "	
C. E. Wheeler,	Cox.	110 "	

Weight of crew, 734 lbs.

2. THE "LADY EVELYN."

Length, 49 ft.; beam, 21 in.

ENTERED BY THE MILWAUKEE BOAT CLUB, OF MILWAUKEE, WIS.

COLORS: SCARLET. MANNED BY

George R. Wright,	Bow.	161 lbs.	} Time, 21' 10"
C. S. Norris,	2.	172 "	
Charles O. Collins,	3.	141 "	
W. H. S. Wright,	Stroke.	150 "	

Weight of crew, 624 lbs.

3. THE "SPRITE."

Length, 43 ft.; beam, 23 in.

ENTERED BY THE NEPTUNE BOAT CLUB, OF EAST SAGINAW, MICH.

COLORS: BLUE. MANNED BY

D. R. Brown,	Bow.	125 lbs.	} Time, not taken; 1/4 mile behind the "Lady Evelyn."
L. T. Hunt,	2.	165 "	
B. G. Glynn,	3.	165 "	
J. Stringham, Jr.,	Stroke.	150 "	

Weight of crew, 605 lbs.

4. THE PAPER SHELL "SYLPH."

Length, 40 3/4 ft.; beam, 17 1/4 in.

ENTERED BY THE NEPTUNE BOAT CLUB, OF EAST SAGINAW, MICH.

COLORS: BLUE. MANNED BY

J. S. Wilkins,	Bow.	137 lbs.	} Time, not taken; close up on the "Sprite."
C. W. Hammond,	2.	138 "	
George Mann,	3.	165 "	
F. G. Wilkins,	Stroke.	140 "	

Weight of crew, 580 lbs.

5. THE PAPER SHELL "LADY PUTNAM."

Length, 40 3/4 ft.; beam, 17 1/4 in.

ENTERED BY THE CHICAGO ROWING CLUB, OF CHICAGO, ILL.

COLORS: BLUE AND WHITE. MANNED BY

William H. Snyder,	Bow.	130 lbs.	} Withdrawn.
W. B. Curtis,	2.	160 "	
J. S. Newman,	3.	146 "	
A. P. Harris,	Stroke.	156 "	

Weight of crew, 590 lbs.

Fourth Race, for Club Barges.

ONE AND A HALF MILES TURNING RACE. TWO ENTRIES.

PRIZE: † Solid silver goblet, valued at \$50.

1. THE "ECLIPSE."

ENTERED BY THE WAH-WAH-SUM BOAT CLUB, OF SAGINAW, MICH.

COLORS: WHITE. MANNED BY

V. B. Paine,	Bow.	144 lbs.	} Time, 13' 55"
E. A. Behan,	2.	136 "	
William Smith,	3.	190 "	
P. McElgum,	4.	161 "	
Henry Smith,	5.	160 "	
T. Slenou,	Stroke.	159 "	
C. E. Wheeler,	Cox.	110 "	

2. THE "MILWAUKEE."

ENTERED BY THE MILWAUKEE BOAT CLUB, OF MILWAUKEE, WIS.

COLORS: SCARLET. MANNED BY

John D. Ogden,	Bow.	135 lbs.	} Time, not taken.
Edward M. Perrine,	2.	135 "	
Wm. T. Durand,	3.	135 "	
Thomas B. Oliver,	4.	136 "	
Otis J. Waite,	5.	147 "	
Edward Dewey,	Stroke.	145 "	
Edward C. Wall,	Cox.	140 "	

JUDGES:	{ L. M. Walker, Erie, Pa. J. B. Thomas, Toledo, O. Levi T. Griffin, Detroit, Mich. L. P. Sheldon, Saginaw, " }	REFEREE: N. J. Emmons, of Milwaukee, Wis.
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* The captain of the Wah-Wah Sum crew declined to accept the first prize, as awarded them by the Judges, in consequence of the decision of the latter in the matter of the six-oared race the previous day.

† This prize, although won by the crew of the Wah-Wah-Sum Club, was declined by them for the same reason that they declined that for the four-oared race.

OXFORD AND CAMBRIDGE MATCHES.

NAMES OF THE CREWS THAT HAVE CONTENDED IN THE EIGHT-OARED RACES
BETWEEN THE PICKED CREWS OF THE UNIVERSITIES OF OXFORD AND
CAMBRIDGE, ENGLAND, FROM THE COMMENCEMENT IN 1829
TO 1871, ALL STRAIGHT-AWAY, BREAST RACES.

[For the information of those of our American readers who are not familiar with the organization of these universities, we would say that the titles, such as "St. John's," "Balliol," etc., opposite each name in the following list, is the designation of the college to which the oarsman belongs—these several colleges, each a distinct educational establishment, being comprehended in the term "University."]

Races from 1829
to 1836.

1829.*

ON WEDNESDAY, JUNE 10.

COURSE: HENLEY-ON-THAMES—Length, 1 mile 3 furlongs.

OXFORD, WINS.

J. Carter,
E. J. Arbuthnot,
J. E. Bates,
C. Wordsworth,
J. Toogood,
T. Garnier,
G. B. Moore,
T. Stauniforth,
W. R. Fremantle,

St. John's.
Balliol.
Christ Church.
" "
Balliol.
Worcester.
Christ Church.
" "
" "

Bow.

2.
3.
4.
5.
6.
7.
Stroke.
Cox.

CAMBRIDGE, LOSES.

A. B. E. Holdsworth,
A. F. Bayford,
C. Warren,
C. Merrivale,
W. Entwisle,
W. H. Thompson,
G. A. Selwyn,
W. Snow,
J. M. Heath,

Trinity.
Trinity Hall.
Trinity.
St. John's.
Trinity.
Jesus.
St. John's.
" "
Trinity (c.)

Bow.

2.
3.
4.
5.
6.
7.
Stroke.
Cox.

Won easily. Time, 14' 30"

1836.*

ON FRIDAY, JUNE 17.

COURSE: WESTMINSTER TO PUTNEY—Distance, 5 miles 3 furlongs.

CAMBRIDGE, WINS.

W. H. Solly,
F. Green,
E. Stanley,
P. Hartley,
W. M. Jones,
J. H. Keane,
A. W. Upcher,
A. K. B. Granville,
T. S. Egan,

1st Trinity,
Caius,
Jesus,
Trinity Hall,
Caius,
1st Trinity,
2d "
Corpus,
Caius,

Bow.

2.
3.
4.
5.
6.
7.
Stroke.
Cox.

OXFORD, LOSES.

G. Carter,
G. T. Stevens,
W. Bailie,
— Harris,
J. V. Isham,
J. Pennefather,
W. S. Thompson,
F. L. Moysey,
— Davis,

St. John's,
Exeter,
Christ Church,
Magdalen,
Christ Church,
Balliol,
Jesus,
Christ Church,
Jesus,

Bow.

2.
3.
4.
5.
6.
7.
Stroke.
Cox.

Won by one minute. Time, 36' 00"

* No records of the weights of competitors in these years are preserved at either University.

1839.*

Races from
1839 to 1841.

WEDNESDAY, APRIL 3.

COURSE: WESTMINSTER TO PUTNEY—Distance, 5 miles 3 furlongs.

CAMBRIDGE, WINS.

A. H. Shadwell,
W. W. Smythe,
J. Abercrombie,
A. Paris,
F. C. Penrose,
W. H. Yatman,
W. B. Brett,
E. Stanley,
T. S. Egan,

St. John's,
1st Trinity,
Caius,
Corpus,
Magdalene,
Caius,
" Jesus,
Caius,

Bow.
2.
3.
4.
5.
6.
7.
Stroke.
Cox.

S. Lee,
T. Compton,
S. E. Maberley,
W. J. Garnett,
R. G. Walls,
R. Hobhouse,
P. L. Powys,
C. Bewicke,
— Flocks,

OXFORD, LOSES.

Queens,
Merton,
Christ Church,
" "
Brasenose,
Balliol,
" "
University,
Exeter,

Bow.
2.
3.
4.
5.
6.
7.
Stroke.
Cox.

Won by one minute forty-five seconds. Time, 31' 00"

1840.*

WEDNESDAY, APRIL 15.

COURSE: WESTMINSTER TO PUTNEY—Distance, 5 miles 3 furlongs.

CAMBRIDGE, WINS.

A. H. Shadwell,
W. Massy,
W. B. Taylor,
J. M. Ridley,
G. C. Appleby,
F. C. Penrose,
H. Jones,
C. M. Vialls,
T. S. Egan,

St. John's,
1st Trinity,
2d "
Jesus,
Magdalene,
" "
3d Trinity,
Caius,

Bow.
2.
3.
4.
5.
6.
7.
Stroke.
Cox.

J. G. Mountain,
J. J. Pocock,
S. E. Maberley,
W. Rogers,
R. G. Walls,
E. Royds,
G. Meynell,
J. J. T. S. Cocks,
W. B. Garnett,

OXFORD, LOSES.

Merton,
" "
Christ Church,
Balliol,
Brasenose,
" "
" "
" "
" "

Bow.
2.
3.
4.
5.
6.
7.
Stroke.
Cox.

Won by two-thirds of a length. Time, 29' 30"

1841.

WEDNESDAY, APRIL 14.

COURSE: WESTMINSTER TO PUTNEY—Distance, 5 miles 3 furlongs.

CAMBRIDGE, WINS.

W. R. Croker,
Hon. L. W. Denman,
A. M. Ritchie,
J. M. Ridley,
R. H. Cobbold,
F. C. Penrose,
Hon. G. Denman,
C. M. Vialls,
J. M. Croker,

Caius,
Magdalene,
1st Trinity,
Jesus,
St. Peter's,
Magdalene,
1st Trinity,
3d "
Caius,

Bow. 138 lbs.
2. 142 "
3. 164 "
4. 175 "
5. 172 "
6. 168 "
7. 147 "
Stroke. 151 "
Cox. 148 "

R. Bethel,
E. V. Richards,
J. G. Mountain,
E. Royds,
H. W. Hodgson,
W. Lee,
G. Meynell,
J. J. T. S. Cocks,
C. B. Wollaston,

OXFORD, LOSES.

Exeter,
Christ Church,
Merton,
Brasenose,
Balliol,
Brasenose,
" "
" "
Exeter,

Bow. 146 lbs.
2. 156 "
3. 144 "
4. 167 "
5. 164 "
6. 161 "
7. 168 "
Stroke. 157 "
Cox. 136 "

Weight of crew, 1,405 lbs

Weight of crew, 1,252 lbs.

Won by one minute four seconds. Time, 32' 30"

* No records of the weights of competitors in these years are preserved at either University.

Races from
1842 to 1846.

1842.

SATURDAY, JUNE 11.

COURSE: WESTMINSTER TO PUTNEY—Distance, 5 miles 3 furlongs.

OXFORD, WINS.				CAMBRIDGE, LOSES.			
F. T. McDougall,	Magdalen Hall,	Bow.	134 lbs.	F. E. Tower,	St. John's,	Bow.	142 lbs.
R. Menzies,	University,	2.	157 "	Hon. L. W. Denman,	Magdalene,	2.	151 "
E. A. Breedon,	Trinity,	3.	172 "	W. Watson,	Jesus,	3.	153 "
W. B. Brewster,	St. John's,	4.	178 "	F. C. Penrose,	Magdalene,	4.	164 "
G. D. Bourne,	Oriel,	5.	194 "	R. H. Cobbold,	St. Peter's,	5.	174 "
J. C. Cox,	Trinity,	6.	162 "	J. Royds,	Christ's,	6.	161 "
J. Hughes,	Oriel,	7.	160 "	Hon. G. Denman,	1st Trinity,	7.	149 "
F. N. Menzies,	University,	Stroke.	152 "	J. M. Ridley,	Jesus,	Stroke.	168 "
A. T. W. Shadwell,	Balliol,	Cox.	144 "	A. B. Pollock,		Cox.	133 "
Weight of crew, 1,319 lbs.				Weight of crew, 1,253 lbs.			
Won by thirteen seconds. Time, 30' 45"							

1845.

SATURDAY, MARCH 15.

COURSE: PUTNEY TO MORTLAKE—Distance, 4 miles 3 furlongs.

CAMBRIDGE, WINS.				OXFORD, LOSES.			
G. Mann,	Caius,	Bow.	147 lbs.	M. Haggard,	Christ Church,	Bow.	143 lbs.
W. Harkness,	St. John's,	2.	150 "	W. C. Stapylton,	Merton,	1.	152 "
W. S. Lockhart,	Christ's,	3.	157 "	W. H. Millman,	Christ Church,	3.	154 "
W. P. Cloves,	1st Trinity,	4.	176 "	H. Lewis,	Pembroke,	4.	161 "
F. M. Arnold,	Caius,	5.	174 "	W. Buckle,	Oriel,	5.	194 "
R. Harkness,	St. John's,	6.	164 "	F. C. Royds,	Brasenose,	6.	159 "
J. Richardson,	1st Trinity,	7.	170 "	F. M. Wilson,	Christ Church,	7.	171 "
C. G. Hill,	2d "	Stroke.	157 "	F. E. Tuke,	Brasenose,	Stroke.	170 "
H. Munster,	1st "	Cox.	128 "	F. J. Richards,	Merton,	Cox.	150 "
Weight of crew, 1,423 lbs.				Weight of crew, 1,454 lbs.			
Won by thirty seconds. Time, 23' 30"							

1846.*

FRIDAY, APRIL 3.

COURSE: MORTLAKE TO PUTNEY—Distance, 4 miles 3 furlongs.

CAMBRIDGE, WINS.				OXFORD, LOSES.			
G. F. Murdock,	St. John's,	Bow.	142 lbs.	H. S. Polehampton,	Pembroke,	Bow.	149 lbs.
G. F. Holroyd,	1st Trinity,	2.	155 "	E. C. Burton,	Christ Church,	2.	154 "
S. T. Clissold,	3d "	3.	164 "	W. U. Heygate,	Merton,	3.	162 "
W. P. Cloves,	1st "	4.	180 "	E. H. Penfold,	St. John's,	4.	162 "
E. Wilder,	Magdalene,	5.	184 "	J. W. Conant,	"	5.	172 "
R. Harkness,	St. John's,	6.	161 "	F. C. Royds,	Brasenose,	6.	163 "
E. P. Wolstenholme,	1st Trinity,	7.	155 "	W. C. Stapylton,	Merton,	7.	152 "
C. G. Hill,	2d "	Stroke.	155 "	W. H. Millman,	Christ Church,	Stroke.	154 "
T. Lloyd,	St. John's,	Cox.	134 "	C. J. Soanes,	St. John's,	Cox.	139 "
Weight of crew, 1,430 lbs.				Weight of crew, 1,407 lbs.			
Won by two lengths. Time, 21' 05"							

* The first University race rowed in outriggers.

1849.

Races from
1849 to 1852.

FIRST RACE, THURSDAY, MARCH 29.

COURSE: PUTNEY TO MORTLAKE—Distance, 4 miles 3 furlongs.

CAMBRIDGE, WINS.				OXFORD, LOSES.			
H. Proby,	2d Trinity,	Bow.	141 lbs.	D. Wauchope,	Wadham,	Bow.	144 lbs.
W. J. H. Jones,	" "	2.	152 "	J. W. Chitty,	Balliol,	2.	156 "
A. De Rutzen,	3d "	3.	162 "	H. H. Tremayne,	Christ Church,	3.	159 "
J. C. Holden,	" "	4.	162 "	E. C. Burton,	" "	4.	168 "
W. L. G. Bagshawe,	" "	5.	166 "	C. H. Steward,	Oriel,	5.	168 "
W. H. Waddington,	2d "	6.	169 "	A. Mansfield,	Christ Church,	6.	162 "
W. C. Hodgson,	1st "	7.	156 "	E. J. Sykes,	Worcester,	7.	152 "
J. C. Wray,	2d "	Stroke.	151 "	W. G. Rich,	Christ Church,	Stroke.	140 "
G. Booth,	1st "	Cox.	150 "	C. J. Soanes,	St. John's,	Cox.	138 "
Weight of crew, 1,409 lbs.				Weight of crew, 1,387 lbs.			

Won easily. Time, 22' 00"

SECOND RACE, SATURDAY, DECEMBER 15.

COURSE: PUTNEY TO MORTLAKE—Distance, 4 miles 3 furlongs.

OXFORD, WINS.				CAMBRIDGE, LOSES.			
J. J. Hornby,	Brasenose,	Bow.	154 lbs.	A. Baldry,	1st Trinity,	Bow.	152 lbs.
W. Houghton,	" "	2.	156 "	H. E. Pellew,	3d "	2.	154 "
J. Wodehouse,	Exeter,	3.	161 "	A. De Rutzen,	" "	3.	162 "
J. W. Chitty,	Balliol,	4.	163 "	J. C. Holden,	" "	4.	165 "
H. M. Aitkin,	Exeter,	5.	169 "	W. L. G. Bagshawe,	" "	5.	168 "
C. H. Steward,	Oriel,	6.	170 "	H. J. Miller,	" "	6.	168 "
D. J. Sykes,	Worcester,	7.	156 "	W. C. Hodgson,	1st "	7.	157 "
W. G. Rich,	Christ Church,	Stroke.	142 "	J. C. Wray,	2d "	Stroke.	154 "
R. W. Cotton,	" "	Cox.	126 "	G. Booth,	1st "	Cox.	152 "
Weight of crew, 1,397 lbs.				Weight of crew, 1,432 lbs.			

Won by a foul. Time, not taken.

1852.

SATURDAY, APRIL 3.

COURSE: PUTNEY TO MORTLAKE—Distance, 4 miles 3 furlongs.

OXFORD, WINS.				CAMBRIDGE, LOSES.			
K. Prescott,	Brasenose,	Bow.	144 lbs.	E. Macnaghten,	1st Trinity,	Bow.	154 lbs.
R. Greenall,	" "	2.	152 "	H. Brandt,	2d "	2.	159 "
P. H. Nind,	Christ Church,	3.	151 "	H. E. Tuckey,	St. John's,	3.	157 "
R. J. Buller,	Balliol,	4.	168 "	H. B. Foord,	1st Trinity,	4.	174 "
H. Denne,	University,	5.	158 "	E. Hawley,	Sidney,	5.	173 "
W. Houghton,	Brasenose,	6.	158 "	W. Longmore,	" "	6.	158 "
W. O. Meade-King,	Pembroke,	7.	161 "	W. Norris,	3d Trinity,	7.	163 "
J. W. Chitty,	Balliol,	Stroke.	149 "	F. W. Johnson,	" "	Stroke.	162 "
R. W. Cotton,	Christ Church,	Cox.	127 "	C. H. Crosse,	Caius,	Cox.	129 "
Weight of crew, 1,368 lbs.				Weight of crew, 1,329 lbs.			

Won by twenty-seven seconds. Time, 21' 36"

Races from
1854 to 1857.

1854.

SATURDAY, APRIL 8.

COURSE: PUTNEY TO MORTLAKE—Distance, 4 miles 3 furlongs.

OXFORD, WINS.				CAMBRIDGE, LOSES.			
W. F. Short,	New,	Bow.	145 lbs.	R. C. Galton,	1st Trinity,	Bow.	136 lbs.
A. Hooke,	Worcester,	2.	140 "	S. Nairne,	Emmanuel,	2.	142 "
W. Pinckney,	Exeter,	3.	156 "	J. C. Davis,	2d Trinity,	3.	155 "
T. H. Blundell,	Christ Church,	4.	162 "	S. A. Agnew,	1st "	4.	152 "
E. Hooper,	Pembroke,	5.	145 "	E. Courage,	" "	5.	167 "
P. H. Nind,	Christ Church,	6.	152 "	F. W. Johnson,	3d "	6.	153 "
G. L. Mellish,	Exeter,	7.	156 "	H. Blake,	Corpus,	7.	155 "
W. O. Meade-King,	Pembroke,	Stroke.	162 "	J. Wright,	St. John's,	Stroke.	142 "
T. M. Marshall,	Exeter,	Cox.	148 "	C. T. Smith,	Caius,	Cox.	138 "
Weight of crew, 1,366 lbs.				Weight of crew, 1,340 lbs.			
Won by eleven strokes. Time, 25' 29"							

1856.

SATURDAY, MARCH 15.

COURSE: MORTLAKE TO PUTNEY—Distance, 4 miles 3 furlongs.

CAMBRIDGE, WINS.				OXFORD, LOSES.			
J. P. Salter,	Trinity Hall,	Bow.	139 lbs.	P. Gurdon,	University,	Bow.	148 lbs.
F. C. Alderson,	1st Trinity,	2.	157 "	W. F. Stocken,	Exeter,	2.	141 "
R. L. Lloyd,	Magdalene,	3.	166 "	R. J. Salmon,	"	3.	150 "
E. H. Fairrie,	Trinity Hall,	4.	178 "	A. B. Rocke,	Christ Church,	4.	177 "
H. Williams,	St. John's,	5.	176 "	R. Townsend,	Pembroke,	5.	176 "
J. McCormick,	"	6.	182 "	A. P. Lonsdale,	Balliol,	6.	158 "
H. Snow,	"	7.	162 "	G. Bennett,	New,	7.	150 "
H. R. M. Jones,	3d Trinity,	Stroke.	147 "	J. T. Thorley,	Wadham,	Stroke.	138 "
W. Wingfield,	Trinity,	Cox.	124 "	F. W. Elers,	Trinity,	Cox.	128 "
Weight of crew,			1,431 lbs.	Weight of crew,			1,366 lbs.
Won by half a length. Time, 25' 50"							

1857.*

SATURDAY, APRIL 4.

COURSE: PUTNEY TO MORTLAKE—Distance, 4 miles 3 furlongs.

OXFORD, WINS.				CAMBRIDGE, LOSES.			
R. W. Risley,	Exeter,	Bow.	156 lbs.	A. P. Holme,	2d Trinity,	Bow.	162 lbs.
P. Gurdon,	University,	2.	152 "	A. Benn,	Emmanuel,	2.	158 "
J. Arkell,	Pembroke,	3.	154 "	W. H. Holley,	Trinity Hall,	3.	162 "
R. Martin,	Corpus,	4.	166 "	A. L. Smith,	1st Trinity,	4.	158 "
W. H. Wood,	University,	5.	168 "	J. J. Sergeantson,	"	5.	172 "
E. Warre,	Balliol,	6.	171 "	R. L. Lloyd,	Magdalene,	6.	166 "
A. P. Lonsdale,	"	7.	162 "	R. Pearson,	St. John's,	7.	158 "
J. T. Thorley,	Wadham,	Stroke.	148 "	H. Snow,	"	Stroke.	161 "
F. W. Elers,	Trinity,	Cox.	125 "	R. Wharton,	Magdalene,	Cox.	128 "
Weight of crew, 1,402 lbs.				Weight of crew, 1,425 lbs.			
Won by thirty-five seconds. Time, 22' 55"							

* The first race in which either University rowed in the present style of eights without keel; also the first time either rowed with round oars. Both used same kinds of oars and boats.

1858.

Races from
1858 to 1860.

SATURDAY, MARCH 27.

COURSE: PUTNEY TO MORTLAKE.

CAMBRIDGE, WINS.				OXFORD, LOSES.			
H. H. Lubbock,	Caius,	Bow.	158 lbs.	R. W. Risley,	Exeter,	Bow.	162 lbs.
A. L. Smith,	1st Trinity,	2.	158 "	J. Arkell,	Pembroke,	2.	157 "
W. J. Havart,	St. John's,	3.	158 "	C. G. Lane,	Christ Church,	3.	164 "
D. Darroch,	1st Trinity,	4.	164 "	H. Austin,	Magdalen,	4.	147 "
H. Williams,	St. John's,	5.	172 "	E. Lane,	Balliol,	5.	184 "
R. L. Lloyd,	Magdalene,	6.	167 "	W. H. Wood,	University,	6.	177 "
A. H. Fairbairn,	2d Trinity,	7.	166 "	E. Warre,	Balliol,	7.	184 "
J. Hall,	Magdalene,	Stroke.	147 "	J. T. Thorley,	Wadham,	Stroke.	143 "
R. Wharton,	"	Cox.	128 "	H. Walpole,	Balliol,	Cox.	131 "
Weight of crew,			1,418 lbs.	Weight of crew,			1,449 lbs.

Won by twenty-two seconds. Time, 21' 23"

1859.

FRIDAY, APRIL 15.

COURSE: PUTNEY TO MORTLAKE.

OXFORD, WINS.				CAMBRIDGE, LOSES.			
H. F. Baxter,	Brasenose,	Bow.	142 lbs.	N. Royds,	1st Trinity,	Bow.	146 lbs.
R. F. Clarke,	St. John's,	2.	167 "	H. J. Chaytor,	Jesus,	2.	159 "
C. G. Lane,	Christ Church,	3.	163 "	A. L. Smith,	1st Trinity,	3.	155 "
Hon. V. Lawless,	Balliol,	4.	171 "	D. Darroch,	"	4.	172 "
G. Morrison,	"	5.	183 "	H. Williams,	St. John's,	5.	174 "
R. W. Risley,	Exeter,	6.	156 "	R. L. Lloyd,	Magdalene,	6.	163 "
G. Thomas,	Balliol,	7.	158 "	G. A. Paley,	St. John's,	7.	161 "
J. Arkell,	Pembroke,	Stroke.	152 "	J. Hall,	Magdalene,	Stroke.	144 "
A. J. Robarts,	Christ Church,	Cox.	137 "	J. T. Morland,	1st Trinity,	Cox.	126 "
Weight of crew,			1,429 lbs.	Weight of crew,			1,400 lbs.

Cambridge boat sank. Time, 24' 40"

1860.

SATURDAY, MARCH 31.

COURSE: PUTNEY TO MORTLAKE.

CAMBRIDGE, WINS.				OXFORD, LOSES.			
S. Heathcote,	1st Trinity,	Bow.	145 lbs.	J. N. McQueen,	University,	Bow.	161 lbs.
H. J. Chaytor,	Jesus,	2.	160 "	G. Norsworthy,	Magdalen,	2.	155 "
D. Ingles,	1st Trinity,	3.	154 "	T. Halsey,	Christ Church,	3.	164 "
J. S. Blake,	Corpus,	4.	178 "	J. Young,	Corpus,	4.	162 "
M. Coventry,	Trinity Hall,	5.	177 "	G. Morrison,	Balliol,	5.	179 "
B. N. Cherry,	Clare,	6.	171 "	H. F. Baxter,	Brasenose,	6.	160 "
A. H. Fairbairn,	2d Trinity,	7.	164 "	C. J. Strong,	University,	7.	159 "
J. Hall,	Magdalene,	Stroke.	143 "	R. W. Risley,	Exeter,	Stroke.	163 "
J. T. Morland,	1st Trinity,	Cox.	129 "	A. J. Robarts,	Christ Church,	Cox.	132 "
Weight of crew,			1,421 lbs.	Weight of crew,			1,435 lbs.

Won by one length. Time, 26' 05"

Races from
1861 to 1863.

1861.

SATURDAY, MARCH 23.

COURSE: PUTNEY TO MORTLAKE.

OXFORD, WINS.				CAMBRIDGE, LOSES.			
W. Champneys,	Brasenose,	Bow.	151 lbs.	G. H. Richards,	1st Trinity,	Bow.	144 lbs.
E. B. Merriman,	Exeter,	2.	141 "	H. J. Chaytor,	Jesus,	2.	157 "
H. E. Medlicott,	Wadham,	3.	172 "	W. H. Tarleton,	St. John's,	3.	154 "
W. Robertson,	"	4.	157 "	J. S. Blake,	Corpus,	4.	178 "
G. Morrison,	Balliol,	5.	176 "	M. Coventry,	Trinity Hall,	5.	185 "
A. R. Poole,	Trinity,	6.	171 "	H. H. Collings,	3d Trinity,	6.	151 "
H. G. Hopkins,	Corpus,	7.	148 "	R. P. Fitzgerald,	Trinity Hall,	7.	156 "
W. M. Hoare,	Exeter,	Stroke.	150 "	J. Hall,	Magdalene,	Stroke.	146 "
S. O. B. Ridsdale,	Wadham,	Cox.	126 "	T. K. Gaskell,	3d Trinity,	Cox.	115 "
Weight of crew, 1,392 lbs.				Weight of crew, 1,386 lbs.			

Won by *forty-eight seconds*. Time, 23' 28"

1862.

SATURDAY, APRIL 12.

COURSE: PUTNEY TO MORTLAKE.

OXFORD, WINS.				CAMBRIDGE, LOSES.			
W. B. Woodgate,	Brasenose,	Bow	160 lbs.	P. F. Gorst,	St. John's,	Bow.	144 lbs.
O. S. Wynne,	Christ Church,	2.	157 "	J. G. Chambers,	3d Trinity,	2.	162 "
W. B. Jacobson,	"	3.	172 "	E. Sanderson,	Corpus,	3.	150 "
R. E. Burton,	"	4.	173 "	W. C. Smyly,	1st Trinity,	4.	159 "
A. Morrison,	Balliol,	5.	176 "	R. P. Fitzgerald,	Trinity Hall,	5.	157 "
A. R. Poole,	Trinity,	6.	173 "	H. H. Collings,	3d Trinity,	6.	156 "
C. R. Carr,	Wadham,	7.	156 "	J. G. Buchanan,	1st "	7.	153 "
W. M. Hoare,	Exeter,	Stroke.	155 "	G. H. Richards,	"	Stroke,	145 "
F. E. Hopwood,	Christ Church,	Cox.	101 "	F. H. Archer,	Corpus,	Cox.	72 "
Weight of crew, 1,423 lbs.				Weight of crew, 1,298 lbs.			

Won by *thirty seconds*. Time, 24' 41"

1863.

SATURDAY, MARCH 28.

COURSE: MORTLAKE TO PUTNEY.

OXFORD, WINS.				CAMBRIDGE, LOSES.			
R. Shepherd,	Brasenose,	Bow.	154 lbs.	J. C. Hawkshaw,	3d Trinity,	Bow.	154 lbs.
F. H. Kelly,	University,	2.	159 "	W. C. Smyly,	1st "	2.	158 "
W. B. Jacobson,	Christ Church,	3.	172 "	R. H. Morgan,	Emmanuel,	3.	157 "
W. B. Woodgate,	Brasenose,	4.	165 "	J. B. Wilson,	Pembroke,	4.	164 "
A. Morrison,	Balliol,	5.	172 "	C. H. La Motte,	St. John's,	5.	171 "
W. Awdry,	"	6.	158 "	R. A. Kinglake,	3d Trinity,	6.	168 "
C. R. Carr,	Wadham,	7.	157 "	J. G. Chambers,	"	7.	160 "
W. M. Hoare,	Exeter,	Stroke.	161 "	J. Stanning,	1st "	Stroke.	146 "
F. E. Hopwood,	Christ Church,	Cox.	116 "	F. H. Archer,	Corpus,	Cox.	79 "
Weight of crew, 1,414 lbs.				Weight of crew, 1,357 lbs.			

Won by *forty-three seconds*. Time, 23' 10"

I 864.

SATURDAY, MARCH 19.

COURSE: PUTNEY TO MORTLAKE.

OXFORD, WINS.				CAMBRIDGE, LOSES.			
C. Roberts,	Trinity,	Bow.	144 lbs.	J. C. Hawkshaw,	3d Trinity,	Bow.	157 lbs.
W. Awdry,	Balliol,	2.	158 "	E. V. Pigott,	Corpus,	2.	163 "
F. H. Kelly,	University,	3.	163 "	H. Watson,	Pembroke,	3.	172 "
J. Parsons,	Trinity,	4.	177 "	W. Hawkins,	St. John's,	4.	168 "
W. B. Jacobson,	Christ Church,	5.	171 "	R. A. Kinglake,	3d Trinity,	5.	172 "
A. E. Seymour,	University,	6.	157 "	G. H. Borthwick,	1st "	6.	169 "
M. Brown,	Trinity,	7.	157 "	D. F. Steavenson,	Trinity Hall,	7.	169 "
D. Pocklington,	Brasenose,	Stroke.	159 "	J. R. Selwyn,	3d Trinity,	Stroke.	154 "
C. W. R. Tottenham,	Christ Church,	Cox.	161 "	F. H. Archer,	Corpus,	Cox.	161 "
Weight of crew, 1,387 lbs.				Weight of crew, 1,422 lbs.			
Won by twenty-six seconds. Time, 22' 15"							

I 865.

SATURDAY, APRIL 8.

COURSE: PUTNEY TO MORTLAKE.

OXFORD, WINS.				CAMBRIDGE, LOSES.			
R. T. Raikes,	Merton,	Bow.	155 lbs.	H. Watney,	St. John's,	Bow.	150 lbs.
H. P. Senhouse,	Christ Church,	2.	156 "	M. H. Beebee,	"	2.	154 "
E. F. Henley,	Oriel,	3.	151 "	E. V. Pigott,	Corpus,	3.	167 "
G. G. Coventry,	Pembroke,	4.	165 "	R. A. Kinglake,	3d Trinity,	4.	176 "
A. Morrison,	Balliol,	5.	174 "	D. F. Steavenson,	Trinity Hall,	5.	173 "
T. Wood,	Pembroke,	6.	178 "	G. H. Borthwick,	1st Trinity,	6.	168 "
H. Schneider,	Trinity,	7.	165 "	W. R. Griffiths,	3d	7.	162 "
M. Brown,	"	Stroke.	158 "	C. B. Lawes,	"	Stroke.	161 "
C. W. R. Tottenham,	Christ Church,	Cox.	111 "	F. H. Archer,	Corpus,	Cox.	101 "
Weight of crew, 1,413 lbs.				Weight of crew, 1,412 lbs.			
Won by four lengths. Time, 21' 24"							

I 866.*

SATURDAY, MARCH 24, 7.50 A.M.

COURSE: PUTNEY TO MORTLAKE.

OXFORD, WINS.				CAMBRIDGE, LOSES.			
R. T. Raikes,	Merton,	Bow.	155 lbs.	J. Still,	Caius,	Bow.	161 lbs.
F. Crowder,	Brasenose,	2.	165 "	J. R. Selwyn,	3d Trinity,	2.	160 "
W. L. Freeman,	Merton,	3.	175 "	J. U. Bourke,	1st "	3.	171 "
F. Willan,	Exeter,	4.	170 "	H. Fortescue,	Magdalene,	4.	174 "
E. F. Henley,	Oriel,	5.	182 "	D. F. Steavenson,	Trinity Hall,	5.	175 "
W. W. Wood,	University,	6.	172 "	R. A. Kinglake,	3d Trinity,	6.	179 "
H. P. Senhouse,	Christ Church,	7.	157 "	H. Watney,	St. John's,	7.	152 "
M. Brown,	Trinity,	Stroke.	159 "	W. R. Griffiths,	3d Trinity,	Stroke.	166 "
C. W. R. Tottenham,	Christ Church,	Cox.	111 "	A. Forbes,	St. John's,	Cox.	112 "
Weight of crew, 1,446 lbs.				Weight of crew, 1,450 lbs.			
Won by fifteen seconds. Time, 25' 48"							

* "The start took place at ten minutes to 8 A.M. At Bishop's Creek, Cambridge was a quarter of a length ahead, which was increased to three-quarters of a length at Craven, Oxford hugging the Middlesex shore closely; notwithstanding repeated spurts by the Oxford crew, Cambridge continued to preserve the lead to Hammersmith Bridge (time, 8' 11"), well steered and rowing in excellent form. Cambridge, at the tail of Chiswick Eyot, was a length and a half ahead. In Corney Reach a spurt by Oxford diminished this lead. A barge, too, being in the way, Cambridge lost some distance by steering, and a magnificent spurt being put on by Oxford, the lead was wrested from Cambridge. Oxford first passed through Barnes' Bridge (time, 20' 25") half a length ahead, and gradually increased this lead foot by foot to the goal, winning one of the most severe and magnificent races ever seen by fifteen seconds (time, 25' 48"). Both boats were built by Messrs. J. and S. Salter, of Oxford. Mr. J. W. Chitty, of Exeter College, Oxford, was umpire, and Mr. E. Searle, starter."

—Rowing Almanac, 1867.

Races of 1867
and 1868.

I 867.

SATURDAY, APRIL 13, 9 A.M.

COURSE: PUTNEY TO MORTLAKE.

OXFORD, WINS.				CAMBRIDGE, LOSES.			
W. P. Bowman,	University,	Bow.	150 lbs.	W. H. Anderson,	1st Trinity,	Bow.	154 lbs.
J. H. Fish,	Worcester,	2.	169 "	J. M. Collard,	St. John's,	2.	158 "
E. S. Carter,	"	3.	162 "	J. U. Bourke,	1st Trinity,	3.	177 "
W. W. Wood,	University,	4.	176 "	Hon. J. Gordon,	"	4.	171 "
J. C. Tinné,	"	5.	187 "	F. E. Cunningham,	Kings,	5.	180 "
F. Crowder,	Brasenose,	6.	166 "	J. Still,	Caius,	6.	166 "
F. Willan,	Exeter,	7.	169 "	H. Watney,	St. John's,	7.	154 "
R. G. Marsden,	Merton,	Stroke.	165 "	W. R. Griffiths,	3d Trinity,	Stroke.	168 "
C. W. R. Tottenham,	Christ Church,	Cox.	119 "	A. Forbes,	St. John's,	Cox.	114 "
Weight of crew, 1,463 lbs.				Weight of crew, 1,442 lbs.			
Won by half a length. Time, 22' 39"							

"On Saturday, April 13, 1867, at 9 A.M., an even start was effected, Oxford at once going a little to the fore. They kept a slight lead, more or less pressed by Cambridge, past Craven, the Crab-Tree, and clearing the 'shoot.' Forbes steered very wide off the point, but did not lose so much ground, owing to the falling tide. The wonderful part of the performance was the slow stroke of Oxford, infinitely slower than were their comparatively slow ones that have worn down Cambridge the last two years. Thirty-four a minute was the most they did after settling down from the start till long after Chiswick Eyot. Cambridge rowed a capital, workmanlike stroke of thirty-eight; but, even with this discrepancy of stroke, Oxford held a lead through Hammersmith, and so on till the horse-shoe bend beyond, in favor of the Surrey shore, brought up Cambridge, and the latter went by, Griffiths spurting splendidly. He led by half a length at the bottom of the Eyot; but off the church, the same place as in other years, Oxford came again, a slight shade quicker in stroke, and went by again. So on up Corney Reach, and at Barnes' Bridge Cambridge again rather closing up, the lead was half a length. Now came the tug of war, and Griffiths' spurts, with a tired crew, were magnificent. Oxford still held on to their slow stroke, and Cambridge nearly collared them at the Ship. Here, at last, Marsden was roused, and, quickening up in earnest, shot away, a barge moored in front driving Cambridge out of the course, and putting the *coup de grace* to them. The finish was 250 yards from the Ship, and by there Oxford led by about half a length, in 22' 39" from the start. The tide was half-spent, and a neap into the bargain."—*Rowing Almanac*, 1868, page 175.

I 868.

SATURDAY, APRIL 4, 11.45 A.M.

COURSE: PUTNEY TO MORTLAKE.

OXFORD, WINS.				CAMBRIDGE, LOSES.			
W. D. Benson,	Balliol,	Bow.	152 lbs.	W. H. Anderson,	1st Trinity,	Bow.	156 lbs.
A. C. Yarborough,	Lincoln,	2.	162 "	J. P. Nicholls,	3d "	2.	157 "
R. Ross,	Exeter,	3.	161 "	J. G. Wood,	Emmanuel,	3.	174 "
R. G. Marsden,	Merton,	4.	166 "	W. H. Lowe,	Christ's,	4.	172 "
J. C. Tinné,	University,	5.	190 "	H. T. Nadin,	Pembroke,	5.	179 "
F. Willan,	Exeter,	6.	174 "	W. F. MacMichael,	Downing,	6.	169 "
E. S. Carter,	Worcester,	7.	160 "	J. Still,	Caius,	7.	169 "
S. D. Darbishire,	Balliol,	Stroke.	156 "	W. J. Pinckney,	Trinity,	Stroke.	150 "
C. W. R. Tottenham,	Christ Church,	Cox.	119 "	T. D. Warner,	Trinity Hall,	Cox.	116 "
Weight of crew, 1,440 lbs.				Weight of crew, 1,442 lbs.			
Won by six lengths. Time, 21' 00"							

"The start was effected at a quarter to twelve on the morning of Saturday, April 4. Cambridge drew away with a lead which, at Bishop's Creek, had increased to half a length. Here they were driven out by a boat, but the Oxford coxswain gave way. At the point, by a good spurt, the Cambridge boat was sent well ahead. At Rose Bank, however, the steady rowing of Oxford had reversed this order of things, and the dark blues were a third of their length in advance, Cambridge rowing somewhat wildly. At the Soap Works, Oxford had increased their lead to a length, which, at Hammersmith, through Mr. Warner's faulty steering, was doubled. Time, 7' 39". After passing the bridge, Oxford had time to rally, and washed their opponents so effectually that they were driven out into the slack. Coming again into his proper course, Mr. Pinckney's spurting brought his crew within a length of Oxford. Past the Ait, however, it was evident from the wild rowing in the Cambridge boat that defeat was inevitable, and at Barnes' Bridge (time, 16' 48") the dark blue led by sixteen seconds. Notwithstanding the gameness of Granta's sons, Oxford, with victory in their grasp, improved in form, and passed the winning post six lengths ahead. The time was, from start to finish, 21 minutes, the fastest on record, as our table shows, although it cannot be taken as a criterion of the rowing."—*Rowing Almanac*, 1869, page 99.

1869.

Races of 1869
and 1870.

WEDNESDAY, MARCH 17, 3.58 P.M.

COURSE: PUTNEY TO MORTLAKE.

OXFORD, WINS.				CAMBRIDGE, LOSES.			
S. H. Woodhouse,	University,	Bow.	143½ lbs.	J. A. Rushton,	Emmanuel,	Bow.	159 lbs.
R. Tabourdin,	St. John's,	2.	165 "	J. H. Ridley,	Jesus,	2.	164½ "
T. S. Baker,	Queen's,	3.	176 "	J. W. Dale,	St. John's,	3.	166 "
F. Willan,	Exeter,	4.	170½ "	F. J. Young,	Christ's,	4.	172 "
J. C. Tinné,	University,	5.	192 "	W. F. MacMichael,	Downing,	5.	172 "
A. C. Yarborough,	Lincoln,	6.	165 "	W. H. Anderson,	1st Trinity,	6.	151 "
W. D. Benson,	Balliol,	7.	161 "	J. Still,	Caius,	7.	169 "
S. D. Darbshire,	"	Stroke.	162½ "	J. H. D. Goldie,	St. John's,	Stroke.	169 "
D. H. Neilson,	St. John's,	Cox.	108½ "	H. E. Gordon,	1st Trinity,	Cox.	106 "
Weight of crew, 1,444 lbs.				Weight of crew, 1,428½ lbs.			
Won by three lengths. Time, 20' 05"							

"A novelty about the match of 1869 was the fact of its being rowed on an afternoon flood instead of early in the morning, as has generally been the case of late years. . . . As regards the match itself, it is needless to say more than that after a splendid race nearly up to Chiswick Eyot—the Cambridge crew leading through Hammersmith Bridge by about a third of a length—the Oxford eight went into the first place, and won somewhat easily by three lengths, although the form exhibited by the losers was an improvement on previous years."—*Rowing Almanac*, 1870, page 82.

1870.

WEDNESDAY, APRIL 6, 5.14 P.M.

COURSE: PUTNEY TO MORTLAKE.

CAMBRIDGE, WINS.				OXFORD, LOSES.			
E. S. L. Randolph,	3d Trinity.	Bow.	151½ lbs.	R. W. Mirehouse,	University,	Bow.	154 lbs.
J. H. Ridley,	Jesus,	2.	163½ "	A. G. P. Lewis,	"	2.	156½ "
J. W. Dale,	St. John's,	3.	170½ "	T. S. Baker,	Queen's,	3.	177 "
E. A. Spencer,	2d Trinity,	4.	172½ "	J. Edwards-Moss,	Balliol,	4.	182 "
W. H. Lowe,	Christ's,	5.	175½ "	F. E. H. Payne,	St. John's,	5.	178 "
E. Phelps,	Sidney,	6.	169½ "	S. H. Woodhouse,	University,	6.	158 "
J. Strachan,	Trinity Hall,	7.	167 "	W. D. Benson,	Balliol,	7.	167 "
J. H. D. Goldie,	St. John's,	Stroke.	168 "	S. D. Darbshire,	"	Stroke.	165 "
H. E. Gordon,	1st Trinity.	Cox.	118 "	F. H. Hall,	Corpus,	Cox.	105 "
Weight of crew, 1,456½ lbs.				Weight of crew, 1,442½ lbs.			
Won by one and a quarter lengths. Time, 22' 04"							

"The race was rowed in the presence of an enormous concourse of spectators, attracted partly by the ever-increasing interest which centres in the University match, and partly by the prospect of an agreeable holiday—the weather being magnificent. The start took place soon after five o'clock in the afternoon, from station boats moored off Putney Terrace, the Oxford crew starting from the outer or Surrey station, which they took when they had won the toss for choice of position, owing to the flood making up faster there than at the Middlesex station boat, which was placed unnecessarily close to the Fulham shore. There is but little to say concerning the race itself, which proved a comparatively one-sided affair; for, although the Oxford crew led at first, they were headed off Simmons' Yard by Cambridge, who at once rowed past them and took the lead, being a quarter of a length ahead off the London Club boat house, half a length at Craven Cottage, three-quarters at Rosebank Villa, and one length in front off the Soap Works. Every effort was made by the dark blues to reverse the fortunes of the day, but without success, although the nose of their boat was abeam of the coxswain of the Cambridge crew as they shot the arch of Hammersmith Bridge, 8' 05" from starting. Off the Oil Mills, and at the lower end of Chiswick Eyot, the Oxford crew rapidly drew up, and it momentarily appeared as if they were going to row the leaders down; but at the upper end of the island, as the effort of the Oxonians died out, the Cambridge crew, who never varied their long, steady, dragging stroke from first to last, went away again, and led by half a length off Chiswick Church. At the bathing-place, in the Duke of Devonshire's meadows, the Oxford crew seemed to go to pieces, and Cambridge, who were rowing a winning race, drew away, and led under Barnes' Bridge by a good length, in 18' 04", finally winning cleverly, if not easily, by a length and a quarter, in 22' 04"; as has been previously observed, for the first time in ten years. The pace of the match was not particularly quick, but the tide had slackened considerably before the start took place, and there was a foul, though by no means a strong, breeze in Corney Reach. The chief characteristics of the rowing of the crews were a steady, methodical precision, coupled with a long, slow stroke on the part of Cambridge, and a quicker, less regular, and less effective style on the part of Oxford; and with such a complete reversal of their respective form of previous years, it was no wonder that the result of the race was also a reversal of that of late contests."—*Rowing Almanac*, 1871, page 100.

Race of 1871.

1871.

SATURDAY, APRIL 1, 10.08 A.M.

COURSE: PUTNEY TO MORTLAKE.

CAMBRIDGE, WINS.				OXFORD, WINS.			
J. S. Follett,	3d Trinity,	Bow.	160½ lbs.	S. H. Woodhouse,	University,	Bow.	160½ lbs.
J. B. Close,	1st "	2.	162 "	E. Giles,	Christ Church,	2.	167½ "
H. Lomax,	" "	3.	170 "	T. S. Baker,	Queen's,	3.	185½ "
R. A. Spencer,	2d "	4.	177 "	E. C. Malan,	Worcester,	4.	183 "
W. H. Lowe,	Christ's,	5.	178 "	J. E. Edwards-Moss,	Balliol,	5.	176½ "
E. Phelps,	Sidney,	6.	169 "	F. E. Payne,	St. John's,	6.	177½ "
E. S. L. Randolph,	3d Trinity,	7.	164 "	J. McC. Bunbury,	Brasenose,	7.	162 "
J. H. D. Goldie,	St. John's,	Stroke.	174½ "	R. Lesley,	Pembroke,	Stroke.	164½ "
H. E. Gordon,	1st Trinity,	Cox.	111 "	F. H. Hall,	Corpus,	Cox.	108½ "
Weight of crew, 1,466 lbs.				Weight of crew, 1,485½ lbs.			
Won by one length. Time, 23' 05"							

DESCRIPTION OF THE RACE, FROM "THE FIELD," LONDON, APRIL 8, 1871.

The tide.

Wind.

Water.

Preliminary
preparations.

The Start.

At Craven
Cottage.At Rosebank
Villa—one mile
up.

"Soon after nine o'clock, it was rumored that the start would be delayed as long as possible, so as to give the surf which was rolling in mid-river a chance of subsiding, as the flood expended its strength; and shortly before 10 A.M., the craft lying at anchor just above Putney Bridge were over their anchors, thus showing that the tide was nearly at its height. Nevertheless, it still held up much longer than was expected, so that, although the start was delayed quite as long as appeared prudent, the crews had the dregs of the flood under them all the way. The wind, too, which had been blowing fitfully and in gusts, had to some extent dropped, although it still blew with considerable strength. The surface of the river was, however, in a comparatively favorable state for rowing when contrasted with the wild sea running shortly before 9 A.M. The crews were now discerned launching their boats, Oxford embarking from the London, and Cambridge from the Leander Club yards, where their boats were as usual housed. The former once more won the toss, and, of course, selected the Middlesex station, to which they at once proceeded. The Cambridge eight followed them, and took up their position at the Surrey station boat. The two mark boats were made fast to a lighter moored opposite Putney Terrace, but Cambridge comparatively close under the Fulham shore, so as to avoid, as much as possible, the surf in mid-stream. The Fulham station, in view of the existing state of wind, was decidedly the better of the two; for, although there was more flood at the outer berth, there was also more wash. After a brief delay at the post, passed in stripping off superfluous clothing, and in settling down in their proper positions, the crews reached out together, as Mr. Edward Searle, who officiated as starter from the bows of a waterman's skiff, uttered the preparatory caution, and gave the signal to start, at eight minutes past ten o'clock by Putney Church. As the crews lay at the post, the Oxford eight was a trifle ahead of Cambridge, their boat being a foot and a half longer, so that possibly it may have appeared that Oxford led out. This, however, we cannot think was the case.

"When the signal was given, the Cambridge men unquestionably dipped their oars first, and were the earliest to get hold of the water. Their opponents, however, were not behindhand, and there was very little to choose between them as the two crews lifted their boats away from the starting-place without splash, fuss, or mistake; indeed, the sober and business-like way in which they set about their task was the subject of remark. Bent upon making the most of what, rightly or wrongly, they considered their superior speed, the Cambridge crew settled down to their work at once, and off the steam-boat pier led by two or three feet, which was increased to four or five feet off the Duke's Head, where the roadway runs into the towing path just above the Star and Garter Hotel; and by nearly the third of a length opposite the commencement of Simmons' Yard. After passing this boat-house, the Oxford crew, who were now rowing in good earnest and with strength telling in their favor, commenced to hold their own, even if not to overhaul the leaders. This quasi-advantage was, however, evanescent; for, although, off the London Club boat-house, No. 2 in the Cambridge boat was exactly abreast of the Oxford bow-man, the Light Blue boat was again going away fast. For a moment or two this advantage seemed in jeopardy, as the Oxford coxswain, having apparently had enough of the slack under the Fulham shore, sheered right out towards his opponents, so as to get a better tideway. The Cambridge steersman immediately pulled his left yoke-line sharply, and gave way to an unnecessary extent, his boat's head being suddenly pointed towards Barn Elms. Indeed, both crews were laying a course far wide of their true path for rounding the bend in the river opposite Fisher's Creek, half a mile or more up stream. Cambridge were now rowing 37 strokes per minute as against Oxford's 39, and off the Bishop's Creek, notwithstanding their erratic steering, were a third of a length in front, leaving the Dark Blues rapidly astern. At the site of the old half-mile post, which used to stand some yards south of the lower end of the grounds of Craven Cottage, Cambridge had increased their lead to upwards of half a length, and they rounded the point at Craven Cottage three-quarters of a length to the good, if not more. Having apparently now gone wide enough, the Cambridge coxswain at last straightened his boat as he opened out Crab-Tree Reach; but, suddenly altering his mind, he fetched out again, and his example was followed by his opponent, who here yawed his boat about unnecessarily. Despite this humbugging, the Cambridge crew continued to add to their advantage, and, as far as we could judge from the paddle-box of the leading steamer, were clear of their opponents at the Creek adjoining the Grass Wharf above Craven Cottage. It is certain that they were more than clear off Rosebank Villa, which is about a mile from the place where the station-boats were moored—indeed, we should estimate them to have been from a length and a quarter to a length and a half ahead. Across the latter half of Crab-Tree Reach the Cambridge coxswain amply atoned for his indecision lower down the river,

for his steering was beyond all praise. He laid his course as truly as by the magnet for passing the Soap Works Point at a reasonable width; but what was more to the purpose, he edged out gradually and by small degrees until the waste first from his bow-side oars and next from his starboard quarter, was thrown bang upon the Oxford crew, to the manifest increase of their discomfort and unsteadiness. So skilfully was this manœuvre executed, and so long was it kept up, that it occurred to us the necessity of such a proceeding had been impressed upon the coxswain's attention, and its advantages dilated upon, at no distant period. Passing the Crab-Tree, Cambridge led by a length and a half or more; but off Dorset Villa, situate just above this well-known landmark, the Oxford stroke put on a splendid spurt. However, it availed his crew nothing, for they showed symptoms of unsteadiness in a heavy lurch. Having arrived off the Soap Works Wharf, with a lead approximating two lengths, the Cambridge boat was fetched out unnecessarily wide towards the Hammersmith Distillery; but the same error was committed in his turn by the Oxford coxswain—perfection is not human. The two crews now rapidly approached the Suspension Bridge, making for the centre span, and as they neared it the crowd cheered and cheered again. The arch was shot by Cambridge in 9' 10" from the time of starting, with a lead of not less than two lengths—a long length intervening between the rudder of the Cambridge and the nose of the Oxford boat. Off Biffin's boat-building yard the steering of both boats was again slightly erratic, and ground was anything but gained thereby on either side. At the Doves, the Cambridge crew had added a trifle to their lead and were two lengths and a half ahead, or nearly so; and, possessing as they did the inside of the bend from opposite the Lead Mills up to the Oil Mills, they went still further in front, and opened Corney Reach with a lead of three lengths or thereabouts. At the foot of Chiswick Eyot, where both eights were again fetched a little out of their way, the Oxford boat gave two or three heavy lurches, which helped to unsteady the crew. Along the Eyot no change occurred, but off Chiswick Church, reached by the winners in 14 minutes, the Oxonians spurted gallantly; still no response was made by the leaders. Off the White Cottage, at the commencement of the Chiswick meadows, the Oxford crew again showed unsteadiness, and the Cambridge coxswain, laying his course for the osiers above the Bathing Creek, crossed out in front of his opponents, and for the first time during the race took their water, an interval of a length and a half, more or less, separating the two boats. At the Bathing Place another spurt from Oxford momentarily reduced the lead of Cambridge; but the latter, without answering the effort, drew away as it subsided, and led by fully two lengths under the osiers opposite the White Wall on the Surrey shore. Half-way between the Duke of Devonshire's bathing place and the little creek opposite the Bull at Barnes, the Cambridge coxswain, who was hugging the Middlesex shore more closely than was at all necessary—as the tide was making up but faintly—edged out to wash his opponent with his port or stroke-side oars. This little attention was evidently not relished by the Oxford steersman, who for some distance had been compelled, by reason of his rearward position, either to follow on in the wake of the Cambridge boat or to continue off her quarters in the wash. Consequently he fetched his boat sharp out towards mid-stream, and, calling upon his crew for another effort, endeavored to range up on the outer quarter of the leading boat, but without avail, for the Light Blue crew were quite equal to the emergency and suffered nothing to be gained by the proceeding. No benefit having accrued from the manœuvre of Oxford in suddenly making out into the centre of the river, the Cambridge eight continued their progress to Barnes Bridge, which they reached in 19' 7", with a lead of two lengths or thereabouts. Between the Railway Bridge and the White Hart, the Oxford crew put on a determined spurt; but no effort seemed to be made in the leading boat to meet it, and the two eights continued past the Lime Wharf until reaching Mortlake Brewery. Here the stroke-oar of the Oxford boat put on a magnificent spurt—indeed, it was one of the most brilliant efforts we ever saw—and being well supported by his crew, although their rowing was not the most regular in the world, he rapidly reduced the lead of the Cambridge men as the two boats neared the ship. So long and so pluckily was this spurt kept up, that the after-oar of the Cambridge crew was at length compelled to make an effort, and, quickening slightly, he responded to the challenge. For a moment or two the Light Blue crew got a little wild, and a stray splash was discernible; but from off the Ship to the place where the Judge—John Phelps, of Fulham—was stationed in his flag-boat, the leaders seemed to us, as viewed from astern, to be drawing away again; and they passed the goal, clever, if not easy, winners by a length, the rudder of their boat being just clear of the nose of the Oxford eight. Time, on a slack tide and with a foul wind a great part of the way, 23' 5", and as the Judge fired a gun the moment the nose of the winning boat breasted his line of sight, we have no doubt as to our strict accuracy. We may add that out of four time-takers who stood together, two made the duration of the race 23' 5" and two 23' 4", near enough for all practical purposes, we should say. . . .

At the Crab-Tree.

At Hammer-smith Bridge.

At the White Cottage, Chiswick Meadows.

At Barnes Bridge.

At the finish.

The time.

Character of the rowing by the winners.

The boats.

"The rowing of the winners was a treat to witness—long, even, light, easy, and regular, with a firm hold of the water, and a stroke of medium depth rowed fairly and firmly through from first to last, the oars being brought home in a horizontal line to the chest, not turned down sharply a foot off it, as is occasionally to be seen elsewhere. During the greater portion of the race, when viewed from astern, their oars might have been those of a four-oar, or even of a pair-oar, so perfect was their action, and we have no hesitation in saying that a better crew has not been sent up from Cambridge for some time. . . .

"The winners rowed in a new boat built by J. H. Clasper, of Wandsworth, 56 feet 6 inches long, and the losers in a new one from J. & S. Salter's, of Oxford, measuring 58 feet in length."

The above description and criticism of the race form a portion of an article on this subject, covering three full columns of *The Field*. We introduce it in order to give our American readers an example of the manner in which the action of the University oarsmen in their celebrated races is reviewed by the press, and how carefully every point in such races is watched and noted. Any race which is of sufficient interest to attract a half million of spectators is well worthy of so carefully written an account.

Object of introducing so lengthy a criticism.

Races at Henley-on-Thames, 1845 to 1851.

University Crews at Henley-on-Thames Regattas.

WHEN THE UNIVERSITIES OF OXFORD AND CAMBRIDGE HAVE CONTENDED AGAINST EACH OTHER IN THE SAME HEAT FOR THE GRAND CHALLENGE CUP.

LENGTH OF THE COURSE: 1 mile 3 furlongs 20 poles; or 6,930 feet.

1845.

SATURDAY, JUNE 7.

CAMBRIDGE, WINS.				OXFORD, LOSES.			
G. Mann,	Caius,	Bow.	147 lbs.	W. C. Stapylton,	Merton,	Bow.	146 lbs.
R. Harkness,	St. John's,	2.	150 "	W. Spottiswoode,	Balliol,	2.	151 "
W. S. Lockhart,	Christ's,	3.	157 "	W. H. Millman,	Christ Church,	3.	150 "
W. P. Cloves,	1st Trinity,	4.	175 "	W. Buckle,	Oriel,	4.	188 "
F. C. Hopkins,	" "	5.	171 "	E. A. Breedon,	Trinity,	5.	173 "
H. J. Potts,	Trinity,	6.	173 "	E. H. Penfold,	St. John's,	6.	164 "
F. M. Arnold,	Caius,	7.	174 "	J. W. Conant,	" "	7.	157 "
C. G. Hill,	2d Trinity,	Stroke.	157 "	F. M. Wilson,	Christ Church,	Stroke.	172 "
H. Munster,	1st "	Cox.	128 "	F. J. Richards,	Merton,	Cox.	141 "
Weight of crew, 1,432 lbs.				Weight of crew, 1,442 lbs.			

Won by two lengths. Time, 8' 30"

1847.

THURSDAY, JUNE 17.

OXFORD, WINS.				CAMBRIDGE, LOSES.			
E. S. Moon,	Magdalen, †	Bow.	144 lbs.	W. Maule,	1st Trinity,	Bow.	138 lbs.
H. Haggard,	Christ Church,	2.	146 "	T. M. Gisborne,	St. John's,	2.	150 "
J. Oldham,	Brasenose,	3.	161 "	E. P. Wolstenholme,	1st Trinity,	3.	150 "
F. C. Royds,	" "	4.	164 "	A. Garfit,	" "	4.	176 "
E. G. S. Griffiths,	Worcester,	5.	174 "	C. A. Nicholson,	" "	5.	187 "
W. King,	Oriel,	6.	154 "	R. Harkness,	St. John's,	6.	158 "
G. R. Winter,	Brasenose,	7.	157 "	S. Vincent,	1st Trinity,	7.	150 "
E. C. Burton,	Christ Church,	Stroke.	153 "	F. Jackson,	St. John's,	Stroke.	154 "
C. J. Soanes,	Exeter,	Cox.	136 "	G. F. Murdock,	" "	Cox.	143 "
Weight of crew, 1,389 lbs.				Weight of crew, 1,326 lbs.			

Won by two lengths. Time, 8' 04"

1851.

TUESDAY, JUNE 17.

OXFORD, WINS.				CAMBRIDGE, LOSES.			
W. G. Rich,	Christ Church,	Bow.	140 lbs.	A. S. Page,	St. John's,	Bow.	141 lbs.
W. Nixon,	Worcester,	2.	158 "	W. Longmore,	Sidney,	2.	151 "
J. J. Hornby,	Brasenose,	3.	154 "	R. F. Formby,	1st Trinity,	3.	165 "
W. Houghton,	" "	4.	164 "	H. Cowie,	" "	4.	156 "
H. M. Aitkin,	Exeter,	5.	161 "	H. Brandt,	2d "	5.	157 "
R. Greenall,	Brasenose,	6.	155 "	J. C. Holden,	3d "	6.	155 "
E. J. Sykes,	Worcester,	7.	158 "	H. E. Tuckey,	St. John's,	7.	152 "
J. W. Chitty,	Balliol,	Stroke.	159 "	F. W. Johnson,	3d Trinity,	Stroke.	151 "
E. C. Burton,	Christ Church,	Cox.	154 "	C. H. Crosse,	Caius,	Cox.	127 "
Weight of crew, 1,363 lbs.				Weight of crew, 1,355 lbs.			

Won by six lengths. Time, 7' 45"

1853.

Races at Henley-on-Thames, 1853 to 1855.

SATURDAY, JUNE 11.

OXFORD, WINS.				CAMBRIDGE, LOSES.*			
W. F. Short,	New,	Bow.	148 lbs.	G. B. Foster,	St. John's,	Bow.	150 lbs.
P. H. Moore,	Brasenose,	2.	138 "	S. V. Stephenson,	Caius,	2.	148 "
W. King,	Merton,	3.	165 "	A. Bramwell,	1st Trinity,	3.	150 "
R. J. Butler,	Balliol,	4.	168 "	E. Hawley,	Sidney,	4.	169 "
H. Denne,	University,	5.	178 "	E. Courage,	1st Trinity,	5.	166 "
P. H. Nind,	Christ Church,	6.	152 "	H. Thompkins,	" "	6.	149 "
K. Prescott,	Merton,	7.	143 "	H. Blake,	Corpus,	7.	151 "
W. O. Meade-King,	Pembroke,	Stroke.	161 "	E. Macnaghten,	1st Trinity,	Stroke.	146 "
T. M. Marshall,	Exeter,	Cox.	141 "	E. Freshfield,	Trinity,	Cox.	121 "
Weight of crew, 1,394 lbs.				Weight of crew, 1,350 lbs.			

Won by one and a half feet. Time, 8' 03"

1855.

MONDAY, JUNE 25.

CAMBRIDGE, WINS.				OXFORD, LOSES.			
P. P. Pearson,	St. John's,	Bow.	152 lbs.	W. F. Short,	New,	Bow.	147 lbs.
E. C. Graham,	Trinity,	2.	157 "	J. E. Codrington,	Brasenose,	2.	147 "
H. W. Shrieber,	Trinity Hall,	3.	157 "	C. H. Everett,	Balliol,	3.	156 "
E. H. Fairrie,	" "	4.	166 "	R. H. Denne,	University,	4.	174 "
H. Williams,	St. John's,	5.	162 "	T. H. Craster,	" "	5.	174 "
H. F. Johnson,	3d Trinity,	6.	160 "	P. H. Nind,	Christ Church,	6.	162 "
H. Blake,	Corpus,	7.	163 "	W. Pinckney,	Exeter,	7.	156 "
H. R. M. Jones,	3d Trinity,	Stroke.	139 "	A. Hooke,	Worcester,	Stroke.	146 "
W. Wingfield,	Trinity,	Cox.	122 "	T. M. Marshall,	Exeter,	Cox.	148 "
Weight of crew, 1,378 lbs.				Weight of crew, 1,410 lbs.			

Won by two and a half lengths. Time, 8' 32"

Names of Crews at the Royal Thames National Regatta in 1844.

At Thames National Regatta, 1844.

SATURDAY, JUNE 22.

OXFORD, WINS.				CAMBRIDGE, LOSES.			
W. C. Stapylton,	Merton,	Bow.	148 lbs.	J. Raven,	Magdalene,	Bow.	133 lbs.
W. Spottiswoode,	Balliol,	2.	146 "	H. Venables,	Jesus,	2.	142 "
W. H. Millman,	Christ Church,	3.	154 "	G. Mann,	Caius,	3.	147 "
H. Morgan,	" "	4.	179 "	W. P. Cloves,	1st Trinity,	4.	165 "
W. Buckle,	Oriel,	5.	193 "	T. W. Brooker,	" "	5.	161 "
W. J. Dry,	Wadham,	6.	159 "	J. Richardson,	" "	6.	166 "
F. N. Wilson,	Christ Church,	7.	176 "	C. A. Nicholson,	" "	7.	143 "
F. E. Tuke,	Brasenose,	Stroke.	163 "	F. M. Arnold,	Caius,	Stroke.	165 "
A. T. W. Shadwell,	Balliol,	Cox.	148 "	T. S. Egan,	" "	Cox.	140 "
Weight of crew, 1,466 lbs.				Weight of crew, 1,362 lbs.			

* Cambridge lost a rowlock soon after starting.

Summary of
Oxford and
Cambridge
matches.

SUMMARY OF ALL THE MATCHES ROWED BY THE OXFORD AND CAMBRIDGE UNIVERSITY CREWS.

UNIVERSITY RACES.

YEAR.	DAY OF WEEK.	DATE.	WINNER.	PLACE.	TIME. MIN. SEC.	WON BY	WEIGHT OF CREWS.	
							OXFORD.	CAMBRIDGE.
1829	Wednesday,	June 10.	Oxford.	Henley.	14 33	Won easily.	....	....
1836	Friday,	June 17.	Cambridge.	W. to P.	36 00	1 minute.	....	....
1839	Wednesday,	April 3.	Cambridge.	W. to P.	31 00	1 min. 45 sec.	....	....
1840	Wednesday,	April 15.	Cambridge.	W. to P.	29 30	25 lengths.	....	....
1841	Wednesday,	April 14.	Cambridge.	W. to P.	32 30	1 min. 4 sec.	1,252	1,405
1842	Saturday,	June 11.	Oxford.	W. to P.	39 45	13 seconds.	1,319	1,253
1845	Saturday,	March 15.	Cambridge.	P. to M.	23 30	30 seconds.	1,454	1,423
1846	Friday,	April 3.	Cambridge.*	M. to P.	21 05	2 lengths.	1,497	1,430
1849	Thursday,	March 29.	Cambridge.	P. to M.	22 00	Easily.	1,387	1,409
1849	Saturday,	Dec. 15.	Oxford.	P. to M.	A foul	Foul.	1,397	1,432
1852	Saturday,	April 3.	Oxford.	P. to M.	21 36	27 seconds.	1,363	1,329
1854	Saturday,	April 8.	Oxford.	P. to M.	25 29	11 strokes.	1,366	1,340
1856	Saturday,	March 15.	Cambridge.	M. to P.	25 30	1/2 length.	1,366	1,431
1857	Saturday,	April 4.	Oxford.†	P. to M.	22 55	35 seconds.	1,402	1,425
1858	Saturday,	March 27.	Cambridge.	P. to M.	21 23	22 seconds.	1,449	1,418
1859	Friday,	April 15.	Oxford.	P. to M.	24 30	Camb. sank.	1,429	1,400
1860	Saturday,	March 31.	Cambridge.	P. to M.	26 05	1 length.	1,435	1,421
1861	Saturday,	March 23.	Oxford.	P. to M.	23 23	43 seconds.	1,392	1,386
1862	Saturday,	April 12.	Oxford.	P. to M.	24 41	30 seconds.	1,423	1,298
1863	Saturday,	March 28.	Oxford.	M. to P.	23 10	43 seconds.	1,414	1,357
1864	Saturday,	March 19.	Oxford.	P. to M.	22 15	26 seconds.	1,387	1,422
1865	Saturday,	April 8.	Oxford.	P. to M.	21 24	4 lengths.	1,413	1,412
1866	Saturday,	March 24.	Oxford.	P. to M.	25 48	15 seconds.	1,446	1,450
1867	Saturday,	April 13.	Oxford.	P. to M.	22 39	26 lengths.	1,463	1,442
1868	Saturday,	April 4.	Oxford.	P. to M.	21 00	6 lengths.	1,440	1,442
1869	Wednesday,	March 17.	Oxford.	P. to M.	20 05	3 lengths.	1,444	1,428 1/2
1870	Wednesday,	April 6.	Cambridge.	P. to M.	22 04	1 1/2 lengths.	1,442 1/2	1,456 1/2
1871	Saturday,	April 1.	Cambridge.	P. to M.	23 05	1 length.	1,485 1/2	1,466

HENLEY REGATTAS.

YEAR.	DAY OF WEEK.	DATE.	WINNER.	PLACE.	TIME. MIN. SEC.	WON BY	WEIGHT OF CREWS.	
							OXFORD.	CAMBRIDGE.
1845	Saturday,	June 7.	Cambridge.	Henley.	8 30	2 lengths.	1,442	1,432
1847	Thursday,	June 17.	Oxford.	Henley.	8 04	2 lengths.	1,359	1,326
1851	Tuesday,	June 17.	Oxford.	Henley.	7 45	6 lengths.	1,361	1,355
1853	Saturday,	June 11.	Oxford.‡	Henley.	8 03	1 1/2 feet.	1,394	1,350
1855	Monday,	June 25.	Cambridge.	Henley.	8 32	2 1/2 lengths.	1,410	1,378

THAMES NATIONAL REGATTA.

YEAR.	DAY OF WEEK.	DATE.	WINNER.	PLACE.	TIME.	WON BY	WEIGHT OF CREWS.	
							OXFORD.	CAMBRIDGE.
1844	Saturday,	June 22.	Oxford.	....	....	....	1,466	1,362

* The first University race rowed in outriggers.

† The first race in which either University rowed in the present style of eights without keel; also, the first time either rowed with round oars. Both used the same kind of boats and oars.

‡ Cambridge lost a rowlock at the starting.

INTERNATIONAL RACES.

1866.

Match Races between Henry Kelley, of Putney, England, and James Hamill, of Pittsburg, Penn., U. S., at Newcastle-on-Tyne, England. Kelley vs. Hamill, first race.

First Day, Wednesday, July 4.

COURSE: A straight-away race on the river Tyne—From the High Level Bridge, up the river to a flag at Leamington Point—five miles.

WEATHER: Mild and slightly overcast. WIND: faint breeze. WATER: "scarcely rippled"—"as smooth as possible." TIDE: on the last of the flood. TIME: started at 7.39 A.M. Kelley arrived at the flag at 8h. 01' 45" A.M.

PRIZE: The International Championship, and the stakes of £250 aside. BETTING: 6 to 4 on Kelley.

POSITIONS AT STARTING: Kelley, north or inside; Hamill, south or outside.

1. SHELL —.

Built by Robert Jewett, of Dunston-on-Tyne.

ROWED BY

Henry Kelley, of Putney; age, 35; weight, 147 lbs. } Time, 32' 45"

UMPIRES: { Mr. C. Bush, for Kelley.
Harry Clasper, for Hamill.

2. SHELL —.

12 inches beam by 30 feet 2 inches long. Built by Henry Clasper, of Newcastle-on-Tyne.

ROWED BY

James Hamill, of Pittsburg, Pa.; age, 28; weight, 156 lbs. } Time, not taken.

REFEREE: G. W. L. Hawks, Esq.

Second Day, Thursday, July 5, 1866.

Second race.

COURSE: ON THE RIVER TYNE—From the High Level Bridge, up the river two and a half miles to a stake boat off Paradise Quay, and return—five miles.

WEATHER: Raining steadily. WIND: none. WATER: smooth. TIDE: last of the flood. TIME: started 9.20 A.M. Kelley returned (leisurely) at 9.56 A.M.

PRIZE: The stakes of £250 aside. BETTING: "any amount on Kelley, and no takers."

POSITIONS AT STARTING: Kelley, north side; Hamill, south side.

1. SHELL —.

Built by Robert Jewett, of Dunston-on-Tyne.

ROWED BY

Henry Kelley, of Putney. . . . Time, 36' 00"

2. SHELL —.

Built by Henry Clasper, of Newcastle-on-Tyne.

ROWED BY

James Hamill, of Pittsburg, Pa. . . . Withdrawn.

"Kelley reached the stake boat 300 yards ahead, in 19' 10", after which Hamill ceased to row, and Kelley, consequently, pulled home at his leisure." . . . "On reaching the point where the stake boats were moored, off Paradise Quay, Kelley took a wide sweep round and turned his boat at his leisure, and met Hamill on his upward trip about 250 yards from the boats. Hamill, seeing the vast distance between them, and the utter futility of continuing the struggle, here made up his mind to withdraw, and, slackening his speed, pulled around the same boat that Kelley did, on his return. Sculling slowly down the river about a quarter of a mile, he pulled ashore on the Gateshead (south) side, near a public house called the 'Countess of Coventry,' where he was joined by his friends."—*Correspondence of the N. Y. Clipper.*

* This is the time as officially reported in *Bell's Life* and in the *Rowing Almanac* for 1867, page 188. In some of the English papers it was given at 33' 29", and was so reported in the American papers.

"Kelley rowed the five miles 4' 10" faster than Hamill rowed when he beat Josh. Ward here, taking the longest time given in the English papers, which is 33' 29". Taking *Bell's Life*, which is 32' 45", Kelley rowed 4' 54" faster than Hamill did here."—*Wilkes's Spirit of the Times*, July 22, 1866.

International
Regatta at Pa-
ris. First race
won by St. John
crew.

I 867.

International Regatta, Grand Exposition, Paris, France.

Second Day, Monday, July 8.

FIRST RACE FOR FOUR-OARED BOATS OF THE FIRST CLASS,* MANNED BY AMATEURS OF ALL COUNTRIES.

COURSE: ON THE RIVER SEINE—Between the bridges of St. Cloud and Suresnes, from the starting point opposite the grand stand, down the river to a buoy, thence up stream 3,000 metres to the second buoy, around it, and down river to starting point. Distance, 3 miles 5 furlongs 4 rods.

PRIZES: *First*, 2,000 francs. *Second*, the entries. *Third*, medal offered by the "Société des Régates Dieppoises."

1. "NEW BRUNSWICK, No. 1."

ENTERED BY WESTERN BOAT CLUB, ST. JOHN, NEW BRUNSWICK. MANNED BY

George Price,	150 lbs.,	Bow.	} Weight of crew, 634 lbs.
Elijah Ross,	162 "	2.	
Samuel Hutton,	162 "	3.	
Robert Fulton,	160 "	Stroke.	

Won by four lengths.

2. "PERSEVERANCE."

ENTERED BY ROWING CLUB DES REGATES PARISIENNES. MANNED BY

E. Frébault,	.	.	.	Bow.	} Weight of crew not given.
H. Gesling,	.	.	.	2.	
R. Gesling,	.	.	.	3.	
W. Eddy,	.	.	.	Stroke.	
R. Eddy,	.	.	.	Cox.	

Two lengths ahead of "Mon Etoile."

3. "MON ETOILE."

ENTERED BY ROWING CLUB DES REGATES PARISIENNES. MANNED BY

— Gaudin,	.	.	.	Bow.	} Weight of crew not given.
J. Gaudin,	.	.	.	2.	
— Vasse,	.	.	.	3.	
— Guitard,	.	.	.	Stroke.	
— Joukowiak,	.	.	.	Cox.	

4. "GAULOISE, No. 2."

ENTERED BY SOCIÉTÉ DES REGATES PARISIENNES.

(Crew not given.)

5. "LUSTUCRU."

ENTERED BY ROYAL SPORT NAUTIQUE DE LA MEUSE (LIEGE).

(Crew not given.)

6. "LA BLUETTE."

ENTERED BY EMULATION NAUTIQUE BOULONNAISE,
BOULOGNE-SUR-MER. MANNED BY

E. Monteunis,	154 lbs.,	Bow.	} Weight of crew, 684 lbs.
A. Monteunis,	141 "	2.	
A. Shoolbred,	170 "	3.	
F. Gulston,	158 "	Stroke.	
V. Weston,	61 "	Cox.	

7. "DOLPHIN."

ENTERED BY THE BRIGHTON ROWING CLUB, BRIGHTON,
ENGLAND. MANNED BY

W. Beck,	150 lbs.,	Bow.	} Weight of crew, 715 lbs.
J. H. Hodgson,	150 "	2.	
S. Maple,	166 "	3.	
S. Saunders,	149 "	Stroke.	
C. Jones,	100 "	Cox.	

"The St. Johners were supposed not to have a chance, and betting was strongly against them. They took the lead at a great pace, running some 46 or 47 strokes per minute, followed by the Geslings, 'Gauloise,' and 'Mon Etoile,' Boulogne and Brighton well behind. A determined race between the St. John boys and the Geslings, in which the former always led; but the Geslings pressed them very hard, right up to the buoy, where the Americans came first, just clear, followed by Gesling, 'Mon Etoile,' and 'Gauloise' in close order, Boulogne a long way behind, and Brighton hopelessly last. Nearly all fouled at the buoy, including the Americans, who, however, being without a coxswain, and turning the boat themselves, were immediately benefited thereby, and passed round clear. Gesling drew over the New Brunswick after the rounding, and, for a time, there seemed a prospect of the Parisians rowing their opponents down; but all the opposing crews had yet to learn that the New Brunswickers could row any distance. No alteration occurred until they were about 150 yards from the buoy on the return, when the St. Johners kept a beautiful course, while Gesling was soon thrown two lengths behind, and was ever afterwards out of the race. 'Mon Etoile' rowed down everything else in the race for third, and, although Boulogne tried hard, they had not gained anything by changing the French stroke for an English one, and made no further progress, being far too slow. Passing the Tribune, going up, the New Brunswick led by two clear lengths, 'Perseverance' the same in front of 'Mon Etoile,' and the gaps increasing. The Americans led by four or five lengths at the second buoy, and so won. Gesling was two lengths in front of 'Mon Etoile,' 'Gauloise' fourth, then the 'Lustucru,' Boulogne sixth, and Brighton last."—*The Field* (London), July 13, 1867.

* Inrigged boats.

FOURTH RACE, FOR FOUR-OARED OUTRIGGERS, MANNED BY AMATEURS OF ALL NATIONS.

International
Regatta at Pa-
ris. Second
race won by St.
John crew.

COURSE: A straight course of one and a half miles, finishing at the Bridge of Suresnes.

PRIZES: *First*, 1,000 francs; *second*, the Entries; *third*, Medal offered by the Société l'Emulation Nautique Boulonnaise.

1. "NEW BRUNSWICK, No. 2."

ENTERED BY WESTERN BOAT CLUB, OF ST. JOHN, NEW
BRUNSWICK. MANNED BY

George Price,	150 lbs.,	Bow.	} Weight of crew, 634 lbs.
E. Ross,	162 "	2.	
S. Hutton,	162 "	3.	
R. Fulton,	160 "	Stroke.	

Won by three lengths.

2. THE "LONDON."

ENTERED BY LONDON ROWING CLUB, LONDON, ENGLAND.
MANNED BY

S. L. B. Smith,	157 lbs.,	Bow.	} Weight of crew, 718 lbs.
R. W. Willis,	155 "	2.	
J. C. F. May,	148 "	3.	
W. Stout,	160 "	Stroke.	
P. Weston,	95 "	Cox.	

Three lengths ahead of "Oxford."

3. THE "OXFORD."

ENTERED BY THE OXFORD ETONIAN CLUB, OXFORD, ENG-
LAND. MANNED BY

W. P. Bowman,	153 lbs.,	Bow.	} Weight of crew, 783 lbs.
F. Willin,	172 "	2.	
J. C. Tinné,	180 "	3.	
A. H. Hall,	153 "	Stroke.	
C. Tottenham,	116 "	Cox.	

Five lengths ahead of Germania.

4. THE BOAT OF THE GERMANIA RUDER CLUB, OF HAMBURG.

(Names of crew not given.)

5. THE "SEINE ET TAMISE."

ENTERED BY L'EMULATION NAUTIQUE BOULONNAISE.

MANNED BY

A. Monteunis,	141 lbs.,	Bow.	} Weight of crew, 684 lbs.
A. Shoolbred,	170 "	2.	
F. Gulston,	158 "	3.	
E. Monteunis,	154 "	Stroke.	
V. Weston,	61 "	Cox.	

6. "GAULOISE."

ENTERED BY THE ROWING CLUB OF TOURS, FRANCE.

(Names of crew not given.)

7. PERSEVERANCE,"

ENTERED BY ROWING CLUB DES REGATES PARISIENNES.

MANNED BY

E. Frébault,	.	Bow.	} Weight of crew not given.
Reginald Gesling,	.	2.	
A. Gesling, Jr.,	.	3.	
W. Eddy,	.	Stroke.	
Randolph Gesling,	.	Cox.	

"Oxford" and "London" were the favorites, and 4 to 1 was laid against "New Brunswick." The Parisians got a start slightly before the bomb burst, and so held the lead, immediately steering wildly, and fouling the Americans—there is some reason to fear, purposely—especially as they started in their heavy boat, and had no chance, giving in in 200 yards. This left the latter with the lead, "London" nearest, the Boulogne-sur-Seine lying next, with the Germania Ruder Club away on the right third, and "Oxford" fourth, the others dropping astern, owing to the great pace made, although the Tours men for a time showed exceedingly well. In 300 yards, the Brunswick men had drawn out clear of everything, followed pertinaciously by "London," the Hamburg men two lengths astern, and rowing a very fine race with the Oxonians, who were just astern of them. Passing the Garage, Stout spurted brilliantly, and "London" drew half-way over the "New Brunswick, and the fine pace shown by the Englishmen seemed likely to tell, especially as this was a straight race, in compliment to the English crews, finishing at the Pont de Suresnes; but at the Tribune the St. Johners, quickening their work a little, again drew clear. The other boats maintained the same positions, the Oxonians being just over the stern of the Germans, and a splendid race going on, Boulogne and Tours close together, three or four lengths behind. Below the Tribune, the stroke of the "New Brunswick" slipped from his seat, which enabled "London" to draw level; but the instant the Americans had recovered, they were ploughing away ahead of the others, talking and laughing in the easiest manner possible. The race between "Hamburg" and "Oxford" continued some 200 yards further, and then the superior rowing and weight of the Oxonians, telling against their plucky antagonists, they went third, now being some four lengths behind "London," who were two lengths behind the St. John's crew. "Oxford" was slightly impeded by the rough water, but showed some fine rowing, and a determined struggle followed to the end of the course between the three boats, the end of which was that "London," by splendid rowing and the most determined pluck, fairly retrieved their defeat for the Steward's Cup, at Henley, although they were unable to beat the St. Johners, who rowed in at 45 strokes per minute, easy winners by three lengths. The Oxonians were scarcely so much behind "London." The Germania Ruder Club followed fourth, five lengths behind "Oxford," Boulogne fifth, and Tours well up. This was the conclusion of the French Regatta, and it may fairly be said that the rowing was worthy of almost any regatta, while the arrangements had improved considerably as the business proceeded."—*The Field* (London), July 13, 1867.

Ward Brothers vs. St. John, N. B., crew.

Match Race between the Ward Brothers, of Cornwall Landing, New York, and a Picked Crew from St. John, New Brunswick.

At Springfield, Mass.; Wednesday, September 11, 1867.

COURSE: ON THE CONNECTICUT RIVER—From a point opposite the foot of ——— Street, three miles down the river to a stake boat, and return.

PRIZE: \$1,000, and the Championship of America.

WEATHER: Fine and clear. WIND: none. WATER: perfectly smooth.

1. THE FOUR-OARED WOODEN SHELL "SHERIDAN SHOOK."

Built by Stephen Roberts, of New York, of cedar, 46 feet 2 inches long, 20 inches beam, 8 inches deep.

MANNED BY

Joshua Ward,	Age, 29,	Height, 6 feet 0 $\frac{1}{4}$ inches,	Weight, 164 lbs.,	Bow.	} Time, 39' 28"
Gilbert Ward,	" 26,	" 6 " 1 $\frac{3}{4}$ "	" 155 "	No. 2.	
Charles Ward,	" 36,	" 5 " 9 $\frac{1}{4}$ "	" 151 "	No. 3.	
Henry Ward,	" 39,	" 5 " 9 $\frac{1}{2}$ "	" 159 "	Stroke.	

Weight of Crew: 629 lbs. Boat: 152 lbs. Oars: 23 lbs. Total Displacement: 809 lbs.

2. THE FOUR-OARED SHELL "THETIS."

Built by Robert Dalton, of St. John, of yellow pine, 37 feet 6 inches long, 27 inches beam, 10 inches deep.

MANNED BY

D. McCaffrey,	Age, 24,	Height, 5 feet 11 inches,	Weight, 158 lbs.,	Bow.	} Time, 41' 16"
J. W. McCaffrey,	" 22,	" 6 " 0 "	" 185 "	No. 2.	
John Morris,	" 36,	" 6 " 0 "	" 180 "	No. 3.	
T. McAuley,	" 25,	" 5 " 11 "	" 167 "	Stroke.	

Weight of Crew: 690 lbs. Boat: 176 lbs. Oars: 30 lbs. Total Displacement: 896 lbs.

JUDGES:	{	For the Wards.	{ Stephen Roberts, of New York.	}	REFEREE: {	Captain J. T. Gardner, of
			{ Michael Quigley, " "			Boston, Mass.
		For the St. John.	{ Robert Dalton, of St. John, New Brunswick.			
			{ Robert Pratt, of Boston, Mass.			

1868.

Match Race between the "Paris Crew," of St. John, New Brunswick, and the Ward Brothers, of Cornwall Landing, N. Y.

Paris crew of
St. John, N. B.,
vs. the Ward
Brothers.

At Springfield, Mass., Wednesday, October 21, 1868.

COURSE: ON THE CONNECTICUT RIVER—From a point opposite the foot of ——— Street, three miles down the river to a stake boat, and return.

PRIZE: The Championship of America, and the stakes of \$3,000.

WEATHER: Heavy rain fell during the race. WIND: none. WATER: smooth. TIME: race started at 2.47 P.M.

POSITIONS AT STARTING: St. John chose outside; Wards, inside.

1. THE "PARIS" CREW, IN A FOUR-OARED SHELL.

Built by Charles B. Elliott, of Green Point, L. I., 48 feet long, 19 inches beam.

COLORS: WHITE. MANNED BY

George Price,	Age, 27,	Height, 5 feet 10 $\frac{1}{2}$ inches,	Weight, 147 lbs.,	Bow.	} Time, 39' 28 $\frac{3}{4}$ "
Elijah Ross,	" 29,	" 5 " 9 $\frac{1}{2}$ " "	" 155 "	No. 2.	
Samuel Hutton,	" 30,	" 5 " 8 $\frac{1}{2}$ " "	" 155 "	No. 3.	
Robert Fulton,	" 24,	" 6 " 1 " "	" 158 "	Stroke.	

Weight of Crew: 615 lbs. Boat: 130 lbs. Oars: 28 lbs. Total Displacement: 773 lbs.

2. THE FOUR OARED SHELL "JENNIE WARD."

Built by James McKay, of Harlem, N. Y., 43 feet long by 20 inches wide.

COLORS: MAGENTA AND WHITE. MANNED BY

Joshua Ward,	Age, 30,	Height, 6 feet 0 $\frac{1}{4}$ inches,	Weight, 165 lbs.,	Bow.	} Time, 40' 28 $\frac{3}{4}$ "
Gilbert Ward,	" 27,	" 6 " 1 $\frac{3}{4}$ " "	" 158 "	No. 2.	
Charles Ward,	" 37,	" 5 " 9 $\frac{1}{4}$ " "	" 152 "	No. 3.	
Henry Ward,	" 40,	" 5 " 9 $\frac{1}{2}$ " "	" 159 "	Stroke.	

Weight of Crew: 634 lbs. Boat: 140 lbs. Oars: 28 lbs. Total Displacement: 802 lbs.

JUDGES:	For the Wards.	{ H. A. Hashagan, of New York.	}	REFEREE:	{ Charles F. Brown, of Newburg, N. Y.
		{ Timothy Donahue, " "			
	For the St. John.	{ Charles E. Potter, of St. John, N. B.			
		{ Stephen King, " "			

"At the word, both crews took the water in a hurried manner. The Wards shot off with a tremendous spurt, the St. John's men moving rather leisurely, and hanging back at the finish of their stroke. The Wards gradually slackened their speed as they drew towards the point which juts into the river, about half a half-mile down the course, and the New Brunswickers drew up to them, and, after a brief struggle, passed ahead. Abreast the point, the St. John men were two or three lengths ahead, and the race was virtually decided from this time. The Wards made some magnificent spurts, but they were more than equalled by the New Brunswickers, and each struggle only served to place them further ahead. At the stake boat the Wards were 30 seconds behind, but were rowing with spirit, and evidently did not yet despair of victory. On the fifth mile they made one last effort for the Championship of the World, and the New Brunswickers were put to their utmost to hold their own. But as they again approached the point, the endurance of the Wards seemed to fail, and their opponents began to increase their lead. In a few seconds more they came in sight of the multitudes on the shore, 200 yards or more in advance of the Newburg veterans. . . . The Wards came in nearly a minute behind, and seemed nearly exhausted. The St. John men evidently had not more wind to spare."—*Special Correspondent of N. Y. Tribune*, Oct. 22, 1868.

I 869.

Oxford vs. Match between the Four-Oared Crews of Oxford University, Oxford, England, and Harvard University, Cambridge, Mass., U. S.

Friday, August 27, 1869.

COURSE: ON THE RIVER THAMES—from Putney to Mortlake. Distance, four miles three furlongs.

WEATHER: Clear and warm. WIND: light southwest breeze. WATER: smooth; race was rowed on good water throughout. TIDE: a tolerably strong flood. TIME: started at 5h. 14' 41" P.M., finished 5h. 37' 2" P.M.

BETTING: Two to one and seven to four on Oxford.

1. THE OXFORD UNIVERSITY CREW.

COMPOSED OF		AGE.	WEIGHT.	
F. Willan,	Exeter,	25,	164 lbs.,	Bow.
A. C. Yarborough,	Lincoln,	20,	170 "	2.
J. C. Tinné,	University,	—	190 "	3.
S. D. Darbishire,	Balliol,	—	160 "	Stroke.
J. H. Hall,	Corpus,	—	100 "	Coxswain.

Total weight of Crew, . . . 784 lbs.

Boat built by J. & S. Salter, Oxford, 44 feet long, — inches beam.

2. THE HARVARD UNIVERSITY CREW.

COMPOSED OF		AGE.	WEIGHT.	
Joseph S. Fay,	Boston, Mass.,	22,	155 lbs.,	Bow.
Francis O. Lyman,	Hilo, Hawaiian Is.,	23,	155 "	2.
Wm. H. Simmons,	Concord, Mass.,	23,	170 "	3.
Alden P. Loring,	Boston, Mass.,	23,	154 "	Stroke.
Arthur Burnham,	Chicago, Ill.,	—	106 "	Cox.

Total weight of Crew, . . . 740 lbs.,

Boat built in London by Charles B. Elliott, of Green Point, New York, 44 feet long, 21 inches beam.

Won by 1½ lengths by Oxford. Time, 22' 20"6"

UMPIRES: { At the start. { For Oxford, Mr. J. W. Chitty,
Exeter College, Oxford.
For Harvard, Mr. F. S. Gulston, President London Rowing Club.
At the finish.—Sir Aubrey Paul, of London.

REFEREE: Hon. Thomas Hughes, M.P.

STARTER: Mr. William Blaikie, of Boston, Mass.

In the next edition of the Manual will be given extracts from the professional opinions given by the following authorities on the subject of this race, which will be of great value to oarsmen who desire to ascertain exactly the causes which led to the defeat of the Harvards: Mr. George Wilkes, of New York; Mr. Geo. W. Smalley, London Correspondent of the *N. Y. Tribune*; Mr. Thomas Hughes, Referee; Mr. Charles Reade, and "Argonaut" of the "Rowing Almanac."

Brown vs. Match between Walter Brown, of Portland, Maine, U. S., and Sadler. William Sadler, of Putney, England, at Newcastle-on-Tyne, England.

Friday, November 19, 1869.

COURSE: ON THE RIVER TYNE—From Scotswood Suspension Bridge to the High Level Bridge at Newcastle. Distance, three miles 713 yards.

WEATHER: Clear and fine. WIND: a strong and bitter cold wind ruffled the water, but a few minutes before the start the breeze moderated, and the surface of the water became tolerably calm. TIDE: on the ebb, slight downward current. TIME: 4.15 P.M.

PRIZE: The stakes of £100 a side. BETTING: seven to four and two to one on Brown.

POSITIONS AT STARTING: North, or inside, Brown; outside, Sadler.

1. SHELL "PRESIDENT GRANT,"

Built by Jewett, of Dunston-on-Tyne.

ROWED BY

Walter Brown, age 29, weight 158 lbs., . . . Time, 21' 50"

UMPIRES: { For Brown. Mr. John Adams, Newcastle, England.
For Sadler. Mr. J. Coney, London.

2. SHELL "LISETTE."

Built by W. Biffin, of Hammersmith.

ROWED BY

William Sadler, Withdrawn.

REFEREE: Mr. William Johnson, Tyne Amateur Rowing Club, Newcastle, England.

"Sadler stopped rowing about 200 yards from the High Level Bridge. Brown's time to this point, 21' 25". Sadler had rowed himself to a standstill, and was so completely settled that he could not pull another stroke."

"The time of this race is very good, and will well bear comparison with that made by the last American who rowed between the High Level Bridge and Scotswood Suspension Bridge. Hamill, in his first day's match with Kelley, covered the distance in 25 minutes 30 seconds against the 21 minutes 50 seconds of the present match. The row up to Paradise Quay, on the second of the international matches, in July, 1866, occupied 19 minutes 58 seconds, while the row down in the present match from Paradise Quay to the High Level was done in 16 minutes 45 seconds. Of course, something may be due to difference in the strength of the tides, but still the speed proves that Brown is a good man."—*Newcastle Daily Chronicle*, Nov. 20, 1869.

1870.

Four-Oared Race between the Tyne Crew, of Newcastle-on-Tyne, England, and the "Paris Crew," of St. John, New Brunswick.

Tyne crew vs. Paris crew.

At La Chine, Dominion of Canada, Thursday, September 15, 1870.

COURSE: ON THE ST. LAWRENCE RIVER—From stake boats moored one hundred yards distant from, and on a line with, the railway pier at La Chine, up the river, on a straight line along the north side of Lake St. Louis, three miles to buoys (one for each crew), and return—six miles.

WEATHER: Clear and fine. **WIND:** the wind, which had been blowing rather fresh all day, somewhat subsided in the afternoon, and, at the hour of starting, had lulled to a light breeze. **WATER:** fairly smooth for a portion of the course, but quite rough in the vicinity of the turning buoys. **TIME:** 5 P.M.

PRIZE: The Championship of the World, and the stakes of £500 a side. **BETTING:** at first the odds were 100 to 80 on the Tyne. On the 8th inst., the betting was even, and so continued until the start, immediately after which 2 to 1 was offered on the Tyne, with no takers.

POSITIONS AT STARTING: St. John won the toss, and took outside; Tyne inside, next shore.

1. THE SHELL "DUNSTON-ON-TYNE," OF NEWCASTLE, ENGLAND.

Built by Robert Jewett, of Dunston-on-Tyne. Length, 40 $\frac{3}{4}$ feet; beam, 17 $\frac{1}{4}$ inches; depth, 8 $\frac{1}{4}$ inches.

COLORS: WHITE. MANNED BY

James Taylor,	of Newcastle,	Age, 33,	Height, 5 feet 7 $\frac{1}{2}$ inches,	Weight,* 149 lbs.,	Bow.	} Time, 40' 59 $\frac{1}{4}$ "
Thomas Winship,	of Derwenthaugh,	" 27,	" 5 " 7 $\frac{1}{2}$ "	" 153 "	2.	
John Martin,	of Pelaw-Main,	" 27,	" 5 " 8 $\frac{1}{2}$ "	" 178 "	3.	
James Renforth,	of Newcastle,	" 28,	" 5 " 7 $\frac{1}{2}$ "	" 174 "	Stroke.	

Weight of Crew: 654 lbs. Boat: 94 lbs. Oars: 28 lbs. Total Displacement: 776 lbs.

Won easily by 30 $\frac{1}{4}$ seconds.

2. THE "JAMES A. HARDING," OF ST. JOHN, NEW BRUNSWICK.

Built by Charles B. Elliott, Green Point, L. I., New York. Length, 43 feet; beam, 18 $\frac{1}{4}$ inches; depth, 8 $\frac{1}{2}$ inches.

COLORS: RED AND PINK. MANNED BY

George Price,	of Carleton, N. B.,	Age, 30,	Height, 5 feet 10 $\frac{1}{2}$ inches,	Weight,* 154 lbs.,	Bow.	} Time, 41' 30"
Samuel Hutton,	of Carleton, N. B.,	" 25,	" 5 " 10 "	" 158 "	2.	
Elijah Ross,	of Parrsboro, N. S.,	" 25,	" 5 " 11 "	" 158 "	3.	
Robert Fulton,	of St. John, N. B.,	" 26,	" 6 " 1 "	" 168 "	Stroke.	

Weight of Crew: 638 lbs. Boat: 115 lbs. Oars: 28 lbs. Total Displacement: 781 lbs.

UMPIRES: { For the Tyne Crew. Mr. John Adams, of Newcastle, England.
For the Paris Crew. Mr. James A. Harding, of St. John, New Brunswick.

REFEREE: Mr. W. Marland Molson, of England.

STARTER: Mr. — Brady.

REMARKS.

"The Tyne men pull the regular English stroke, coming well forward and going far back, feathering a little high, and making an average of 38 strokes to the minute, though they can go up to 44. The St. John men pull more from the arm, recovering the moment the arm is abreast the body, with a low feather and a very rapid stroke, 42 being steady, with spurts up to 47 and even higher.

Style of rowing of each of the crews.

"The main objection to this course lies in the fact that it is too much exposed, and, as a consequence, the water is frequently rendered too lumpy for racing in shell-boats. The banks are low, the highway runs along the shore, and the course is fringed with pretty little cottages. That disputes might be avoided in regard to the actual distance rowed, the course was carefully surveyed, and a map of it made by Mr. A. J. Pell, of Montreal; the correctness of the measure can be vouched for. In order to prevent small craft from intruding upon the course, and interfering with the boats, booms were stretched along either side of the course, for the space of a mile or more, while the shallowness of the stream for the greater part of the track precluded the possibility of steamboats retarding the contestants.

The course and its defects.

"As Mr. Brady, the Starter, uttered the word 'Go,' the St. John men caught the water first, and, for six or seven strokes, their bow showed fifteen or twenty feet ahead. As soon, however, as the Tyne crew had applied their full power

The race.

* These weights were taken August 28, 1870.

to their boat, she crawled up instantly upon the St. John's; in a few seconds they were level, and, quicker than we can write it, they were leading their opponents. Every stroke now showed the advantage and superiority of their matchless and perfect oarsmanship. A quarter of a mile away the Tyne had the race by more than two lengths, and, at a mile, by four, and the race was virtually over. The three-mile buoy was turned in 23' 40" by the Newcastle crew, and 24' 20" by the St. John. On the home pull the Tyne crew rowed easily, dropping down to 35 or 36 a minute, while they started with 40. The Tyne crew came in winners in 40' 59 $\frac{1}{4}$ ", without being pressed; the St. John followed in 41' 30", being defeated by 30 $\frac{1}{4}$ seconds. The St. John crew started with 45, afterwards came down to 40, and, at one time in the race, rowed but 38. As the Tyne crew spurted splendidly past the Judges' steamer, rowing at 42 to the minute, and their shell gliding on the water at a greater pace than it had been pulled at any time in the six miles, one prolonged cheer and ovation greeted them from every spectator on land and shore.

The question
of the long or
short stroke.

"This race may be considered to have settled definitively the superiority of the long, sweeping stroke, so much in vogue in England, both on the Tyne and Thames, and also popular in this country, over the less graceful, less powerful, and more exhaustive short stroke. The Tyne men recover quickly, reaching well forward, and going far back, and throw the whole strength of arms, body, and legs, making energetic use of the toe-straps, into the long sweep of the oar through the water. It is not only a graceful and beautiful way of rowing, but its superiority was practically illustrated in this race, as it has been in many a contest before, and will be again, until the straight back, or arm stroke, is done away with for ever. The friends of the St. John stroke have always claimed it to be better and more effective than the long stroke, relying principally for its effect on the help of the arms and body, with the latter almost perpendicular, when the stroke is suddenly finished to begin another. They rely upon the beginning of the stroke for its greatest work, and think that, when the body is brought to an upright position, the rower gives a more effective application of strength in commencing another rather than throw the body back to a position where it has less power. Though the result of the contest unquestionably occasioned great disappointment to the majority of those who witnessed it, as well as nearly all others on this side of the Atlantic, whose sympathies were, of course, enlisted by the St. John men, the state of the betting indicated that the belief was general that such would be the case. When a crew from a foreign country can command, upon the home waters of their opponents, odds in the betting up to the day of starting, and then remain at evens, with first call, it is conclusive evidence that strong fears are entertained by the friends of their antagonists that their champions will be defeated; for it is only reasonable to suppose that, taking into consideration the disadvantages under which the visiting crew must necessarily labor under such circumstances, their rivals should have first choice at considerable odds, however brilliant may have been the achievements of the strangers. Some persons, and, we believe, the crew themselves, attribute the defeat of the St. John four to the roughness of the water; but we are confident that such a conclusion is very wide of the mark. True, it may have operated considerably against them, but it must be remembered that it was likewise disadvantageous to the Tynesiders, who have equal reason to complain. The fact of the matter is, that the latter, although perhaps not more finished oarsmen than the Paris crew in their relative styles of rowing, pull the better stroke; and this, combined with their physical superiority, alone gained for them the honors."—*New York Clipper* Sept. 30, 1870.

1871.

Four-Oared Race between the Tyne Crew, of Newcastle-on-Tyne, England, and the Paris Crew, of St. John, New Brunswick Tyne crew vs. Paris crew.*On the Kennebecasis River, New Brunswick, on Wednesday, August 23, 1871.*

COURSE: Between Milkish or Long Island and the eastern shore of the Kennebecasis—From starting buoys, placed at the mouth of Torryburn Cove (7 miles above St. John), thence up the river, along the eastern bank, in a straight line, three miles past Vincent's Point, to a spot opposite a small inlet known as Salmon Creek, off which the stake boats were moored, and return—six miles.

WEATHER: Clear and fine, with a sharp, searching, crisp air. **WIND:** none—a perfect calm. **WATER:** perfectly smooth. **TIME:** 7.25 A.M.

PRIZE: The Championship of the World and the stakes of £500 a side. **BETTING:** on the morning of the race, ruling figures before the start were 100 to 60 on the Tyne. In the pools, the day previous, 2 to 1 on the Tyne.

POSITIONS AT STARTING: The Tynes won the toss, and took the eastern or inside; outside, St. John.

1. THE SHELL "ST. JOHN," OF ST. JOHN, NEW BRUNSWICK.

Built by Charles B. Elliott, of Green Point, N. Y. Length, 42 feet $7\frac{1}{2}$ inches; beam, $17\frac{3}{8}$ inches; depth, $7\frac{1}{2}$ inches.

COLORS: PINK AND SCARLET. MANNED BY

George Price,	Carleton, N. B.,	Age, 31,	Height, 5 feet $10\frac{1}{2}$ inches,	Weight, 154 lbs.,	Bow.	} Rowed over the course. Time, 39' 20" 6"
Elijah Ross,	Parrsboro, N. S.,	" 26,	" 5 " $10\frac{1}{2}$ "	" 160 "	2.	
Samuel Hutton,	Carleton, N. B.,	" 26,	" 5 " 10 "	" 162 "	3.	
Robert Fulton,	St. John, N. B.,	" 27,	" 6 " 1 "	" 160 "	Stroke.	

Weight of Crew: 636 lbs. Boat: 100 lbs. Oars: 28 lbs. Total Displacement: 764 lbs.

2. THE SHELL "QUEEN VICTORIA," OF NEWCASTLE, ENGLAND.

Built by Robert Jewett, of Dunston-on-Tyne. Length, 40 feet 8 inches; beam, $18\frac{1}{2}$ inches; depth, $7\frac{3}{4}$ inches.

COLORS: WHITE AND BLUE. MANNED BY

James Percy,	Newcastle, England,	Age, 31,	Height, 5 feet $7\frac{1}{2}$ inches,	Weight, 148 lbs.,	Bow.	} Withdrawn.
Robt. Chambers,	Wallsend, "	" 27,	" 5 " 10 "	" 156 "	2.	
Henry Kelley,	Putney, "	" 39,	" 5 " 9 "	" 155 "	3.	
James Renforth,	Newcastle, "	" 29,	" 5 " 8 "	" 164 "	Stroke.	

Weight of Crew: 623 lbs. Boat: 100 lbs. Oars: 28 lbs. Total Displacement: 751 lbs.

UMPIRES: { Mr. William Oldham, of Newcastle, England.

{ Mr. James Stackhouse, of Carleton, New Brunswick.

REFEREE AND STAKEHOLDER: Hon. Thomas R. Jones, of St. John, New Brunswick.

REMARKS.

"The track marked out for the rowers is close to the eastern bank of the river, and, last winter, when the stream was frozen over, the distance to be rowed in the present match—three miles out and back—was accurately measured out on the ice by Mr. Mahood, C.E., and buoys were placed at the extreme ends. The course is perfectly straight from end to end, and it was intended for each crew to make its way straight to its turning craft, and row directly back to the starting point. Current here there is scarcely any, the rise and fall of the tide being only a few inches, and being scarcely perceptible. The water sets up or down, or drives into cross-currents, according to the direction and force of the wind, and, when a breeze comes down from the southwest, a strong lipper is raised, which dashes about and foams like a miniature sea. Constant eddies or currents there are none, and the water deepens from about twenty feet close in shore to sixty feet in mid-channel.

The course.

"Everything being in readiness, both crews dashed their oars into the water at the same moment, and, amid the hushed suspense of the crowd, started on their journey, without either side having obtained the least advantage. At the third stroke the Tyne crew showed three feet ahead, and, as they gradually settled down to their work, and were pulling in their usual style, at less than two hundred yards they had increased their lead to fully half a boat's length. A few strokes after, to the practised eye of any one familiar with boat-rowing, there was manifestly something wrong with Ren-

Details of the race by the correspondent of *The Newcastle Daily Chronicle*, Newcastle, England.

forth. He appeared to falter and to pull out of stroke. The other members of the crew held gallantly on, and, for the next two hundred yards, they, notwithstanding Renforth's irregular rowing, maintained their lead of half a length. By the time this point was reached, Renforth's condition had told its tale; he was swaying from side to side of the boat. The St. John crew were soon level, and, pulling their usual short, rapid stroke with great regularity and precision, they began to forge ahead, and, by the time the boats had gone half a mile, the Tyne men were nearly three lengths behind. At this point Kelley called on Renforth to make an effort, and the gallant fellow rowed on with great resolution, but evidently in a sinking condition, till one mile and a quarter of the course had been covered. The oar then dropped from his hand; turning to Kelley, he said, 'Harry, I have had something,' and then fell backward into the boat. Kelley held the poor champion, while Percy and Chambers rowed the boat to Appleby's Wharf. Renforth (who was quite insensible when he was landed) was then carried from the boat on the arms of his mates, put into a conveyance, and driven a mile and a half to the Claremont House, their training quarters. . . . At a quarter to nine o'clock, within two hours of the time when he had left the same house full of health and spirits, England's greatest oarsman passed quietly to rest without a struggle, and apparently without pain, in the arms of the most skilful competitor he ever had, and one of his truest friends—Harry Kelley."—*The Field*, Aug. 26, 1871.

Account of the race by the correspondent of *The New York Clipper*.

"The start was splendid, the Tyne crew having a very little the best of it; but a few strokes brought the St. John men even, and, for two hundred yards, no advantage was perceptible, each crew rowing a rapid stroke, though that of the St. John men was the quickest. Here Renforth slackened a little in his stroke, and directly the Paris crew showed the nose of their craft a few inches in front, seeing which, the English champion spurted vigorously, and closed up; but the St. John men threw more energy into their work, and began gradually to forge ahead, amid the frantic shouts of those along shore. Slowly but surely, inch by inch, they crept away, and the repeated spurts made by Renforth availed not to deprive his antagonists of the lead. There seemed, however, to be less vim in the pulling of the Tyne men than in that of their opponents, and, noticing this, Johnny Hamill called to Kelley to 'Give them a few of those you showed on that Fourth of July,' alluding to the race between Harry and Jimmy Hamill, in 1866. Kelley called to Renforth to 'Give them a dozen, Jim!' but there was no response, at least but a feeble one, and the Tyne boat seemed unsteady in its course. Half a mile had been covered, and nearly half a length had the home crew gained, which, in the next quarter of a mile, they had increased by about a dozen yards, when Renforth was seen to turn his head and speak to Kelley, his oar immediately afterward falling from his hand, and he dropping backward into Harry's arms. The boat was then headed for the shore, while a scene of indescribable excitement was witnessed among the spectators, who, unaware of the cause of this strange action on the part of the Englishmen, attributed it to widely different motives. . . . The St. John men, thinking very far from correctly of the reasons for the withdrawal of the Tyne crew, kept on, and, as money was at stake upon time, did not slacken their speed, rounding the stake boat in exactly eighteen minutes from the start, and completing the six miles in the fast time of 39' 20", which is next to the best on record in a race."

Result of the inquest.

The jury empanelled to enquire into the cause of the sudden death of James Renforth, met after an adjournment at St. John, N. B., September 7, when the inquest was concluded, the verdict rendered being that Renforth came to his death by congestion of the lungs, caused by overexertion. The result of the *post mortem* examination showed that Renforth's lungs were engorged with blood, and that his death was caused by overexertion, combined with great mental excitement. Dr. Jackson, of Boston, testified that no trace of poison could be found in the stomach of the deceased.

International Regatta, at Halifax, Nova Scotia.

Second Day, Thursday, August 31, 1871.

COURSE: IN THE HARBOR OF HALIFAX—Commencing from a line of stake boats moored just off the piers of the Royal Halifax Yacht Club, and extending to the Dartmouth shore, thence down the harbor three nautical miles, to flag-boats placed at intervals across the eastern passage, a little below Fort Clarence, and between George's and McNab's Islands, rounding them, leaving the boats on the starboard hand, and return, making six nautical or six and nine-tenths statute miles.

WEATHER: A bright, clear morning, after an overnight storm; but, as the day advanced, it became cloudy, until, at the hour of the race, the sky was entirely overcast. **WIND:** a fresh breeze prevailed, particularly strong at the turning stakes. **WATER:** in addition to the ground swell, caused by the storm of the previous night, the rising of the wind in the early afternoon made the water rough, especially at the lower end of the harbor. **TIME:** race started at 1.54 P.M.

PRIZES: *First*, the Championship of the World and \$3,000. *Second*, the Entrance Fee of \$100. Prize given by the Provincial Government for the first Nova Scotian crew; \$250. Gold watch for the first Nova Scotian crew, presented by John Herbin, Esq., Halifax, N. S.

POSITIONS AT STARTING: Inside, or western, next club piers, Taylor-Winship crew, in the "Coaly Tyne"; 2. Renforth crew, in the "Queen Victoria"; 3. Roche crew, in the "Lilian"; 4. Pryor crew, in the "Nova Scotia"; 5. Barton crew, in the "Tangier"; 6. Coulter-Biglin crew, in the "America."

1. THE SHELL "COALY TYNE," OF NEWCASTLE-ON-TYNE, ENGLAND.

Built by Robert Jewett, of Dunston-on-Tyne. Length, 41 feet; beam, 18½ inches; depth, 7¾ inches.

COLORS: WHITE AND BLUE. MANNED BY

James Taylor,	Newcastle, England,	Age, 34,	Height, 5 feet 7½ inches,	Weight, 142 lbs.,	Bow.	} Time, 44' 28"
Joseph H. Sadler,	Putney,	" 31,	" 5 " 8½ "	" 154 "	2.	
Robert Bagnell,	Newcastle,	" 22,	" 5 " 8 "	" 156 "	3.	
Thos. Winship,	Derwenthaugh,	" 28,	" 5 " 7½ "	" 156 "	Stroke.	

Weight of crew: 608 lbs. Boat: 112 lbs. Oars: 34 lbs. Total displacement: 754 lbs.

2. THE SHELL "NOVA SCOTIA," OF HALIFAX, NOVA SCOTIA.

Built by Samuel Norris, of Halifax. Length, 40 feet; beam, 19½ inches; depth, 8½ inches.

COLORS: BLUE. MANNED BY

George Brown,	Herring Cove, N. S.,	Age, 32,	Weight, 154 lbs.,	Bow.	} Time, 44' 30"
Thomas Hays,	"	" 38,	" 168 "	2.	
Warren Grey,	Sambro,	" 29,	" 168 "	3.	
James McGrath,	Prospect,	" 22,	" 168 "	Stroke.	

Weight of crew: 658 lbs. Boat: 128 lbs. Oars: 32 lbs. Total displacement: 818 lbs.

Half a length behind the "Coaly Tyne."

3. THE SHELL "AMERICA," OF NEW YORK, U. S.

Built by Charles B. Elliott, of Green Point, L. I., New York. Length, 41 feet; beam, 18 inches; depth, 8 inches.

COLORS: RED, WHITE, AND BLUE. MANNED BY

Bernard Biglin,	New York,	Age, 30,	Height, 5 feet 9½ inches,	Weight, 151 lbs.,	Bow.	} Time, 44' 41"
Joseph Kaye, Jr.,	Pittsburg, Pa.,	" 24,	" 5 " 6½ "	" 145 "	2.	
John A. Biglin,	New York,	" 27,	" 5 " 9½ "	" 153 "	3.	
Henry Coulter,	Allegheny, Pa.,	" 28,	" 5 " 8½ "	" 166 "	Stroke.	

Weight of crew: 615 lbs. Boat: 102 lbs. Oars: 32 lbs. Total displacement: 749 lbs.

Three lengths behind the "Nova Scotia."

4. THE SHELL "QUEEN VICTORIA," OF ENGLAND.

Built by Robert Jewett, of Dunston-on-Tyne. Length, 40 feet 8 inches; beam, 18½ inches; depth, 7¾ inches.

COLORS: BLACK AND WHITE. MANNED BY

James Percy,	Newcastle-on-Tyne, Eng.,	Age, 31,	Height, 5 ft. 7½ in.,	Weight, 148 lbs.,	Bow.	} Time not taken
John Bright,	"	" —,	" 5 " 6 "	" 147 "	2.	
Henry Kelley,	Putney,	" 39,	" 5 " 9 "	" 155 "	3.	
R. Chambers,	Wallsend,	" 27,	" 5 " 10 "	" 156 "	Stroke.	

Weight of crew: 606 lbs. Boat: 107 lbs. Oars: 34 lbs. Total displacement: 747 lbs.

Six lengths behind the "America."

5. THE SHELL "TANGIER," OF TANGIER, NOVA SCOTIA.

Built by Charles B. Elliott, of Green Point, New York. Length, 41 feet; beam, 18 inches.

COLORS: —. MANNED BY

Edward Monk,	Tangier, N. S.,	Weight, 170 lbs.,	Bow.	} Time not taken
Leonard Young,	"	" 176 "	2.	
Ezra Weeks,	"	" 170 "	3.	
Edward Tracey,	"	" 164 "	Stroke.	

Weight of crew: 680 lbs. Boat: 112 lbs. Oars: 32 lbs. Total displacement: 824 lbs.

Distanced.

6. THE SHELL "LILIAN," OF HALIFAX, NOVA SCOTIA.

Built by Roche & Finlay, of Halifax, Nova Scotia.

COLORS: RED AND WHITE. MANNED BY

William Beckwith,	Dartmouth, N. S.,	Age, 26,	Weight, 135 lbs.,	Bow.	}
Louis Hefler,	Halifax,	" —,	" 152 "	2.	
David Parker,	Dartmouth,	" 27,	" 152 "	3.	
John Young,	"	" 20,	" 144 "	Stroke.	

Weight of crew: 583 lbs. Boat: 130 lbs. Oars: 32 lbs. Total displacement: 745 lbs.

Withdrew at the turning stake.

JUDGES: { At the starting line, John Pugh, Esq., Halifax,
N. S.
At the flag-boats, Augustus Allison, Esq., Halifax, N. S.

UMPIRES: { J. Taylor Wood, Esq., Vice-Commodore
Royal Halifax Yacht Club, Halifax, N. S.
Captain Richard Nagle, Town Major, Halifax, N. S.

STARTER: Albert Pilsbury, Esq., Halifax, N. S. SECRETARY: Alex. W. Scott, Esq., Sec. Royal Halifax Y. C.

REMARKS.

Account of the
race by the cor-
respondent of
*The New York
Tribune.*

"The advantage the two English crews had gained, by getting inside positions proved to be considerable, for it gave them the smooth water inshore along the wharves, while the Americans, being out in the stream, got the full force of the wild and rough water in mid-channel. To everybody's surprise, two of the Nova Scotia crews pulled splendidly, clear down to the stake boat, the third falling badly in the rear, and not regaining lost distance. The Americans think their boat led a little all the way down, but it was difficult to tell which was ahead, the boats were so far apart, the distance across between the two outermost being a good half mile. The Renforth boat turned first,* then the Taylor boat, then the Pryor crew, next the Americans, and last the Barton crew, the sixth boat being now as good as out of the race. The Americans lost two boats' lengths in turning, by the stupidity of some judge or other official, who was lying in a long black boat fastened to the stern of their stake boat, which considerably increased the distance they had to make in turning. Coulter's tremendous stroke soon gained our boys a part of this loss. The Barton crew were shaken off, and left behind in a few minutes, and an exciting struggle began between the two Tyne crews, the Pryor Nova Scotia crew, and the Biglin crew. The Taylor crew led the Renforth crew; next, about a boat's length behind, were the Nova Scotians; and, last, the Americans; but when they had all settled down to the hard pull of the home-stretch, it soon became plain that the Renforth crew, deprived of the powerful stroke of their leader, had no chance for victory. They steadily lost, the other three boats drawing away from them perceptibly at every stroke. They continued to pull steadily, but were so far behind for the last two miles that no one paid any attention to them, all eyes being fixed on the three leading boats. . . .

"The Americans, who had been perhaps four boat lengths behind the two others when they commenced to get out of the rough water, gained rapidly as soon as they got the advantage of a course as smooth as that on which the Englishmen were rowing. There was general astonishment to see the Pryor crew also pulling up on the Tyne boat, a crew from which nothing had been expected by sporting men, and which had been almost given away in the pool-selling. The contest between the three leading boats was intensely exciting for the last mile of the race. The crews strained every muscle. Now one would gain a few yards, and now another. At times it would be impossible to tell which was ahead. All pulled a quick stroke of 42 to 44 to the minute, the Americans and Provincials appearing to put more power in the stroke, but not pulling together with the admirable mechanical precision which long practice together had given the Englishmen.

"The elated crowd upon the stands and wharves near the Yacht Club House had all their faculties concentrated in an intense stare when the boats shot by, and up to the winning line, and did not raise a cheer; and for some minutes after the gun was fired to announce the close, few among the thousands assembled were certain which had won. . . . The Biglin crew say that, besides the disadvantage of bad position, rough water, and the loss of distance they suffered by having two boats instead of one to row around at their turning point, they met with a serious accident while off the central wharves of the city. Going down, they struck a half-sunken piece of timber, which they thought at first had stove their bows in, and which caused their boat to leak badly. The timber appeared to be a piece of ship-stuff, and they carried away from it a chip about eight inches long by five wide, which lodged across the inbow, and remained there all the rest of the distance. Coulter thinks this accident threw them back three or four lengths, and lost them the race."

Description of
the race by the
correspondent
of *The New
York Clipper.*

"An excellent send-off was secured, the four from the States having a few feet the best of it, pulling at the rate of thirty-six strokes to the minute. The Taylor crew, who had been, and still were, the favorites at odds, were sending their shell along at a spanking pace, however, their stroke being about on a par with that of the Biglins, though they appeared to take a firmer hold of the water at the commencement, and soon the sharp stem of their boat was cleaving the water to the fore. The Renforth crew likewise gained on the New Yorkers, and pegged away persistently after their rivals from the land of the rose, pulling a stroke of thirty-eight to the minute, and depriving the Biglins of second place. The Bartons held the fourth position until after a quarter of a mile had been gone over, when the Pryors, who were pulling about thirty-eight, passed them, the Roche crew laboring in the rear, and being thus early manifestly out of the race. It was rather difficult to correctly note the relative positions of the boats now, owing to their being so much scattered. The English crews were having it nip and tuck towards the Halifax shore, though neither were rowing their best, and, for a long time, were on nearly even terms, first one and then the other showing in front momentarily. On the other side, the New Yorkers and Bartons were sweeping along a couple of lengths apart, while the Pryor four were lying down to their work, equidistant, with determination, their craft cutting through the ruffled water in a direct line for their turning stake. They maintained decidedly the straightest course, both the English crews and the Biglins going considerably out of the line, especially the latter, who also were unlucky enough to meet with a mishap, colliding with a piece of drift-wood shortly after starting, striking with such force that it was thought the bow had been stove in. They cleared it without the loss of more than a couple of strokes, however, but, upon reaching the home stake, found that a piece of the wood had caught fast under the stem, which must have affected the speed of the boat to a considerable extent in a race of that distance. The struggle to the turning point was very exciting, particularly between the fours from across the water, who, as they neared the stake boats, spurted, the Renforth crew increasing their stroke to forty-one and the Taylor to forty. The latter obtained a slight lead after a desperate brush, and made an admirable turn ahead of their antagonists; the Pryor crew, which had been favored by the roughness of the water in the lower harbor, enabling them to make up some lost ground, rounded third, and were on their way home when the New Yorkers followed suit. The latter had, by making a wide détour, lost one hundred yards or more, and this disadvantage was added to by having to turn two boats instead of one, in consequence of that in which the Judges had been taken to the stake boats having been tied to that assigned them. By this piece of carelessness on the part of the managers, the Biglins lost at least two lengths. The Barton crew turned fifth, several lengths behind, while the Roche four had given the struggle up in despair, and headed their boat for home

* This is an error. According to the official time, the boats turned as follows: 1, Taylor; 2, Renforth; 3, Pryor; 4, Americans; 5, Barton.

again. The rival Englishmen took the inside of the island in coming back, the water being quite calm there, though it necessitated considerable of a divergency from a straight course. The 'Bigs' were now buckling to their work, and by degrees diminishing the space between their prow and stern of the Pryors, who were also putting forth all their powers, having apparently used up more strength so far than any of their competitors, though they seemed to have an abundance in reserve still from the way in which they were tearing their oars through the water. Upon again coming into view, the Taylor crew were observed to be a considerable distance in advance of the Renforth quartet, the latter having seemingly slackened their speed. As the harbor narrowed, the boats gradually approached each other, being placed in the following order: Taylor, Pryor, Biglin, Renforth, and Barton, the latter having lost ground rapidly of late, and having now a dead sure thing on last place, but resolved to hang on to the bitter end anyhow. During the closing mile, the struggle between the four first-mentioned was extremely exciting, and the Haligonians were frantic with delight at the prospect that their favorite home crew would win the day. On they sped, but the Renforth boys had plainly lost their grip, being now more than half a dozen lengths to the rear. The Pryor crew were putting forth herculean efforts to snatch the laurel wreath, which seemed so nearly within their grasp, while the New Yorkers bent to their oars with redoubled vigor, and, inch by inch, gained upon the others, filling with hope the hearts of the Americans looking on. The Taylor four, however, kept on with undiminished speed, answering spurt with spurt, and holding still the key of the position. As the end was at hand, each turned on all steam, and, amid the wildly enthusiastic shouts of the multitude gazing upon this brilliant termination of a splendid race, the Taylor crew dashed across the line, winners by less than two lengths, while scarce half a length separated the Pryors from the Biglins, who were half a dozen lengths before the Renforth crew. The Bartons came in a long way behind."

Regatta at Halifax, Nova Scotia.

Third Day, Friday, September 1, 1871.

STRAIGHT-AWAY RACE FOR SINGLE SHELLS—THREE NAUTICAL MILES.

COURSE: Same as for the four-oared race of the preceding day, commencing at the flag-boats moored at the eastern entrance of the harbor, between George's and McNab's islands, thence up the harbor three nautical miles (three and nine-twentieths statute miles) to stake boats off the piers of the Royal Halifax Yacht Club, at Richmond.

WEATHER: Fine and clear. **WIND:** none. **WATER:** finest possible condition, very smooth. **TIME:** race started at 10.15 A.M.

PRIZES: *First*, \$500. *Second*, \$100. *Third*, \$20. A medal for the first Nova Scotian crew, presented by J. B. Bennett, Halifax, N. S.

POSITIONS AT STARTING: 1. Kelley; 2. Sadler; 3. Brown; 4. Lovett; 5. Bagnell; 6. Coulter.

1. WOODEN SHELL "DUKE OF BEAUFORT."

ROWED BY

Joseph H. Sadler, of Putney, England. Time, 25' 02"

2. PAPER SHELL "MAYFLOWER."

ROWED BY

George Brown, of Herring Cove, U. S. Time, 25' 07"

3. WOODEN SHELL "JAMES RENFORTH."

ROWED BY

Henry Kelley, of Putney, England. Time, 25' 39"

4. WOODEN SHELL "OUSEBURN."

ROWED BY

Robert Bagnell, of Newcastle, England. Time, 25' 46"

5. WOODEN SHELL "SHOO FLY."

ROWED BY

George Lovett, of Halifax, Nova Scotia. Withdrawn.

6. WOODEN SHELL "ANNIE."

ROWED BY

Henry Coulter, of Pittsburg, U. S. Withdrawn.

UMPIRES: { Vice-Commodore J. T. Wood, of the Royal
Halifax Yacht Club, Halifax, N. S.
Captain Nagle, Halifax, N. S.

JUDGE: John Pugh, Esq., of Halifax, Nova Scotia.

STARTER: A. Pillsbury, Esq., " " "

TIME-KEEPER: Mr. H. Crosskill, " " "

"Coulter made the quickest start, obtaining a lead of a couple of feet with the first stroke, which he added to in the next few, playing his oars more rapidly than the others. For the first mile, or a trifle less, the American held the leading position, when he was attacked with a fit of vomiting—having been unwell for several days, and, certainly, in no condition to row on this occasion—and had to cease rowing. Bagnell, who had been pressing him closely, went to the fore upon the instant, while Sadler, who had been having it hot and heavy with Brown and Kelley on the left wing, increased the vigor of his strokes, and gradually gained upon his confrère Robert. Brown and Kelley were on nearly even terms (the former possessing a slight advantage), and were working hard, while Lovett's hopes were already blighted. Coulter, poor fellow, was failing fast and pulling irregularly, being now out of the race beyond question. Bagnell was still a couple of lengths to the good and going well; but, in another quarter of a mile, Sadler was bow and bow with

Description of the race by the correspondent of The New York Clipper.

him, having put on a fine and most effective spurt, and he entered upon the last mile over a length to the fore, Brown and Bagnell, then rowing their best, the former to get by Bob and overtake the leader, and the latter to secure the century to be awarded to the second man. Kelley, the 'pride of the Thames,' was pulling away vigorously at their heels too, determined not to be left far in the lurch if he did not succeed in capturing a prize, and maintaining his well-deserved reputation as a plucky oarsman, encouraged by the shouts of his companions in the four following up the scullers. His efforts were rewarded by collaring and going by Bagnell and Brown in grand style, and, for a time, it looked as though the second prize was as good as in his possession already. Brown hung on the second place, however, and made Joe put in his 'best licks' to prevent the lead from being wrested from him. At the dock-yard, Sadler held a lead of a little over a length, Kelley's now lapping the stern of Brown's boat. At this point, Coulter, who for some time had been pulling very leisurely, withdrew from the contest, his example being followed by Lovett, who made desperate efforts to overhaul Sadler, and a splendid struggle took place between them to the stake boat, then but a few hundred yards away. Never did man exert himself more to secure a victory than did Brown to snatch the laurel wreath destined to encircle the brow of the winner of this grandest of all aquatic sculling contests; but all his efforts were vain, Sadler taking his water just before the finish, and, by a terrific spurt, landing himself a winner by about one and a half lengths, in 25' 03"—six seconds before Brown. Kelley slacked up before reaching the stake boat, his time being thirty-two seconds later. It was a magnificent race throughout."

International Regatta at Saratoga Springs, New York, U. S.

On Monday, September 11, 1871.

FIRST RACE—A FOUR MILES TURNING RACE FOR FOUR-OARED SHELLS.

COURSE: ON SARATOGA LAKE*—Commencing from a point thirty rods south of the bridge crossing the northern neck of the lake; thence in a south-southwest direction two statute miles to a line of flag-boats (one for each contestant), and return.

WEATHER: Fine and clear. **WIND:** northeast and light. **WATER:** for a portion of the course, somewhat rough. **TIME:** race started at 10.19 A.M.; Wards crossed the line at 10h. 43' 40".

PRIZES: First, \$2,000. Second, \$1,250. Third, \$750.† **BETTING:** the Taylor-Winship crew were the favorites; next, Biglin and Ward crews; next, Renforth.

POOLS SOLD AS FOLLOWS:						
1. Tyne,	7	7	8	8	9	8
2. Biglin,	10	10	8	8	8	7
3. Taylor-Winship,	20	20	25	25	30	30
4. Dutchess,	3	3	3	3	2	4
5. McKee,						
6. Ward,	10	11	11	11	12	12

POSITIONS AT STARTING: 1. Inside or eastern, the Renforth crew, in the "Queen Victoria"; 2. The Biglin crew, in the "America"; 3. The Taylor-Winship crew, in the "Coaly Tyne"; 4. The Dutchess County crew, in the "Dutchess"; 5. The Pittsburg crew, in the "John Morrissey"; 6. The Ward brothers, in the "Dick Risdon."

Saratoga Lake.

* Saratoga Lake lies four miles south of the village of Saratoga Springs. It is about nine miles in length, from north to south, and varies from three miles to half a mile in width. The western bank rises rather abruptly from the water, affording an admirable view of the course.

A dead heat for the third prize, and two prizes of \$750 given.

† The "Biglin" and "Taylor-Winship" boats were exactly abreast when their bows reached the line. The Englishmen, thinking the race was done, stopped pulling, while the New York men gave one or two good strokes, which put their stern across the line a little ahead of the others. The Judges were unable to decide which was the winner, and it was left to the Referee, who announced it a dead heat, which must be rowed over again at 2 o'clock. At 2 P.M. the Biglin crew pulled down the lake to row against the Taylor-Winships for the third prize; but, as both crews had each a member entered for the single shell race, to be rowed at 4 P.M., and as the fatigue of another four-oared race would endanger the success of these men in the former race, the Referee, wishing to have nothing interfere with the success of the single scull contest, offered to give a prize of \$750 to each of the crews if they would not row. This offer was finally accepted.

1. THE SHELL "DICK RISDON,"* OF CORNWALL-ON-THE-HUDSON, NEW YORK.

Built by Robert Jewett, of Dunston-on-Tyne, England. Length, 40 feet 9 inches; beam, 17 $\frac{1}{4}$ inches; depth, 8 $\frac{1}{8}$ inches.

COLORS: RED AND WHITE. MANNED BY

Ellis Ward,	Cornwall, N. Y.,	Age, 23,	Height, 5 feet 11 $\frac{1}{2}$ inches,	Weight,† 147 lbs.	Bow.	} Time, to the turn, 11' 20" The four miles, 24' 40"
Joshua Ward,	"	" 33,	" 6 " 0 $\frac{1}{4}$ "	" 160 "	2.	
Gilbert Ward,	"	" 30,	" 6 " 1 $\frac{3}{4}$ "	" 147 "	3.	
Henry Ward,	"	" 43,	" 5 " 9 $\frac{1}{2}$ "	" 156 "	Stroke.	

Weight of crew, 610 lbs. Boat, 94 lbs. Oars, 30 lbs. Total displacement, 734 lbs.

2. THE SHELL "QUEEN VICTORIA," OF NEWCASTLE-ON-TYNE, ENGLAND.

Built by Robert Jewett, of Dunston-on-Tyne. Length, 40 feet 8 inches; beam, 18 $\frac{1}{2}$ inches; depth, 7 $\frac{3}{4}$ inches.

COLORS: BLACK AND WHITE. MANNED BY

James Percy,	Newcastle-on-Tyne, Eng.	Age, 31,	Height, 5 feet 7 $\frac{1}{2}$ in.	Weight, 148 lbs.	Bow.	} Time not taken; came in 4 lengths behind the Wards.
John Bright,	"	" —,	" 5 " 6 "	" 147 "	2.	
Henry Kelley,	Putney,	" 39,	" 5 " 9 "	" 155 "	3.	
Rob't Chambers,	Wallsend,	" 27,	" 5 " 10 "	" 150 "	Stroke.	

Weight of crew, 606 lbs. Boat, 107 lbs. Oars, 34 lbs. Total displacement, 747 lbs.

3. THE SHELL "AMERICA," OF NEW YORK, U. S.

Built by Charles B. Elliott, of Green Point, L. I., New York. Length, 41 feet; beam, 18 inches; depth, 8 inches.

COLORS: RED, WHITE, AND BLUE. MANNED BY

Bernard Biglin,	New York,	Age, 30,	Height, 5 feet 9 $\frac{1}{2}$ inches,	Weight, 151 lbs.	Bow.	} Time not taken; 3 lengths behind "Queen Victoria."
Joseph Kaye, Jr.,	Pittsburg, Pa.,	" 24,	" 5 " 6 $\frac{1}{4}$ "	" 145 "	2.	
John A. Biglin,	New York,	" 27,	" 5 " 9 $\frac{1}{2}$ "	" 153 "	3.	
Henry Coulter,	Alleghany, Pa.,	" 28,	" 5 " 8 $\frac{1}{2}$ "	" 166 "	Stroke.	

Weight of crew, 615 lbs. Boat, 102 lbs. Oars, 32 lbs. Total displacement, 749 lbs.

4. THE SHELL "COALY TYNE," OF NEWCASTLE-ON-TYNE, ENGLAND.

Built by Robert Jewett, of Dunston-on-Tyne. Length, 41 feet; beam, 18 $\frac{1}{2}$ inches; depth, 7 $\frac{3}{4}$ inches.

COLORS: BLUE AND WHITE. MANNED BY

James Taylor,	Newcastle, Eng.,	Age, 34,	Height, 5 feet 7 $\frac{1}{2}$ inches,	Weight, 142 lbs.	Bow.	} Time, not taken; 3 lengths behind "Queen Victoria."
Joseph H. Sadler,	Putney,	" 31,	" 5 " 8 $\frac{1}{4}$ "	" 154 "	2.	
Robert Bagnell,	Newcastle,	" 22,	" 5 " 8 "	" 156 "	3.	
Thomas Winship,	Derwenthaugh,	" 28,	" 5 " 7 $\frac{1}{2}$ "	" 156 "	Stroke.	

Weight of crew, 608 lbs. Boat, 112 lbs. Oars, 34 lbs. Total displacement, 754 lbs.

5. THE SHELL "DUTCHESS,"‡ OF POUGHKEEPSIE, NEW YORK.

Built by James McKay, of New York, of cedar. Length, 45 feet; beam, 24 inches; depth, 8 inches.

COLORS: RED AND WHITE. MANNED BY §

William Stevens,	Poughkeepsie, N. Y.	Age, 45,	Height, 5 feet 10 inches,	Weight, 159 lbs.	Bow.	} Time, not taken.
Charles Burger,	"	" 28,	" 6 " 0 "	" 164 "	2.	
Homer Woodin,	"	" 40,	" 5 " 10 "	" 174 "	3.	
William Burger,	"	" 38,	" 6 " 1 "	" 185 "	Stroke.	

Weight of crew, 682 lbs. Boat, 175 lbs. Oars, 30 lbs. Total displacement, 887 lbs.

* The boat rowed by the Ward brothers was the same one used by the Renforth crew in the race with the St. John men, at La Chine, Canada, September 15, 1870, and named by them the "Dunston." After the La Chine race she was sold at auction, and bid off to Mr. Robert Liddell, of Pittsburg, Pa., for \$250 gold. She remained in Pittsburg until early in August, when she was sold to the Wards for \$350 currency.

† These weights were taken on the day of the race, and are a little under their usual training weights.

‡ Formerly the "Floyd T. Fields."

§ Three of this crew, Woodin, Stevens, and Burger, with Ezekiel Benaway, composed the crew of the old four-oared boat "Stranger." In July, 1865, they rowed against the Biglins, at Poughkeepsie, and were beaten by two and a half lengths. The three first named have never rowed together in a race since, and had been in training but a week before the race took place.

Boat rowed by the Ward Brothers.

Wards' weight.

Dutchess County crew.

6. THE SHELL "JOHN MORRISSEY," OF EAST BIRMINGHAM, PA.

Built by Waters, Balch & Co., Troy, N. Y. Length, 40 feet 9 inches; beam, 17 $\frac{1}{4}$ inches; depth, 8 $\frac{1}{4}$ inches.

ENTERED BY THE MCKEE BOAT CLUB, OF EAST BIRMINGHAM, PA. COLORS: LIGHT BLUE. MANNED BY *

Conrad Minehardt,	East Birmingham, Pa.	Age, 26,	Height, 5 feet 7 $\frac{1}{2}$ inches,	Weight, 150 lbs.	Row.	Time, not taken.
Nicholas Denmark,	"	" 25,	" 5 " 7 "	" 148 "	2.	
George Verner,	Pittsburg, Pa.,	" 23,	" 5 " 5 "	" 115 "	3.	
William Scharff,	East Birmingham, Pa.	" 21,	" 5 " 10 $\frac{1}{2}$ "	" 140 "	Stroke.	

Weight of crew, 583 lbs. Boat, 99 lbs. Oars, 28 lbs. Total displacement, 680 lbs.

JUDGES:	At the start.	{ Benjamin F. Brady, Esq., Commodore Hudson Amateur Rowing Association, N. Y.	{ For the American crews.
		{ Mr. Joseph Adams, of Newcastle-on-Tyne, England.		{ For the English crews.
	At the turning stakes.	{ Mr. J. J. Walton.	{ " "
		{ Mr. James O'Neil, of Troy, New York.		{ For the American crews.

REFEREE: Hon. John Morrissey, M.C., New York, N. Y. STARTER: Benjamin F. Brady, Esq.

Description of the race by the reporter of *The Turf, Field, and Farm*.

"The Wards were the first to take the water, making a beautiful start at a 39 stroke; as theirs was the most western position, it gave them the clear advantage of the western shore to steer by, till they passed the point on which Ramsdell's farm (the Wards' training quarters) is situated, which is about three-quarters of a mile from the starting point, and from which point to their turning stake boat they could steer by the range astern with great exactness, as was evident from the fact that they kept their course for the first two miles almost as straight as the crow flies.

"We have been thus particular as to the course of the Wards, as they had no competitors in the western division, for their magnificent style of rowing, from 38 to 40, and clean dip and finish, had left the others (Poughkeepsie and Pittsburg) astern early in the race. This one-sided arrangement did not apply to the eastern division, who were fighting it out in an entirely different style; for, at the start, the Biglins took the lead without any flurry, their stroke being rather slower than the Englishmen's, who put on the steam to about 40, with some splash, that gave the Biglins about a length advantage of the Tyne and a length and a half of the Taylor crew before they had made half a mile.

"And now came the grand point between these three, which clearly decided the race in favor of the Wards; for, after clearing the Narrows and reaching the open water, the Biglins headed for some time almost due south, and thus, by the fact of being the leading boat, bored the Tynes over to the eastward, whilst the Taylor crew, having spurred up with great gallantry and pluck, had ranged on the American's starboard quarter, thinking the course was all right; and thus all three went to the bad until the mistake was discovered; and, in altering for the true course, the Biglins almost locked oars with the Taylor crew, to the imminent danger of an unintentional foul.

"The result of this was that the Wards turned their upper stake boat first, by about three lengths; Biglins second, about half a length ahead of the Taylor-Winship; the Tynes fourth, who pulled splendidly on the return, and were only beaten home one length by the Wards, who won in 24' 40".

Account of the race by the English correspondent of *The Newcastle Daily Chronicle*, Newcastle, England.

"Just before the start, the speculation upon the probable result was heavy at evens on Taylor's crew, 3 to 1 against Wards' crew, 3 to 1 against Chambers's crew, and 3 to 1 against Biglin's crew. The water was smooth, the sun shining brightly, a mild north wind blowing, and everything might be considered favorable for a solution of the question of aquatic supremacy between the picked crews of England and America. I have seldom seen a finer spectacle than that presented when the competitors put off to their respective stations—the eagerness and excitement of the immense number of spectators, the fine sheet of water glistening in the sun, and the powerful frames of the respective oarsmen showing to advantage as they forced their fairy craft over the surface of the lake at lightning speed—all combined to make up a scene not easily to be forgotten.

"After a preliminary spin, the crews placed themselves in position, and got off in somewhat straggling fashion, Chambers's crew in particular getting a very bad start. Biglin's crew, when they got fairly settled down to the work before them, gradually possessed themselves of a slight advantage over Winship's four, who, in turn, had a little the best of it over Wards' crew, Chambers and his colleagues coming along last. The most vigorous exertions were now put forward by the different competitors, but the Biglin crew slowly but surely drove the nose of their boat inch by inch in advance of that occupied by Winship's four, close up with whom came Ward's crew, while Chambers's four still continued in the rear. The relative positions of the contending boats were substantially maintained until one mile had been covered. Biglin's crew then led by a length from Winship's crew, and Wards' and Chambers's crews followed close up. Although Winship and his mates now put on all they knew in the shape of skill and generalship to wrest the pride of place from

The McKee crew.

* This crew have no professional record, but have made excellent time in three-mile races, and won the first prize of \$500 for four-oared boats at the Anniversary Regatta, at Buffalo, N. Y., July 5, 1871. Two days before the race, Frederick Munn, No. 2, was disabled, and his place supplied by Verner, who was not in training. This loss, together with the accident of breaking two of their sliding seats just before reaching the stake boat, took away all chance of success when competing with such formidable opponents as met them here.

Biglin and his supporters, the latter never relaxed their efforts for a moment, and a magnificently contested race resulted, until approaching the stake boats moored at two miles from the start, where Winship's and Biglin's crews both made mistakes in the turning, which enabled Wards' crew to obtain a clear lead over Chambers's crew, who were second, Winship's and Biglin's fours coming next, and the others evidently outpaced. Fairly round the turning boats, the Ward brothers launched out with fire and resolution, and, rowing with great regularity and rapidity, they, in the first half-mile of the return journey, possessed themselves of a lead of a couple of lengths from Chambers and his mates, in close attendance upon whom Winship's crew were third, having a slight advantage over Biglin's four. A mile and a half from the goal, Biglin's crew unmistakably bored Winship and his colleagues, and, very shortly afterwards, fouled them. Chambers's crew then spurted repeatedly, and with considerable power, to overhaul the Wards, but the latter had always plenty left in them to reply, and, drawing further away in the last mile, the famous brothers won very cleverly by four lengths.

"From the foregoing narratives, it is evident that the practice which obtains on the other side of the Atlantic of rowing races 'out and home again' is unfavorable to English oarsmen, who have been accustomed to row right-away races. It would, in our opinion, conduce to the comfort of all parties concerned if future races—particularly between pair-oared and four-oared boats—could be decided in America or Canada as they are upon the Thames and Tyne. It is possible that there may be some slight advantages in rowing round 'stake boats or buoys,' but we are unable to see in what manner the act of turning benefits any person, if we except, perhaps, those competitors who have practised the manœuvre from their youth up."

Remarks of the editor of the *London Field* on the foregoing account (issue of Sept. 16, 1871).

SECOND RACE—FOUR MILES TURNING RACE, FOR SINGLE SHELLS.—SIX ENTRIES.

COURSE: Same as for the four-oared race.

WEATHER: Clear and fine. WIND: from north by northeast, rather fresher than in the morning.

WATER: fair, but a little rough in the exposed parts of the course. TIME: race started at 4.27 P.M.

PRIZES: *First*, \$1,000; *second*, \$500. BETTING: *Before the four-oared race*, Sadler and Bagnell, 3 to 2 against the field. *After the four-oared race*, Ward, \$60; Taylor-Winship, \$50; Tyne, \$13, Biglin, \$5.

POSITIONS AT STARTING: Inside or eastern, Bright; 2. Sadler; 3. Kelley; 4. Biglin; 5. Bagnell; 6. Ward.

1. CEDAR SHELL "DUKE OF BEAUFORT."

ROWED BY

Joseph Sadler, of Putney, England. Time, 30' 18½"

Won easily by six lengths.

2. CEDAR SHELL "JAMES RENFORTH."

ROWED BY

Henry Kelley, of Putney, England. Time not taken.

One and a half lengths ahead of Biglin.

3. CEDAR SHELL "JOHN MORRISSEY."

ROWED BY

John A. Biglin of New York. Time not taken.

4. CEDAR SHELL "DICK RISDON."

ROWED BY

Ellis Ward, of Cornwall, on Hudson. Time not taken.

5. CEDAR SHELL "OUSEBURNE."

ROWED BY

Robert Bagnell, of Newcastle-on-Tyne, England. Time not taken.

6. PAPER BOAT "NO NAME."

ROWED BY

John Bright, of Newcastle-on-Tyne, England. Time not taken.

The Judges and Umpires were the same as for the four-oared race.

"At 4.27 they all dashed off well together. After the first burst, Sadler gradually loomed ahead, closely pressed by Kelley and Bright, with John Biglin pulling well on the right, abreast of whom lay Ellis Ward, laying down to his work with a will, and leading Bagnell by half a length. Sadler, however, was pulling thirty-eight, the gallant old hero of the Thames pressing close on his stern, and spurring every minute for the lead. About a mile from home, Kelley was a little ahead of Sadler, but could not hold him there, and the veteran had to succumb to the youth of his pupil. Ward, however, was doing very well, and Bagnell, the youngest of the Taylor-Winship party, could not get up to him, notwithstanding he made two or three very determined spurts. As they came up to the stake boat, it was rather hard to say who would be round first. Sadler was first to get round, having made the two miles in *fourteen minutes and seven seconds*; he was followed closely by Ellis Ward and Bagnell. Kelley was next, followed by John Biglin. Bright, who was rowing in a paper boat, something new to him, evidently did not feel quite at home, and was not in very good form. Coming home, the crew scattered well over the lake, Bright taking the eastern shore and Ward the western, with the rest between them.

Account of the race from *Wilkes's Spirit of the Times*.

Account of the
race from
*Wilkes's Spirit
of the Times.*

About a mile from the stake boats the work began in earnest, and Kelley followed after Sadler in hard earnest, and, at one time, looked rather dangerous; but the favorite put another half-length between them. Bright was doing pretty well for some time alongside of Kelley, but, getting rather wild in his pulling, he lost his course, and went right into a bank of reeds, which lost him a good two or three lengths. Biglin was now doing very well, and, coming up with Ward and Bagnell, pressing the latter, closed rapidly in with Ellis Ward, who began to find his work tell on him. Bright had now got out of his difficulties, and was bringing up the rear, but full of work. About three-quarters of a mile from home, John Bagnell came up and challenged Ward, took the lead, and dashed on after Kelley. Coming up to the home stake boat, Sadler let up a little, as he had the race easily in hand, and crossed the line a winner by five or six lengths in 30' 18 $\frac{1}{2}$ ". Kelley came in second, beating John Biglin, who had pulled well, by a length and a half. Ward was about a length behind Biglin, and Bagnell came next, with Bright bringing up the rear."

PART FOURTH.

STATISTICS OF THE BOAT, ROWING, AND HUNTING CLUBS OF THE UNITED STATES
AND THE BRITISH PROVINCES, ON THE 30TH DAY OF NOVEMBER, 1870.

INTRODUCTION.

UNTIL within a few years, the statistics of rowing in America, as a pastime and exercise, have been so meagre and unimportant as scarcely to be worth the trouble of collection. The best evidence of the correctness of this statement is the fact that no list of the boat-clubs of the country, which are the centres of this interest, and, in one sense, measures of its importance, was published until 1868, when Mr. Peverelly issued his work on "American Pastimes," and in the chapter on "Rowing" gave an extended and carefully written history of the principal boating organizations in the United States in existence at the end of 1867.

Statistics of rowing prior to 1870 too meagre to repay the labor of their collection.

Although amateur rowing had been practised at Harvard and Yale, and also in New York City, since 1843, yet it was not until the period from 1856 to 1860 that it attracted to any extent, and became popular among, the youth of some of our principal cities, resulting in the formation of boat-clubs in Boston, Providence, New York, Philadelphia, Savannah, Charleston, Rochester, Detroit, and Milwaukee. The civil war, which opened early in 1861, arrested all progress in this direction, as in many similar interests of minor importance, and the dissolution of most of the boating organizations throughout the country gradually took place. From this cause, rowing was quite abandoned as a national sport from 1861 to 1865, except in a few localities, such as Harvard and Yale Colleges, and in the city of New York, where it had obtained too strong a hold to be overcome by even such a calamity. With the restoration of peace, and the general introduction of the light outriggered boats of the present day, a new interest was awakened, and a vigorous impulse given to this branch of physical education, and, as our table shows, quite a number of new clubs were formed soon after the close of the war, so that, in 1868, Mr. Peverelly was able to give records of fifty, which were at that time well established.

Slow increase of clubs from 1843 to 1866.

The only sources of information in regard to the number and locality of these organizations are Peverelly's "American Pastimes," "Four Years at Yale," and the English "Rowing Almanacs." In the first of these works will be found accounts of fifty-five clubs and associations, all within the limits of the United States. The plan followed by this author in giving the history and statistics of these organizations, while answering his purpose admirably, and being well suited to a limited number of clubs, is manifestly not adapted to recording the statistics of a much larger number, where ease

Sources of information in regard to American boat-clubs.

of general reference and comparison, as well as facility for ascertaining particular facts, are the essential requisites.

"Four Years at Yale" gives an exhaustive account of the history of rowing at Yale College, and traces the history of the various organizations which have existed there since 1843; but the work is strictly local in its character, and, beyond the relations of the Yale students to their rivals in the annual regatta, makes no allusions to other clubs.

The "Rowing Almanac" is an admirable little ready-reference volume, published annually in London since 1861, and is, as its name imports, exclusively devoted to data of special interest to oarsmen.

Rowing Directory in "The Rowing Almanac."

One of its features is a Rowing Directory, which, until within two years, embraced all the known boat-clubs of the civilized world. This directory gives only the names, locality, and, in some cases, the colors of the clubs; and, while undoubtedly very accurate and reliable with regard to English associations, is not as exact for those of the United States. This is quite excusable, when we consider the imperfection of our own sources of information, and our only surprise is that the editor has been able to make it as interesting in these particulars as it really is. The most complete of these lists is that for 1868. That for 1869 is a copy of the one for the preceding year, and contains none of the new organizations of 1869, while quite a number which are enumerated had at that time ceased to exist. In the Almanacs for 1870 and 1871, the list for the United States is omitted altogether, and, in view of the transition state through which our clubs have recently passed, this was perhaps the wisest course to be adopted.

Plan of the present directory explained.

In the preparation of the Club Directory, in the form here presented, the endeavor has been, first, to give a place to every rowing organization in existence at the date named, no matter how small its number of members, since even such an organization indicates the interest taken in the oarsmen's art in the neighborhood where such a club is formed; second, to so arrange the clubs that, knowing the State to which any particular one belongs, and, still better, the town in which it is located, it can at once be found; and, third, to group all the statistics or special data of interest according to one uniform rule, so that the same information will be found for all under the same head, and at the same part of each page. Thus, the States are all arranged in alphabetical order, as indicated by the leading line, and under the head of each State the clubs follow each other in the alphabetical order of the names of the towns to which they belong. The reports upon which the information given in regard to each club is based, have been prepared by some officer of the club, usually the secretary, so that, coming direct from the parties most interested in their correctness, they are more likely to be accurate than if derived from any other source. If certain details are lacking in some of the accounts, it is because they have not been supplied by the officers making these reports. Any one at all familiar with the preparation of such a mass of details, will appreciate the difficulties encountered of arranging the varied material, supplied from several hundred sources, according to a uniform plan, and hence, in this our first attempt to carry out such a systematic series of reports, we must beg the reader's indulgence, if it is found that some of the work is yet imperfect.

The information presented has been supplied by the clubs themselves.

Advantages of the plan proposed.

The advantages of a directory, on the plan proposed, are obvious. It enables every oarsman who is interested in the progress of his favorite exercise, and who

desires to ascertain how far it is popular in other localities, to get exact information on these points, and, by supplying the names and addresses of the officers of each club, will greatly facilitate and stimulate a friendly intercourse and rivalry between clubs, who, but for this list, might never have been aware of each other's existence. Further, by collecting together, as is done in the two tables presented herewith, the principal statistics given in the individual reports, we are enabled to take in at a glance the magnitude of the rowing interest even now, and to better understand the rapid progress which this branch of physical training is making in public estimation in this country.

Although the information presented, in regard to each club, is more detailed than anything which has yet been given to the public, we propose to add other statistics of interest and value, in the edition of this work to be published in 1872; such as the number of new members which have been added to each club during the year 1871; a *résumé* of the permanent improvements made in the property of the club, and the general progress in rowing, as shown by the number of double, four, six, or eight oared crews organized during the year; the Regatta, or other association, of which the club is a member; a list of the regattas or races in which the club has participated during the past season; with a full description of the boat-house, and the dimensions and material of the boats, belonging to each. This additional information will add greatly to the interest of this part of the catalogue, and make it more than ever a *manual* for oarsmen.

Additional items of information to be given in the edition of 1872.

With regard to the number of boat and rowing clubs given, we feel satisfied that the record comprises all of any note at the date of the reports, but, should there be any omitted, we shall gladly give them a place in the next edition.

The list of boat-clubs comprehends all in existence at the date named.

The list of hunting clubs is designed only to cover those, the members of which use boats of some sort, and who, as a general rule, hunt over the same localities each year. The accompanying list is necessarily quite imperfect, and, we are convinced, does not at all represent the importance or number of this class of clubs; but, in a country as widely extended as ours, it is scarcely possible to perfect such a list in the first instance.

That for the hunting-clubs imperfect.

We shall spare no trouble or expense to correct these defects, and to present to our readers, in the edition of this work for 1872, a much more complete return of both the Rowing and Hunting Clubs in the United States and the Provinces, representing their condition on the 1st day of January, 1872.

The edition of 1872 to be made more complete.

Statistics of rowing and sporting clubs.
 TABLE SHOWING THE NUMBER OF BOAT AND ROWING CLUBS IN THE UNITED STATES AND THE BRITISH PROVINCES, ON THE 30TH DAY OF NOVEMBER, 1870, AND THE YEARS IN WHICH THEY WERE ORGANIZED.

STATES.	1848.	1851.	1853.	1854.	1856.	1857.	1858.	1859.	1860.	1861.	1862.	1863.	1864.	1865.	1866.	1867.	1868.	1869.	1870.	Total.	Population in 1870.	Ratio of Clubs to Population, 1 Club to		
Alabama.....																				996,993				
Arkansas.....																				483,179				
California.....																			3	4	350,284	140,000		
Connecticut.....			1								1					1	1	1	3	8	517,418	67,000		
Delaware.....																				125,015				
District of Columbia.....																	1	2	1	4	131,706	37,000		
Florida.....																			1	1	187,706	187,000		
Georgia.....								1												7	9	1,200,000	133,000	
Illinois.....																	1	1	2	4	2,510,638	615,000		
Indiana.....																				2	2	1,671,046	817,000	
Iowa.....																			1	3	4	1,191,802	298,000	
Kansas.....																					362,872			
Kentucky.....																					1,321,000			
Louisiana.....																					732,711			
Maine.....													1	1	1	1	1	1	6		626,461	104,000		
Maryland.....																					780,806	97,000		
Massachusetts.....			1																	1	4	1,457,351	47,000	
Michigan.....							1								2	1	5	3	10	3	1,184,296	148,000		
Minnesota.....																				2	2	435,511	218,000	
Mississippi.....																					814,179			
Missouri.....																					1	1	1,715,000	171,500
Nebraska.....																					122,000			
Nevada.....																					42,000			
New Hampshire.....																					318,300			
New Jersey.....							1													2	6	935,706	60,000	
New York.....	1				1			3		1	1	1	1	1	2	5	5	12	12	46	4,364,411	95,000		
North Carolina.....																					1,100,614			
Ohio.....															2	2	1		2	3	10	2,662,214	266,000	
Oregon.....																					90,000			
Pennsylvania.....			1	1	1		1	1	2	1	1				3	1	5		13	10	41	3,515,601	85,000	
Rhode Island.....																					217,336	31,000		
South Carolina.....																				2	2	7	708,000	
Tennessee.....																					1,257,081	257,000		
Texas.....																				1	5	807,000		
Virginia.....																				4	5	1,224,810	245,000	
Vermont.....															1					1		320,552	320,000	
West Virginia.....																						448,616		
Wisconsin.....																				3	2	1,055,167	122,000	
Territories.....																						310,799		
British Provinces.....													1	2							3	7	4,000,000	570,000
TOTALS.....	1	1	2	1	3	1	3	6	2	2	3	3	5	10	13	16	22	45	96	237	42,729,143	180,000		

HUNTING AND SPORTING CLUBS IN THE UNITED STATES, ON THE 30TH DAY OF NOVEMBER, 1870, AND THE YEARS OF THEIR ORGANIZATION.

STATES.	1855.	1848.	1849.	1851.	1852-54.	1856.	1857-58.	1859.	1860.	1861.	1862.	1863.	1864.	1865.	1866.	1867.	1868.	1869.	1870.	Total.	Population in 1870.	Ratio of Clubs to Population, 1 Club to
Connecticut.....																				1	537,418	537,000
District of Columbia.....																				1	131,706	131,000
Indiana.....																				1	1,671,046	1,671,000
Iowa.....																				1	1,191,802	1,191,000
Maine.....																				3	626,463	208,000
Michigan.....																				5	1,184,296	237,000
New York.....	1	1	1				1	2	1	1										10	4,364,411	436,000
Ohio.....																				1	2,662,214	266,000
Vermont.....																				1	320,552	320,000
Wisconsin.....																				3	1,055,167	351,000
TOTALS.....	1	1	1				1	2	2	2	1									30	13,747,061	458,000
GRAND TOTALS FOR THE ABOVE CLUBS.	1	2	1	1	3	4	6	8	4	3	3	3	5	11	17	20	26	47	99	267		

* Estimated.

STATEMENT OF THE MEMBERSHIP, NUMBER OF BOATS, AND VALUE OF THE REAL ESTATE AND PERSONAL PROPERTY OF THE BOAT-CLUBS OF THE UNITED STATES AND THE BRITISH PROVINCES, ON THE 30TH NOVEMBER, 1870.

Membership and values of rowing and sporting clubs.

STATES.	Number of Clubs.	Membership.			Number of Boats.	Value of Property.		
		Active.	Honorary.	Total.		Boats and Fittings.	Boat-Houses, Lands, etc.	Totals.
California.....	4	67	37	104	13	\$2,315	\$1,650	\$3,965
Connecticut.....	8	624	0	624	49	9,000	4,500	13,500
District of Columbia.....	4	130	111	250	25	4,800	5,500	10,300
Florida.....	1	20	6	26	17	17,300	.....	17,300
Georgia.....	9	218	164	382	18	4,225	2,050	6,275
Illinois.....	4	70	114	184	27	2,050	1,300	3,610
Indiana.....	2	35	0	35	4	800	150	950
Iowa.....	4	145	43	188	18	1,740	1,225	2,965
Maine.....	6	110	41	160	56	6,725	8,000	14,725
Maryland.....	8	103	331	434	24	7,080	1,300	8,380
Massachusetts.....	31	2,315	210	2,564	305	37,215	43,630	80,845
Michigan.....	8	220	221	441	47	8,220	4,150	12,370
Minnesota.....	2	38	11	49	17	1,525	700	2,225
Missouri.....	1	14	2	16	3	225	.....	225
New Jersey.....	15	399	143	530	117	16,600	23,315	39,915
New York.....	49	1,575	398	1,973	471	66,355	80,200	146,615
Ohio.....	10	232	17	249	34	5,375	3,825	9,200
Pennsylvania.....	41	1,628	390	1,418	180	34,510	80,825	115,044
Rhode Island.....	7	202	5	207	36	4,820	625	5,445
Tennessee.....	5	05	31	147	10	3,300	.....	3,300
Virginia.....	5	53	26	79	20	2,020	1,550	4,170
Vermont.....	1	25	0	25	7	1,000	200	1,200
Wisconsin.....	8	207	89	296	31	5,765	6,450	12,221
British Provinces.....	7	594	2	596	138	10,785	3,405	14,250
TOTALS.....	237	8,655	2,421	11,076	1,676	\$254,395	\$274,636	\$529,031

MEMBERSHIP, NUMBER OF BOATS, AND VALUE OF THE REAL ESTATE AND PERSONAL PROPERTY OF THE HUNTING AND SPORTING CLUBS OF THE UNITED STATES, ON THE 30TH NOVEMBER, 1870.

STATES.	Number of Clubs.	Membership.			Number of Boats.	Value of Property.		
		Active.	Honorary.	Total.		Boats and Fittings.	Boat-Houses, Lands, etc.	Totals.
Connecticut.....	1	11	0	11	4	\$150	.....	\$150
District of Columbia.....	1	18	1	19	.....	.....	.....	.....
Indiana.....	1	24	3	27	4	100	\$300	400
Iowa.....	1	34	0	34	8	635	.....	635
Maine.....	3	50	2	58	16	740	300	1,040
Michigan.....	5	238	24	262	6	500	1,000	1,500
New York.....	10	340	17	357	50	3,300	16,150	19,450
Ohio.....	4	103	17	120	51	2,175	10,100	12,275
Vermont.....	1	18	0	18	.....	.....	.....	.....
Wisconsin.....	3	91	0	91	34	1,800	3,750	5,550
TOTALS.....	39	939	70	1,009	179	\$9,400	\$31,600	\$41,000
GRAND TOTAL FOR ALL THE CLUBS.....	267	9,594	2,491	12,085	1,855	\$263,795	\$306,236	\$570,031

Golden State Rowing Club,

OAKLAND, ALAMEDA CO., CALIFORNIA.

OFFICERS, NOVEMBER 30, 1870.

President, F. W. BOARDMAN, Oakland.
Vice-President, F. E. COTTON, . . . Oakland. *Treasurer*, W. M. GILCREST, . . . Oakland.
Secretary, J. A. WHITCHER, . . . " *Captain*, F. W. BOARDMAN, . . . "

ORGANIZATION.

Organized,	March 1, 1870.	Honorary Members allowed by the Constitution, no limit.
Annual Meetings for Election of Officers, . . . }	First Monday in Jan. and July.	Active Members Enrolled, Nov. 30, 1870, . . . 12
Monthly Meetings, . . .	First Monday of each Month.	Honorary Members, Nov. 30, 1870, . . . 2
Active Members allowed by the Constitution, . . .	no limit.	Total Membership, Nov. 30, 1870, . . . 14

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Bay of San Francisco, from the Boat-House to a point in the Bay three miles distant and return—six miles. (No report of direction or description of terminal point given.)

OUTFIT.

THE BOAT-HOUSE is located at Webster Street Bridge. Invested value of boat-house, lands, etc., \$150.

BOATS.—OUTRIGGER SHELLS AND GIGS, CUTTERS AND BARGES, AND MISCELLANEOUS, . . . 0
 INRIGGER GIGS, one six-oared, . . . 1

Invested values of boats and fittings, \$355. Total number of boats, . . . 1

TOTAL INVESTED VALUES, NOV. 30, 1870, \$503.

Pioneer Rowing Club,

SAN FRANCISCO, CALIFORNIA.

OFFICERS, NOVEMBER 30, 1870.

President, HENRY J. HUSSEY, San Francisco.
Vice-President, G. H. STRONG, P. O. Box 582, San Francisco. *Trustees*, { E. NELSON, . . . San Francisco.
Secretary, J. F. MEAGHER, 48 Second St., " { C. WADE, . . . "
Treasurer, JAS. E. BRENNAN, 28 Third St., " { M. LONG, . . . "

ORGANIZATION.

Organized,	Oct. 4, 1869.	Honorary Members allowed by the Constitution, not decided.
Annual Meetings for Election of Officers, . . . }	First Tuesday in October.	Active Members Enrolled, Nov. 30, 1870, . . . 25
Monthly Meetings, . . .	First Tuesday of each Month.	Honorary Members, Nov. 30, 1870, . . . 0
Active Members allowed by the Constitution, . . .	30	Total Membership, Nov. 30, 1870, . . . 25

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Bay of San Francisco, commencing at the Cattle Wharf, one and a-half miles up the Bay to a stake boat, and return—three miles. (Direction and position of stake boat not reported.)

OUTFIT.

THE BOAT-HOUSE is located at the foot of Fourth Street, on Long Bridge. Estimated value of boat-house, lands, etc., \$600.

BOATS.—OUTRIGGER SHELLS, five singles, one pair-oared, one four-oared lapstreak, . . . 7
 OUTRIGGER AND INRIGGER GIGS, CUTTERS, AND BARGES, . . . 0
 MISCELLANEOUS, two wherries, . . . 2

Invested values of boats and fittings, \$1,100. Total number of boats, . . . 9

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,700.

Stockton Boat Club,

STOCKTON, CALIFORNIA.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	D. A. VEDDER, Stockton, Cal.	<i>Treasurer,</i>	HERBERT BALDWIN, Stockton, Cal.
<i>Vice-President,</i>	J. F. MILLNER, Stockton, Cal.	<i>Coxswain,</i>	JAMES SHARROT, " "
<i>Secretary,</i>	J. T. GREENWOOD, " "		

ORGANIZATION.

Organized,	June, 1870.	Honorary Members allowed by the Constitution, no report.
Annual Meetings for Election of Officers,	First Monday in August.	Active Members Enrolled, Nov. 30, 1870,
Monthly Meetings,	First Monday in the month.	Honorary Members, Nov. 30, 1870,
Active Members allowed by the Constitution,	no report.	Total Membership, Nov. 30, 1870,

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE for rowing is on McCloud's Lake—length, two miles. (No details given.)
Do, for racing is from the Steamboat Landing to Mormon Slough and back—two miles.

OUTFIT.

THE BOAT-HOUSE is located at Captain C. M. Weber's Garden. Invested value of boat-house, etc., \$400.

BOATS. —OUTRIGGER SHELLS AND GIGS, CUTTERS, BARGES, AND MISCELLANEOUS,	0
INRIGGER GIGS, one four-oared,	1

Invested value of boats and fittings, \$140.

Total number of boats, 1

TOTAL INVESTED VALUES, NOV. 30, 1870, \$540.

Undine Boat Club,

SACRAMENTO, CALIFORNIA.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	H. B. EDDY, Sacramento, Cal.	<i>Commodore,</i>	S. J. LANSING, Sacramento, Cal.
<i>Vice-President,</i>	S. J. LANSING, " "	<i>Captain,</i>	C. T. PATRIARCHE, " "
<i>Secretary</i>		<i>Board</i>	N. WALTERS, " "
<i>and</i>		<i>of</i>	C. T. PATRIARCHE, " "
<i>Treasurer,</i>	G. L. LANSING, " "	<i>Directors,</i>	F. H. McCORMICK, " "

ORGANIZATION.

Organized,	April 19, 1870.	Honorary Members allowed by the Constitution, no limit.
Annual Meetings for Election of Officers,	First Tuesday in April.	Active Members Enrolled, Nov. 30, 1870,
Monthly Meetings,	First Tuesday of each Month.	Honorary Members, Nov. 30, 1870,
Active Members allowed by the Constitution,	30	Total Membership, Nov. 30, 1870,

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Sacramento River, from the Sacramento Bridge, one and a half miles down stream, and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located at the east end of Sacramento Bridge (a floating house). Invested value of boat-house, etc., \$500.

BOATS. —OUTRIGGER SHELLS, one four-oared lapstreak,	1
OUTRIGGER AND INRIGGER GIGS, AND MISCELLANEOUS,	0
CUTTERS AND BARGES, one six-oared (Spanish cedar),	1

Invested values of boats and fittings, \$750.

Total number of boats, 2

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,250.

Undine Boat Club,

SHEFFIELD SCIENTIFIC SCHOOL, NEW HAVEN, CONN.

OFFICERS, NOVEMBER 30, 1870.

Secretary and Treasurer, } GEORGE M. KEASBY, New Haven, Ct.	1st Lieutenant, HENRY B. SARGENT, New Haven, Ct.
	2d Lieutenant, BURWELL H. BOYKIN, "
	3d Lieutenant, HARRY T. GAUSE, "
	Captain, R. W. DAVENPORT, New Haven, Ct.

ORGANIZATION.

Organized,	no report.	Honorary Members allowed by the Constitution, }	no limit.
Annual Meeting for Election of Officers, } Last Wed. but one before commencement.		Includes all the old active members,	30
Monthly Meetings,	Called at pleasure of the Captain.	Active Members Enrolled, Nov. 30, 1870,	30
Active Members allowed by the Constitution,	no limit.	Honorary Members, Nov. 30, 1870,	no report.
		Total Membership, Nov. 30, 1870,	30

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE for general rowing and training is on Quinnipiack River, New Haven Harbor; for racing, on Lake Saltonstall, near New Haven, one and a half miles up the Lake and return—three miles.

OUTFIT.

THE BOAT-HOUSE used is that belonging to the University Club, and is located at the Belle Dock, New Haven Harbor. Invested value of boat-house, lands, etc. (see University Club).

BOATS.—OUTRIGGER SHELLS, two six-oared (one 49 feet by 20 inches, built by Elliott, May, 1870;

one built by McKay, New York),	2
OUTRIGGER AND INRIGGER GIGS,	0
CUTTERS AND BARGES, one six-oared, "Lorelei," 44½ in. x 45 feet,	1
MISCELLANEOUS,	0
	—

Invested values of boats and fittings, \$500.

Total number of boats,

3

TOTAL INVESTED VALUES, NOV. 30, 1870, \$500.

Yale University Boat Club,

NEW HAVEN, CONN.

OFFICERS, NOVEMBER 30, 1870.

President, ISAAC H. FORD, '71, New Haven, Ct.	
Secretary and Treasurer, } LUCIUS S. BOOMER, '72, New Haven, Ct.	Captain, WILLIAM L. CUSHING, '72, New Haven, Ct.
	Coxswain, WILLIS F. MCCOOK, '73, "

ORGANIZATION.

Organized (as the "Yale Navy"),	June, 1853.	Honorary Members allowed by the Constitution, no report.
Annual Meetings for the Election of Officers,	no report.	Active Members Enrolled, Nov. 30, 1870,
Monthly Meetings,	"	Honorary Members, Nov. 30, 1870,
Active Members allowed by the Constitution, } Limited to the undergraduates of Yale College and the special schools.		Total Membership, Nov. 30, 1870,
		568

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE for general rowing and training is on Quinnipiack River, New Haven Harbor. For racing, special courses are used on the Harbor and on Lake Saltonstall, near New Haven. (No detailed reports are given.)

OUTFIT.

THE BOAT-HOUSE is located at the Belle Dock, near Steamboat Landing, New Haven Harbor, and is owned and used by all the College Clubs in common. Invested value of boat-house, lands, etc., \$4,000.

BOATS. —OUTRIGGER SHELLS, eight singles, five doubles, one six-oared (48 ft. x 22 in., Elliott, 1870),	14
OUTRIGGER GIGS, one six-oared,	1
INRIGGER GIGS, CUTTERS, AND BARGES,	0
MISCELLANEOUS,	0
	—

Invested values of boats and fittings, \$2,400.

Total number of boats,

15

TOTAL INVESTED VALUES, NOV. 30, 1870, \$6,400.

Class of 1871 Boat Club,

YALE COLLEGE, NEW HAVEN, CONN.

OFFICERS, NOVEMBER 30, 1870.

Secretary and Treasurer, } JOSEPH A. BURR, Yale Col., New Haven, Ct.	Captain, E. T. OWEN, Yale Col., New Haven, Ct.
	1st Lieutenant, E. D. COONLEY, " "
	2d Lieutenant, C. S. JELLEY, " "

ORGANIZATION.

Organized, September, 1867.	Honorary Members allowed by the Constitution, no report.
Annual Meetings for Election of Officers, . . . no report.	Active Members Enrolled, Nov. 30, 1870, . . . 104
Monthly Meetings, " "	Honorary Members, Nov. 30, 1870, . . . no report.
Active Members allowed } Limited to members of the	
by the Constitution, } class.	Total Membership, Nov. 30, 1870, . . . 104

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is described in the University Boat Club report.

OUTFIT.

THE BOAT-HOUSE is that of the University Boat Club, used in common by all the College Boat Clubs. Invested value of boat-house, lands, etc. (see U. B. C. report).

BOATS.—OUTRIGGER SHELLS, four singles, two six-oared (one 53 feet by 20½ inches, built by Elliott, 1868; and one 48 feet by 22 inches, built by McKay, 1865),	-	-	-	-	-	6
OUTRIGGER GIGS, one six-oared,	-	-	-	-	-	1
INRIGGER GIGS, CUTTERS, AND BARGES,	-	-	-	-	-	0
MISCELLANEOUS,	-	-	-	-	-	0

Invested values of boats and fittings, \$1,550.

Total number of boats, - 7

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,550.

Class of 1872 Boat Club,

YALE COLLEGE, NEW HAVEN, CONN.

OFFICERS, NOVEMBER 30, 1870.

Secretary and Treasurer, } H. S. POTTER, Yale Col., New Haven, Ct.	Captain, L. E. CURTIS, Yale Col., New Haven, Ct.
	1st Lieutenant, L. S. BOOMER, " "
	2d Lieutenant, D. J. H. WILLCOX, " "

ORGANIZATION.

Organized, September, 1868.	Honorary Members allowed by the Constitution, no report.
Annual Meetings for Election of Officers, . . . no report.	Active Members Enrolled, Nov. 30, 1870, . . . 140
Monthly Meetings, " "	Honorary Members, Nov. 30, 1870, . . . no report.
Active Members allowed } Limited to Members of the	
by the Constitution, } class.	Total Membership, Nov. 30, 1870, . . . 140

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is described in the report of the University Boat Club.

OUTFIT.

THE BOAT-HOUSE is that of the University Boat Club, used in common by all the College Boat Clubs. Invested value of boat-house, lands, etc. (see U. B. C. report).

BOATS.—OUTRIGGER SHELLS, two singles, one six-oared (51 feet by 19 inches, built by Elliott, 1869),	-	-	-	-	-	3
OUTRIGGER GIGS, three two-pair sculls, one six-oared (45 feet by 30 inches, built by Darling, New York, May, 1868),	-	-	-	-	-	4
INRIGGER GIGS,	-	-	-	-	-	0
CUTTERS AND BARGES,	-	-	-	-	-	0
MISCELLANEOUS,	-	-	-	-	-	0

Invested values of boats and fittings, \$1,300.

Total number of boats, - 7

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,300.

Class of 1873 Boat Club,

YALE COLLEGE, NEW HAVEN, CONN.

OFFICERS, NOVEMBER 30, 1870.

Sec. and Treas., C. D. ASHLEY, Yale College, New Haven. | *1st Lieutenant,* S. L. BOYCE, Yale College, New Haven.
Captain, F. W. ADEE, " " " " | *2d Lieutenant,* JER. DAY, " " " "

ORGANIZATION.

Organized,	September 15, 1869.	Honor'y Members allowed by the Constitution, . . .	none.
Annual Meeting for Election of Officers, . . .	September 30.	Active Members Enrolled, Nov. 30, 1870, . . .	143
Other Meetings,	At the call of the Captain.	Honorary Members, Nov. 30, 1870, . . .	0
Active Members allowed } Limited to Members of the Class.		Total Membership, Nov. 30, 1870, . . .	143
by the Constitution, }			

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is described in the report of the University Boat Club.

OUTFIT.

THE BOAT-HOUSE is that of the University Boat Club, used in common by all the College Boat Clubs.
Invested value of boat-house, lands, etc. (see U. B. C. report).

BOATS.—OUTRIGGER SHELLS, six singles, one six-oared (51 feet by 19 inches, built by Fearon, Yonkers, N. Y., 1870), 7
OUTRIGGER GIGS, one six-oared (45 feet long by 30 inches, built by Fearon, Yonkers, N. Y., 1870), 1
INRIGGER GIGS, CUTTERS AND BARGES, AND MISCELLANEOUS, 0

Invested values of boats and fittings, \$2,100.

Total number of boats, 8

TOTAL INVESTED VALUES, NOV. 30, 1870, \$2,100.

Class of 1874 Boat Club,

YALE COLLEGE, NEW HAVEN, CONN.

OFFICERS, NOVEMBER 30, 1870.

Sec. and Treas., T. W. GROVER, Yale Col., New Haven. | *1st Lieutenant,* T. P. WICKES, Yale Col., New Haven.
Captain, H. D. F. WEEKS, " " " " | *2d Lieutenant,* R. S. BUSSING, " " " "

ORGANIZATION.

Organized,	September, 1870.	Honor'y Members allowed by the Constitution, . . .	no report.
Annual Meeting for Election of Officers, . . .	September.	Active Members Enrolled, Nov. 30, 1870, . . .	151
Other Meetings,	At the call of the Captain.	Honorary Members, Nov. 30, 1870, . . .	no report.
Active Members allowed } Limited to Members of the Class.		Total Members, Nov. 30, 1870, . . .	151
by the Constitution, }			

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is described in the report of the University Boat Club.

OUTFIT.

THE BOAT-HOUSE is that of the University Boat Club, used in common by all the College Boat Clubs.
Invested value of boat-house, lands, etc. (see U. B. C. report).

BOATS.—None reported.

SUMMARY OF YALE COLLEGE BOATING STATISTICS—Nov. 30, 1870.

CLUBS.	Member-ship.	BOATS.							VALUES.		
		Single Shells.	Double Shells.	6-Oared Shells.	2-Pair Gigs.	6-Oared Gigs.	6-Oared Barges.	Total.	Boats, Fittings, etc.	Boat-House, Land, etc.	Total.
Undine B. C. . . .	30	..	..	2	..	..	1	3	\$500	..	\$500
Class '71 B.C. . . .	104	4	..	2	..	1	..	7	1,550	..	1,550
Class '72 B.C. . . .	140	2	..	1	3	1	..	7	1,300	..	1,300
Class '73 B.C. . . .	143	6	..	1	..	1	..	8	2,100	..	2,100
Class '74 B.C. . . .	151	..	..	..	..	..	..	0	....	..	....
University B.C. . . .	...	8	5	1	..	1	..	15	2,400	\$4,000	6,400
Totals.	568	20	5	7	3	4	1	40	\$7,850	\$4,000	\$11,850

Potomac Boat Club,

GEORGETOWN, D. C.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	MALCOLM SEATON, Georgetown, D. C.	<i>Treasurer,</i>	W. A. GORDON, Jr., Georgetown, D. C.
<i>Vice-President,</i>	THOS. A. RITCHIE, " "	<i>Coxswain,</i>	FRANK MILLER, " "
<i>Secretary,</i>	JOHN M. WATERS, " "	<i>Assist.-Coxswain,</i>	EDWARD DERRICK, Washington, "

ORGANIZATION.

Organized,	June 20, 1869.	Active Members Enrolled, Nov. 30, 1870,	47
Annual Meeting for Election of Officers,	Sixth of July.	Honorary Members, Nov. 30, 1870,	63
Monthly Meetings,	First Wednesday of each Month.		
Active Members allowed by the Constitution,	no limit.	Total Membership, Nov. 30, 1870,	110
Honor'y " " " " " " " " " " " " " " " "	no limit.		

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSES are on the Potomac River, from Table Rock to the Long Bridge, three and five miles.

OUTFIT.

THE BOAT-HOUSE is located at Corporation Slip, foot of Congress Street, Georgetown. Invested value of boat-house, lands, etc., no estimate.

BOATS. —OUTRIGGER SHELLS AND INRIGGER GIGS,	-	-	-	-	-	-	-	0
OUTRIGGER GIGS, two two-pair sculls, two six-oared,	-	-	-	-	-	-	-	4
CUTTERS AND BARGES, one four-oared, one eight-oared, . . .	-	-	-	-	-	-	-	2
MISCELLANEOUS, two New York working-boats,	-	-	-	-	-	-	-	2
								8

Invested values of boats and fittings, no estimate.

Total number of boats,

TOTAL INVESTED VALUES, NOV. 30, 1870, NOT ESTIMATED.

Analostan Boat Club,

WASHINGTON, D. C.

OFFICERS, MARCH 4, 1871.

<i>President,</i>	H. M. GURLEY, Dep. of Intr., Washington, D. C.	<i>Captain,</i>	M. A. TAPPAN, 3d Aud.'s Office, Treas. Department, Washington, D. C.
<i>Vice-Pres.,</i>	L. GARDNER, Penna. Ave., bet. 9th and 10th Street, Washington, D. C.	<i>1st Lieut.,</i>	O. S. PRESCOTT, 2d Aud.'s Office, Treas. Department, Washington, D. C.
<i>Secretary,</i>	S. J. LEWIS, 7th St., near E, Washington, D. C.	<i>2d Lieut.,</i>	C. S. SCHERMERHORN, 1st National Bank, Washington, D. C.
<i>Treasurer,</i>	W. N. ROACH, National Metropol. Bk., Washington, D. C.		

ORGANIZATION.

Organized,	June 29, 1868.	Honor'y Members allowed by the Constitution,	no limit.
Annual Meeting for Election of Officers,	First Saturday in March.	Active Members Enrolled, Nov. 30, 1870,	44
Monthly Meetings,	First Saturday of each Month.	Honorary Members, Nov. 30, 1870,	26
Active Members allowed by the Constitution,	100	Total Membership, Nov. 30, 1870,	70

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSE is on the Potomac River, from Aqueduct Bridge, down the river one and a half miles and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located on the Wharf, at the foot of G Street. Invested value of boat-house, lands, etc., \$2,000.

BOATS. —OUTRIGGER SHELLS, three singles, two four-oared,	-	-	-	-	-	-	-	5
OUTRIGGER GIGS, two two-pair sculls, one six-oared, INRIGGER GIGS, none,	-	-	-	-	-	-	-	3
CUTTERS AND BARGES, three four-oared, one eight-oared, . . .	-	-	-	-	-	-	-	4
MISCELLANEOUS, two wherries,	-	-	-	-	-	-	-	2
								14

Invested values of boats and fittings, \$2,000.

Total number of boats,

TOTAL INVESTED VALUES, NOV. 30, 1870, \$4,000.

Arlington Boat Club,

WASHINGTON, D. C.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	ROBERT C. HEWETT,	Washington, D. C.	<i>Treasurer,</i>	D. S. JOHNSON,	Washington, D. C.
<i>Vice-President,</i>	CHARLES T. GRIFFITH,	" "	<i>Captain,</i>	JOHN E. PIGGOTT,	" "
<i>Secretary,</i>	HENRY CRUTCHET,	" "	<i>Fin. Secretary,</i>	CHARLES G. THOON,	" "

ORGANIZATION.

Organized,	November 25, 1869.	Honorary Members allowed by the Constitution,	22
Annual Meeting for Election of Officers,	First Monday in December.	Active Members Enrolled, Nov. 30, 1870,	25
Monthly Meetings,	First Monday in each month.	Honorary Members, Nov. 30, 1870,	12
Active Members allowed by the Constitution,	50	Total Membership, Nov. 30, 1870,	37

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSE is on the Potomac River, from Aqueduct Bridge, down the river one and a half miles and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located at Galt's Causeway, foot of Seventeenth Street. Invested value of boat-house, lands, etc., \$1,000.

BOATS. —OUTRIGGER SHELLS, one six-oared,	-	-	-	-	-	-	-	-	1
OUTRIGGER GIGS, one six-oared,	-	-	-	-	-	-	-	-	1
INRIGGER GIGS,	-	-	-	-	-	-	-	-	0
CUTTERS AND BARGES, one four-oared,	-	-	-	-	-	-	-	-	1
MISCELLANEOUS,	-	-	-	-	-	-	-	-	0

Invested values of boats and fittings, \$600.

Total number of boats, 3

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,600.

Washington Boat Club,

WASHINGTON, D. C.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	{ JUDSON T. CULL, 334 Indiana Ave., }	Washington, D. C.	<i>Treasurer,</i>	{ THOS. F. MILLER, 1,917 9th St., N. W., }	Washington, D. C.
<i>Secretary,</i>	{ PHILIP T. DODGE, P.O. Box 658, }	" "	<i>Captain,</i>	{ BUCHANAN BEALE, cor. 2d St. and Penn Ave., }	" "
	<i>Coxswain,</i>	JOHN B. PEYTON, 6th Auditor's Office,			Washington, D. C.

ORGANIZATION.

Organized,	November 13, 1870.	Honorary Members allowed by the Constitution, no limit.	
Semi-Annual Meetings for Election of Officers,	First day of June and December.	Active Members Enrolled, Nov. 30, 1870,	26
Monthly Meetings,	First day in each month.	Honorary Members, Nov. 30, 1870,	10
Active Members allowed by the Constitution,	no limit.	Total Membership, Nov. 30, 1870,	36

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE will be on the Potomac River, but its limits are not yet determined upon.

OUTFIT.

A BOAT-HOUSE is to be built in the spring of 1871, at or near the foot of Seventh Street, West.

BOATS.—This club, having organized on the 19th of November, 1870, have as yet no boats, but will purchase during the coming season.

TOTAL INVESTED VALUES, NOV. 30, 1870, \$.

OFFICERS, NOVEMBER 30, 1870.

ORGANIZATION.

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

OUTFIT.

Total number of boats.	-	I
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TOTAL INVESTED VALUES, NOV. 30, 1870, \$500.

OFFICERS, NOVEMBER 30, 1870.

ORGANIZATION.

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

OUTFIT.

Total number of boats,	-	3
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TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,300.

Roff Boat Club,

MACON, GEORGIA.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	W. A. HUFF,	.	.	.	Macon, Ga.	} <i>Secretary and Treasurer,</i>	H. T. POWELL,	.	.	.	Macon, Ga.
<i>Vice-President,</i>	S. R. JAKES,	.	.	.	"						

ORGANIZATION.

Organized,	.	.	.	July 1, 1870.	Honorary Members allowed by the Constitution, no limit.
Annual Meeting for Election of Officers,	.	.	.	First Monday in April.	Active Members Enrolled, Nov. 30, 1870, . . . 15
Monthly Meetings,	.	.	.	First Monday in each month.	Honorary Members, Nov. 30, 1870, . . . 20
Active Members allowed by the Constitution,	.	.	.	15	Total Membership, Nov. 30, 1870, . . . 35

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Ocmulgee River, from Lover's Leap to Trotting Park, one mile and return—two miles.

OUTFIT.

THE BOAT-HOUSE is located at foot of Second Street. Invested value of boat-house, lands, etc., \$250.

BOATS. —OUTRIGGER SHELLS, one four-oared,	-	-	-	-	-	-	-	-	1
OUTRIGGER GIGS,	-	-	-	-	-	-	-	-	0
INRIGGER GIGS,	-	-	-	-	-	-	-	-	0
CUTTERS AND BARGES,	-	-	-	-	-	-	-	-	0
MISCELLANEOUS,	-	-	-	-	-	-	-	-	0

Invested values of boats and fittings, \$225.

Total number of boats, - 1

TOTAL INVESTED VALUES, NOV. 30, 1870, \$475.

Couper Boat Club,

SAVANNAH, GEORGIA.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	T. P. HUGER,	.	.	.	Savannah, Ga.	} <i>Coxswain,</i>	R. A. BOIT,	.	.	.	Savannah, Ga.				
<i>Vice-President,</i>	E. C. HOUGH,	.	.	.	"			} <i>1st Mate,</i>	C. W. ANDERSON,	.	.	.	"		
<i>Secretary and Purser,</i>	PRESTON CUNNINGHAM,	.	.	.	"					} <i>2d Mate,</i>	C. A. KING,	.	.	.	"

ORGANIZATION.

Organized,	.	.	.	in 1859.	Honorary Members allowed by the Constitution, no limit.
Annual Meeting for Election of Officers,	.	.	.	First Wednesday in December.	Active Members Enrolled, Nov. 30, 1870, . . . 30
Monthly Meetings,	.	.	.	First Wednesday eve. in each month.	Honorary Members, Nov. 30, 1870, . . . 25
Active Members allowed by the Constitution,	.	.	.	no limit.	Total Membership, Nov. 30, 1870, . . . 55

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSE is on the Savannah River, commencing at the Upper Cotton Press, and terminating opposite the Lower Press—one mile.

OUTFIT.

BOAT-HOUSE.—The Club have no boat-house. Invested value of boat-house, lands, etc. (no estimate).

BOATS. —OUTRIGGER SHELLS, one four-oared for coxswain, <i>Aphrodite</i> , 45 feet long by 30 inches beam,	-	-	-	-	-	-	-	-	1
OUTRIGGER GIGS,	-	-	-	-	-	-	-	-	0
INRIGGER GIGS,	-	-	-	-	-	-	-	-	0
CUTTERS AND BARGES,	-	-	-	-	-	-	-	-	0
MISCELLANEOUS,	-	-	-	-	-	-	-	-	0

Invested values of boats and fittings, \$600.

Total number of boats, - 1

TOTAL INVESTED VALUES, NOV. 30, 1870, \$600.

43

King Cotton Boat Club,

SAVANNAH, GEORGIA.

OFFICERS, NOVEMBER 30, 1870.

President, W. WADE, Savannah, Ga.
Secretary and Treasurer, J. H. RUCKER, Savannah, Ga. | *Coxswain* (not filled).
Assist.-Coxswain, RALPH ELLIOTT, Savannah, Ga.

ORGANIZATION.

Organized, June 9, 1868. | Honorary Members allowed by the Constitution, no limit.
 Annual Meeting for Election, First Tuesday in March. | Active Members Enrolled, Nov. 30, 1870, . . . 17
 Semi-Monthly Meetings, } First and Third Tuesdays from
 March to October, inclusive. | Honorary Members, Nov. 30, 1870, . . . 43
 Active Members allowed by the Constitution, . . . 25 | Total Membership, Nov. 30, 1870, . . . 60

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSE is on the Savannah River, for practice; for racing, from the Upper Cotton Press to opposite the Lower Hydraulic Press—one mile.

OUTFIT.

THE BOAT-HOUSE is a floating one, and is located on the north side of the Savannah River. Invested value of boats, lands, etc., \$500.

BOATS.—OUTRIGGER SHELLS, 0
 OUTRIGGER AND INRIGGER GIGS, 0
 CUTTERS AND BARGES, 0
 MISCELLANEOUS, two canoes (*King Cotton*, 36 feet 9 inches long by 40 inches beam;
Anonyma, 36½ feet long by 32 inches beam), 2

Invested values of boats and fittings, \$700.

Total number of boats, . . . 2

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,200.

Taltnall Boat Club,

SAVANNAH, GEORGIA.

OFFICERS, NOVEMBER 30, 1870.

President, Capt. J. R. DILLON, Savannah, Ga. | *Treasurer*, M. FRANK MOLINA, Savannah, Ga.
Vice-President, JOS. D. LOPEZ, " " | *Captain*, E. S. MUSE, " "
Secretary, R. C. CONNELL, P. O. Box 859, " " | *Mate*, L. J. KELLEY, " "

ORGANIZATION.

Organized, May 25, 1870. | Honorary Members allowed by the Constitution, no limit.
 Quarterly Meetings for Election of Officers, } First Monday in March, June,
 September, and December. | Active Members Enrolled, Nov. 30, 1870, . . . 18
 Monthly Meetings, First Monday in each Month. | Honorary Members, Nov. 30, 1870, . . . 1
 Active Members allowed by the Constitution, . . . no limit. | Total Membership, Nov. 30, 1870, . . . 19

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Savannah River, from Demund's Lower Cotton Press to Demund's Upper Press—one mile.

OUTFIT.

THE BOAT-HOUSE is located at the foot of Drayton Street. Invested value of boat-house, lands, etc., no estimate given.

BOATS.—OUTRIGGER SHELLS, 0
 OUTRIGGER GIGS, one four-oared, 1
 INRIGGER GIGS, CUTTERS AND BARGES, AND MISCELLANEOUS, 0

Invested values of boats and fittings, \$150.

Total number of boats, . . . 1

TOTAL INVESTED VALUES, NOV. 30, 1870, NO REPORT.

Chicago Rowing Club,

CHICAGO, ILLINOIS.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	W. B. CURTIS, 12 South Clark St., Chicago.	<i>Secretary,</i>	E. FAUNT LE ROY, with John V.
<i>Vice-President,</i>	C. H. SHAFER, Western News Co., "	<i>Treasurer,</i>	Farwell & Co., Chicago.
<i>Commodore,</i>	W. B. CURTIS, 12 South Clark St., "	<i>Captain,</i>	W. H. SNYDER, 41 South Canal St., "

ORGANIZATION.

Organized,	September 10, 1869.	Honorary Members allowed by the Constitution,	no limit.
Annual Meeting for Elec- } tion of Officers,	Tenth of September.	Active Members Enrolled, Nov. 30, 1870,	10
Monthly Meetings,	First Thursday in each Month.	Honorary Members, Nov. 30, 1870,	0
Active Members allowed by the Constitution,	no limit.	Total Membership, Nov. 30, 1870,	10

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE INNER COURSE is on the inner basin, Chicago River; *outer course*, from the mouth of the Chicago River one and three-fourths of a mile to a stake-boat opposite the foot of 16th Street and return—three and a half miles.

OUTFIT.

A FLOATING BOAT-HOUSE is to be erected in the spring of 1871. Situation not decided upon. Invested value of boat-house, lands, etc., \$1,200.

BOATS. —OUTRIGGER SHELLS, five singles, one double, one pair-oared,	7
OUTRIGGER AND INRIGGER GIGS,	0
CUTTERS AND BARGES,	0
MISCELLANEOUS,	0

Invested values of boats and fittings, \$1,050.

Total number of boats, 7

TOTAL INVESTED VALUES, NOV. 30, 1870, \$2,250.

East Rockford Boating Association,

ROCKFORD, ILLINOIS.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	A. E. GOODWIN, Rockford.	<i>Treasurer,</i>	J. R. WILLIAMSON, Rockford.
<i>Vice-President,</i>	THOMAS PALMER, "	<i>Captain,</i>	JOHN CLARK, "
<i>Secretary,</i>	FRANK NOBLE, P. O. Box 1,029, "	<i>Coxswain,</i>	G. C. MARSH, "

ORGANIZATION.

Organized,	April 30, 1870.	Honorary Members allowed by the Constitution,	100
Annual Meeting for Elec- } tion of Officers,	Thirtieth of April.	Active Members Enrolled Nov. 30, 1870,	20
Monthly Meetings,	First Wednesday of each Month.	Honorary Members, Nov. 30, 1870,	40
Active Members allowed by the Constitution,	50	Total Membership, Nov. 30, 1870,	60

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on Rock River, from City Bridge to the foot of Island No. 1, one mile and return—two miles.

OUTFIT.

THE BOAT-HOUSE is located on the east side of Rock River, foot of Water Street. Invested value of boat-house, lands, etc., \$100.

BOATS. —OUTRIGGER SHELLS, two six-oared,	2
OUTRIGGER AND INRIGGER GIGS,	0
CUTTERS AND BARGES,	0
MISCELLANEOUS, one skiff,	1

Invested values of boats and fittings, \$500.

Total number of boats, 3

TOTAL INVESTED VALUES, NOV. 30, 1870, \$600.

ROCKFORD, ILLINOIS.

TOTAL INVESTED VALUES, NOV. 30, 1870, \$300.

Neptune Boat Club,

BURLINGTON, IOWA.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	THOMAS JORDAN, . . . Burlington.	<i>Treasurer,</i>	ULYSSES PARSONS, . . . Burlington.
<i>Vice-President,</i>	THEODORE RUNDORFF, . . . " "	<i>Commodore,</i>	WILLIAM RHEIN, . . . " "
<i>Secretary,</i>	ARTHUR SCHRAMM, . . . " "	<i>Captain,</i>	GEORGE DEDWINE, . . . " "

ORGANIZATION.

Organized,	July 20, 1869.	Honorary Members allowed by the Constitution, no report.
Annual Meeting for Elec- } tion of Officers,	First Monday in January.	Active Members Enrolled, Nov. 30, 1870, 12
Monthly Meetings,	First Monday in each Month.	Honorary Members, Nov. 30, 1870, 0
Active Members allowed by the Constitution,	20	Total Membership, Nov. 30, 1870, 12

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Mississippi River, from Joy's Wharf north around Island No. 2, two miles and return—four miles.

OUTFIT.

THE BOAT-HOUSE is located at Joy's Wharf. Invested value of boat-house, lands, etc., \$350.

BOATS. —OUTRIGGER SHELLS, one four-oared,	-	-	-	-	-	-	-	-	1
OUTRIGGER GIGS, one eight-oared,	-	-	-	-	-	-	-	-	1
INRIGGER GIGS, one eight-oared,	-	-	-	-	-	-	-	-	1
CUTTERS AND BARGES,	-	-	-	-	-	-	-	-	0
MISCELLANEOUS, two skiffs,	-	-	-	-	-	-	-	-	2

Invested values of boats and fittings, \$500.

Total number of boats, 5

TOTAL INVESTED VALUES, NOV. 30, 1870, \$850.

Griswold College Boat Club,

DAVENPORT, IOWA.

OFFICERS, NOVEMBER 30, 1870.

<i>Vice-President,</i>	MORTON FRENCH, . . . Davenport.	<i>President</i> (recently deceased),	
<i>Secretary,</i>	O. R. LIPPITT,	<i>Treasurer,</i>	G. C. FOLEY, . . . Davenport.
		<i>Captain,</i>	F. B. Nash, Jr., P. O. Box 323, " "

ORGANIZATION.

Organized,	March 15, 1870.	Honorary Members allowed by the Constitution, no limit.
Annual Meeting for Elec- } tion of Officers,	First Tuesday in April.	Active Members Enrolled, Nov. 30, 1870, 14
Monthly Meetings,	First Tuesday each Month.	Honorary Members, November 30, 1870, 26
Active Members allowed by the Constitution,	15	Total Membership, Nov. 30, 1870, 40

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE for rowing is on the Mississippi River, from Davenport to Moline, Ill. (head of Rock Island), four miles and return—eight miles.

OUTFIT.

THE BOAT-HOUSE is not yet built. Invested value of boat-house, lands, etc. (no estimate).

BOATS. —OUTRIGGER SHELLS,	-	-	-	-	-	-	-	-	0
OUTRIGGER GIGS,	-	-	-	-	-	-	-	-	0
INRIGGER GIGS, one four-oared (33 feet long by 36 inches beam, double-ender),	-	-	-	-	-	-	-	-	1
CUTTERS AND BARGES,	-	-	-	-	-	-	-	-	0
MISCELLANEOUS,	-	-	-	-	-	-	-	-	0

Invested values of boats and fittings, \$150.

Total number of boats, 1

TOTAL INVESTED VALUES, NOV. 30, 1870, \$150.

Dubuque Rowing Club,

DUBUQUE, IOWA.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	WM. HYDE CLARK, . . .	Dubuque.	<i>Board of Directors,</i>	{ A. W. RICHMOND, . . .	Dubuque.
<i>Vice-President,</i>	H. D. GOUGH, . . .	"		{ J. M. BALLOU, . . .	"
<i>Secretary,</i>	GEORGE STEPHENS, . . .	"		{ A. H. GIBBS, . . .	"
<i>Treasurer,</i>	CHARLES B. DEAN, . . .	"		{ J. P. BURT, . . .	"
<i>Captain,</i>	A. HOBBS, . . .	"		{ W. R. CLARK, . . .	"

ORGANIZATION.

Organized,	April 28, 1870.	Honorary Members allowed by the Constitution, no limit.
Annual Meeting for Elec- } tion of Officers, }	Last Saturday in April.	Active Members Enrolled, Nov. 30, 1870, . . . 100
Monthly Meetings, . . .	Last Saturday in each Month.	Honorary Members, Nov. 30, 1870, . . . 10
Active Members allowed by the Constitution, . . .	100	Total Membership, Nov. 30, 1870, . . . 110

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Mississippi River, from D. & D. Bridge to Eagle Point—three miles.

OUTFIT.

THE BOAT-HOUSE is located in First St. Slough. Invested value of boat-house, lands, etc., \$750.

BOATS.—OUTRIGGER SHELLS, . . .	-	-	-	-	-	-	0
OUTRIGGER GIGS, two four-oared, . . .	-	-	-	-	-	-	2
INRIGGER GIGS, . . .	-	-	-	-	-	-	0
CUTTERS AND BARGES, one fourteen-oared barge, . . .	-	-	-	-	-	-	1
MISCELLANEOUS, two skiffs, . . .	-	-	-	-	-	-	2

Invested values of boats and fittings, \$650.

Total number of boats, . . . 5

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,400.

Ottumwa Boat Club,

OTTUMWA, IOWA.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	J. W. CARPENTER, . . .	Ottumwa.	<i>Commodore,</i>	J. B. SAX, . . .	Ottumwa.
<i>Vice-President,</i>	JOHN GRAY, . . .	"	<i>Captain, 1st crew,</i>	A. C. HILL, . . .	"
<i>Secretary,</i>	J. E. COOPER, . . .	"	" 2d "	C. W. MUDGE, . . .	"
<i>Treasurer,</i>	E. T. HULANISKI, . . .	"	" 3d "	H. HALL, . . .	"

ORGANIZATION.

Organized,	April 18, 1870.	Honorary Members allowed by the Constitution, no limit.
Semi-Annual Meetings for } Election of Officers, }	18th of April and October.	Active Members Enrolled, Nov. 30, 1870, . . . 19
Semi-Monthly Meetings, . . .	First and Third Mondays.	Honorary Members, Nov. 30, 1870, . . . 7
Active Members allowed by the Constitution, . . .	27	Total Membership, Nov. 30, 1870, . . . 26

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Des Moines River, from Way Bridge west to Richmond Ferry Cable, two miles and return—four miles.

OUTFIT.

THE BOAT-HOUSE is located at the foot of Green St. (attached to Way Bridge Club House). Invested value of boat-house, lands, etc., \$125.

BOATS.—OUTRIGGER SHELLS, one eight-oared, . . .	-	-	-	-	-	-	1
OUTRIGGER GIGS, . . .	-	-	-	-	-	-	0
INRIGGER GIGS, one pair-oared, one six-oared, . . .	-	-	-	-	-	-	2
CUTTERS AND BARGES, . . .	-	-	-	-	-	-	0
MISCELLANEOUS, two skiffs, two canoes, . . .	-	-	-	-	-	-	4

Invested values of boats and fittings, \$440.

Total number of boats, . . . 7

TOTAL INVESTED VALUES NOV. 30, 1870, \$565.

Wabash Boat Club,

WABASH COLLEGE, CRAWFORDSVILLE, INDIANA.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i> LADD VANCE, Crawfordsville.	<i>Treasurer,</i> CHARLES GREY, . . . Crawfordsville.
<i>Vice-President,</i> A. BOKER, . . . Crawfordsville.	<i>Captain,</i> JOHN McCLANE, . . . "
<i>Secretary,</i> WILLIAM H. KENT, . . . "	

ORGANIZATION.

Organized, May 10, 1870.

Annual Meetings for Election of Officers, . . . no report.	Active Members Enrolled, Nov. 30, 1870, . . . 12
Monthly Meetings, . . . no report.	Honorary Members, Nov. 30, 1870, . . . 0
Active Members allowed by the Constitution, . . . no report.	
Honorary Members allowed by the Constitution, no report.	Total Membership, Nov. 30, 1870, . . . 12

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on Sugar Creek (no details of course given), two miles.

OUTFIT.

THE BOAT-HOUSE.—No report made in regard to a boat-house. Invested values of boat-house, lands, etc., no estimate.

BOATS.—No boats are reported.

Invested values of boats and fittings, no estimate.

TOTAL INVESTED VALUES, NOV. 30, 1870, NO ESTIMATE.

NOTE.—This is a recent organization, which it is proposed to strengthen and put in rowing trim the coming season.

Valley Boat Club,

LOGANSPOUT, INDIANA.

OFFICERS, JANUARY 1, 1871.

<i>President,</i> W. A. BARRY, . . . Logansport.	<i>Treasurer,</i> P. TAYLAR, . . . Logansport.
<i>Vice-President,</i> C. W. HUMES, . . . "	<i>Commodore,</i> N. W. SAMIS, . . . "
<i>Acting Secretary,</i> W. A. BARRY, . . . "	<i>Captain,</i> E. TAYLAR, . . . "

ORGANIZATION.

Organized, August 1, 1870.

Annual Meetings for Election of Officers, . . . April 1.	Active Members Enrolled, Nov. 30, 1870, . . . 22
Monthly Meetings, . . . no report.	Honorary Members, Nov. 30, 1870, . . . 0
Active Members allowed by the Constitution, . . . 22	
Honorary " " " " " no report.	Total Membership, Nov. 30, 1870, . . . 22

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Ell River above the dam, commencing at Eleventh Street, thence up to Shallow Rock, two miles and return—four miles.

OUTFIT.

THE BOAT-HOUSE is located on the Ell River, above the dam. Invested values of boat-house, lands, etc., \$150.

BOATS. —OUTRIGGER SHELLS, one four-oared, - - - - -	1
OUTRIGGER GIGS, one pair-sculls, - - - - -	1
INTRIGGER GIGS, - - - - -	0
CUTTERS AND BARGES, one six-oared barge, - - - - -	1
MISCELLANEOUS, one side-wheel skiff, - - - - -	1
	4

Invested values of boats and fittings, \$800.

Total number of boats, " 4

TOTAL INVESTED VALUES, JAN. 1, 1871, \$950.

Gleam Boat Club,

BATH, MAINE.

OFFICERS, NOVEMBER 30, 1870.

President, WILLIAM K. SHAW, Bath.
Secretary and Treasurer, THOMAS WOODWARD, "

ORGANIZATION.

Organized,	April 19, 1867.	Honorary Members allowed by the Constitution, no limit.
Annual Meetings for Elec- } tion of Officers,	First Thursday in May.	Active Members Enrolled, Nov. 30, 1870, . . . 15
Monthly Meetings,	First Thursday in each Month.	Honorary Members, Nov. 30, 1870, . . . 20
Active Members allowed by the Constitution,	no limit.	Total Membership, Nov. 30, 1870, . . . 35

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE TWO-MILE COURSE is on the Kennebec River, from the Portland and Kennebec Railroad Depot, up the river to Clapp's Point, one mile and return—two miles. The *three-mile course* is on the same river, starting from same point, extending up the river to Winslow's Rock, one and a half miles and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located on the Kennebec River, at the foot of Oak Street. Invested value of boat-house, lands, etc., \$600.

BOATS. —OUTRIGGER SHELLS, five singles, three doubles,	-	-	-	-	-	-	-	8
OUTRIGGER GIGS, one six-oared,	-	-	-	-	-	-	-	1
INRIGGER GIGS, one pair-oared,	-	-	-	-	-	-	-	1
CUTTERS AND BARGES, and MISCELLANEOUS,	-	-	-	-	-	-	-	0
								10

Invested values of boats and fittings, \$700.

Total number of boats, 10

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,300.

Alcyon Boat Club,

PORTLAND, MAINE.

OFFICERS, NOVEMBER 30, 1870.

President, GEO. D. LORING, Tucker Printing Co., Portland.
Vice-President, F. A. M. SMITH, Portland Co.'s Works,
Secretary, J. A. MAVERICK, 33 Danforth St., Portland.
Treasurer,

ORGANIZATION.

Organized,	April 3, 1868.	Honorary Members allowed by the Constitution, no limit.
Quarterly Meet'gs } for Election,	First Mon. in March, June, Sept., Dec.	Active Members Enrolled, Nov. 30, 1870, . . . 19
Monthly Meetings,	First Monday in each Month.	Honorary Members, Nov. 30, 1870, . . . 2
Active Members allowed by the Constitution,	no limit.	Total Membership, Nov. 30, 1870, . . . 21

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE for racing commences at the end of Union Wharf, Portland Front Harbor, and extends to the Lower Great Eastern Wharf, one mile and return—two miles.

OUTFIT.

THE BOAT-HOUSE is located on Commercial Street, between Burnham and Franklin Wharfs. Invested value of boat-house, lands, etc., no estimate.

BOATS. —OUTRIGGER SHELLS, five singles, one double, one six-oared,	-	-	-	-	-	-	-	7
OUTRIGGER GIGS, one eight-oared,	-	-	-	-	-	-	-	1
INRIGGER GIGS, CUTTERS AND BARGES, and MISCELLANEOUS,	-	-	-	-	-	-	-	0
								8

Invested values of boats and fittings, \$550.

Total number of boats, 8

TOTAL INVESTED VALUES, NOV. 30, 1870, NO REPORT.

PORTLAND, MAINE.

President, GEO. E. DYER, P. O. BOX 1921, Portland.

Treasurer, C. WAY, care of C. Way & Co., Portland.
Captain, H. P. LADD, P. O. Box 1659, " "

Total Membership, Nov. 30, 1870.	20
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OUTFIT.

Invested values of boats and fittings, \$1,750.

Total number of boats,	-	7
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PORTLAND, MAINE.

Secretary, PETER O'CONNOR, 22 Brattle St., Portland.
Treasurer, JOHN KEENAN, " " " "

Total Membership, Nov. 30, 1870.	25
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OUTFIT.

Invested values of boats and fittings, \$1,000.

Total number of boats.	8
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TOTAL INVESTED VALUES, NOV. 30, 1870, \$2,200.

Una Boat Club,

PORTLAND, MAINE.

OFFICERS, NOVEMBER 30, 1870.

President, J. E. O'CONNELL, Portland.
Vice-President, F. R. HARRIS, Portland. *Treasurer*, F. E. ALLEN, Portland.
Secretary, E. B. JAMES, care James & Williams, " *Captain*, R. WILLIAMS, care James & Williams, "

ORGANIZATION.

Organized, April 4, 1864. Honorary Members allowed by the Constitution, no limit.
 Semi-Annual Meetings for } 1st Mondays in Jan. and July. Active Members Enrolled, Nov. 30, 1870, 25
 Election of Officers, }
 Monthly Meetings, First Monday of each Month. Honorary Members, Nov. 30, 1870, 13
 Active Members allowed by the Constitution, 30 Total Membership, Nov. 30, 1870, 38

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSES are in Portland Front Harbor, and are respectively one mile and return—two miles; one and a half miles and return—three miles; two and a half miles and return—five miles. Were surveyed by City Engineer.

OUTFIT.

THE BOAT-HOUSE is located on the end of Merrill's Wharf. Invested value of boat-house, lands, etc., \$6,200.

BOATS.—OUTRIGGER SHELLS, twelve singles, one double, one four-oared, one six-oared, 15
 OUTRIGGER GIGS, one six-oared, 1
 INRIGGER GIGS, one pair-oared, 1
 CUTTERS AND BARGES, one eight-oared, 1
 MISCELLANEOUS, one canoe, one sail-boat, 2

Invested values of boats and fittings, \$2,400.

Total number of boats, 20

TOTAL INVESTED VALUES, NOV. 30, 1870, \$8,600.

West End Boat Club,

PORTLAND, MAINE.

OFFICERS, NOVEMBER 30, 1870.

President, JAMES MAHONEY, Portland.
Vice-President, B. BURNS, Portland. *Secretary*, M. L. O'CONNOR, corner West Commercial and Summer Sts., Portland.
Treasurer, J. C. HAVERTY, 37 Plumb St., "

ORGANIZATION.

Organized, June 28, 1870. Honorary Members allowed by the Constitution, no limit.
 Quarterly Meetings for Election of Officers, The Fourth days of Feb., May, Aug., and Nov. Active Members Enrolled, Nov. 30, 1870, 18
 Semi-Monthly Meetings, 1st and 15th of each Month. Honorary Members, Nov. 30, 1870, 3
 Active Members allowed by the Constitution, no limit. Total Membership, Nov. 30, 1870, 21

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE for racing is from pier at P. S. & P. R. R. Bridge, one mile up Fore River to buoy opposite Kerosene Works and return—two miles.

OUTFIT.

THE BOAT-HOUSE is located at N. C. Rice's ship-yard. Invested value of boat-house, lands, etc. (no estimate).

BOATS.—OUTRIGGER SHELLS, one single, one four-oared, 2
 OUTRIGGER GIGS, 0
 INRIGGER GIGS, 0
 CUTTERS AND BARGES, 0
 MISCELLANEOUS, 0

Invested values of boats and fittings, \$250.

Total number of boats, 2

TOTAL INVESTED VALUES, NOV. 30, 1870 (NO REPORT.)

Niagara Boat Club, Class 1871.

U. S. NAVAL ACADEMY, ANNAPOLIS, MD.

OFFICERS, NOVEMBER 30, 1870.

Secretary, Cadet Midshipman AARON WARD, U. S. N. Acad. | Captain, Cadet Midshipman AARON WARD,
Treasurer, " " S. A. STAUNTON, " | U. S. Naval Academy.

ORGANIZATION.

Organized, October 13, 1868.

Annual Meetings for Elec-) Same time as regular Class	Active Members Enrolled, Nov. 30, 1870, being	
tion of Officers,) meetings (no date given).	the Class Crew,	4
Monthly Meetings, no report.	Other Members, Nov. 30, 1870,	46
Members allowed by the) The whole Class of 1871, 50	Total Membership, Nov. 30, 1870,	50
Constitution, }		

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSES are on the Severn River, commencing in the stream abreast the bow of the U. S. Frigate "Constitution," thence one mile for lapstreaks, and one and a half miles for shells, up the river to two buoys one hundred yards apart, and return, being respectively TWO and THREE miles.

OUTFIT.

THE BOAT-HOUSE is located on the Northwest Wharf, Naval Academy grounds, and was built and is owned by the Government. Invested value of boat-house, lands, etc., \$800.

BOATS. —OUTRIGGER SHELLS, one four-oared (19 inches beam x 42½ feet long), two six-oared, - - - - -	3
OUTRIGGER GIGS, one four-oared, - - - - -	1
INRIGGER GIGS, - - - - -	0
CUTTERS AND BARGES, - - - - -	0
MISCELLANEOUS, - - - - -	0
	—

Invested values of boats and fittings, \$1,200.

Total number of boats, - - - - - 4

TOTAL INVESTED VALUES, NOV. 30, 1870, \$2,000.

Au Revoir Boat Club, Class 1872.

U. S. NAVAL ACADEMY, ANNAPOLIS, MD.

OFFICERS, NOVEMBER 30, 1870.

Secretary, Cadet Midshipman R. H. McLEAN, U. S. N. Acad. | Captain, Cadet Midshipman J. H. WINLOCK,
Treasurer (no report). | U. S. Naval Academy.

ORGANIZATION.

Organized, October, 1870.

Annual Meetings for Elec-) Same time as regular Class	Active Members Enrolled, Nov. 30, 1870, being	
tion of Officers,) meetings (no date given).	the Class Crew,	5
Monthly Meetings, no report.	Other Members, Nov. 30, 1870,	25
Members allowed by) The whole Class of 1872, 30	Total Membership, Nov. 30, 1870,	30
the Constitution, }		

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Severn River, the same as described in the report of the Niagara Club of '71.

OUTFIT.

THE BOAT-HOUSE is located on the Northwest Wharf of the U. S. Naval Academy grounds, same as used by the other Class Clubs. Invested value of boat-house, lands, etc., see report of Niagara Club of '71.

BOATS. —OUTRIGGER SHELLS, two four-oared, - - - - -	2
OUTRIGGER GIGS, one four-oared, - - - - -	1
INRIGGER GIGS, - - - - -	0
CUTTERS AND BARGES, - - - - -	0
MISCELLANEOUS, - - - - -	0
	—

Invested values of boats and fittings, \$556.

Total number of boats, - - - - - 3

TOTAL INVESTED VALUES, NOV. 30, 1870, \$556.

Class of 1873 Boat Club,

U. S. NAVAL ACADEMY, ANNAPOLIS, MD.

OFFICERS, NOVEMBER 30, 1870.

Secretary, } Cadet Midshipman F. W. DANNER, | *Captain,* Cadet Midshipman W. H. SCHULTZE,
Treasurer, } U. S. Naval Academy. | U. S. Naval Academy.

ORGANIZATION.

Organized,	October 20, 1869.
Annual Meeting for Election of Officers,	Twentieth of October.
Monthly Meetings,	no report.
Members allowed by the Constitution, the whole Class of 1873,	56
Active Members Enrolled, Nov. 30, 1870, being the Class Crew,	6
Other Members, Nov. 30, 1870,	50
Total Membership, Nov. 30, 1870,	56

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Severn River, same as described in the report of the Niagara Club of '71.

OUTFIT.

THE BOAT-HOUSE is located on the Northwest Wharf of the U. S. Naval Academy grounds, and is the same as is used by the other Class Clubs. Invested value of boat-house, lands, etc., see report of Niagara Club.

BOATS.—OUTRIGGED SHELLS, one four-oared,	1
OUTRIGGED GIGS, one four-oared,	1
INRIGGED GIGS,	0
CUTTERS AND BARGES, one six-oared,	1
MISCELLANEOUS, one dingy, one wherry, one canoe,	3
Total number of boats,	6

Invested values of boats and fittings, \$600.

TOTAL INVESTED VALUES, NOV. 30, 1870, \$600.

Class of 1874 Boat Club,

U. S. NAVAL ACADEMY, ANNAPOLIS, MD.

OFFICERS, NOVEMBER 30, 1870.

Secretary, } Cadet Midshipman J. M. BOWYER, | *Captain,* Cadet Midshipman HUTTER,
Treasurer, } U. S. Naval Academy. | U. S. Naval Academy.

ORGANIZATION.

Organized,	October 1, 1870.
Annual Meeting for Election of Officers,	Twentieth of October.
Monthly Meetings,	no report.
Members allowed by the Constitution, the whole Class of 1874,	110
Active Members Enrolled, Nov. 30, 1870, being the Class Crew,	6
Other Members, Nov. 30, 1870,	104
Total Membership, Nov. 30, 1870,	110

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Severn River, same as described in the report of the Niagara Club of '71.

OUTFIT.

THE BOAT HOUSE is located on the Northwest Wharf, U. S. Naval Academy grounds, and is the same as used by the other Class Clubs. Invested value of boat house, lands, etc., see report of Niagara Club.

BOATS.—OUTRIGGED SHELLS, one four-oared,	1
OUTRIGGED GIGS,	0
INRIGGED GIGS, one six-oared, one four-oared,	2
CUTTERS AND BARGES, one six-oared,	1
MISCELLANEOUS, one dingy,	1
Total number of boats,	5

Invested values of boats and fittings, \$1,000.

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,000.

St. John's College Boating Club,

ST. JOHN'S COLLEGE, ANNAPOLIS, MD.

OFFICERS, NOVEMBER 30, 1870.

President, CALDRON CARLISLE, St. John's Col., Annapolis. *Treasurer,* R. R. BROWN, St. John's College, Annapolis.
Secretary, L. PARKS, " " " " *Captain,* RANDALL HAGNER, " " " "

ORGANIZATION.

Organized,	April 26, 1870.	Honorary Members allowed by the Constitution, no report.
Annual Meeting for Election of Officers,	Third of October.	Active Members Enrolled, Nov. 30, 1870, 16
Monthly Meetings,	Third Monday in each Month.	Honorary Members, Nov. 30, 1870, 0
Active Members allowed by the Constitution,	no report.	Total Membership, Nov. 30, 1870, 16

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Severn River (no details given)—two miles.

OUTFIT.

THE BOAT-HOUSE is located on the College grounds. Invested value of boat-house, lands, etc., \$500.

BOATS.—OUTRIGGER SHELLS,	-	-	-	-	-	-	-	-	0
OUTRIGGER GIGS, one six-oared,	-	-	-	-	-	-	-	-	1
INRIGGER GIGS,	-	-	-	-	-	-	-	-	0
CUTTERS AND BARGES,	-	-	-	-	-	-	-	-	0
MISCELLANEOUS,	-	-	-	-	-	-	-	-	0

Invested values of boats and fittings, \$300.

Total number of boats, 1

TOTAL INVESTED VALUES, NOV. 30, 1870, \$800.

Ariel Barge Club,

BALTIMORE, MD.

OFFICERS, NOVEMBER 30, 1870.

President, DR. CHAS. GALLAGHER, Baltimore. *Captain,* DR. L. McLANE TIFFANY, Baltimore.
Secretary, CHAS. B. TIERNAN, 31 Law Buildings, Lexington St., " *Coxswain,* J. HENRY LEE, " "
Treasurer, " " " " *Vice-Coxswain,* WILLIAM GILMOR, " "

ORGANIZATION.

Organized,	March 1, 1864.	Honorary Members allowed by the Constitution, no limit.
Annual Meeting for Election of Officers,	First Monday in March.	Active Members Enrolled, Nov. 30, 1870, 22
Monthly Meetings,	First Monday in each Month.	Honorary Members, Nov. 30, 1870, 59
Active Members allowed by the Constitution,	30	Total Membership, Nov. 30, 1870, 81

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Patapsco River, about three miles long (no descriptive details given).

OUTFIT.

THE BOAT-HOUSE is located at Winan's Wharf, foot of Light Street. Invested value of boat-house, lands, etc. (rented).

BOATS.—OUTRIGGER SHELLS,	-	-	-	-	-	-	-	-	0
OUTRIGGER GIGS, one four-oared, one six-oared,	-	-	-	-	-	-	-	-	2
INRIGGER GIGS, CUTTERS, BARGES, AND MISCELLANEOUS,	-	-	-	-	-	-	-	-	0

Invested value of boats and fittings, \$1,500.

Total number of boats, 2

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,500.

L'Hirondelle Boat Club,

BALTIMORE, MD.

OFFICERS, NOVEMBER 30, 1870.

President, HENRY FERGUSON, Jr., care McKim & Co., Baltimore.
Vice-President, EDWARD VASS, Baltimore. *Treasurer and Captain*, THOMAS H. MORRIS, Jr., Baltimore.
Secretary, CATON STEWART, Bank of Commerce, "

ORGANIZATION.

Organized, May 1, 1870.
 Annual Meeting for Election of Officers, First of May. Active Members Enrolled, Nov. 30, 1870, 21
 Monthly Meetings, no report. Honorary Members, Nov. 30, 1870, 0
 Active Members allowed by the Constitution, 25
 Honorary " " " " no report. Total Membership, Nov. 30, 1870, 21

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Patapsco River, from Undine Boat-House to end of the Long Bridge, one mile and return—two miles.

OUTFIT.

THE BOAT-HOUSE is located at Waters Wharf, foot of Fells Street. Invested value of boat-house, lands, etc. (no estimate).

BOATS.—OUTRIGGER SHELLS, 0
 OUTRIGGER GIGS, 0
 INRIGGER GIGS, one four-oared, 1
 CUTTERS, BARGES, AND MISCELLANEOUS, 0

Invested values of boats and fittings (no report). Total number of boats, 1

TOTAL INVESTED VALUES, NOV. 30, 1870 (NO REPORT).

Undine Boat Club,

BALTIMORE, MD.

OFFICERS, NOVEMBER 30, 1870.

President, STEWART BROWN, 40 St. Paul Street, Baltimore.
Secretary and Treasurer, E. J. D. CROSS, 31 Lexington St., Baltimore. *Coxswain*, ARCHIBALD B. COULTER, Baltimore.
Vice-Coxswain, HENRY C. LANDIS, "

ORGANIZATION.

Organized, April 1, 1865. Honorary Members allowed by the Constitution, no limit.
 Annual Meeting for Election, First Monday in April. Active Members Enrolled, Nov. 30, 1870, 24
 Monthly Meetings, First Monday in April, May, June, Honorary Members, Nov. 30, 1870, 41
 September, October, and November.
 Active Members allowed by the Constitution, 30 Total Membership, Nov. 30, 1870, 65

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSE is on the Patapsco River (no description given)—three miles.

OUTFIT.

THE BOAT-HOUSE is located at Winan's Wharf, foot of Light Street. Invested value of boat-house, lands, etc. (rented).

BOATS.—OUTRIGGER SHELLS, 0
 OUTRIGGER GIGS, two six-oared (one *Iris*, one *Undine*, 45 ft. long), 2
 INRIGGER GIGS, one four-oared (*Ripple*, 38 ft. long), 1
 CUTTERS AND BARGES, 0
 MISCELLANEOUS, 0

Invested values of boats and fittings, \$2,000. Total number of boats, 3

TOTAL INVESTED VALUES, NOV. 30, 1870, \$2,000.

Agricultural College Naval Assoc.

AMHERST, MASS.

OFFICERS, NOVEMBER 30, 1870.

<i>Pres.</i> , A. D. NORCROSS, of Monson, Mass.	P.O. ADDRESS, Amherst.	<i>Treas.</i> , W. D. RUSSELL, of Sunderland, Mass.	P.O. ADDRESS, Amherst.
<i>V.-Pres.</i> , G. H. SNOW, of Leominster, "	"	<i>Com. and</i> } E. E. HARDY, of Boston, "	"
<i>Sec.</i> , CHAS. M. COOK, of Honolulu, H. Is.	"	<i>Captain,</i> }	"

ORGANIZATION.

Organized, October 1, 1870.

Annual Meeting for Election of Officers,	First week of yearly term, commencing Sept. 8.	Honorary Members allowed by the Constitution,	no limit.
Other Meetings,	At the call of the President.	Active Members Enrolled, Nov. 30, 1870,	113
Active Members allowed by the Constitution,	Limited to the students of the Agricultural College.	Honorary Members, Nov. 30, 1870,	0
		Total Membership, Nov. 30, 1870,	113

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Connecticut River, at Hatfield Ferry, and extends from South Bend one and a half miles up the river to a stake boat off Red Rock, and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located at Hatfield Ferry. Invested value of boat-house, lands, etc. (rented).

BOATS. —OUTRIGGER SHELLS, one six-oared,	-	-	1
OUTRIGGER AND INRIGGER GIGS, CUTTERS, BARGES, AND MISCELLANEOUS,	-	-	0

Invested values of boats and fittings, \$100.

Total number of boats, 1

TOTAL INVESTED VALUES, NOV. 30, 1870, \$100.

Amherst Navy,

AMHERST COLLEGE, AMHERST, MASS.

OFFICERS, MARCH 1, 1871.

<i>President</i> , T. L. STILES,	Amherst College, Amherst, Mass.			
<i>Vice-President</i> , A. G. PAINE,	Amherst Col., Amherst.	<i>Directors</i> , { T. L. STILES,	Amherst Col.,	Amherst.
<i>Secretary</i> , L. P. MERRIAM,	" " "	J. E. DAY,	" "	"
<i>Treasurer</i> , G. FOWLER,	" " "	C. A. SIEBERT,	" "	"
<i>Commodore</i> , A. B. MORONG,	" " "	L. B. HALL,	" "	"
<i>V.-Commodore</i> , F. M. WILKINS,	" " "	F. W. WHITRIDGE,	" "	"

ORGANIZATION.

Organized,	May, 1870.	Active Members Enrolled, Nov. 30, 1870,	Class of 1871 Club, 64
Annual Meeting for Election of Officers,	no report.		" 1872 " 4)
Other Meetings,	no report.		" 1873 " 75
Active Members allowed by the Constitution,	The undergraduates of the College.	Honorary Members, Nov. 30, 1870,	" 1874 " 70
Honorary Members allowed by the Constitution,	no report.		0
		Total Membership, Nov. 30, 1870,	258

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Connecticut River, at Hatfield Ferry, same as described for the Agricultural College Naval Association.

OUTFIT.

THE BOAT-HOUSE is located on the Connecticut River, opposite Hatfield Ferry; is built of wood, 65 feet long by 18 feet wide, and one story (12 feet) high. Invested value of boat-house, lands, etc., \$800.

BOATS. —Class Club '71, six-oared-shells, 1;	six-oared gigs, 0.	Total boats, 1.	Values, \$100.
" " '72, " " 1;	" " 1.	" " 2.	" 200.
" " '73, " " 2;	" " 0.	" " 2.	" 400.
" " '74, " " 1;	" " 0.	" " 1.	" 125.

Totals, " " 5; " " 1. " " 6. " \$825.

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,600.

NOTE.—The "Navy" is merely the representative unit of the Class Clubs, as given on following pages.

Class of 1871 Boat Club,

AMHERST COLLEGE, AMHERST, MASS.

OFFICERS, NOVEMBER 30, 1870.

<i>President</i> , SAMUEL W. TINDELL, Amherst College, Amherst.	<i>Captain</i> , ARTHUR B. MORONG, Amherst College, Amherst.
<i>Vice-Pres.</i> , W. H. HERTZELL, " " "	<i>Directors (representing the</i> { GEO. R. CUTTING, } Amherst
<i>Secretary</i> , ISRAEL N. TERRY, " " "	<i>Class in the "Naval As-</i> { JOHN E. DAY, } College,
<i>Treasurer</i> , M. D. CLARKE, " " "	<i>sociation")</i> , { SAM'L W. TINDELL, } Amherst.

ORGANIZATION.

Organized, September 12, 1870.	Honorary Members allowed by the Constitution, no report.
Annual Meeting for Election of Officers, September 12.	Active Members Enrolled, Nov. 30, 1870, 64
Monthly Meetings, First Monday of each Month.	Honorary Members, Nov. 30, 1870, 0
Active Members allowed } Limited to members of the	Total Membership, Nov. 30, 1870, 64
by the Constitution, } Class of 1871.	

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Connecticut River, at Hatfield Ferry, same as described for Agricultural College Naval Association.

OUTFIT.

THE BOAT-HOUSE is located on the Connecticut River, opposite Hatfield Ferry, being the one used by all the Class Crews, and described in the report of the "Amherst Navy." (See "Amherst Navy" report.)

BOATS. —OUTRIGGER SHELLS, one six-oared shell (cedar, 22 inches beam by 43 feet 2 inches long), 1
OUTRIGGER GIGS, INRIGGER GIGS, CUTTERS, BARGES, AND MISCELLANEOUS, 0

Invested values of boats and fittings, \$100.	Total number of boats, 1
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TOTAL INVESTED VALUES, NOV. 30, 1870, \$100.

Class of 1872 Boat Club,

AMHERST COLLEGE, AMHERST, MASS.

OFFICERS, NOVEMBER 30, 1870.

<i>President</i> , W. IRVING PUTNAM, Amherst Col., Amherst.	<i>Captain</i> , FRANK M. WILKINS, Amherst College, Amherst.
<i>Vice-Pres.</i> , CHARLES A. SIEBERT, " " "	<i>Directors (representing</i> { CHARLES A. SIEBERT, } Amherst
<i>Secretary</i> , { LORANUS E. HITCHCOCK, " " "	<i>the Class in the "Na-</i> { WALTER NEGLEY, } College,
<i>Treasurer</i> , {	<i>val Association")</i> , { CONSTANT C. HODGMAN, } Amherst.

ORGANIZATION.

Organized, October 1, 1870.	Honorary Members allowed by the Constitution, no report.
Annual Meeting for Election of Officers, Sept. 10, except	Active Members Enrolled, Nov. 30, 1870, 30
Captain, who is elected Sept. 10, Jan. 10, and April 10.	Other Members, Nov. 30, 1870, 19
Other Meetings, At the call of the President.	Total Membership, Nov. 30, 1870, 49
Active Members allowed } Limited to Members of the	
by the Constitution, } Class of 1872.	

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Connecticut River, at Hatfield Ferry, same as described for Agricultural College Naval Association.

OUTFIT.

THE BOAT-HOUSE is located on the Connecticut River, opposite Hatfield Ferry, being the same one as used by all the Class Crews, and described in report of the "Amherst Navy." (See "Amherst Navy" report.)

BOATS. —OUTRIGGER SHELLS, one six-oared (cedar, 20 inches beam by 46 feet long), 1
OUTRIGGER GIGS, one six-oared (lapstreak), 1
INRIGGER GIGS, CUTTERS, BARGES, AND MISCELLANEOUS, 0

Invested values of boats and fittings, \$200.	Total number of boats, 2
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TOTAL INVESTED VALUES, NOV. 30, 1870, \$200.

Class of 1873 Boat Club,

AMHERST COLLEGE, AMHERST, MASS.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	LEVERETT BRADLEY, JR.,	Amherst Col.,	<i>Directors (representing</i>	LYMAN B. HALL,	Amherst Col.,
<i>Sec. and Treas.,</i>	LYMAN B. HALL,	Amherst,	<i>the Class in the Naval</i>	WM. H. HALL,	Amherst,
<i>Captain,</i>	LEVERETT BRADLEY, JR.,	Mass.	<i>Association),</i>	CHAS. B. STUART,	Mass.

ORGANIZATION.

Organized,	February, 1870.	Honorary Members allowed by the Constitution, no report.
Annual Meeting for Election of Officers,	in May.	Active Members Enrolled, Nov. 30, 1870, 75
Other Meetings,	no report.	Honorary Members, Nov. 30, 1870, 0
Active Members allowed by the Constitution, } Limited to Members of the Class.		Total Membership, Nov. 30, 1870, 75

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Connecticut River, at Hatfield Ferry, same as described for Agricultural College Naval Association.

OUTFIT.

THE BOAT-HOUSE is located on the Connecticut River, opposite Hatfield Ferry, being the same one used by all the Class Crews, and described in the report of the "Amherst Navy." (See "Amherst Navy" report).

BOATS.—OUTRIGGER SHELLS, two six-oared (one cedar, 24 inches beam by 44 feet 3 inches long), 2
OUTRIGGER AND INRIGGER GIGS, CUTTERS, BARGES, AND MISCELLANEOUS, 0

Invested values of boats and fittings, \$400. Total number of boats, 2

TOTAL INVESTED VALUES, NOV. 30, 1870, \$400.

Class of 1874 Boat Club,

AMHERST COLLEGE, AMHERST, MASS.

OFFICERS, JANUARY 27, 1871.

<i>President,</i>	FREDERICK W. WHITRIDGE,	Amherst College, Amherst, Mass.	<i>Directors (represent-</i>	ALFRED ELY,	Amherst Col.,
<i>V.-President,</i>	LEVERETT MEARS,	Amherst Col., Amherst.	<i>ing the Class in the</i>	THOS. A. STUART,	Amherst,
<i>Sec. and Treas.,</i>	JESSE F. FORBES,	" " "	<i>Naval Association),</i>	FRED. W. WHITRIDGE,	Mass.
<i>Captain,</i>	HAROLD SMITH,	" " "			

ORGANIZATION.

Organized,	September 20, 1870.	Honorary Members allowed by the Constitution, no report.
Annual Meeting for Election of Officers,	July 1.	Active Members Enrolled, Nov. 30, 1870, 70
Other Meetings,	no report.	Honorary Members, Nov. 30, 1870, 0
Active Members allowed by the Constitution, } Limited to Members of the Class.		Total Members, Nov. 30, 1870, 70

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Connecticut River, at Hatfield Ferry, same as described for Agricultural College Naval Association.

OUTFIT.

THE BOAT-HOUSE is located on the Connecticut River, opposite Hatfield Ferry, being the same one used by all the Class Crews, and described in the report of the "Amherst Navy." (See "Amherst Navy" report.)

BOATS.—OUTRIGGER SHELLS, one six-oared (cedar, 21 inches beam by 45 feet long), 1
OUTRIGGER AND INRIGGER GIGS, CUTTERS, BARGES, AND MISCELLANEOUS, 0

Invested values of boats and fittings, \$125. Total number of boats, 1

TOTAL INVESTED VALUES, NOV. 30, 1870, \$125.

Shawmut Boat Club,

BOSTON, MASS.

OFFICERS, NOVEMBER 30, 1870.

<i>Vice-President</i> , T. SWAN, 49 and 51 Court Street, Boston.	<i>Directors</i> , { THOMAS MULLAY, 92 Pearl Street, Boston.
<i>Secretary</i> , E. J. FENNELLY, 2 Pearl Street, "	{ JAMES SHIELDS, 19 Summer Street, "
<i>Treasurer</i> , M. J. MAHONEY, 16 Winter Street, "	{ M. D. FINN, Genesee Street, "

ORGANIZATION.

Organized, June 30, 1870.	Honorary Members allowed by the Constitution.	22
Semi-Annual Meeting for First Monday in April and October.	Active Members Enrolled, Nov. 30, 1870.	22
Election of Officers, First Monday in each Month.	Honorary Members, Nov. 30, 1870.	0
Monthly Meetings, First Monday in each Month.		—
Active Members allowed by the Constitution, 22	Total Membership, Nov. 30, 1870.	22

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on South Bay, one and a half miles—(no details given).

OUTFIT.

THE BOAT-HOUSE is located on the northerly side of Dover Street Bridge. Invested value of boat-house, lands, etc., \$600.

BOATS.—OUTRIGGER SHELLS, four singles, five doubles, three four-oared, two six-oared.	14
OUTRIGGER GIGS, three pair-sculls.	3
INRIGGER GIGS, two pair-oared.	2
CUTTERS AND BARGES, one four-oared.	1
MISCELLANEOUS, two New York working-boats.	2

Invested values of boats and fittings, \$1,400.

Total number of boats, 22

TOTAL INVESTED VALUES, NOV. 30, 1870, \$2,000.

Union Boat Club,

BOSTON, MASS.

OFFICERS, MARCH 5, 1871.

<i>President</i> , HENRY B. RICE, American House, Boston.	<i>Lieutenant</i> , EDWARD N. FENNO, 132 Federal Street, Boston.
<i>Vice-Pres.</i> , THOMAS F. EDWARDS, 25 Kilby Street, Boston.	{ J. MALCOLM FORBES, 30 Sears Building, "
<i>Secretary</i> , EDWARD B. ROBINS, 51 Franklin Street, "	{ HENRY H. MCBURNEY, 58 Pinckney St., "
<i>Treasurer</i> , WINSLOW HERRICK, 152 Devonshire St., "	{ DANIEL SARGENT, "
<i>Captain</i> , ALBERT G. BAXTER, Jr., 39 Kilby Street, "	

ORGANIZATION.

Organized, May 26, 1871.	Honorary Members allowed by the Constitution, no limit.
Annual Meeting for Election of Officers, First Monday in March.	Active Members Enrolled, Nov. 30, 1870. 115
Monthly Meetings, First Monday in each Month.	Honorary Members, Nov. 30, 1870. 35
Active Members allowed by the Constitution, 150	Total Membership, Nov. 30, 1870. 150

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSE is on Charles River. The starting and finishing point is about 100 feet in front of boat-house; the turning-stakes are one and one and a half miles up the river, in a straight line, accurately measured—giving courses of two and three miles.

OUTFIT.

THE BOAT-HOUSE is located on Charles River, at the foot of Chestnut Street. Invested value of boat-house, lands, etc., \$25,000.

BOATS.—OUTRIGGER SHELLS, four singles, one four-oared, one eight-oared.	6
OUTRIGGER GIGS, four pair-sculls, four two-pair sculls, three four-oared, one six-oared.	12
INRIGGER GIGS.	0
CUTTERS AND BARGES, one eight-oared barge.	1
MISCELLANEOUS, six wherries, two "Rob Roy" canoes.	8

Invested values of boats and fittings, \$5,000.

Total number of boats, 27

TOTAL INVESTED VALUES, NOV. 30, 1870, \$30,000.

West End Boat Club,

BOSTON, MASS.

OFFICERS, NOVEMBER 30, 1870.

<i>Pres.</i> , J. J. MCCARTHY,	383 Charles St., Boston.	<i>Comm.</i> , E. J. DECOURSEY,	383 Charles St., Boston.
<i>V.-Pres.</i> , C. V. BUNTEN,	" "	<i>Capt.</i> , THOS. C. BUTLER,	" "
<i>Sec.</i> , CHAS. S. MACCARTHY,	" "	<i>1st Lieut.</i> , J. H. BUTLER,	" "
<i>Treas.</i> , JOHN C. SMITH,	" "	<i>2d Lieut.</i> , FRANK HOSMER,	" "

ORGANIZATION.

Organized,	November 4, 1866.	Honorary Members allowed by the Constitution,	25
Annual Meeting for Election of Officers,	January 1.	Active Members Enrolled, Nov. 30, 1870,	118
Monthly Meetings,	First Tuesday in each Month.	Honorary Members, Nov. 30, 1870,	15
Active Members allowed by the Constitution,	125	Total Membership, Nov. 30, 1870,	133

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSES used are on the Charles and Mystic Rivers (no details given).

OUTFIT.

THE BOAT-HOUSE is located at the side of Craigie's Bridge, Boston. The Club Rooms are at No. 383 Charles Street, Boston. Invested value of boat-house, lands, etc., \$1,500.

BOATS.—OUTRIGGER SHELLS, fifteen singles, five doubles, four four-oared, two six-oared,	26
OUTRIGGER GIGS, two four-oared,	2
INRIGGER GIGS, four four-oared,	4
CUTTERS AND BARGES, one six-oared barge,	1
MISCELLANEOUS, three skiffs, one wherry,	4

Invested values of boats and fittings, \$5,000.

Total number of boats, 37

TOTAL INVESTED VALUES, NOV. 30, 1870, \$6,500.

Brookline Rowing Club,

BROOKLINE, MASS.

OFFICERS, NOVEMBER 30, 1870.

<i>President</i> , E. P. KENNARD,	Brookline.	<i>Directors</i> , { EDWARD C. CABOT,	Brookline.
<i>Secretary and Treasurer</i> , { EDWARD F. CHAPIN,	"	{ FRANK DUFREE,	"
		{ AUGUSTUS O. WELLMAN,	"

ORGANIZATION.

Organized,	April 15, 1870.	Honorary Members allowed by the Constitution,	no limit.
Annual Meeting for Election of Officers,	First Thursday in April.	Active Members Enrolled, Nov. 30, 1870,	50
Monthly Meetings,	First Thursday in each Month.	Honorary Members, Nov. 30, 1870,	0
Active Members allowed by the Constitution,	50	Total Membership, Nov. 30, 1870,	50

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSE for racing is on Jamaica Pond, three-quarters of a mile across the pond, and return—1½ miles. Rowing is occasionally done on Boston Harbor.

OUTFIT.

THE BOAT-HOUSE is located at Jamaica Pond, on Perkins Street, foot of Chestnut. Invested value of boat-house, lands, etc., \$900.

BOATS.—OUTRIGGER SHELLS, seven singles, three four-oared,	10
OUTRIGGER GIGS, four pair-sculls, one two-pair sculls, one four-oared,	6
INRIGGER GIGS, CUTTERS, AND BARGES,	0
MISCELLANEOUS, eight skiffs, three "Rob Roy" canoes, one sail-boat,	12

Invested values of boats and fittings, \$1,350.

Total number of boats, 28

TOTAL INVESTED VALUES, NOV. 30, 1870, \$2,250.

Lawrence Boat Club,

LAWRENCE SCIENTIFIC SCHOOL, CAMBRIDGE, MASS.

(Forms one division of the Harvard University Boat Club.)

OFFICERS, NOVEMBER 30, 1870.

President, STEPHEN M. PITMAN, Cambridge.
Sec. and Treas., HENRY WALTERS, Cambridge. | *Captain*, FERNANDO A. YZNAGA, Cambridge.

ORGANIZATION.

Organized, October, 1865.

Annual Meeting for Election of Officers,	October.	Active Members Enrolled, Nov. 30, 1870,	17
Monthly Meetings,	no report.	Honorary Members, Nov. 30, 1870,	73
Active Members allowed by the Constitution,	30		
Honorary Members allowed by the Constitution,	no limit.	Total Membership, Nov. 30, 1870,	90

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSES for rowing and training are on the Charles River and Boston Back Bay (no further details given).

OUTFIT.

THE BOAT-HOUSE is that of the Harvard University Boat Club, on Charles River, at the foot of De Wolf Street. Invested value of boat-house, lands, etc. (see report of H. U. B. C.)

BOATS. —OUTRIGGER SHELLS, two six-oared,	-	-	-	-	-	-	-	-	2
OUTRIGGER GIGS, one six-oared,	-	-	-	-	-	-	-	-	1
INRIGGER GIGS,	-	-	-	-	-	-	-	-	0
CUTTERS AND BARGES,	-	-	-	-	-	-	-	-	0
MISCELLANEOUS,	-	-	-	-	-	-	-	-	0

Invested values of boats and fittings, \$800.

Total number of boats, 3

TOTAL INVESTED VALUES, NOV. 30, 1870, \$800.

Freshman Boat Club,

HARVARD UNIVERSITY, CAMBRIDGE, MASS.

(Forms one division of the Harvard University Boat Club.)

OFFICERS, NOVEMBER 30, 1870.

Sec. and Treas., H. SANDFORD MUDGE, Class '74; at Mrs. C. Danforth's, Cambridge.
Captain, RICHARD H. DANA, " '74; No. 13 Holworthy Hall, Cambridge.

ORGANIZATION.

Organized,	October 1, 1870.	Honorary Members allowed by the Constitution, no report.
Annual Meeting for Election of Officers,	no report.	Active Members Enrolled, Nov. 30, 1870,
Other Meetings,	no report.	Honorary Members, November 30, 1870,
Active Members allowed by the Constitution,	Limited to members of the Freshman Class, Harvard University.	Total Membership, Nov. 30, 1870,

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSES for rowing and training are on the Charles River and Boston Back Bay; for racing, no details given.

OUTFIT.

THE BOAT-HOUSE is that of the Harvard University Boat Club, on Charles River, at the foot of De Wolf Street. Invested value of boat-house, lands, etc. (see H. U. B. C. report).

BOATS. —OUTRIGGER SHELLS, two six-oared,	-	-	-	-	-	-	-	-	2
OUTRIGGER GIGS,	-	-	-	-	-	-	-	-	0
INRIGGER GIGS,	-	-	-	-	-	-	-	-	0
CUTTERS AND BARGES,	-	-	-	-	-	-	-	-	0
MISCELLANEOUS,	-	-	-	-	-	-	-	-	0

Invested values of boats and fittings, \$500.

Total number of boats, 2

TOTAL INVESTED VALUES, NOV. 30, 1870, \$500.

Harvard University Boat Club,

CAMBRIDGE, MASS.

OFFICERS, NOVEMBER 30, 1870.

President, ROBERT SHAW RUSSELL, Class '72, 24 Little's Block, Cambridge.
Vice-President, ALANSON TUCKER, Class '72, Cambridge. | *Treasurer*, (Office vacant.)
Secretary, JOHN O. SHAW, " '73, " | *Captain*, GEORGE F. ROBERTS, Class '71, Cambridge.

ORGANIZATION.

Organized,	September, 1869.	Honorary Members allowed by the Constitution,	0
Annual Meeting for Elec-)	Within six weeks after the com-	Active Members Enrolled, Nov. 30, 1870.	1,316
tion of Officers, . . .)	mencement of the Fall Term.	Honorary Members, Nov. 30, 1870.	0
Other Meetings, . . .	At the Call of the President.		
Active Members allowed)	Limited to the Undergraduates	Total Membership, Nov. 30, 1870.	1,316
by the Constitution,)	of the whole University.		

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE for rowing and training is that portion of the Charles River between the Boat-House in Cambridge and Boston, a distance of three and a half miles, with the return, making seven miles. The courses for racing are those in use at Boston, or such other points as regattas may be held, in which the University crews participate.

OUTFIT.

THE BOAT-HOUSE is located at the foot of De Wolf Street, Old Cambridge, is built of wood, two stories high, and was completed in June, 1870. Invested value of boat-house, lands, etc., \$7,000.

BOATS.—OUTRIGGER SHELLS, sixteen singles, six doubles, one pair-oared, twelve six-oared, - - - 35
 OUTRIGGER GIGS, twenty-four pair-sculs, nine two-pair sculs, five six-oared, - - - 38
 INRIGGER GIGS, - - - - - 0
 CUTTERS AND BARGES, - - - - - 0
 MISCELLANEOUS, - - - - - 0

Invested values of boats and fittings, \$10,250.

Total number of boats, 73

TOTAL INVESTED VALUES, NOV. 30, 1870. \$17,250.

SUMMARY OF HARVARD UNIVERSITY BOATING STATISTICS.

CLUBS.	Membership.	BOATS.								VALUES.			
		Shells.				Outrigged Gigs.				Total.	Boats.	Boat-Houses.	Total.
		Singles.	Doubles.	Pair-Oared.	Six-Oared.	Pair Sculls.	Two-Pair Sculls.	Six-Oared.					
University B. C.	1,316	16	6	1	12	24	9	5	73	\$10,250	\$7,000	\$17,250	
Lawrence B. C.,	(90)	..	..	..	2	..	..	1	3	800	..	800	
Freshman B. C.,	(189)	..	..	..	2	..	..	..	2	500	..	500	
TOTALS,	† 1,316	16	6	1	16	24	9	5	78	\$11,550	\$7,000	\$18,550	

* NOTE.—On March 15, 1871, the new Constitution went into operation. Under its provisions, no person can be a member of the University Boat Club who does not formally subscribe to its articles. It is believed that the new basis upon which this Club is now organized will greatly promote the boating interest at the University. At a meeting held on March 24, the following officers were elected, under the new Constitution for the ensuing year: *President*, G. H. Gould, Class of '72. *Vice-President*, F. A. Yznaga, Scientific School. *Secretary*, H. S. Mudge, Class of '74. *Treasurer*, W. Miller, Class of '73.

† This number includes all the members of the Lawrence and Freshmen Clubs.

CHARLESTOWN, MASS.

Invested values of boats and fittings, \$1,800.	Total number of boats,	21
TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,800.		

Framingham Boat Club,

FRAMINGHAM, MASS.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	(Office vacant.)						
<i>Vice-President,</i>	JAMES W. CLARK, Jr.,	.	.	Framingham.			
<i>Secretary and</i>	JAMES J. VALENTINE,	.	.	"	<i>Executive</i>	J. W. CLARK, Jr.,	Framingham.
<i>Treasurer,</i>		.	.	"	<i>Committee,</i>	WALTER ADAMS,	"
<i>Captain,</i>	L. A. NEWCOME,	.	.	South Framingham.		C. E. SMITH,	"
						W. M. WHITING,	"
						C. F. BILLINGS,	"
						P. J. PERRY,	"

ORGANIZATION.

Organized,	July 28, 1870.	Active Members Enrolled, Nov. 30, 1870,	31
Annual Meeting for Election,	First Saturday in April.	Honorary Members, Nov. 30, 1870,	19
Active Members allowed by the Constitution,	no limit.		
Honorary Members allowed by the Constitution,	no limit.	Total Membership, Nov. 30, 1870,	50

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on Farm Pond, South Framingham, one mile straight course, and return—two miles.

OUTFIT.

THE BOAT-HOUSE is located on the east side of Farm Pond, South Framingham. Invested value of boat-house, lands, etc., \$130.

BOATS. —OUTRIGGER SHELLS AND GIGS,	-	-	-	-	-	-	0
INRIGGED GIGS, two four-oared,	-	-	-	-	-	-	2
CUTTERS AND BARGES,	-	-	-	-	-	-	0
MISCELLANEOUS, one wherry, one canoe,	-	-	-	-	-	-	2

Invested values of boats and fittings, \$370.

Total number of boats, 4

TOTAL INVESTED VALUES, NOV. 30, 1870, \$500.

Jamaica Boat Club,

JAMAICA PLAIN, MASS.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	JOSEPH CURTIS,	.	.	Jamaica Plain.	<i>Treasurer,</i>	GEO. A. NICKERSON,	Jamaica Plain.
<i>Secretary,</i>	JOHN L. DIMMOCK,	.	.	"	<i>Captain,</i>	JOHN L. DIMMOCK,	"

ORGANIZATION.

Organized,	August 2, 1869.		
Annual Meeting for Election of Officers,	no report.	Active Members Enrolled, Nov. 30, 1870,	4
Monthly Meetings,	Second Tuesday in each Month.	Honorary Members, Nov. 30, 1870,	10
Active Members allowed by the Constitution,	4		
Honorary Members allowed by the Constitution,	12	Total Membership, Nov. 30, 1870,	14

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on Jamaica Pond, from Brookline across the pond to Jamaica Plain, half a mile and return, twice—two miles.

OUTFIT.

THE BOAT-HOUSE is located at the northeast corner of the pond. Invested value of boat-house, lands, etc. (no report).

BOATS. —OUTRIGGER SHELLS, three singles, one four-oared,	-	-	-	-	-	-	4
OUTRIGGER AND INRIGGED GIGS,	-	-	-	-	-	-	0
CUTTERS AND BARGES, three four-oared,	-	-	-	-	-	-	3
MISCELLANEOUS,	-	-	-	-	-	-	0

Invested values of boats and fittings, \$800.

Total number of boats, 7

TOTAL INVESTED VALUES, NOV. 30, 1870, \$800.

Clio Boat Club,

LAWRENCE, MASS.

OFFICERS, NOVEMBER 30, 1870.

President, T. S. HOLMES, Hotel De Pau, Lawrence.
Secretary, N. E. HARRIS, P. O. Box 261, Lawrence. | *Commodore*, C. O. REILLY, P. O. Box 14, Lawrence.
Treasurer, R. A. HALE, care Essex Co., " | *Captain*, C. W. KEMPTON, 224 Common St., "

ORGANIZATION.

Organized,	June 1, 1870.	Honorary Members allowed by the Constitution, not decided.	
Annual Meeting for Elec- }	no special date.	Active Members Enrolled, Nov. 30, 1870,	5
tion of Officers, }		Honorary Members, Nov. 30, 1870,	7
Monthly Meetings,	no special time.		
Active Members allowed by the Constitution,	9	Total Membership, Nov. 30, 1870,	12

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Merrimack River, commencing at Gilman's Point, and terminating at Pine Bluffs, two miles and return—four miles.

OUTFIT.

THE BOAT-HOUSE is located at the head of Canal Street, on the Merrimack River. Invested value of boat-house, lands, etc., \$60.

BOATS. —OUTRIGGER SHELLS,	-	-	-	-	-	-	-	-	-	0
OUTRIGGER GIGS,	-	-	-	-	-	-	-	-	-	0
INRIGGER GIGS, one four-oared,	-	-	-	-	-	-	-	-	-	1
CUTTERS AND BARGES, two pair-oared, two twelve-oared,	-	-	-	-	-	-	-	-	-	4
MISCELLANEOUS, one skiff,	-	-	-	-	-	-	-	-	-	1
										6

Invested values of boats and fittings, \$200.

Total number of boats,

TOTAL INVESTED VALUES, NOV. 30, 1870, \$260.

F. Brady Boat Club,

LOWELL, MASS.

OFFICERS, NOVEMBER 30, 1870.

President, JAMES McLAUGHLIN, 52 Stackpole St., Lowell.
Vice-President, E. M. HEFFERNAN, Lowell. | *Treasurer*, FRANK N. HAVILAND, 348 Merrimack St., Lowell.
Secretary, P. H. GUYTON, 308 Merrimack St., " | *Captain*, WM. DORIS, 304 Merrimack St., "

ORGANIZATION.

Organized,	April 1, 1870.	Honorary Members allowed by the Constitution,	no limit.
Annual Meetings for Elec- }	March 30.	Active Members Enrolled, Nov. 30, 1870,	9
tion of Officers, }		Honorary Members, Nov. 30, 1870,	33
Monthly Meetings,	First Wednesday in each Month.		
Active Members allowed by the Constitution,	no limit.	Total Membership, Nov. 30, 1870,	42

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE commences at the junction of Pawtucket Street and Broadway, thence up the Merrimack River one and a half miles and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located on Pawtucket Street, adjoining the Ice-Houses of D. Gage. Invested value of boat-house, lands, etc., \$90.

BOATS. —OUTRIGGER SHELLS, one single, two four-oared,	-	-	-	-	-	-	-	-	-	3
OUTRIGGER GIGS,	-	-	-	-	-	-	-	-	-	0
INRIGGER GIGS, one four-oared,	-	-	-	-	-	-	-	-	-	1
CUTTERS AND BARGES,	-	-	-	-	-	-	-	-	-	0
MISCELLANEOUS,	-	-	-	-	-	-	-	-	-	0
										4

Invested values of boats and fittings, \$820.

Total number of boats,

TOTAL INVESTED VALUES, NOV. 30, 1870, \$910.

Courtney Boat Club,

LOWELL, MASS.

OFFICERS, NOVEMBER 30, 1870.

President, (no report.)
Vice-President, (no report.)

Secretary, P. COURTNEY, 104 Suffolk St., Lowell.
Treasurer, (no report.)

ORGANIZATION.

Organized, (no report.)	
Annual Meeting for Election of Officers, . . . no report.	Active Members Enrolled, Nov. 30, 1870, . . . 20
Monthly Meetings, . . . no report.	Honorary Members, Nov. 30, 1870, . . . no report.
Active Members allowed by the Constitution, . . . no report.	
Honorary Members allowed by the Constitution, no report.	Total Membership, Nov. 30, 1870, . . . 20

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Merrimack River, commencing at the junction of Pawtucket Street and Broadway, thence up the river one and a half miles, and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located on the bank of the Merrimack River. Invested value of boat-house, lands, etc., \$100.

BOATS. —OUTRIGGER SHELLS, one four-oared	-	-	-	-	-	-	-	-	1
OUTRIGGER GIGS,	-	-	-	-	-	-	-	-	0
INRIGGER GIGS,	-	-	-	-	-	-	-	-	0
CUTTERS AND BARGES,	-	-	-	-	-	-	-	-	0
MISCELLANEOUS,	-	-	-	-	-	-	-	-	0

Invested values of boats and fittings, \$250.

Total number of boats, 1

TOTAL INVESTED VALUES, NOV. 30, 1870, \$350

Lennon Boat Club,

LOWELL, MASS.

OFFICERS, NOVEMBER 30, 1870.

President, WILLIAM GURNEY, . . . Lowell.
Secretary, LAURENCE KOURK, . . . "

Treasurer, JOSEPH LAMBERT, . . . Lowell.
Captain, EDWARD LAMBERT, . . . "

ORGANIZATION.

Organized, December 13, 1868.	
Annual Meeting for Election of Officers, 13th of June.	Active Members Enrolled, Nov. 30, 1870, . . . 12
Monthly Meetings, Last Thursday in each Month.	Honorary Members, Nov. 30, 1870, . . . 41
Active Members allowed by the Constitution, . . . 12	
Honorary Members allowed by the Constitution, . . . 50	Total Membership, Nov. 30, 1870, . . . 53

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Merrimack River, from Lowell to North Chelmsford, one, and one and a half miles, and return—two and three miles.

OUTFIT.

THE BOAT-HOUSE is located on Pawtucket Street, at the head of Lowell Canal. Invested value of boat-house, lands, etc., \$100.

BOATS. —OUTRIGGER SHELLS, one four-oared,	-	-	-	-	-	-	-	-	1
OUTRIGGER GIGS,	-	-	-	-	-	-	-	-	0
INRIGGER GIGS, one six-oared,	-	-	-	-	-	-	-	-	1
CUTTERS AND BARGES,	-	-	-	-	-	-	-	-	0
MISCELLANEOUS,	-	-	-	-	-	-	-	-	0

Invested values of boats and fittings, \$400.

Total number of boats, 2

TOTAL INVESTED VALUES, NOV. 30, 1870, \$500.

Lowell Boat Club,

LOWELL, MASS.

OFFICERS, NOVEMBER 30, 1870.

<i>Vice-President,</i>	(no report.)	<i>President</i>	(no report).	<i>Treasurer,</i>	T. GIBSON TWEED,	Lowell.
<i>Secretary,</i>	WARREN F. PUTNAM,		Lowell.	<i>Commodore,</i>	CHAS. E. ADAMS,	"

ORGANIZATION.

Organized,	March 11, 1868.	Honorary Members allowed by the Constitution,	no limit.
Annual Meeting for Elec- tion of Officers,	First Monday in April.	Active Members Enrolled, Nov. 30, 1870.	40
Other Meetings,	no report.	Honorary Members, Nov. 30, 1870.	0
Active Members allowed by the Constitution,	40	Total Membership, Nov. 30, 1870.	40

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Merrimack River, from head of Broadway to North Chelmsford Village, one and a half miles and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located on Pawtucket Street (Merrimack River). Invested value of boat-house, lands, etc., \$400.

BOATS. —OUTRIGGER SHELLS,	-	-	-	-	-	-	-	-	0
OUTRIGGER GIGS,	-	-	-	-	-	-	-	-	0
INRIGGER GIGS, one four-oared,	-	-	-	-	-	-	-	-	1
CUTTERS AND BARGES, one six-oared,	-	-	-	-	-	-	-	-	1
MISCELLANEOUS, one wherry,	-	-	-	-	-	-	-	-	1

Invested values of boats and fittings, \$700.

Total number of boats,

3

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,100.

Thetis Boat Club,

MEDFORD, MASS.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	D. H. BRADLEE,	Medford.	<i>Secretary,</i>	FREDERICK WILLIAMS,	Medford.
<i>Vice-President,</i>	C. O. BURBANK,	"	<i>Treasurer,</i>	G. F. MANNING,	"

ORGANIZATION.

Organized,	March 1, 1870.	Honorary Members allowed by the Constitution,	no limit.
Annual Meeting for Elec- tion of Officers,	First of March.	Active Members Enrolled, Nov. 30, 1870.	17
Monthly Meetings,	First Monday in each Month.	Honorary Members, Nov. 30, 1870.	11
Active Members allowed by the Constitution,	20	Total Membership, Nov. 30, 1870.	28

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Mystic River, opposite Charlestown (no details of its length or points of termination reported).

OUTFIT.

THE BOAT-HOUSE is located on Mystic River, at Ship Street. Invested value of boat-house, lands, etc., \$3,500.

BOATS. —OUTRIGGER SHELLS, seven singles, two doubles,	-	-	-	-	-	-	-	-	9
OUTRIGGER GIGS, one two-pair sculls, one four-oared,	-	-	-	-	-	-	-	-	2
INRIGGER GIGS, one four-oared,	-	-	-	-	-	-	-	-	1
CUTTERS AND BARGES,	-	-	-	-	-	-	-	-	0
MISCELLANEOUS, one New York working-boat,	-	-	-	-	-	-	-	-	1

Invested values of boats and fittings, \$1,300.

Total number of boats,

13

TOTAL INVESTED VALUES, NOV. 30, 1870, \$4,800.

Enid Boat Club,

MELROSE, MASS.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	D. F. MONROE,	Melrose.	<i>Treasurer,</i>	JOHN BAINE,	Melrose.
<i>Vice-President,</i>	HOBART CLARK,	"	<i>1st Captain,</i>	T. B. PECK,	"
<i>Secretary,</i>	W. R. LAVENDER, P.O. Box 4,305,	Boston.	<i>2d Captain,</i>	W. R. LAVENDER, P.O. Box 4,305,	Boston.

ORGANIZATION.

Organized,	May 7, 1870.	Honorary Members allowed by the Constitution,	no limit.
Annual Meeting for Election of Officers,	First Wednesday in May.	Active Members Enrolled, Nov. 30, 1870.	20
Monthly Meetings,	At the pleasure of Directors.	Honorary Members, Nov. 30, 1870.	2
Active Members allowed by the Constitution,	no limit.	Total Membership, Nov. 30, 1870.	22

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on Crystal Lake, Melrose, Mass., one-half mile and return—one mile.

OUTFIT.

THE BOAT-HOUSE is to be erected during the spring of 1871. Invested value of boat-house, lands, etc. (no estimate).

BOATS.—OUTRIGGER SHELLS AND GIGS,	-	-	-	-	-	-	-	-	0
INRIGGER GIGS, two four-oared.	-	-	-	-	-	-	-	-	2
CUTTERS AND BARGES,	-	-	-	-	-	-	-	-	0
MISCELLANEOUS, one sail-boat,	-	-	-	-	-	-	-	-	1
									—

Invested values of boats and fittings, \$200.

Total number of boats, 3

TOTAL INVESTED VALUES, NOV. 30, 1870, \$200.

Ripple Boat Club,

MELROSE, MASS.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	W. D. SERRATT,	Melrose.	<i>Treasurer,</i>	B. F. BURNHAM,	Melrose.
<i>Vice-President,</i>	JOHN KANE,	"	<i>1st Captain,</i>	S. H. BUTTRICK,	"
<i>Secretary,</i>	A. W. SEWALL,	"	<i>2d "</i>	W. D. SERRATT,	"

ORGANIZATION.

Organized,	February 1, 1870.	Honorary Members allowed by the Constitution,	6
Semi-Annual Meetings for Election of Officers,	First of January and July.	Active Members Enrolled, Nov. 30, 1870,	10
Monthly Meetings,	First Monday in each Month.	Honorary Members, Nov. 30, 1870,	6
Active Members allowed by the Constitution,	10	Total Membership, Nov. 30, 1870,	16

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on Crystal Lake (no report of direction or termination given)—seven-eighths of a mile.

OUTFIT.

THE BOAT-HOUSE is located on Ice-House Wharf, Crystal Lake. Invested value of boat-house, lands, etc., \$300.

BOATS.—OUTRIGGER SHELLS,	-	-	-	-	-	-	-	-	0
OUTRIGGER GIGS, one four-oared,	-	-	-	-	-	-	-	-	1
INRIGGER GIGS, one four-oared,	-	-	-	-	-	-	-	-	1
CUTTERS AND BARGES,	-	-	-	-	-	-	-	-	0
MISCELLANEOUS, one skiff,	-	-	-	-	-	-	-	-	1
									—

Invested values of boats and fittings, \$250.

Total number of boats, 3

TOTAL INVESTED VALUES, NOV. 30, 1870, \$550.

Templar Boat Club,

MELROSE, MASS.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	S. H. BUTTRICK,	Melrose.	<i>Treasurer,</i>	ALBION ELWELL,	Melrose.
<i>Vice-President,</i>	J. W. K. ROBSON,	"	<i>Commodore,</i>	S. H. BUTTRICK,	"
<i>Secretary,</i>	JOHN KANE,	"	<i>Captain,</i>	ALBION ELWELL,	"

ORGANIZATION.

Organized,	Nov. 1, 1870.	Honorary Members allowed by the Constitution,	0
Semi-Annual Meeting for } Election of Officers, }	First of January and July.	Active Members Enrolled, Nov. 30, 1870.	5
Monthly Meetings,	First Wednesday in each Month.	Honorary Members, Nov. 30, 1870.	0
Active Members allowed by the Constitution,	5	Total Membership, Nov. 30, 1870.	5

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on Crystal Lake, seven-eighths of a mile. (No report of direction or termini given.)

OUTFIT.

THE BOAT-HOUSE is located at Ice-House Wharf. Invested value of boat-house, lands, etc., \$200.

BOATS. —OUTRIGGER SHELLS,	-	-	-	-	-	0
OUTRIGGER GIGS, one four-oared,	-	-	-	-	-	1
INRIGGER GIGS, CUTTERS, AND BARGES,	-	-	-	-	-	0
MISCELLANEOUS, one skiff,	-	-	-	-	-	1

Invested values of boats and fittings, \$250.

Total number of boats, 2

TOTAL INVESTED VALUES, NOV. 30, 1870. \$450.

Naumkeag Boat Club,

SALEM, MASS.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	JOHN B. HARDING,	Salem.	<i>Treasurer,</i>	MICHAEL McDONNELL,	Salem.
<i>Vice-President,</i>	JOHN RUTH,	"	<i>Directors,</i>	Five (names not given),	"
<i>Secretary,</i>	P. H. DONOVAN, 130 Derby St.,	"	<i>Steward,</i>	(Name not given),	"

ORGANIZATION.

Organized,	November 1, 1868.	Honorary Members allowed by the Constitution,	no limit.
Semi-Annual Meetings for } Election of Officers, }	In April and October.	Active Members Enrolled, Nov. 30, 1870.	70
Monthly Meetings,	First Tuesday in each Month.	Honorary Members, November 30, 1870.	1
Active Members allowed by the Constitution,	no limit.	Total Membership, Nov. 30, 1870.	71

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE on North River is two miles in length; that on the Harbor, three miles. (No details of their commencement, direction, or termination given.)

OUTFIT.

THE BOAT-HOUSE is located at the foot of Charter Street. The Club-Rooms are at 130 Derby Street, Salem, Mass. Boat-house rented at \$50 per annum.

BOATS. —OUTRIGGER SHELLS, two four-oared,	-	-	-	-	-	2
OUTRIGGER GIGS,	-	-	-	-	-	0
INRIGGER GIGS,	-	-	-	-	-	0
CUTTERS AND BARGES,	-	-	-	-	-	0
MISCELLANEOUS,	-	-	-	-	-	0

Invested value of boats and fittings, \$500.

Total number of boats, 2

TOTAL INVESTED VALUES, NOV. 30, 1870, \$500.

St. Mark's Boat Club,

ST. MARK'S SCHOOL, SOUTHBORO, MASS.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	E. B. BOSTWICK, Southboro.	<i>Treasurer,</i>	GARDNER THOMAS, Southboro.
<i>Vice-President,</i>	E. N. BURKE, "	<i>Commodore,</i>	H. J. TRAIN, "
<i>Secretary,</i>	S. W. KERR, "	<i>Captain,</i>	H. B. HUDSON, "

ORGANIZATION.

Organized,	January 15, 1870.	Honorary Members allowed by the Constitution, no limit.
Annual Meeting for Elec- } tion of Officers,	First Friday in September.	Active Members Enrolled, Nov. 30, 1870, 19
Monthly Meetings,	2d and 4th Friday in each month.	Honorary Members, Nov. 30, 1870, 9
Active Members allowed by the Constitution,	20	Total Membership, Nov. 30, 1870, 28

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on Parker Lake, commencing at Mill Dam and terminating at Pine Island, two miles and return—four miles.

OUTFIT.

THE BOAT-HOUSE is located on Lake Street. Invested value of boat-house, lands, etc., \$1,000.

BOATS. —OUTRIGGER SHELLS, three singles,	3
OUTRIGGER GIGS, one four-oared,	1
INRIGGER GIGS, one four-oared, one six-oared,	2
CUTTERS, BARGES, AND MISCELLANEOUS,	0
	—
	6

Invested value of boats and fittings, \$650.

Total number of boats, 6

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,650.

Quinsigamond Boat Club,

WORCESTER, MASS.

OFFICERS, NOVEMBER 30, 1870.

<i>President</i>	(none).	<i>Secretary and</i>	} JAMES P. HAMILTON, Worcester,
<i>Vice-President</i>	(none).	<i>Treasurer,</i>	

ORGANIZATION.

	Organized, 1859.			
Annual Meetings for Election of Officers,	no report.	Active Members Enrolled, Nov. 30, 1870,	.	8
Other Meetings,	no report.	Honorary Members, Nov. 30, 1870,	.	0
Active Members allowed by the Constitution,	no report.			
Honorary Members allowed by the Constitution,	no report.	Total Membership, Nov. 30, 1870,	.	8

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on Lake Quinsigamond, from the Causeway, one and a half miles up the lake and return—three miles—being the usual University Regatta Course.

OUTFIT.

THE BOAT-HOUSE is located south side of the Causeway, near Quinsigamond House. Invested value of boat-house, lands, etc. (no report).

BOATS. —OUTRIGGER SHELLS, two singles, two four-oared,	4
OUTRIGGER GIGS,	0
INRIGGER GIGS, one pair-oared,	1
CUTTERS AND BARGES, one four-oared,	1
MISCELLANEOUS, two wherries,	2
	—
	8

Invested values of boats and fittings, \$1,200.

Total number of boats, 8

TOTAL INVESTED VALUES, NOV. 30, 1870, 1,200.

Bay City Boat and Shooting Assoc.

BAY CITY, MICHIGAN.

OFFICERS, NOVEMBER 30, 1870.

<i>Vice-President,</i>	GEO. H. DOUGHTY,	<i>President,</i>	C. F. GIBSON, Bay City.	<i>Treasurer,</i>	H. S. RAYMOND,	Bay City.
<i>Secretary,</i>	R. L. WARREN,			<i>Coxswain,</i>	A. H. VAN ETTAN,	"

ORGANIZATION.

Organized,	October 1, 1870.	Honorary Members allowed by the Constitution,	no limit.
Annual Meeting for Elec- tion of Officers,	First Saturday in November.	Active Members Enrolled, Nov. 30, 1870.	25
Monthly Meetings,	First Saturday in each Month.	Honorary Members, Nov. 30, 1870.	0
Active Members allowed by the Constitution,	no limit.	Total Membership, Nov. 30, 1870.	25

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Saginaw River (limits and direction not yet settled on).

OUTFIT.

THE BOAT-HOUSE—Location not yet determined upon. Invested value of boat-house, lands, etc. (no report).

BOATS.—None. This club having been organized at the close of the season of 1870, there was no opportunity to procure an outfit before the date of this report.

TOTAL INVESTED VALUES, NOV. 30, 1870 (NO REPORT).

Detroit Boat Club,

DETROIT, MICHIGAN.

OFFICERS, NOVEMBER 30, 1870.

<i>Vice-President,</i>	GEORGE HENDRIE,	<i>President,</i>	L. T. GRIFFIN, 149 Jefferson Ave., Detroit.	<i>Coxswain,</i>	T. G. LYSTER,	Detroit.
<i>Secretary and</i>	} C. J. REILLY,	<i>1st Assistant,</i>	JOHN M. HINCHMAN,	<i>2d Assistant,</i>	C. B. HULL,	"
<i>Treasurer,</i>						

ORGANIZATION.

Organized,	August 23, 1856.	Active Members Enrolled, Nov. 30, 1870.	51
Annual Meeting for Election of Officers,	First Thursday in April.	Active Members retired to Hono- rary List, Nov. 30, 1870.	29
Monthly Meetings,	First Thursday in each Month.	Honorary Members, Nov. 30, 1870.	28
Active Members allowed by the Constitution,	no limit.	Total Membership, Nov. 30, 1870.	108
Honorary Members allowed by the Constitution,	no limit.		

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSE is on Detroit River, from foot of Brush Street up the river one and a half miles and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located between Rivard and Hasting Streets, on the Detroit River. Invested value of boat-house, lands, etc. (no estimate given).

BOATS.—OUTRIGGER SHELS, one four-oared (*Dream*), two six-oared (*Detroit* and —), 3
 OUTRIGGER GIGS, one pair-sculs, one six-oared lapstreak (*Haidee*), 2
 CUTTERS AND BARGES, one eight-oared barge (*Camilla*), 1
 MISCELLANEOUS, three New York working-boats, two wherries, one canoe, 6

Invested values of boats and fittings, \$2,150.

Total number of boats, 12

TOTAL INVESTED VALUES, NOV. 30, 1870, \$2,150.

Excelsior Boat Club,

DETROIT, MICHIGAN.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	FRANK RAYMOND, JR.,	Detroit.	<i>Captain,</i>	LYMAN H. BALDWIN,	Detroit.
<i>Vice-President,</i>	C. A. MACK,	"	<i>Commander,</i>	GEO. K. STEVENS,	"
<i>Secretary,</i>	JOHN M. L. CAMPBELL,	"	<i>Lt.-Commander,</i>	NATHAN FOLLETT,	"
<i>Treasurer,</i>			<i>Ensign,</i>	H. L. O'BRIEN,	"

ORGANIZATION.

Organized,	May 14, 1867.	Honorary Members allowed by the Constitution,	no limit.
Annual Meetings for Election of Officers,	First Tuesday in April.	Active Members Enrolled, Nov. 30, 1870,	28
Monthly Meetings,	First Tuesday in each Month.	Honorary Members, Nov. 30, 1870,	63
Active Members allowed by the Constitution,	no limit.	Total Membership, Nov. 30, 1870,	91

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSE is on the Detroit River and Lake St. Clair. *Racing Course*—Commences at the foot of Brush Street, thence up stream to a point abreast of "Bloody Run," one and a half miles and return—three miles. *Pleasure Course*—From Boat-House around Belle Isle and return, from ten to twelve miles—twelve miles.

OUTFIT.

THE BOAT-HOUSE is located at foot of Chêne Street. Invested value of boat-house, lands, etc., \$900.

BOATS. —OUTRIGGER SHELLS, two six-oared,	-	-	-	-	-	2
OUTRIGGER GIGS, one four-oared,	-	-	-	-	-	1
INRIGGER GIGS,	-	-	-	-	-	0
CUTTERS AND BARGES, one ten-oared,	-	-	-	-	-	1
MISCELLANEOUS,	-	-	-	-	-	0

Invested values of boats and fittings, \$1,600.

Total number of boats, 4

TOTAL INVESTED VALUES, NOV. 30, 1870, \$2,500.

Neptune Boat Club,

EAST SAGINAW, MICHIGAN.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	T. E. HOYT, East Saginaw.	<i>1st Coxswain,</i>	J. E. MERSHON,	East Saginaw.
<i>Vice-President,</i>	DOUGLASS HOYT,	<i>2d</i>	" JAMES MACK,	"
<i>Secretary and Treasurer,</i>	W. E. MCKNIGHT,	<i>3d</i>	" JAMES S. WILKINS,	"

ORGANIZATION.

Organized,	Dec. 12, 1858.	Honorary Members allowed by the Constitution,	no limit.
Annual Meetings for Election of Officers,	First Wednesday in April.	Active Members Enrolled, Nov. 30, 1870,	29
Monthly Meetings,	First Wednesday in each Month from April to September inclusive.	Honorary Members, Nov. 30, 1870,	51
Active Members allowed by the Constitution,	no limit.	Total Membership, Nov. 30, 1870,	80

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSE is on the Saginaw River, from Genesee Street Bridge, one and a half miles down the River, and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located at the west end of Genesee Street Bridge. Estimated value of boat-house, lands, etc., \$1,200.

BOATS. —OUTRIGGER SHELLS, two singles, one four-oared, one six oared,	-	-	-	-	-	4
OUTRIGGER GIGS,	-	-	-	-	-	0
INRIGGER GIGS, one eight-oared,	-	-	-	-	-	1
CUTTERS AND BARGES, one six-oared,	-	-	-	-	-	1
MISCELLANEOUS, one skiff, two canoes,	-	-	-	-	-	3

Invested values of boats and fittings, \$1,450.

Total number of boats, 9

TOTAL INVESTED VALUES, NOV. 30, 1870, \$2,650.

Argonaut Boat Club,

MARQUETTE, MICH.

OFFICERS, NOVEMBER 30, 1870.

President, S. P. ELY, Marquette, Lake Superior.
Vice-President, H. A. BURT, Marquette. | *Captain*, THOS. J. BROWN, Marquette.
Sec. and Treas., C. H. CALL, " | *1st Lieutenant*, WM. E. STONE, "

ORGANIZATION.

Organized, May 9, 1870. Honorary Members allowed by the Constitution, no limit.
 Annual Meeting for Election of Officers, Second Monday in May, Active Members Enrolled, Nov. 30, 1870, 26
 Monthly Meetings, Third Monday in each Month, Honorary Members, Nov. 30, 1870, 1
 Active Members allowed by the Constitution, no limit. Total Membership, Nov. 30, 1870, 27

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on Marquette Bay; is not yet definitively agreed upon, but will be one and a half miles and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located on the east side of Lake Street, on the lake shore. Invested value of boat-house, lands, etc., \$500.

BOATS.—OUTRIGGER SHELLS, two singles,	-	-	-	-	-	-	-	-	2
OUTRIGGER AND INRIGGER GIGS,	-	-	-	-	-	-	-	-	0
CUTTERS AND BARGES, one eight-oared,	-	-	-	-	-	-	-	-	1
MISCELLANEOUS,	-	-	-	-	-	-	-	-	0

Invested values of boats and fittings, \$950.

Total number of boats, 3

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,450.

Wah-Wah-Sum Boat Club,

SAGINAW, MICH.

OFFICERS, NOVEMBER 30, 1870.

President, FRED. H. POTTER, Saginaw.
Vice-President, J. K. STEVENS, Saginaw. | *1st Coxswain*, G. A. LYON, Saginaw.
Sec. and Treas., E. A. BEHAN, " | *2d* " CHAS. E. WHEELER, "
Commodore, GEO. F. LEWIS, " | *3d* " C. H. RICHMAN, "

ORGANIZATION.

Organized, December 12, 1868. Honorary Members allowed by the Constitution, no limit.
 Annual Meeting for Election, First Wednesday in April. Active Members Enrolled, Nov. 30, 1870, 25
 Monthly Meetings, { First Wednesday in each Month, from April to September inclusive. Honorary Members, Nov. 30, 1870, 50
 Active Members allowed by the Constitution, no limit. Total Membership, Nov. 30, 1870, 75

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSE is on the Saginaw River, between the bridges. Short course, three-fourths of a mile and return—one and a half miles; long course, one and a half miles and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located at the foot of Cass Street. Invested value of boat-house, lands, etc., \$1,250.

BOATS.—OUTRIGGER SHELLS, two singles, one six-oared (fitted for coxswain),	-	-	-	-	-	-	-	-	3
OUTRIGGER GIGS, one pair-sculls, one two-pair sculls,	-	-	-	-	-	-	-	-	2
INRIGGER GIGS, one four-oared,	-	-	-	-	-	-	-	-	1
CUTTERS AND BARGES, one four-oared (Eclipse), one six-oared (Dream),	-	-	-	-	-	-	-	-	2
MISCELLANEOUS, three canoes for hunting,	-	-	-	-	-	-	-	-	3

Invested values of boats and fittings, \$1,200.

Total number of boats, 11

TOTAL INVESTED VALUES, NOV. 30, 1870, \$2,250.

Tritonia Boat Club,

SHATTUCK HALL, FARIBAULT, MINN.

OFFICERS, NOVEMBER 30, 1870.

<i>President</i> , W. R. MACKAY,	Shattuck Hall, Faribault.	<i>Treasurer</i> , H. S. TYLER,	Shattuck Hall, Faribault.
<i>Vice-Pres.</i> , C. E. CRAIK,	" " "	<i>Comm.</i> , C. E. BYRDE,	" " "
<i>Secretary</i> , H. E. WHITNEY,	" " "	<i>Captain</i> , T. BURNS,	" " "

ORGANIZATION.

Organized,	May 30, 1870.	Honorary Members allowed by the Constitution,	50
Annual Meeting for Election of Officers,	Thirtieth of May.	Active Members Enrolled, Nov. 30, 1870,	25
Monthly Meetings,	First Saturday in each Month.	Honorary Members, Nov. 30, 1870,	11
Active Members allowed by the Constitution,	30	Total Membership, Nov. 30, 1870,	36

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on Cannon Lake (no report of its direction or limits)—length, three miles.

OUTFIT.

THE BOAT-HOUSE is located at the foot of Maple Avenue, Faribault. Invested value of boat-house, lands, etc., \$300.

BOATS.—OUTRIGGER SHELLS, one single, two four-oared,	-	-	-	-	-	3
OUTRIGGER GIGS, one two-pair sculls,	-	-	-	-	-	1
INRIGGER GIGS, four four-oared,	-	-	-	-	-	4
CUTTERS AND BARGES, one pair-oared,	-	-	-	-	-	1
MISCELLANEOUS, one wherry,	-	-	-	-	-	1

Invested values of boats and fittings, \$925.

Total number of boats, 10

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,223.

Minnesota Boat Club,

ST. PAUL, MINN.

OFFICERS, NOVEMBER 30, 1870.

<i>President</i> , NORMAN WRIGHT,	Saint Paul.	<i>Secretary and Treasurer</i> , J. W. L. CORNING,	Saint Pau.
<i>Vice-President</i> , STANFORD NEWEL,	"		

ORGANIZATION.

Organized,	March 1, 1870.	Honorary Members allowed by the Constitution,	no limit.
Annual Meeting for Election of Officers,	First Saturday in March.	Active Members Enrolled, Nov. 30, 1870,	13
Other Meetings,	no report.	Honorary Members, Nov. 30, 1870,	0
Active Members allowed by the Constitution,	no limit.	Total Membership, Nov. 30, 1870,	13

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Mississippi River, from Boat-House up the river one and a quarter miles, and return—two and a quarter miles.

OUTFIT.

THE BOAT-HOUSE is located at foot of Robert Street. Invested value of boat-house, lands, etc., \$400.

BOATS.—OUTRIGGER SHELLS, five singles, one double,	-	-	-	-	-	6
OUTRIGGER AND INRIGGER GIGS, CUTTERS, AND BARGES,	-	-	-	-	-	0
MISCELLANEOUS, one wherry,	-	-	-	-	-	1

Invested values of boats and fittings, \$600.

Total number of boats, 7

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,000.

Undine Boat Club,

HANNIBAL, MISSOURI.

OFFICERS, NOVEMBER 30, 1870.

<i>President</i> , J. S. BOCKEE, Hannibal.			
<i>Vice-President</i> , J. F. BARBER,	Hannibal.	<i>1st Captain</i> , J. S. BOCKEE,	Hannibal.
<i>Sec. and Treas.</i> , J. K. HAYWARD,	"	<i>2d</i> " C. T. HAYWARD,	"

ORGANIZATION.

Organized,	May 2, 1870.	Honorary Members allowed by the Constitution, no limit.
Quarterly Meetings for Election of Officers,	Commencing May 1.	Active Members Enrolled, Nov. 30, 1870, . . . 14
Monthly Meetings,	First Monday in each Month.	Honorary Members, Nov. 30, 1870, . . . 2
Active Members allowed by the Constitution,	no limit.	Total Membership, Nov. 30, 1870, . . . 16

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Mississippi River, from foot of Hill Street, around Glasscock's Island, one and one-eighth miles and return—two and a quarter miles.

OUTFIT.

THE BOAT-HOUSE is located on Hayward & Loomis's Levee. Invested value of boat-house, lands, etc. (is rented).

BOATS. —OUTRIGGER SHELLS AND OUTRIGGER GIGS,	-	-	-	-	-	-	-	0
INRIGGER GIGS, one six-oared,	-	-	-	-	-	-	-	1
CUTTERS AND BARGES,	-	-	-	-	-	-	-	0
MISCELLANEOUS, two skiffs,	-	-	-	-	-	-	-	2

Invested values of boats and fittings, \$225.	Total number of boats,	3
TOTAL INVESTED VALUES, NOV. 30, 1870, \$225.		

Argonauta Rowing Association.

BAYONNE CITY, NEW JERSEY.

OFFICERS, NOVEMBER 30, 1870.

<i>President</i> , A. R. WARNER, 28 West St., New York.			
<i>Vice-President</i> , E. J. BRAMHALL,	Jersey City.	<i>Treasurer</i> , H. T. MALCOLMSON,	Bayonne City.
<i>Secretary</i> , RICHARD H. JACKSON,	Bayonne City.	<i>Captain</i> , MOLTON H. FORREST,	" "

ORGANIZATION.

Organized,	April, 1870.	Honorary Members allowed by the Constitution, no limit.
Annual Meeting for Election of Officers,	First Wednesday in April.	Active Members Enrolled, Nov. 30, 1870, . . . 50
Monthly Meetings,	First Wednesday in each Month.	Honorary Members, Nov. 30, 1870, . . . 2
Active Members allowed by the Constitution,	75	Total Membership, Nov. 30, 1870, . . . 52

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSE is on the Kill Von Kull, Newark, and New York Bays—three miles. (No report of its direction or limits.)

OUTFIT.

THE BOAT-HOUSE is located on the Kill Von Kull, in front of the La Tourette House. Invested value of boat-house, lands, etc., \$7,000.

BOATS. —OUTRIGGER SHELLS, four singles, two doubles,	-	-	-	-	-	-	-	6
OUTRIGGER GIGS, one two-pair sculls, one four-oared, one six-oared,	-	-	-	-	-	-	-	3
INRIGGER GIGS, one eight-oared,	-	-	-	-	-	-	-	1
CUTTERS AND BARGES,	-	-	-	-	-	-	-	0
MISCELLANEOUS, one New York working-boat, one skiff,	-	-	-	-	-	-	-	2

Invested values of boats and fittings, \$2,210.	Total number of boats,	12
TOTAL INVESTED VALUES, NOV. 30, 1870, \$9,210.		

La Favorita Boat Club,

HACKENSACK, NEW JERSEY.

OFFICERS, NOVEMBER 30, 1870.

President, GARRETT M. CAMPBELL, . Hackensack. | *Secretary,* JOSHUA SIMS, . . . Hackensack.
Vice-President, THOS. H. CUMMINGS, . " | *Treasurer,* GEO. RICARDO, . . . "

ORGANIZATION.

Organized, June, 1867.
 Annual Meeting for Election, . Second Tuesday in June. Active Members Enrolled, Nov. 30, 1870, . . . 18
 Monthly Meetings, . First Friday in each Month. Honorary Members, Nov. 30, 1870, . . . 3
 Active Members allowed by the Constitution, . no limit.
 Honorary " " " " 5 Total Membership, Nov. 30, 1870, . . . 21

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSE is on the Hackensack River, from Fort Wortendyke to Court Street Bridge, one and a half miles and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located on Anderson's Wharf, Hackensack River. Invested value of boat-house, lands, etc., \$3,200.

BOATS.—OUTRIGGER SHELLS, three singles, two doubles, - - - - - 5
 OUTRIGGER GIGS, two two-pair sculls, two four-oared, one six-oared, - - - - - 5
 INRIGGER GIGS, - - - - - 0
 CUTTERS AND BARGES, - - - - - 0
 MISCELLANEOUS, five New York working-boats, one wherry, - - - - - 6

Invested values of boats and fittings, \$1,500. Total number of boats, - 16

TOTAL INVESTED VALUES, NOV. 30, 1870, \$4,700.

Atlantic Boat Club,

HOBOKEN, NEW JERSEY.

OFFICERS, NOVEMBER 30, 1870.

President, JOSEPH RUSSELL, 63 Duane St., . New York. | *Treasurer,* { THOS. M. TUTHILL, Third Avenue
V.-Pres., GEO. COURVOISIER, 12 Maiden Lane, . " | Savings Bank, . . . New York.
Secretary, HENRY A. HIERS, 44 Wall St., . " | *Captain,* JOSEPH RUSSELL, 63 Duane St., . "
Corresponding Secretary, JOSEPH M. LIVINGSTON, with Lanman & Kemp, New York.

ORGANIZATION.

Organized, June, 1858.
 Annual Meeting for Election, . First Thursday in April. Active Members Enrolled, Nov. 30, 1870, . . . 30
 Monthly Meetings, . First Thursday in each Month. Honorary Members, Nov. 30, 1870, . . . 10
 Active Members allowed by the Constitution, . no limit.
 Honorary " " " " no limit. Total Membership, Nov. 30, 1870, . . . 40

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSE is on the Hudson River, from Perry's Dock to a stake boat one hundred yards below Day's Point, and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located at the foot of Fourth Street, Hoboken. Invested value of boat-house, lands, etc., \$1,850.

BOATS.—OUTRIGGER SHELLS, one single, one double, one six-oared, - - - - - 3
 OUTRIGGER GIGS, one six-oared, - - - - - 1
 INRIGGER GIGS, one four-oared, one ten-oared, - - - - - 2
 CUTTERS AND BARGES, one pair-oared, - - - - - 1
 MISCELLANEOUS, twelve New York working-boats, - - - - - 12

Invested values of boats and fittings, \$2,970. Total number of boats, - 19

TOTAL INVESTED VALUES, NOV. 30, 1870, \$4,820.

Hudson Boat Club,

JERSEY CITY, NEW JERSEY.

OFFICERS, NOVEMBER 30, 1870.

<i>Captain</i> , W. E. PEARSON, Jersey City, N. J.			
<i>Secretary</i> ,	{ WALLACE F. PECK, 50 Wall Street, New York, N. Y.	<i>1st Lieut.</i> ,	{ HENRY A. PEARSON, 21 Murray Street, New York, N. Y.
<i>Treasurer</i> ,	{ DUDLEY MURRAY, Office of Morris Canal Co., Jersey City, N. J.	<i>2d Lieut.</i> ,	{ WM. P. DOUGLASS, No. 1 Exchange Place, Jersey City, N. J.

ORGANIZATION.

Organized,	January, 1865.	Honorary Members allowed by the Constitution,	no limit.
Annual Meeting for Election of Officers,	First Tuesday in April.	Active Members Enrolled, Nov. 30, 1870,	46
Monthly Meetings,	First Tuesday in each Month.	Honorary Members, Nov. 30, 1870,	20
Active Members allowed by the Constitution,	60	Total Membership, Nov. 30, 1870,	66

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSE is on New York Upper Bay and the Hudson River; for racing, the Hudson Amateur Rowing Association Course—three miles.

OUTFIT.

THE BOAT-HOUSE is located near the foot of Van Vorst Street. Invested value of boat-house, lands, etc., \$1,640.

BOATS. —OUTRIGGER SHELLS,	-	-	-	-	-	-	-	-	0
OUTRIGGER GIGS, one four-oared, one six-oared,	-	-	-	-	-	-	-	-	2
INRIGGER GIGS, one eight-oared,	-	-	-	-	-	-	-	-	1
CUTTERS AND BARGES,	-	-	-	-	-	-	-	-	0
MISCELLANEOUS, four New York working-boats, two two-pair working-boats, one "dug-out,"	-	-	-	-	-	-	-	-	7

Invested values of boats and fittings, \$1,650.

Total number of boats, 10

TOTAL INVESTED VALUES, NOV. 30, 1870, \$3,290.

Oneida Boat Club,

JERSEY CITY, NEW JERSEY.

OFFICERS, NOVEMBER 30, 1870.

<i>President</i> ,	C. W. WOOLSEY, Jersey City.	<i>Secretary</i> ,	H. C. PEARSON, P.O. Box 172, Jersey City.
<i>Vice-President</i> ,	D. H. HOPKINS, "	<i>Treasurer</i> ,	T. B. DE VINNE, "

ORGANIZATION.

Organized,	April 2, 1870.	Honorary Members allowed by the Constitution,	no limit.
Annual Meeting for Election of Officers,	First Monday in April.	Active Members Enrolled, Nov. 30, 1870,	22
Monthly Meetings,	First Monday in each Month.	Honorary Members, Nov. 30, 1870,	10
Active Members allowed by the Constitution,	no limit.	Total Membership, Nov. 30, 1870,	32

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSE is on New York Upper Bay and Hudson River. For racing, the Hudson Amateur Rowing Association Course—three miles. For pleasure rowing, from N. J. Central R. R. Freight Pier around Bedloe's Island, New York Harbor, and return.

OUTFIT.

THE BOAT-HOUSE is located at the foot of Van Vorst Street, Jersey City. This club contemplate building a new and commodious boat-house in 1871. Invested value of boat-house, lands, etc. (no estimate).

BOATS. —OUTRIGGER SHELLS AND GIGS,	-	-	-	-	-	-	-	-	0
INRIGGER GIGS, one six-oared (<i>Oneida</i>),	-	-	-	-	-	-	-	-	1
CUTTERS AND BARGES,	-	-	-	-	-	-	-	-	0
MISCELLANEOUS, two New York working-boats, one wherry,	-	-	-	-	-	-	-	-	3

Invested values of boats and fittings, \$600.

Total number of boats, 4

TOTAL INVESTED VALUES, NOV. 30, 1870, \$600.

Rutger's Boating Association,

RUTGERS COLLEGE, NEW BRUNSWICK, N. J.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	C. F. VAN INWEGEN,	New Brunswick.	<i>Board of Directors,</i>	W. P. VOORHEES,	New Brunswick.
<i>Vice-President,</i>	W. H. LEGGETT,	" "		JAS. F. RANDOLPH,	" "
<i>Secretary,</i>	THOMAS CLEMENS,	" "		C. ROCKEFELLER,	" "
<i>Treasurer,</i>	EDWARD W. STRONG,	" "		P. FULLER,	" "
<i>Commodore,</i>	E. B. WILLIAMSON,	" "		S. H. GANE,	" "
<i>Captain,</i>	GEO. H. STEVENS,	" "		C. H. STEELE,	" "
				J. A. HARPER,	" "
				Q. A. CLUM,	" "

ORGANIZATION.

Organized,	1868.	Honorary Members allowed by the Constitution,	no limit.
Annual Meeting for Election of Officers,	First of November.	Active Members Enrolled, Nov. 30, 1870,	42
Monthly Meetings,	Subject to call of Directors.	Honorary Members, Nov. 30, 1870,	27
Active Members allowed by the Constitution,	no limit.	Total Membership, Nov. 30, 1870,	69

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on Raritan River, from Albany Street Bridge, one and a half miles up the river, and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located on the right bank of the Raritan, opposite the City. Invested value of boat-house, lands, etc., \$1,500.

BOATS. —OUTRIGGER SHELLS AND INRIGGER GIGS,	-	-	-	-	-	-	0
OUTRIGGER GIGS, one six-oared,	-	-	-	-	-	-	1
CUTTERS AND BARGES, one six-oared,	-	-	-	-	-	-	1
MISCELLANEOUS, four New York working-boats,	-	-	-	-	-	-	4

Invested values of boats and fittings, \$800.

Total number of boats, 6

TOTAL INVESTED VALUES, NOV. 30, 1870, \$2,300.

Nereid Boat Club,

NEWARK, NEW JERSEY.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	GEO. C. WILDE, 119 William Street,	New York.	<i>Secretary,</i>	C. B. PRICE,	Newark.
<i>V.-President,</i>	T. T. W. MUCHMORE,	Newark.	<i>Treasurer,</i>	H. P. JONES,	301 Market St., "

ORGANIZATION.

Organized, May 15, 1866.

Annual Meeting for Election of Officers,	Second Monday in January.	Honorary Members allowed by the Constitution,	no limit.
Monthly Meetings,	Second and Fourth Mondays in each Month.	Active Members Enrolled, Nov. 30, 1870,	12
Active Members allowed by the Constitution,	30	Honorary Members, Nov. 30, 1870,	10
		Total Membership, Nov. 30, 1870,	22

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSE is on Passaic River, from Morris and Essex R. R. Bridge, up the river one and a half miles, and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located on the east bank of Passaic River, near N. J. R. R. Bridge. Invested value of boat-house, lands, etc., \$1,250.

BOATS. —OUTRIGGER SHELLS,	-	-	-	-	-	-	0
OUTRIGGER GIGS, one four-oared, one six-oared,	-	-	-	-	-	-	2
INRIGGER GIGS, CUTTERS, AND BARGES,	-	-	-	-	-	-	0
MISCELLANEOUS, one New York working-boat,	-	-	-	-	-	-	1

Invested values of boats and fittings, \$350.

Total number of boats, 3

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,600.

Passaic Boat Club,

NEWARK, NEW JERSEY.

OFFICERS, NOVEMBER 30, 1870.

President, E. B. VANDERVEER, St. Nicholas Bank, N. Y. | *Sec. and Treas.,* E. M. DOUGLASS, St. Nicholas Bank, N. Y.
Vice-Pres., H. W. NASON, Montclair, N. J. | *Captain,* H. W. NASON, Montclair, N. J.

ORGANIZATION.

Organized, July 5, 1865.	Honorary Members allowed by the Constitution, no limit.
Annual Meeting for Election of Officers, Thirteenth of March.	Active Members Enrolled, Nov. 30, 1870, 24
Monthly Meetings, Second Tuesday in each Month.	Honorary Members, Nov. 30, 1870, 6
Active Members allowed by the Constitution, no limit.	Total Membership, Nov. 30, 1870, 30

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSE is on Passaic River, from the Morris and Essex R. R. Bridge to Half-Way House, one and a half miles, and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located on Bowers' Wharf, East Newark. Is leased. Invested value of boat-house, lands, etc. (no estimate).

BOATS. —OUTRIGGER SHELLS, one single, one double, one six-oared.	3
OUTRIGGER GIGS, one six-oared,	1
INRIGGER GIGS, CUTTERS, AND BARGES,	0
MISCELLANEOUS, seven New York working-boats, two wherries,	9
	13

Invested values of boats and fittings, \$1,750.

Total number of boats,

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,750.

Triton Boat Club,

NEWARK, NEW JERSEY.

OFFICERS, NOVEMBER 30, 1870.

President, S. COCKSHAW, Newark.
Vice-Pres., { C. C. ROSS, care Babcock & Cox, P.O. Box 1715, New York, N. Y.
Secretary, H. C. SANDERSON, Newark, N. J. | *Treasurer,* { W. C. MYERS, care Charles Haight & Co., New York, N. Y.
Captain, J. YOUNGBLOOD, Newark, N. J.

ORGANIZATION.

Organized, January 1, 1870.	Honorary Members allowed by the Constitution, no report.
Annual Meeting for Election of Officers, First Wednesday in January.	Active Members Enrolled, Nov. 30, 1870, 8
Monthly Meetings, in January, April, July, and October.	Other Members, Nov. 30, 1870, 0
Active Members allowed by the Constitution, no report.	Total Membership, Nov. 30, 1870, 8

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED

THE COURSE is on Passaic River, from Delaware, Lackawanna, and W. R. R. Bridge, up the river one and a half miles, and return—three miles.

OUTFIT.

THE BOAT-HOUSE is at Bowers' Boat-House, foot of Bridge Street, East Newark. Invested values of boat-house, lands, etc. (no estimate).

BOATS. —OUTRIGGER SHELLS, OUTRIGGER AND INRIGGER GIGS, CUTTERS, BARGES, AND MISCELLANEOUS,	0
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Invested values of boats and fittings (no report).

Total number of boats, 0

TOTAL INVESTED VALUES, NOV. 30, 1870 (NO REPORT).

Dundee Boat Club,

PATERSON, NEW JERSEY.

OFFICERS, NOVEMBER 30, 1870.

President, W. F. OSBORNE, Paterson.
Vice-President, GARRET A. HOBART, Paterson. | *Captain*, I. FERRIS BOICE, Paterson.
Sec. and Treas., ROBERT J. HOFFER, " | *1st Lieut.*, J. A. BECKWITH, "

ORGANIZATION.

Organized,	September 18, 1868.	Honorary Members allowed by the Constitution,	no limit.
Annual Meeting for Elec- } tion of Officers,	Second Thursday in May.	Active Members Enrolled, Nov. 30, 1870,	23
Monthly Meetings,	Second Thursday in each Month.	Honorary Members, Nov. 30, 1870,	4
Active Members allowed by the Constitution,	no limit.	Total Membership, Nov. 30, 1870,	27

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Passaic River, from Weazel Bridge to near the Dundee Dam, one and a half miles and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located on the Weazel Road, near foot of Market Street. Invested value of boat-house, lands, etc., \$2,500.

BOATS. —OUTRIGGED SHELLS, two singles, one double, one four-oared,	4
OUTRIGGED GIGS, one four-oared,	1
INRIGGED GIGS,	0
CUTTERS AND BARGES, one four-oared, one eight-oared,	2
MISCELLANEOUS, one New York working-boat,	1
	8

Invested values of boats and fittings, \$1,500.

Total number of boats,

TOTAL INVESTED VALUES, NOV. 30, 1870, \$4,000.

H. M. A. Association,

PATERSON, NEW JERSEY.

OFFICERS, NOVEMBER 30, 1870.

President, T. C. OAKMAN, Paterson. | *Treasurer*, MORTON CLARK, Paterson.
Secretary, W. MORTIMER PRALL, " | *Captain*, W. G. OAKMAN, "

ORGANIZATION.

Organized,	July 4, 1869.	Honorary Members allowed by the Constitution, no report.
Annual Meeting for Elec- } tion of Officers,	First Monday in April.	Active Members Enrolled, Nov. 30, 1870,
Monthly Meetings,	none.	Honorary Members, Nov. 30, 1870,
Active Members allowed by the Constitution,	no limit.	Total Membership, Nov. 30, 1870,

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on Dundee Lake, two miles. (No report of its direction or termini given.)

OUTFIT.

THE BOAT-HOUSE is located on Dundee Lake. Invested value of boat-house, lands, etc., \$3,500.

BOATS. —OUTRIGGED SHELLS, five singles, two doubles,	7
OUTRIGGED GIGS, one six-oared,	1
INRIGGED GIGS,	0
CUTTERS AND BARGES,	0
MISCELLANEOUS, two New York working-boats, one sail-boat, one Whitehall boat, one yacht,	5
	13

Invested values of boats and fittings, \$2,015.

Total number of boats,

TOTAL INVESTED VALUES, NOV. 30, 1870, \$5,515.

Passaic Boat Club,

PATERSON, NEW JERSEY.

OFFICERS, NOVEMBER 30, 1870.

President, THOMAS H. HURST, Paterson.
Vice-President, W. J. RUSHTON, 230 Main Street, Paterson. | *Treasurer*, R. M. RORTY, 281 Main Street, Paterson.
Secretary, JAMES CAUNCE, Dolphin Mill, " | *Captain*, W. J. RUSHTON, 220 Main Street, "

ORGANIZATION.

Organized,	November 4, 1869.	Honorary Members allowed by the Constitution, no report.	
Annual Meeting for Election of Officers,	First Thursday in January.	Active Members Enrolled, Nov. 30, 1870.	8
Monthly Meetings,	First Thursday of each Month.	Honorary Members, Nov. 30, 1870.	0
Active Members allowed by the Constitution,	20	Total Membership, Nov. 30, 1870.	8

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on Dundee Lake, from Market Street Bridge to near the Dam, one mile and return—two miles.

OUTFIT.

THE BOAT-HOUSE is located on Dundee Lake. Invested value of boat-house, lands, etc., \$375.

BOATS. —OUTRIGGER SHELLS, two singles,	-	-	-	-	-	-	-	2
OUTRIGGER GIGS, one four-oared,	-	-	-	-	-	-	-	1
INRIGGER GIGS, CUTTERS, BARGES, AND MISCELLANEOUS,	-	-	-	-	-	-	-	0

Invested values of boats and fittings, \$325.	Total number of boats,	3
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TOTAL INVESTED VALUES, NOV. 30, 1870, \$700.

Princeton University Boat Club,

PRINCETON, NEW JERSEY.

OFFICERS, NOVEMBER 30, 1870.

President, C. W. KASE, Princeton. | *Treasurer*, D. EWING, Princeton.
Vice-President, A. MCCLINTOCK, " | *Commodore*, W. WILLIAMS, "
Secretary, A. DEVEREAUX, " | *Captain*, G. H. BADEAU, "

ORGANIZATION.

Organized,	September, 1870.	Honorary Members allowed by the Constitution, no limit.	
Annual Meeting for Election of Officers,	First Wednesday in September.	Active Members Enrolled, Nov. 30, 1870.	60
Monthly Meetings,	Last Thursday in each Month.	Honorary Members, Nov. 30, 1870.	30
Active Members allowed by the Constitution, no report.		Total Membership, Nov. 30, 1870.	90

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Raritan Canal, from Princeton to Kingston, four miles and return—eight miles.

OUTFIT.

THE BOAT-HOUSE is located at the foot of Canal Street. Invested value of boat-house, lands, etc. (no report).

BOATS. —OUTRIGGER SHELLS, one single,	-	-	-	-	-	-	-	1
OUTRIGGER GIGS, one two-pair sculls, two six-oared,	-	-	-	-	-	-	-	3
INRIGGER GIGS, CUTTERS, AND BARGES,	-	-	-	-	-	-	-	0
MISCELLANEOUS, one New York working-boat, one wherry,	-	-	-	-	-	-	-	2

Invested values of boats and fittings, \$450.	Total number of boats,	6
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TOTAL INVESTED VALUES, NOV. 30, 1870, \$450.

Undine Boat Club,

RAHWAY, NEW JERSEY.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	(Vacancy.)		<i>Treasurer,</i>	ALBERT MILLER,	Rahway.
<i>Vice-President,</i>	WILLIAM CHAMBERLIN,	Rahway.	<i>Captain,</i>	FRED. S. COZZENS,	"
<i>Secretary,</i>	FRED. S. COZZENS,	"	<i>Coxswain,</i>	CHAS. SQUIER,	"

ORGANIZATION.

Organized, June 27, 1870.

Annual Meeting for Election of Officers,	Second of April.	Active Members Enrolled, Nov. 30, 1870,	15
Monthly Meetings,	Second Day of each Month.	Honorary Members, Nov. 30, 1870,	20
Active Members allowed by the Constitution,	21		
Honorary Members allowed by the Constitution,	25	Total Membership, Nov. 30, 1870,	35

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Rahway River, from the Boat-House around first Island, two and a quarter miles and return—four and a half miles.

OUTFIT.

THE BOAT-HOUSE is located on the Rahway River, foot of Milton Avenue. Invested value of boat-house, lands, etc., \$500.

BOATS. —OUTRIGGER SHELLS,	-	-	-	-	-	-	-	-	0
OUTRIGGER GIGS, one two-pair sculls, one six-oared,	-	-	-	-	-	-	-	-	2
INRIGGER GIGS, CUTTERS, AND BARGES,	-	-	-	-	-	-	-	-	0
MISCELLANEOUS, one dingy, one wherry,	-	-	-	-	-	-	-	-	2

Invested values of boats and fittings, \$500.

Total number of boats, 4

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,000.

Woodside Rowing Club,

WOODSIDE, NEW JERSEY.

OFFICERS,* DECEMBER 1, 1870.

<i>President,</i>	HENRY T. FIELD,	Woodside.	<i>Secretary,</i>	E. P. SNOWDEN,	30 Washington St., New York.
<i>Vice-President,</i>	JOSEPH A. DREYFOUS,	"	<i>Treasurer,</i>	R. S. CARTER,	Woodside, N. J.

ORGANIZATION.

Organized,	December 1, 1870.	Honorary Members allowed by the Constitution,	no limit.
Annual Meeting for Election of Officers,	First Thursday in December.	Active Members Enrolled, Nov. 30, 1870,	12
Monthly Meetings,	First Thursday in each Month.	Honorary Members, Nov. 30, 1870,	0
Active Members allowed by the Constitution,	no limit.	Total Membership, Nov. 30, 1870,	12

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on Passaic River. (No directions or limits yet defined.)

OUTFIT.

THE BOAT-HOUSE is to be built during the season of 1871.

BOATS.—As this club was only organized December 1, 1870, no boats have been procured.

TOTAL INVESTED VALUES, NOV. 30, 1870 (NO ESTIMATE).

* These officers serve for one year, from January 1, 1871.

Beaverwyck Rowing Club,

ALBANY, NEW YORK.

OFFICERS, NOVEMBER 30, 1870.

President, CHAS. A. HILLS, City Hall, Albany. *Treasurer,* MICHAEL A. POWERS, County
Secretary, JAS. A. FISHER, City Hall, " Treasurer's Office. Albany.

ORGANIZATION.

Organized, February 22, 1870.	Honorary Members allowed by the Constitution, no report.
Annual Meeting for Elec- } Twenty-second of February.	Active Members Enrolled, Nov. 30, 1870, 50
tion of Officers,	Honorary Members, Nov. 30, 1870, 0
Monthly Meetings, First Monday in each Month.	—
Active Members allowed by the Constitution, 50	Total Membership, Nov. 30, 1870, 50

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Hudson River, from New Hudson River Bridge, south one and a half miles and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located at the foot of State Street. Invested value of boat-house, lands, etc., \$500.

BOATS. —OUTRIGGER SHELLS, two singles,	2
OUTRIGGER GIGS, one four-oared, one six-oared,	2
INRIGGER GIGS, CUTTERS, BARGES, AND MISCELLANEOUS,	0
—	—

Invested values of boats and fittings, \$700.	Total number of boats,	4
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TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,200.

Mutual Boat Club,

ALBANY, NEW YORK.

OFFICERS, JANUARY 1, 1871.

<i>President,</i> JEROME SMITH, 3 South Pearl St., Albany.	<i>Trustees,</i> { JEROME SMITH, Albany. JOSEPH P. KILLUP, " E. S. FOSTER, " C. PIEPENBRINK, " HENRY WILKES, "
<i>V.-Pres.,</i> FRANK P. WRIGHT, 59 State St., "	
<i>Sec. and</i> } HENRY W. GARFIELD, Albany City "	
<i>Treas.,</i> } National Bank, "	
<i>Cor. Sec.,</i> W. S. MOSELY, 60 Division St., "	

ORGANIZATION.

Organized, August 1, 1865.	Honorary Members allowed by the Constitution, no limit.
Annual Meeting for Elec- } First Thursday in December.	Active Members Enrolled, Nov. 30, 1870, 82
tion of Officers,	Honorary Members, Nov. 30, 1870, 23
Monthly Meetings, First Thursday in each Month.	—
Active Members allowed by the Constitution, no limit.	Total Membership, Nov. 30, 1870, 105

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Hudson River, from the foot of Hamilton Street, one and a half miles south and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located at the Basin, foot of State Street. Invested value of boat-house, lands, etc., \$800.

BOATS. —OUTRIGGER SHELLS, nine singles, two doubles, two six-oared,	13
OUTRIGGER GIGS, two six-oared,	5
INRIGGER GIGS, CUTTERS, BARGES, AND MISCELLANEOUS,	0
—	—

Invested values of boats and fittings, \$2,200.	Total number of boats,	15
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TOTAL INVESTED VALUES, NOV. 30, 1870, \$3,000.

Auburn Rowing Club,

AUBURN, NEW YORK.

OFFICERS, NOVEMBER 30, 1870.

<i>Vice-President,</i>	(no report.)	<i>President,</i>	(no report.)	<i>Treasurer,</i>	GEO. WATSON,	Auburn.
<i>Secretary,</i>	T. W. MEACHEM,	Auburn.	<i>Captain,</i>	FRANK WRIGHT,	"	"

ORGANIZATION.

Organized, August, 1869.

Annual Meetings for Election of Officers,	no report.	Active Members Enrolled, Nov. 30, 1870,	40
Monthly Meetings,	First Wednesday in each Month.	Honorary Members, Nov. 30, 1870,	no report.
Active Members allowed by the Constitution,	no report.		—
Honorary Members allowed by the Constitution,	no report.	Total Membership, Nov. 30, 1870,	40

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on Owasco Lake, from Four-Mile House, one and a half miles south and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located on Owasco Creek. Invested value of boat-house, lands, etc. (no estimate).

BOATS. —OUTRIGGER SHELLS, one four-oared,	-	-	-	-	-	-	1
OUTRIGGER AND INRIGGER GIGS,	-	-	-	-	-	-	0
CUTTERS AND BARGES, one four-oared, one six-oared,	-	-	-	-	-	-	2
MISCELLANEOUS,	-	-	-	-	-	-	0

Invested values of boats and fittings (no estimate).

Total number of boats, 3

TOTAL INVESTED VALUES, NOV. 30, 1870 (NO ESTIMATE).

Bard Boat Club,

ST. STEPHEN'S COLLEGE, ANNANDALE, NEW YORK.

OFFICERS, NOVEMBER 30, 1870.

<i>Pur. and Treas.,</i>	J. S. MOODY, St. Stephen's Col., Annandale.	<i>1st Lieutenant,</i>	R. B. DRANE, St. Stephen's Col., Annandale.
<i>Captain,</i>	G. H. STERLING, " " " "	<i>2d " "</i>	A. J. GIBSON, " " " "

ORGANIZATION.

Organized,	April 4, 1862.	Honorary Members allowed by the Constitution,	no limit.
Annual Meeting for Election of Officers,	First Saturday in July.	Active Members Enrolled, Nov. 30, 1870,	35
Monthly Meetings,	First Saturday in each Month.	Honorary Members, November 30, 1870,	90
Active Members allowed by the Constitution,	no limit.	Total Membership, Nov. 30, 1870,	125

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Hudson River: for racing, one and a half miles; for rowing, three to ten miles. (No report of direction or termini.)

OUTFIT.

THE BOAT-HOUSE is located on the Hudson River. Invested value of boat-house, lands, etc., \$500.

BOATS. —OUTRIGGER SHELLS, one double	-	-	-	-	-	-	1
OUTRIGGER GIGS, two six-oared,	-	-	-	-	-	-	2
INRIGGER GIGS, one four-oared,	-	-	-	-	-	-	1
CUTTERS AND BARGES, one six-oared barge,	-	-	-	-	-	-	1
MISCELLANEOUS, two dingys,	-	-	-	-	-	-	2

Invested values of boats and fittings, \$700.

Total number of boats, 7

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,200.

Neptune Boat Club,

BINGHAMTON, NEW YORK.

OFFICERS, NOVEMBER 30, 1870.

President, DANIEL S. BURR, M.D., Binghamton.
Vice-President, J. B. ABBOTT, JR., Binghamton. *Treasurer*, H. H. HALLECK, Binghamton.
Secretary, GEO. M. BURR, " *1st Coxswain*, F. M. HALLECK, "

ORGANIZATION.

Organized, August 14, 1869. Honorary Members allowed by the Constitution, no limit.
 Annual Meeting for Election of Officers, First Wednesday in April. Active Members Enrolled, Nov. 30, 1870, 15
 Monthly Meetings, First Wednesday in each Month. Honorary Members, Nov. 30, 1870, 1
 Active Members allowed by the Constitution, no limit. Total Membership, Nov. 30, 1870, 16

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Susquehanna River, from the Mill Dam to R. R. Bridge, two miles and return—four miles.

OUTFIT.

THE BOAT-HOUSE will be located at the foot of Susquehanna Street. Invested value of boat-house, lands, etc., \$100.

BOATS.—OUTRIGGER SHELLS, one four-oared, 1
 OUTRIGGER AND INRIGGER GIGS, CUTTERS, BARGES, AND MISCELLANEOUS, 0

Invested values of boats and fittings, \$75. Total number of boats, 1

TOTAL INVESTED VALUES, NOV. 30, 1870, \$175.

Alcyone Boat Club,

BROOKLYN, NEW YORK.

OFFICERS, NOVEMBER 30, 1870.

President, W. A. STAGG, 57 Broadway, New York.
Vice-President, W. V. TUPPER, 114 Wall St., New York, N. Y. *Treasurer*, A. ALLEN, JR., 146 Pearl St., New York, N. Y.
Secretary, H. M. EVANS, Cor. Atlantic and Clinton Streets, Brooklyn. " *Captain*, W. C. SMITH, 105 Chambers Street, " "

ORGANIZATION.

Organized, May 11, 1859. Honorary Members allowed by the Constitution, no limit.
 Annual Meeting for Election of Officers, First Thursday in January. Active Members Enrolled, Nov. 30, 1870, 60
 Monthly Meetings, First Thursday in each Month. Honorary Members, Nov. 30, 1870, 20
 Active Members allowed by the Constitution, 60 Total Membership, Nov. 30, 1870, 80

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on New York Harbor. (No report of direction or limits of any particular course given.)

OUTFIT.

THE BOAT-HOUSE is located at the foot of Smith Street. Invested value of boat-house, lands, etc., \$5,000.

BOATS.—OUTRIGGER SHELLS, two singles, 2
 OUTRIGGER GIGS, one six-oared, 1
 INRIGGER GIGS, 0
 CUTTERS AND BARGES, one pair-oared, two four-oared, one eight-oared, 4
 MISCELLANEOUS, two New York working-boats, six wherries, one canoe, 9

Invested values of boats and fittings, \$2,400. Total number of boats, 16

TOTAL INVESTED VALUES, NOV. 30, 1870, \$7,400.

Nereid Boat Club,

BROOKLYN, NEW YORK.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	HENRY EARLE,	New York, N.Y.	<i>Treas. and</i>	CAMPBELL C. BROWN, 41 Ex-	
<i>Vice-Pres.,</i>	W. WISE, JR.,	Brooklyn, "	<i>Captain,</i>	change Pl.,	New York, N.Y.
<i>Secretary,</i>	J. EGERTON,	New York, "	<i>Lieutenant,</i>	DAVID B. DAVIDSON,	" "

ORGANIZATION.

Organized,	April 13, 1867.	Honorary Members allowed by the Constitution,	no limit.
Annual Meeting for Elec- } tion of Officers,	Second Thursday in Novem- ber.	Active Members Enrolled, Nov. 30, 1870,	19
Monthly Meetings,	Second Thursday in each Month.	Honorary Members, Nov. 30, 1870,	3
Active Members allowed by the Constitution,	no limit.	Total Membership, Nov. 30, 1870,	22

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSE is on Gowanus Bay and New York Harbor, from Boat-House to Bay Ridge, three miles and return—six miles.

OUTFIT.

THE BOAT-HOUSE is located at the foot of Smith Street. (This house has recently been sold; the club contemplate building a floating house during the season of 1871.) Invested value of boat-house, \$800.

BOATS. —OUTRIGGER SHELLS, three singles,	-	-	-	-	-	-	3
OUTRIGGER GIGS, one six-oared,	-	-	-	-	-	-	1
INRIGGER GIGS, one eight-oared,	-	-	-	-	-	-	1
CUTTERS AND BARGES,	-	-	-	-	-	-	0
MISCELLANEOUS, two single N. Y. working-boats, one wherry, four double N. Y. working-boats,	-	-	-	-	-	-	7

Invested values of boats and fittings, \$1,500.

Total number of boats, 12

TOTAL INVESTED VALUES, NOV. 30, 1870, \$2,300.

Buffalo Rowing Club,

BUFFALO, NEW YORK.

OFFICERS, NOVEMBER 30, 1870.

<i>Vice-President,</i>	JONATHAN SIDWAY,	Buffalo.	<i>President,</i>	JOHN B. SAGE, Buffalo.	<i>Secretary,</i>	P. D. K. SAUNDRES, 311 Main St., Buffalo.
<i>Treasurer,</i>	SAMUEL S. SPAULDING,	"		"		JOHN E. MARSHALL,
<i>Coxswain,</i>	CHARLES G. WILLIAMS,	"		"		JOHN R. DOBBINS,
	WALTER S. CHESTER,	"		"		SPENCER CLINTON,
<i>Assistant-</i>	LE GRAND GREENMAN,	"		"		GEORGE P. DOW,
<i>Coxswains,</i>	WILLIAM TOWNSEND,	"		"		GEO. E. LAVERACK,

ORGANIZATION.

Organized,	January 24, 1870.	Honorary Members allowed by the Constitution,	no limit.
Annual Meeting for Election of } Officers,	First Tuesday in March.	Active Members Enrolled, Nov. 30, 1870,	107
Monthly Meetings,	First Tuesday in each Month.	Honorary Members, Nov. 30, 1870,	7
Active Members allowed by the Constitution,	no limit.	Total Membership, Nov. 30, 1870,	114

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSES are on Lake Erie and Niagara River. From North Pier around revolving light, one and a half miles and return—three miles; from North Pier down Niagara River to Ferry, two miles and return—four miles.

OUTFIT.

THE BOAT-HOUSE is located at the foot of Erie Street. Invested value of boat-house, lands, etc. (no estimate).

BOATS. —OUTRIGGER SHELLS, three singles, one double, one four-oared, one six-oared,	-	-	-	-	-	6
OUTRIGGER GIGS AND MISCELLANEOUS,	-	-	-	-	-	0
INRIGGER GIGS, one pair-oared, one four-oared,	-	-	-	-	-	2
CUTTERS AND BARGES, one eight-oared,	-	-	-	-	-	1

Invested values of boats and fittings, \$1,500.

Total number of boats, 9

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,500.

Q. Q. Q. Association,

BUFFALO, NEW YORK.

OFFICERS, NOVEMBER 30, 1870.

President, R. PORTER LEE, Buffalo.
Vice-President, WILLIAM T. PARSONS, Buffalo. *Secretary and Treasurer*, SAMUEL M. WELCH, Jr., 139 Washington Street, Buffalo.
Captain, GEO. B. MCLENNAN, " "

ORGANIZATION.

Organized, May 1, 1869.	Honorary Members allowed by the Constitution, no limit.
Semi-Annual Meetings for Election of Officers, First Thursday in May and October.	Active Members Enrolled, Nov. 30, 1870, 20
Monthly Meetings, First Thursday in each Month.	Honorary Members, Nov. 30, 1870, 10
Active Members allowed by the Constitution, no limit.	Total Membership, Nov. 30, 1870, 30

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on Buffalo Harbor and Erie Canal, from Genesee Street to N. Y. Central R. R. Bridge, one and a half miles and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located at foot of Erie Street. Invested value of boat-house, lands, etc., \$100.

BOATS. —OUTRIGGED SHELLS, one four-oared,	1
OUTRIGGED GIGS, two four-oared,	2
INRIGGED GIGS, CUTTERS, AND BARGES,	0
MISCELLANEOUS, one New York working-boat,	1

Invested value of boats and fittings, \$305.	Total number of boats, 4
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TOTAL INVESTED VALUES, NOV. 30, 1870, \$405.

Niantic Boat Club,

FLUSHING, L. I., NEW YORK.

OFFICERS, NOVEMBER 30, 1870.

President, WILLIAM ELLIMAN, P. O. Box 1843, New York.
Vice-Pres., BURRALL HOFFMAN, Flushing.
Captain, DANA B. BRIGHAM, " *Secretary*, BENJ. C. SNYDER, care Schuyler, Hartley & Graham, New York.
Treasurer, R. SCHUYLER TUCKER, Flushing.

ORGANIZATION.

Organized, April, 1864.	Honorary Members allowed by the Constitution, no limit.
Annual Meeting for Election of Officers, First Friday in May.	Active Members Enrolled, Nov. 30, 1870, 25
Monthly Meetings, First Friday in each Month.	Honorary Members, Nov. 30, 1870, 30
Active Members allowed by the Constitution, no limit.	Total Membership, Nov. 30, 1870, 55

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSE is on Flushing Bay, from Flushing Bridge to College Point, two and a half miles and return—five miles.

OUTFIT.

THE BOAT-HOUSE is located on Flushing Bay. Invested value of boat-house, club-room, furniture, etc., \$1,500.

BOATS. —OUTRIGGED SHELLS, one pair-oared,	1
OUTRIGGED AND INRIGGED GIGS,	0
CUTTERS AND BARGES, one six-oared,	1
MISCELLANEOUS,	0

Invested values of boats and fittings, \$500.	Total number of boats, 2
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TOTAL INVESTED VALUES, NOV. 30, 1870, \$2,000.

Ithaca Boat Club,

ITHACA, NEW YORK.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	J. E. Cooper,	Ithaca.	<i>Secretary,</i>	T. G. MILLER,	Ithaca.
<i>Vice-President,</i>	W. A. CHURCH,	"	<i>Treasurer,</i>	GEO. L. GRAY,	"

ORGANIZATION.

Organized, September 1, 1870.

Annual Meeting for Election of Officers,	First of January.	Active Members Enrolled, Nov. 30, 1870.	10
Monthly Meetings,	First Wednesday in each Month.	Honorary Members, Nov. 30, 1870.	0
Active Members allowed by the Constitution,	20		
Honorary Members allowed by the Constitution,	none.	Total Membership, Nov. 30, 1870.	10

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on Cayuga Lake, from Ithaca steamer landing to Bush Point, four miles and return—eight miles.

OUTFIT.

THE BOAT-HOUSE is not yet erected. Invested value of boat-house, lands, etc. (no report).

BOATS. —OUTRIGGER SHELLS, one single,	-	-	-	-	-	-	-	1
OUTRIGGER GIGS, one six-oared,	-	-	-	-	-	-	-	1
INRIGGER GIGS,	-	-	-	-	-	-	-	0
CUTTERS AND BARGES,	-	-	-	-	-	-	-	0
MISCELLANEOUS,	-	-	-	-	-	-	-	0

Invested values of boats and fittings, \$200.

Total number of boats, 2

TOTAL INVESTED VALUES, NOV. 30, 1870, \$200

Undine Boat Club,

CORNELL UNIVERSITY, ITHACA, NEW YORK.

OFFICERS, NOVEMBER 30, 1870.

<i>President</i>	(no report).	<i>Lieutenant,</i>	HENRY M. BIRGE,	Ithaca.
<i>Vice-President</i>	(no report).	<i>Secretary and</i>	W. K. PIERCE, Cornell University,	"
<i>Captain,</i>	CHAS. W. RAYMOND,	<i>Treasurer,</i>			Ithaca.

ORGANIZATION.

Organized, March, 1870.

Annual Meeting for Election of Officers,	not given.	Active Members Enrolled, Nov. 30, 1870.	8
Monthly Meetings,	not given.	Honorary Members, Nov. 30, 1870.	0
Active Members allowed by the Constitution,	no limit.		
Honorary Members allowed by the Constitution,	no report.	Total Membership, Nov. 30, 1870.	8

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on Cayuga Lake and inlet. (No report of direction or points of termination given.)

OUTFIT.

THE BOAT-HOUSE is not yet erected. Invested value of boat-house, lands, etc. (no report).

BOATS.—None. (A new organization, not yet perfected.)

Invested values of boats and fittings (no report).

TOTAL INVESTED VALUES, NOV. 30, 1870 (NO REPORT).

Atalanta Boat Club,

NEW YORK, N. Y.

OFFICERS, JANUARY 10, 1871.

President, RANSOM PARKER, JR., 55 Perry St., New York.
Vice-Pres., W. H. WEBSTER, 22 Broad St., New York. *Treasurer*, JOHN KING, New York.
Secretary, JAS. W. EDWARDS, Bleecker & Charles Sts., " *Captain*, RUSSELL WITHERS, M.D., 365 Bleecker St., "
Fin. Sec., W. C. MAINLAND, 298 West 12th St., " *Lieutenant*, LEANDER WATERBURY, " "

ORGANIZATION.

Organized, May, 1848. Honorary Members allowed by the Constitution, no limit.
 Annual Meeting for Election of Officers, Second Tuesday in January. Active Members Enrolled, Nov. 30, 1870, 65
 Monthly Meetings, Second Tuesday in each Month. Honorary Members, Nov. 30, 1870, 30
 Active Members allowed by the Constitution, 100 Total Membership, Nov. 30, 1870, 95

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSE is on the Hudson River, off the Elysian Fields, at Hoboken, New Jersey, three and six miles.

OUTFIT.

THE BOAT-HOUSE is located at the foot of Christopher Street.. Invested value of boat-house, lands, etc., including storage-houses at Newark and Hoboken, N. J., \$8,000.

BOATS.—OUTRIGGER SHELLS, three singles, four doubles, one four-oared, two six-oared, 10
 OUTRIGGER GIGS, one pair-sculls, one pair-oared, two six-oared, 4
 INRIGGER GIGS, one six-oared, one eight-oared, 2
 CUTTERS AND BARGES, one six-oared, one eight-oared, 2
 MISCELLANEOUS, fifteen New York working-boats, one dingy, one wherry, 17

Invested value of boats and fittings, \$3,000.

Total number of boats, 35

TOTAL INVESTED VALUES, NOV. 30, 1870, \$11,000.

New York Athletic Club,

NEW YORK, N. Y.

OFFICERS, NOVEMBER 30, 1870.

President, COL. W. E. VANWYCK, 30 Beekman St., New York. *Treasurer*, RICHARD MEARS, 19th St. & 6th Av., New York.
Vice-Pres., CHAS. DELMONICO, 14th St. & 5th Av., " *Commodore*, HON. H. E. BUERMAYER, 55 Murray St., "
Secretary, HARRY A. HIERS, 30 Wall St., " *Captain*, FRANK KINNY, 81 Cedar St., " "

ORGANIZATION.

Organized, September, 1868.

Annual Meeting for Election of Officers, First Wednesday in March. Honorary Members allowed by the Constitution, no limit.
 Monthly Meetings, First Wednesday after first Monday in each Month. Active Members Enrolled, Nov. 30, 1870, 240
 Active Members allowed by the Constitution, 500 Honorary Members, Nov. 30, 1870, 0
 Total Membership, Nov. 30, 1870, 240

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSE is on the Harlem, East, and Hudson Rivers, from Harlem Bridge east and west one and a half and two and a half miles and return—three and five miles.

OUTFIT.

THE BOAT-HOUSE is located on the Harlem River, at the foot of 130th Street. The club-rooms are at No. 20 St. Mark's Place, City. Invested value of boat-house, lands, etc., \$5,000.

BOATS.—OUTRIGGER SHELLS, twenty-seven singles, nine doubles, five four-oared, three six-oared, 44
 OUTRIGGER GIGS, three two-pair sculls, one four-oared, two six-oared, one eight-oared, 7
 INRIGGER GIGS, two four-oared, one eight-oared, 3
 CUTTERS AND BARGES, one four-oared, one six-oared, one eight-oared, 3
 MISCELLANEOUS, eleven New York working-boats, three wherries, 14

Invested values of boats and fittings, \$10,400.

Total number of boats, 71

TOTAL INVESTED VALUES, NOV. 30, 1870, \$15,400.

Columbia Boat Club,

NEW YORK, N. Y.

OFFICERS, JANUARY 1, 1871.

<i>President</i> , WM. A. MARTIN, 165 W. Fourth St., New York.	<i>Treasurer</i> , W. J. KNIGHT, 102 Wall St., New York.
<i>Vice-Pres.</i> , GEO. M. YOUNG, " "	<i>Captain</i> , CHARLES ZACHMAN, 50 Beaver St., " "
<i>Secretary</i> , HENRY W. HUNT, 378 Broadway, " "	<i>Lieutenant</i> , GEO. M. YOUNG, " "

ORGANIZATION.

Organized, March 2, 1861.	
Incorporated, Feb. 29, 1868.	Honorary Members allowed by the Constitution, no limit.
Annual Meeting for Election of Officers, Second Tuesday in December.	Active Members Enrolled, Nov. 30, 1870, 19
Monthly Meetings, Second Tuesday in each Month.	Honorary Members, Nov. 30, 1870, 13
Active Members allowed by the Constitution, no limit.	Total Membership, Nov. 30, 1870, 32

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSE is on the Hudson River, commencing at Pleasant Valley, one and a half miles down the river and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located at foot of Christopher Street. Invested value of boat-house, lands, etc., \$3,000.

BOATS. —OUTRIGGER SHELLS, one double,	1
OUTRIGGER GIGS, one four-oared; INRIGGER GIGS, none,	1
CUTTERS AND BARGES, one eight-oared,	1
MISCELLANEOUS, four New York working-boats, one wherry,	5
	8

Invested values of boats and fittings, \$1,350.

Total number of boats,

TOTAL INVESTED VALUES, NOV. 30, 1870, \$4,350.

Crystal Boat Club,

NEW YORK, N. Y.

OFFICERS, NOVEMBER 30, 1870.

<i>President</i> , R. H. WILLIAMS, 9 Ann Street, New York.	<i>Treasurer</i> , J. HOORMAN, 49th St. near 8th Ave., New York.
<i>V.-Pres.</i> , J. McNALLY, 85th St. and 3d Ave., " "	<i>Comm.</i> , J. WILLIAMS, 804 8th Avenue, " "
<i>Secretary</i> , F. McCUTCHEON, " Newburg.	<i>Captain</i> , E. THOMPSON, 907 8th Avenue, " "

ORGANIZATION.

Organized, March 21, 1870.	Honorary Members allowed by the Constitution, 20
Annual Meetings for Election of Officers, First Monday in January.	Active Members Enrolled, Nov. 30, 1870, 25
Monthly Meetings, First of each Month.	Honorary Members, November 30, 1870, 0
Active Members allowed by the Constitution, 40	Total Membership, Nov. 30, 1870, 25

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSE is on the Hudson River, from 49th Street to Fort Lee—five and a half miles.

OUTFIT.

THE BOAT-HOUSE is located at foot of 49th Street. Invested value of boat-house, lands, etc. (no report).

BOATS. —OUTRIGGER SHELLS, three singles, two doubles, one pair-oared, one four-oared, one six-oared,	8
OUTRIGGER GIGS, three pair-sculs, two two-pair sculs, one pair-oared, one four-oared, one six-oared,	8
INRIGGER GIGS, CUTTERS, AND BARGES,	0
MISCELLANEOUS, three New York working-boats, one dingy, one skiff,	5
	21

Invested value of boats and fittings, \$2,650.

Total number of boats,

TOTAL INVESTED VALUES, NOV. 30, 1870 (NOT ESTIMATED).

Friendship Boat Club,

NEW YORK, N. Y.

OFFICERS, JANUARY 17, 1871.

<i>President,</i>	J. B. MORTON, 498 2d Ave.,	New York.	<i>Rec. Sec.,</i>	R. D. McDONNELL, 441 Broadway,	New York.
<i>Vice-President,</i>	W. H. HUGHES, 307 E. 33d St.,	"	<i>Captain,</i>	W. HURLEY, 565 1st Ave.,	"
<i>Treasurer,</i>	W. J. COTTER, Jr., 491 1st Ave.,	"	<i>Trustees,</i>	{ JAS. S. MURRAY, 279 Pearl Street,	"
<i>Cor. Sec.</i>	{ CHAS. A. LITTERER, care of H.	"		{ THOS. CONNOLLEY, 330 E. 25th St.,	"
	{ Bencke, 24 Barclay Street.	"		{ DANIEL J. SULLIVAN, 391 1st Ave.,	"

ORGANIZATION.

Organized,	March, 1868.	Honorary Members allowed by the Constitution,	no limit.
Annual Meeting for Elec- } tion of Officers,	First Monday in January.	Active Members Enrolled, Nov. 30, 1870,	30
Monthly Meetings,	First Monday in each Month.	Honorary Members, Nov. 30, 1870,	4
Active Members allowed by the Constitution,	40	Total Membership, Nov. 30, 1870,	34

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSE is on the East and Harlem Rivers, from the Boat-House, foot of 28th Street, up the last river, around Blackwall's Island, and return. The course for racing is from two to five miles—seven miles.

OUTFIT.

THE BOAT-HOUSE is located on the East River, foot of 28th Street. Invested value of boat-house, lands, etc., \$5,000.

BOATS. —OUTRIGGER SHELLS, one single, one six-oared,	-	-	-	-	-	2
OUTRIGGER GIGS, two six-oared,	-	-	-	-	-	2
INRIGGER GIGS, CUTTERS, AND BARGES,	-	-	-	-	-	0
MISCELLANEOUS, seven New York working-boats, one wherry,	-	-	-	-	-	8

Invested values of boats and fittings, \$2,000.

Total number of boats, 12

TOTAL INVESTED VALUES, NOV. 30, 1870, \$7,000.

Gramercy Boat Club,

HARLEM, N. Y.

OFFICERS, DECEMBER 24, 1870.

<i>Vice-President,</i>	S. AUGUSTUS SHUTE,	New York City.	<i>President,</i>	E. J. ATKINSON, New York City.
<i>Secretary,</i>	CHARLES R. BRINKERHOFF,	"	<i>Commodore,</i>	CHAS. ZACHMAN, 50 Beaver St., New York City.
<i>Treasurer,</i>	JAS. H. CLINCH,	"	<i>Captain,</i>	H. M. HOWELL, 613 Broadway,
			<i>Lieutenant,</i>	C. E. KIMBARK,

ORGANIZATION.

Organized,	October 10, 1869.	Honorary Members allowed by the Constitution,	no limit.
Annual Meeting for Election } of Officers,	First Thursday in January.	Active Members Enrolled, Nov. 30, 1870,	37
Monthly Meetings,	First Thursday in each Month.	Honorary Members, Nov. 30, 1870,	20
Active Members allowed by the Constitution,	no limit.	Total Membership, Nov. 30, 1870,	57

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSE is on the Harlem River, from the Club-House, up the river, three and five miles.

OUTFIT.

THE BOAT-HOUSE is located on the Harlem River, at the head of 4th Avenue, near 133d Street. A floating house, 45 feet by 75 feet. Invested value of boat-house, lands, etc., \$9,050.

BOATS. —OUTRIGGER SHELLS, one single, one double, one four-oared,	-	-	-	-	-	3
OUTRIGGER GIGS, one pair-sculls, one two-pair sculls, one four-oared, one six-oared,	-	-	-	-	-	4
INRIGGER GIGS,	-	-	-	-	-	0
CUTTERS AND BARGES, one four-oared, one eight-oared,	-	-	-	-	-	2
MISCELLANEOUS, four New York working-boats, one wherry,	-	-	-	-	-	5

Invested values of boats and fittings, \$3,500.

Total number of boats, 14

TOTAL INVESTED VALUES, NOV. 30, 1870, \$12,550.

Gulick Boat Club,

NEW YORK, N. Y.

OFFICERS, JANUARY 22, 1871.

<i>President</i> , HON. MICHAEL NORTON, City Hall, New York.	<i>Cor. Sec.</i> , W. H. INNET, Boat-House at foot of Christopher Street, New York.
<i>Vice-Pres.</i> , JOHN KELLY, " " "	<i>Rec. Sec.</i> , GEO. L. DEVOE, Boat-House at foot of Christopher Street, " "
<i>Treasurer</i> , GEO. SCHULTZ, " " "	
<i>Captain</i> , HENRY TRUAX, Sheriff's Office, City Hall, " " "	

ORGANIZATION.

Organized, June 9, 1859.	Honorary Members allowed by the Constitution, no limit.
Annual Meetings for Election of Officers, First Tuesday in January.	Active Members Enrolled, Nov. 30, 1870, 60
Monthly Meetings, First Tuesday in each Month.	Honorary Members, Nov. 30, 1870, 25
Active Members allowed by the Constitution, no limit.	Total Membership, Nov. 30, 1870, 85

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Hudson River, from Pleasant Valley, one and a half miles down the river and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located at the foot of Christopher Street, New York. Invested value, \$3,500.

BOATS. —OUTRIGGER SHELLS, two singles, two six-oared,	-	-	-	-	-	4
OUTRIGGER GIGS, one pair-oared, one six-oared,	-	-	-	-	-	2
INRIGGER GIGS,	-	-	-	-	-	0
CUTTERS AND BARGES, one six-oared, one eight-oared,	-	-	-	-	-	2
MISCELLANEOUS, ten New York working-boats,	-	-	-	-	-	10
						18

Invested values of boats and fittings, \$2,975.

Total number of boats, 18

TOTAL INVESTED VALUES, NOV. 30, 1870, \$6,475.

Nassau Boat Club,

NEW YORK, N. Y.

OFFICERS, NOVEMBER 30, 1870.

<i>Pres.</i> , Gen. LLOYD ASPINWALL, 54 South St., New York.	<i>Coxswain</i> , JASON H. MILLER, 160 W. 22d St., New York.
<i>V.-Pres.</i> , JAS. F. FERGUSON, 203 Fourth Ave., " "	<i>Trustees</i> , { GEORGE H. HENRY, " "
<i>Sec.</i> , LINDSEY WATSON, 24 Nassau St., " "	{ J. B. WHITE, " "
<i>Treas.</i> , FRANK M. CONDIT, 133 William St., " "	{ G. S. F. JONES, " "
<i>Capt.</i> , JOHN C. BARCOCK, 156 E. 129th St., " "	{ F. G. BROWN, " "

ORGANIZATION.

Incorporated, June 28, 1868.	Organized, Nov. 19, 1867.	Honorary Members allowed by the Constitution, 25
Annual Meeting for Election of Officers, Second Wednesday in Nov.	Active Members Enrolled, Nov. 30, 1870, 165	Honorary Members, Nov. 30, 1870, 5
Monthly Meetings, Second Wednesday in each Month.	Total Membership, Nov. 30, 1870, 170	
Active Members allowed by the Constitution, 250		

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSES are as follows: On the Hudson River, from foot of 71st Street to foot of 131st Street, three miles straight away; on the Harlem River, from Boat-House foot of 130th Street, up river, three and five miles.

OUTFIT.

THE BOAT-HOUSES are located respectively on the Hudson River at the foot of 34th Street and on the Harlem River at 130th Street. Invested value of boat-house, lands, etc., \$12,500.

BOATS. —OUTRIGGER SHELLS, twenty-one singles, five doubles, one pair-oared, three four-oared, two six-oared,	32
OUTRIGGER GIGS, two pair-sculls, two two-pair sculls, one pair-oared, one four-oared, one six-oared,	7
INRIGGER GIGS, two four-oared,	2
CUTTERS AND BARGES, one eight-oared,	1
MISCELLANEOUS, two New York working-boats, two dingys, six wherries,	10
	52

Invested values of boats and fittings, \$8,225.

Total number of boats, 52

TOTAL INVESTED VALUES, NOV. 30, 1870, \$20,725.

Waverley Boat Club,

NEW YORK, N. Y.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	GEO. W. FORTMEYER,	New York.	<i>Treasurer,</i>	W. E. STARR,	New York.
<i>Vice-President,</i>	JOHN O. NEIL,	"	<i>Captain,</i>	BENJAMIN F. BRADY, 53 South	"
<i>Secretary,</i>	THOS. VAN LOAN,	"		Washington Square,	"

ORGANIZATION.

Organized,	July 22, 1859.	Honorary Members allowed by the Constitution,	no limit.
Annual Meeting for Election of Officers,	Second Wednesday in January.	Active Members Enrolled, Nov. 30, 1870,	22
Monthly Meetings,	Second Wednesday in each Month.	Honorary Members, Nov. 30, 1870,	18
Active Members allowed by the Constitution,	24	Total Membership, Nov. 30, 1870,	40

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSE is on the Hudson River, from New York to Pleasant Valley, New Jersey, seven miles, used for pleasure rowing only.

OUTFIT.

THE BOAT-HOUSE is located at the foot of Christopher Street, New York. Invested value of boat-house, lands, etc., \$2,000.

BOATS. —OUTRIGGER SHELLS,	-	-	-	-	-	0
OUTRIGGER GIGS, two pair-oared, one four-oared,	-	-	-	-	-	3
INRIGGER GIGS,	-	-	-	-	-	0
CUTTERS AND BARGES, one eight-oared,	-	-	-	-	-	1
MISCELLANEOUS, two New York working-boats,	-	-	-	-	-	2

Invested values of boats and fittings, \$1,400.

Total number of boats, 6

TOTAL INVESTED VALUES, NOV. 30, 1870, \$3,400.

Neptune Rowing Association,

WEST NEW BRIGHTON, S. I., NEW YORK.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	G. W. WASHBURN, care Randel, Barmore & Co.,	New York.	<i>Treasurer,</i>	A. M. SHEGOGUE,	West New Brighton, S. I.
<i>Vice-Pres.,</i>	B. S. BECKWITH,	Port Richmond, S. I.	<i>Captain,</i>	W. R. WEMPLE,	69 Liberty St., New York.
<i>Secretary,</i>	JOHN W. EDWARDS,	69 Liberty St., New York.			

ORGANIZATION.

Organized,	October, 1863.	Honorary Members allowed by the Constitution,	no limit.
Annual Meeting for Election of Officers,	First Wednesday in January.	Active Members Enrolled, Nov. 30, 1870,	32
Monthly Meetings,	First Wednesday in each Month.	Honorary Members, Nov. 30, 1870,	10
Active Members allowed by the Constitution,	50	Total Membership, Nov. 30, 1870,	42

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSE is on the Kill Von Kull, from West New Brighton Landing to Elm Park Dock, one and a half miles and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located on the Shore Road, near West New Brighton Landing. Invested value of boat-house, lands, etc., \$4,000.

BOATS. —OUTRIGGER SHELLS, three singles, one six-oared,	-	-	-	-	-	4
OUTRIGGER GIGS, one two-pair sculls, one six-oared,	-	-	-	-	-	2
INRIGGER GIGS, one four-oared,	-	-	-	-	-	1
CUTTERS AND BARGES, one four-oared,	-	-	-	-	-	1
MISCELLANEOUS, four New York working-boats, one wherry,	-	-	-	-	-	5

Invested values of boats and fittings, \$2,000.

Total number of boats, 13

TOTAL INVESTED VALUES, NOV. 30, 1870, \$6,000.

Shatemuc Boat Club,

POUGHKEEPSIE, NEW YORK.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	TRISTAM COFFIN,	Poughkeepsie.	<i>Secretary,</i>	GEO. S. BURNAP,	Poughkeepsie.
<i>Vice-President,</i>	WILLIAM C. HILL,	"	<i>Treasurer,</i>	ROBERT SANFORD,	"

ORGANIZATION.

Organized,	July 10, 1867.	Honorary Members allowed by the Constitution,	no limit.
Annual Meeting for Elec- tion of Officers,	Second Tuesday in January.	Active Members Enrolled, Nov. 30, 1870,	43
Monthly Meetings,	At the call of the President.	Honorary Members, Nov. 30, 1870,	21
Active Members allowed by the Constitution,	50	Total Membership, Nov. 30, 1870,	64

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSE is on the Hudson River, from the Boat-House, up the river to a stake boat, one mile and one and a half miles and return—two and three miles.

OUTFIT.

THE BOAT-HOUSE is located at the north end of Ferry Dock. Invested value of boat-house, lands, etc., \$4,000.

BOATS. —OUTRIGGER SHELLS, ten singles, three doubles,	-	-	-	-	-	13
OUTRIGGER GIGS, one one-pair sculls, one two-pair sculls,	-	-	-	-	-	2
INRIGGER GIGS,	-	-	-	-	-	0
CUTTERS AND BARGES, one four-oared,	-	-	-	-	-	1
MISCELLANEOUS, ten light and heavy row-boats, one canoe,	-	-	-	-	-	11

Invested values of boats and fittings, \$3,150.

Total number of boats, 27

TOTAL INVESTED VALUES, NOV. 30, 1870, \$7,150.

Aegia Rowing Club,

ROCHESTER, NEW YORK.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	C. C. GIFFORD, Elwood Block,	Rochester.	<i>Secretary,</i>	W. S. SHERMAN, First Nat. Bank,	Rochester.
<i>Vice-Pres.,</i>	W. R. STACE, 12 Buffalo St.,	"	<i>Commodore,</i>	H. H. EGERTON (Fleet Commodore),	"
<i>Treasurer,</i>	H. P. LANGWORTHY, City Treas. Office,	"	<i>Captain,</i>	A. B. WOOL, 23 Palmer's Block,	"

ORGANIZATION.

Organized,	May 3, 1869.	Honorary Members allowed by the Constitution,	none.
Annual Meeting for Elec- tion of Officers,	Fourteenth of April.	Active Members Enrolled, Nov. 30, 1870,	20
Monthly Meetings,	At the call of the President.	Honorary Members, Nov. 30, 1870,	0
Active Members allowed by the Constitution,	no limit.	Total Membership, Nov. 30, 1870,	20

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Genesee River, below the Lower Falls, commencing at the Boat-House, thence to the Village of Charlotte, four miles and return—eight miles.

OUTFIT.

THE BOAT-HOUSE is located at the foot of Buell Avenue. Invested value of boat-house, lands, etc., \$100.

BOATS. —OUTRIGGER SHELLS,	-	-	-	-	-	0
OUTRIGGER GIGS, one six-oared,	-	-	-	-	-	1
INRIGGER GIGS,	-	-	-	-	-	0
CUTTERS AND BARGES, one four-oared,	-	-	-	-	-	1
MISCELLANEOUS, one wherry,	-	-	-	-	-	1

Invested values of boats and fittings, \$200.

Total number of boats, 3

TOTAL INVESTED VALUES, NOV. 30, 1870, \$300.

Atlantic Boat Club,

ROCHESTER, NEW YORK.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	JAS. F. COCHRANE, . . .	Rochester.	<i>Treasurer,</i>	JAMES FAHEY, . . .	Rochester.
<i>Vice-President,</i>	OWEN F. FEE, . . .	"	<i>Commodore,</i>	H. H. EGERTON (Fleet Comm.),	"
<i>Secretary,</i>	JOHN H. WILSON, . . .	"	<i>Captain,</i>	BERNARD DUNN, . . .	"

ORGANIZATION.

Organized,	September 7, 1869.	Honorary Members allowed by the Constitution, no report.
Annual Meeting for Elec- }	First of September.	Active Members Enrolled, Nov. 30, 1870,
tion of Officers, }		Honorary Members, Nov. 30, 1870,
Monthly Meetings,	First Tuesday in each Month.	
Active Members allowed by the Constitution,	14	Total Membership, Nov. 30, 1870,

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Genesee River, commencing at the Dam opposite the jail, thence to a point one mile up the river and return—two miles.

OUTFIT.

THE BOAT-HOUSE is located on the east bank of the Genesee River, opposite the Erie R. R. Depot. Invested value of boat-house, lands, etc., \$300.

BOATS —OUTRIGGER SHELLS, one six-oared lapstreak, - - - - -	1
OUTRIGGER AND INRIGGER GIGS, - - - - -	0
CUTTERS AND BARGES, - - - - -	0
MISCELLANEOUS, - - - - -	0

Invested values of boats and fittings, \$200.

Total number of boats, - 1

TOTAL INVESTED VALUES, NOV. 30, 1870, \$500.

Excelsior Rowing Club,

ROCHESTER, NEW YORK.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	RICHARD GALLAGHER, . . .	Rochester.	<i>Secretary,</i>	A. MOSER, . . .	Rochester.
<i>Vice-President,</i>	W. C. HARRIS, . . .	"	<i>Treasurer,</i>	ROBERT HALL, . . .	"

ORGANIZATION.

Organized,	September 12, 1870.	Honorary Members allowed by the Constitution,
Annual Meeting for Elec- }	Twelfth of September.	Active Members Enrolled, Nov. 30, 1870,
tion of Officers, }		Honorary Members, Nov. 30, 1870,
Monthly Meetings,	First Tuesday in each Month.	
Active Members allowed by the Constitution,	21	Total Membership, Nov. 30, 1870,

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Genesee River, commencing at the Dam, thence one mile up the river and return—two miles.

OUTFIT.

THE BOAT-HOUSE is located at the foot of Alexander Street. Invested value of boat-house, lands, etc., \$150.

BOATS. —OUTRIGGER SHELLS, one single, one double, one pair-oared, two four-oared, - - - - -	5
OUTRIGGER GIGS, one six-oared, - - - - -	1
INRIGGER GIGS, one pair-oared, - - - - -	1
CUTTERS AND BARGES, - - - - -	0
MISCELLANEOUS, - - - - -	0

Invested values of boats and fittings, \$400.

Total number of boats, - 7

TOTAL INVESTED VALUES, NOV. 30, 1870, \$550

Flour City Boat Club,

ROCHESTER, NEW YORK.

OFFICERS, NOVEMBER 30, 1870.

<i>President and</i>	H. BARNARD, JR.,	Rochester.	<i>Vice-President,</i>	THOMAS F. TONE,	Rochester.
<i>1st Coxswain,</i>			<i>Secretary and</i>		
<i>2d</i>	J. L. TOWNSEND,	"	<i>Treasurer,</i>	FREDERICK P. ALLEN,	"

ORGANIZATION.

Organized,	July 31, 1869.	Honorary Members allowed by the Constitution,	no limit.
Annual Meeting for Election of	Thirty-first of July.	Active Members Enrolled, Nov. 30, 1870,	14
Officers,		Honorary Members, Nov. 30, 1870,	0
Monthly Meetings,	First Saturday in each Month.		—
Active Members allowed by the Constitution,	20	Total Membership, Nov. 30, 1870,	14

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Genesee River, from a point on the river opposite the Erie Railway Depot to the Dam of the Water Works Co., one mile and return—two miles.

OUTFIT.

THE BOAT-HOUSE is located at the foot of Clarissa Street Bridge, and is rented.

BOATS. —OUTRIGGER SHELLS, one four-oared,	-	-	-	-	-	2
OUTRIGGER GIGS,	-	-	-	-	-	0
INRIGGER GIGS,	-	-	-	-	-	0
CUTTERS AND BARGES,	-	-	-	-	-	0
MISCELLANEOUS,	-	-	-	-	-	0

Invested values of boats and fittings, \$250.

Total number of boats, 2

TOTAL INVESTED VALUES, NOV. 30, 1870, \$250.

Genesee Boat Club,

ROCHESTER, NEW YORK.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	(none reported.)	<i>Treasurer,</i>	JOHN McMULLEN,	Rochester.
<i>Vice-President,</i>	(none reported.)	<i>Captain,</i>	BENJAMIN RIDLEY,	"
<i>Secretary,</i>	RICHARD T. FLEMING,	<i>Coxswain,</i>	DARIUS COLE,	"

ORGANIZATION.

Organized,	June, 1870.	Honorary Members allowed by the Constitution,	0
Annual Meeting for Election of Officers	First Monday in June.	Active Members Enrolled, Nov. 30, 1870,	16
Monthly Meetings,	First Saturday in each Month.	Honorary Members, Nov. 30, 1870,	0
Active Members allowed by the Constitution,	20	Total Membership, Nov. 30, 1870,	16

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Genesee River, commencing at the Dam opposite Bronson's Lumber Yard, thence to a point called the Slaughter-House, south of Clarissa Street Bridge, one mile and return—two miles.

OUTFIT.

THE BOAT-HOUSE is located on Clarissa Street, northwest corner of Clarissa Street Bridge, and is rented.

BOATS. —OUTRIGGER SHELLS, one four-oared,	-	-	-	-	-	1
OUTRIGGER AND INRIGGER GIGS, CUTTERS, BARGES, AND MISCELLANEOUS,	-	-	-	-	-	0

Invested values of boats and fittings, \$150.

Total number of boats, 1

TOTAL INVESTED VALUES, NOV. 30, 1870, \$150.

Olympian Boat Club,

ROCHESTER, NEW YORK.

OFFICERS, NOVEMBER 30, 1870.

President, WM. H. CONE, Rochester.
Vice-President, W. A. WETMORE, . . . Rochester.
Secretary, CHAS. SUMNER, 14 S. Clinton St., " *Treasurer*, CHAS. A. FINDING, . . . Rochester.
Captain, WM. A. WETMORE, . . . "

ORGANIZATION.

Organized, . . . September 7, 1869. Honorary Members allowed by the Constitution, no limit.
 Annual Meeting for Election of Officers, } Twentieth of September. Active Members Enrolled, Nov. 30, 1870, . . . 8
 Monthly Meetings, Third Thursday in each Month. Honorary Members, Nov. 30, 1870, . . . 0
 Active Members allowed by the Constitution, . . . 25 Total Membership, Nov. 30, 1870, . . . 8

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Genesee River, from the River Dam to Waste-Weir, one mile and return—two miles.

OUTFIT.

THE BOAT-HOUSE is located north of Clarissa Street Bridge. Invested value of boat-house, lands, etc. (no estimate given).

BOATS.—OUTRIGGER SHELLS, one single, one four-oared, - - - - - 2
 OUTRIGGER GIGS, - - - - - 0
 INRIGGER GIGS, - - - - - 0
 CUTTERS AND BARGES, - - - - - 0
 MISCELLANEOUS, - - - - - 0

Invested values of boats and fittings, \$200. Total number of boats, - 2

TOTAL INVESTED VALUES, NOV. 30, 1870, \$200.

Riverside Rowing Club,

ROCHESTER, NEW YORK.

OFFICERS, NOVEMBER 30, 1870.

President, WILLIAM R. OATLEY, 74 Mill Street, Rochester.
Vice-President, CURTIS H. HASKINS, . . . Rochester.
Secretary, MASON BULKLEY, . . . " *Commodore of Fleet*, H. H. EDGERTON, . . . Rochester.
Treasurer, ISAAC WILE, Sr., . . . " *Captain*, GEO. C. SPENCER, . . . "
Trustee, THERON E. PARSONS, . . . "

ORGANIZATION.

Organized, . . . September 1, 1869. Honorary Members allowed by the Constitution, no limit.
 Annual Meeting for Election of Officers, } First Thursday in September. Active Members Enrolled, Nov. 30, 1870, . . . 19
 Monthly Meetings, First Thursday in each Month. Honorary Members, Nov. 30, 1870, . . . 1
 Active Members allowed by the Constitution, . . . no limit. Total Membership, Nov. 30, 1870, . . . 20

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSE is on the Genesee River, commencing at Upper Dam, thence one mile up the river and return—two miles.

OUTFIT.

THE BOAT-HOUSE is located at the foot of Glasgow Street. Invested value of boat-house, lands, etc., \$400.

BOATS.—OUTRIGGER SHELLS, two singles, one four-oared, - - - - - 3
 OUTRIGGER GIGS, one pair-sculs, one four-oared, - - - - - 2
 INRIGGER GIGS, one pair-oared, - - - - - 1
 CUTTERS, BARGES, AND MISCELLANEOUS, - - - - - 0

Invested values of boats and fittings, \$520. Total number of boats, - 6

TOTAL INVESTED VALUES, NOV. 30, 1870, \$920.

Weebootuck Boat Club,

SOUTH AMENIA, NEW YORK.

OFFICERS, NOVEMBER 30, 1870.

<i>President</i> , D. C. BUANS, South America.					
<i>Vice-Pres.</i> ,	PHILO CLINE, . . .	South America.	<i>Commodore</i> ,	CHARLES CLINE, . . .	South America.
<i>Secretary</i> ,	H. N. WINCHESTER, . .	"	<i>Captain</i> ,	THOMAS HEDGES, . .	"
<i>Treasurer</i> ,	JUSTUS P. REYNOLDS, . .	"	<i>Rowing Master</i> ,	THOMAS J. SWIFT, . .	"

ORGANIZATION.

Organized, July 1, 1870.			
Annual Meeting for Election of Officers,	no report.	Active Members Enrolled, Nov. 30, 1870,	8
Monthly Meetings,	no report.	Honorary Members, Nov. 30, 1870,	0
Active Members allowed by the Constitution,	8		
Honorary " " " " " "	3	Total Membership, Nov. 30, 1870,	8

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Weebootuck River, from Belding's Dam to Swift's Rock, half a mile and return—one mile.

OUTFIT.

THE BOAT-HOUSE is located at Hedges' Landing. Invested value of boat-house, lands, etc. (no estimate given).

BOATS. —OUTRIGGER SHELLS AND GIGS, AND INRIGGER GIGS,	0
CUTTERS AND BARGES, two pair-oared,	2
MISCELLANEOUS,	0
	—
	2

Invested values of boats and fittings, \$150.

TOTAL INVESTED VALUES, NOV. 30, 1870, \$150.

Laureate Boat Club,

TROY, NEW YORK.

OFFICERS, NOVEMBER 30, 1870.

<i>President</i> , EZRA R. VAIL, . . .	Troy.	<i>Secretary and</i>			
<i>Captain</i> , EDWARD M. GREEN, care H. Green & Son, . . .	"	<i>Treasurer</i> ,	FRED. W. GALE, 11 First Street,		Troy.

ORGANIZATION.

Organized, . . . June 19, 1866.			
Annual Meeting for Election of Officers,	Second Tuesday in April.	Honorary Members allowed by the Constitution,	no limit.
Monthly Meetings,	Second Tuesday in each Month.	Active Members Enrolled, Nov. 30, 1870,	29
Active Members allowed by the Constitution,	no limit.	Honorary Members, Nov. 30, 1870,	3
			—
		Total Membership, Nov. 30, 1870,	32

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSE is on the Hudson River, above the State Dam, from Kemp, Carr & Co.'s Dock, one and a half miles up the river to the third half-mile post, and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located at the foot of Turner's Lane. Invested values of boat-house, lands, etc., \$7,000.

BOATS. —OUTRIGGER SHELLS, twelve singles, six doubles, one four-oared,	19
OUTRIGGER AND INRIGGER GIGS, CUTTERS, BARGES, AND MISCELLANEOUS,	0
	—
	19

Invested values of boats and fittings, \$3,100.

TOTAL INVESTED VALUES, NOV. 30, 1870, \$10,100.

Ulysses Boat Club,

TROY, NEW YORK.

OFFICERS, JANUARY 10, 1871.

President, ARTEMAS W. FAY, 155 Vale Avenue, Troy, N. Y.
Vice-President, T. W. HARRIS, Troy. | *Treasurer*, E. WATERS, 303 River Street, Troy.
Secretary, JAMES STEAD, care R. Wade, " | *Captain*, ROBERT HATCHMAN, ".

ORGANIZATION.

Organized, April 27, 1868.	Honorary Members allowed by the Constitution, no report.
Annual Meeting for Election of Officers, Second Tuesday in January.	Active Members Enrolled, Nov. 30, 1870, 10
Monthly Meetings, Second Tuesday in each Month.	Honorary Members, Nov. 30, 1870, 0
Active Members allowed by the Constitution, 25	Total Membership, Nov. 30, 1870, 10

THE CONSTITUTION AND BY-LAWS ARE PRINTED

THE COURSE is on the Hudson River, above the State Dam, from the first half-mile post at Hospital Dock to the foot of Richard Street, Lansingburg, one and a half miles and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located on River Street, Lansingburg, near Brown & Co.'s Valve Works. Invested value of boat-house, lands, etc., \$600.

BOATS. —OUTRIGGER SHELLS, nine singles, one double,	10
OUTRIGGER GIGS, one one-pair sculls,	1
INRIGGER GIGS,	0
CUTTERS AND BARGES,	0
MISCELLANEOUS, one skiff, one canoe,	2

Invested values of boats and fittings, \$1,500.	Total number of boats, 13
TOTAL INVESTED VALUES, NOV. 30, 1870, \$2,100.	

Union Springs Amateur Rowing Club

UNION SPRINGS, NEW YORK.

OFFICERS, NOVEMBER 30, 1870.

President, CHARLES E. COURTNEY, Union Springs, N. Y.
Vice-President, J. MCGRAW, Union Springs, N. Y. | *Treasurer*, WM. J. WINEGAR, Union Springs, N. Y.
Secretary, N. S. COLLINS, " | *Captain*, HUGH CONNOR, ".

ORGANIZATION.

Organized, February 22, 1870.	Honorary Members allowed by the Constitution, no report.
Annual Meeting for Election of Officers, not given.	Active Members Enrolled, Nov. 30, 1870, 20
Monthly Meetings, not given.	Honorary Members, Nov. 30, 1870, 15
Active Members allowed by the Constitution, no report.	Total Membership, Nov. 30, 1870, 35

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on Cayuga Lake, from steamboat landing, up the lake one mile and return—two miles.

OUTFIT.

THE BOAT-HOUSE is located at the foot of Factory Street. Invested value of boat-house, lands, etc., \$100.

BOATS. —OUTRIGGER SHELLS, one single, two doubles,	3
OUTRIGGER GIGS,	0
INRIGGER GIGS,	0
CUTTERS AND BARGES,	0
MISCELLANEOUS, five New York working-boats, one skiff,	6

Invested values of boats and fittings, \$400.	Total number of boats, 9
TOTAL INVESTED VALUES, NOV. 30, 1870, \$500.	

Clinton Boat Club,

U. S. MILITARY ACADEMY, WEST POINT, NEW YORK.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	Cadet JAS. ALLEN,	West Point.	<i>Secretary,</i>	Cadet CHARLES A. BOOTH,	West Point.
<i>Vice-President,</i>	Cadet THOS. B. NICHOLS,	"	<i>Treasurer,</i>	Cadet RICHARD T. YEATMAN,	"

ORGANIZATION.

Organized,	May 4, 1869.	Honorary Members allowed by the Constitution, no report.
Annual Meeting for Election of Officers,	Fourth of May.	Active Members Enrolled, Nov. 30, 1870,
Monthly Meetings,	At the call of the President.	Honorary Members, Nov. 30, 1870,
Active Members allowed by the Constitution,	Limited to the Members of the Class of '72.	Total Membership, Nov. 30, 1870,
		13
		0
		13

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Hudson River, from South Dock down the river to Flag Boat, opposite Highland Falls, one and a half miles and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located at the foot of Chain Battery Walk, near Old North Dock. The same boat-house is used by all the clubs. Invested value of boat-house, lands, etc., \$800.

BOATS. —OUTRIGGER SHELLS, one six-oared,	-	-	-	-	-	-	-	-	1
OUTRIGGER GIGS,	-	-	-	-	-	-	-	-	0
INRIGGER GIGS,	-	-	-	-	-	-	-	-	0
CUTTERS AND BARGES,	-	-	-	-	-	-	-	-	0
MISCELLANEOUS,	-	-	-	-	-	-	-	-	0

Invested values of boats and fittings, \$250.

Total number of boats,

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,050.

Una Boat Club,

U. S. MILITARY ACADEMY, WEST POINT, NEW YORK.

OFFICERS, NOVEMBER 30, 1870.

	<i>President,</i>	Cadet JAS. R. WASSON,	West Point.
<i>Vice-President,</i>	Cadet WALLACE MOTT,	West Point.	<i>Treasurer,</i>
<i>Secretary,</i>	Cadet ANDREW H. RUSSELL,	"	<i>Captain,</i>
			Cadet RICHARD H. POILLON,
			FREDERICK SCHWATKA,

ORGANIZATION.

Organized,	April 15, 1868.	Honorary Members allowed by the Constitution,
Annual Meeting for Election of Officers,	no report.	Active Members Enrolled, Nov. 30, 1870,
Monthly Meetings,	no regular time.	Honorary Members, Nov. 30, 1870,
Active Members allowed by the Constitution,	Limited to the Members of the Class of '71.	Total Membership, Nov. 30, 1870,
		0
		44
		0
		44

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Hudson River, from South Dock down the river to Flag Boat opposite Highland Falls, one and a half miles, and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located at the foot of Chain Battery Walk, near Old North Dock. All the clubs use same house. Invested value of boat-house, lands, etc. (see report of Clinton Boat Club).

BOATS. —OUTRIGGER SHELLS, two singles, one four-oared, one six-oared,	-	-	-	-	4
OUTRIGGER AND INRIGGER GIGS, CUTTERS, AND BARGES,	-	-	-	-	0
MISCELLANEOUS, one single New York working-boat, one double New York working-boat,	-	-	-	-	2

Invested values of boats and fittings, \$1,000.

Total number of boats,

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,000.

Undine Boat Club,

U. S. MILITARY ACADEMY, WEST POINT, NEW YORK.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	THOS. N. BAILEY, West Point.				<i>S. N. HOLMES, West Point.</i>
<i>Vice-President,</i>	G. F. HARRISON, "				<i>Q. O. M. GILMORE, "</i>
<i>Secretary,</i>	H. R. McCALMONT, "	<i>Executive</i>			<i>EDWARD CASEY, "</i>
<i>Treasurer,</i>	CHARLES M. O'CONNOR, "	<i>Committee,</i>			<i>L. W. SMITH, "</i>
<i>Captain,</i>	GEORGE O. EATON, "				<i>GEORGE L. HOYLE, "</i>

ORGANIZATION.

Organized, April 22, 1870.	Honorary Members allowed by the Constitution, none.
Annual Meeting for Election, Twenty-second of April.	Active Members Enrolled, Nov. 30, 1870, 57
Monthly Meetings, none.	Honorary Members, Nov. 30, 1870, 0
Active Members allowed } Limited to Members of the	
by the Constitution, } Class of '73.	Total Membership, Nov. 30, 1870, 57

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Hudson River, from South Dock, down the river to flag boat opposite Highland Falls, one and a half miles and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located at the foot of Chain Battery Walk, near old North Dock. (All the clubs use same house.) Invested value of boat-house, lands, etc. (see report of Clinton B. C.)

BOATS. —OUTRIGGER SHELLS, two six oared,	2
OUTRIGGER GIGS, one four-oared,	1
INRIGGER GIGS, CUTTERS, BARGES, AND MISCELLANEOUS,	0
	—

Invested values of boats and fittings, \$600.	Total number of boats, 3
TOTAL INVESTED VALUES, NOV. 30, 1870, \$600.	

Palisade Boat Club,

YONKERS, NEW YORK.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	E. A. ROLLINS, Yonkers.	<i>Secretary,</i>	J. G. WOODWORTH, Yonkers.
<i>Vice-President,</i>	M. F. ROWE, "	<i>Treasurer,</i>	J. G. P. HOLDEN (<i>Yonkers Gazette</i>), "

ORGANIZATION.

Organized, October 16, 1866.	Honorary Members allowed by the Constitution, no limit.
Annual Meeting for Elec- } Second Tuesday in January.	Active Members Enrolled, Nov. 30, 1870, 20
tion of Officers, }	Honorary Members, Nov. 30, 1870, 15
Monthly Meetings, Second Tuesday in each Month.	
Active Members allowed by the Constitution, no limit.	Total Membership, Nov. 30, 1870, 35

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSE is on the Hudson River, commencing midway between the houses of the Palisade and Vesper Clubs, thence one and a half miles down the river and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located at the foot of Locust Street. Invested value of boat-house, lands, etc., \$1,500.

BOATS. —OUTRIGGER SHELLS AND GIGS,	0
INRIGGER GIGS, three two-pair oared, two four-oared,	5
CUTTERS AND BARGES, one eight-oared,	1
MISCELLANEOUS,	0
	—

Invested values of boats and fittings, \$1,000.	Total number of boats, 6
TOTAL INVESTED VALUES, NOV. 30, 1870, \$2,500.	

Uncle Ben Boat Club,

YONKERS, NEW YORK.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	ELLIOTT MASON, P.O. Box 654,	Yonkers.	<i>Treasurer,</i>	JAS. BOWMAN,	Yonkers.
<i>Vice-President,</i>	S. F. FOSTER,	"	<i>Captain,</i>	T. C. OAKLEY,	"
<i>Secretary,</i>	J. F. HARRIOTT,	"	<i>Coxswain,</i>	JOS. DRUMMON,	"

ORGANIZATION.

Organized,	July, 1868.	Honorary Members allowed by the Constitution,	12
Annual Meeting for Election of Officers,	in July.	Active Members Enrolled, Nov. 30, 1870,	15
Monthly Meetings,	Fifteenth of each Month.	Honorary Members, Nov. 30, 1870,	3
Active Members allowed by the Constitution,	25	Total Membership, Nov. 30, 1870,	18

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Hudson River, from Yonkers Steamboat Wharf to Glenwood, one and a half miles and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located on the Yonkers Steamboat Wharf. Invested value of boat-house, lands, etc. (no estimate given).

BOATS. —OUTRIGGER SHELLS, one single,	-	-	-	-	-	-	1
OUTRIGGER AND INRIGGER GIGS,	-	-	-	-	-	-	0
CUTTERS AND BARGES, one four-oared,	-	-	-	-	-	-	1
MISCELLANEOUS, one double New York working-boat,	-	-	-	-	-	-	1

Invested values of boats and fittings, \$450.

Total number of boats, 3

TOTAL INVESTED VALUES, NOV. 30, 1870, \$450.

Vesper Rowing Association,

GLENWOOD (YONKERS P.O.), NEW YORK.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	WILLIAM MACFARLANE, Yonkers.				
<i>Vice-President,</i>	MR. CARR,	Yonkers.	<i>Treasurer,</i>	JAS. T. HOWLAND,	Yonkers.
<i>Secretary,</i>	CHAS. E. KEELER,	"	<i>Captain,</i>	THOMAS FEARON,	"

ORGANIZATION.

Organized,	August 27, 1867.	Honorary Members allowed by the Constitution, no report.	
Annual Meeting for Election of Officers,	First Tuesday in January.	Active Members Enrolled, Nov. 30, 1870,	24
Monthly Meetings,	First Tuesday in each Month.	Honorary Members, Nov. 30, 1870,	9
Active Members allowed by the Constitution,	no report.	Total Membership, Nov. 30, 1870,	33

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSE is on the Hudson River, from the Boat-House at the foot of Gold Street, one and a half miles south and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located at the foot of Gold Street, Yonkers. Invested value of boat-house, lands, etc., \$4,000.

BOATS. —OUTRIGGER SHELLS, four singles, two four-oared,	-	-	-	-	-	6
OUTRIGGER AND INRIGGER GIGS,	-	-	-	-	-	0
CUTTERS AND BARGES, five pair-oared, four four-oared, one eight-oared,	-	-	-	-	-	10
MISCELLANEOUS, one wherry,	-	-	-	-	-	1

Invested values of boats and fittings, \$3,400.

Total number of boats, 17

TOTAL INVESTED VALUES, NOV. 30, 1870, \$7,400.

Farragut Boat Club,

CINCINNATI, OHIO.

OFFICERS, NOVEMBER 30, 1870.

President, W. B. FOSTER, care Joseph Foster, Cincinnati, O. | *Treasurer*, H. MULLER, P. O. Department, Cincinnati, O.
Secretary, J. M. ANDERSON, 65 West Fourth St., " " | *Captain*, C. A. FOLGER, J. Shellite & Co., " "

ORGANIZATION.

Organized,	April 5, 1866.	Honorary Members allowed by the Constitution, . . .	0
Annual Meeting for Elec- } tion of Officers,	Last Monday in the year.	Active Members Enrolled, Nov. 30, 1870, . . .	9
Monthly Meetings,	Last Monday in each month.	Honorary Members, Nov. 30, 1870, . . .	0
Active Members allowed by the Constitution,	10	Total Membership, Nov. 30, 1870, . . .	9

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Licking and Ohio Rivers. (No specific distance or route given.)

OUTFIT.

THE BOAT-HOUSE is the property of the President, and is used by the club rent-free. Invested value of boat-house, lands, etc. (no estimate).

BOATS. —OUTRIGGER SHELLS,	-	-	-	-	-	-	-	-	-	0
OUTRIGGER GIGS, one six-oared, 32 feet long,	-	-	-	-	-	-	-	-	-	1
INRIGGER GIGS,	-	-	-	-	-	-	-	-	-	0
CUTTERS AND BARGES,	-	-	-	-	-	-	-	-	-	0
MISCELLANEOUS,	-	-	-	-	-	-	-	-	-	0

Invested values of boats and fittings, \$100.

Total number of boats, 1

TOTAL INVESTED VALUES, NOV. 30, 1870, \$100.

Glaucus Barge Club,

CINCINNATI, OHIO.

OFFICERS, NOVEMBER 30, 1870.

President, MR. SPROHUL, Office U. S. Express Co., Cincinnati, Ohio.
Vice-Pres., { J. B. GEST, with Hanks, Cincinnati, Ohio. | *Treasurer*, { H. H. BISHOP, with Wm. Resor & Co., Cincinnati, Ohio.
Secretary, HARRY GARLICK, 41 Baum St., " " | *Captain*, G. P. MARCH, 495 West Ninth St., " "

ORGANIZATION.

Organized,	September, 1869.	Honorary Members allowed by the Constitution, no report.
Annual Meeting for Election of Officers,	Second Tuesday in October.	Active Members Enrolled, Nov. 30, 1870, . . .
Monthly Meetings,	no report.	Honorary Members, Nov. 30, 1870, . . .
Active Members allowed by the Constitution,	no report.	Total Membership, Nov. 30, 1870, . . .

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Ohio River, from Washington Street to Ohmer's Garden or Coal Haven, three miles and return—six miles.

OUTFIT.

THE BOAT-HOUSE is a floating one, anchored off the Little Miami R. R. Co.'s Grain Elevator. Invested value of boat-house, lands, etc., \$75.

BOATS. —OUTRIGGER SHELLS,	-	-	-	-	-	-	-	-	-	0
OUTRIGGER GIGS, one four-oared,	-	-	-	-	-	-	-	-	-	1
INRIGGER GIGS,	-	-	-	-	-	-	-	-	-	0
CUTTERS AND BARGES,	-	-	-	-	-	-	-	-	-	0
MISCELLANEOUS, one skiff,	-	-	-	-	-	-	-	-	-	1

Invested values of boats and fittings, \$350.

Total number of boats, 2

TOTAL INVESTED VALUES, NOV. 30, 1870, \$425.

Pape Barge Club,

CINCINNATI, OHIO.

OFFICERS, NOVEMBER 30, 1870.

President, JAS. MULVEY, Louisville Mail Wharf, Cincinnati. | *Treas.*, WM. STEINHEIM, care Pape Bros. & Co., Cincinnati.
Secretary, KOSSUTH B. HAUSER, 325 Elm St., " | *Captain*, JOS. E. FRANKLIN, " " " "

ORGANIZATION.

Organized,	May 1, 1870.	Honorary Members allowed by the Constitution, no limit.
Annual Meeting for Election of Officers,	First of May.	Active Members Enrolled, Nov. 30, 1870, 16
Monthly Meetings,	First Saturday in each Month.	Honorary Members, Nov. 30, 1870, 6
Active Members allowed by the Constitution, no limit.		Total Membership, Nov. 30, 1870, 22

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Ohio and Licking Rivers. For racing, from Bridge to Bridge, one and a half miles.

OUTFIT.

THE BOAT-HOUSE is located on the Ohio River, at the pier near the Newport and Covington Suspension Bridge. Invested value of boat-house, lands, etc., \$150.

BOATS. —OUTRIGGER SHELLS,	-	-	-	-	-	-	-	-	0
OUTRIGGER GIGS, one four-oared, one six-oared,	-	-	-	-	-	-	-	-	2
INRIGGER GIGS,	-	-	-	-	-	-	-	-	0
CUTTERS AND BARGES,	-	-	-	-	-	-	-	-	0
MISCELLANEOUS, ten skiffs,	-	-	-	-	-	-	-	-	10

Invested values of boats and fittings, \$350.

Total number of boats, 12

TOTAL INVESTED VALUES, NOV. 30, 1870, \$500.

Queen City Boat Club,

CINCINNATI, OHIO.

OFFICERS, NOVEMBER 30, 1870.

President, HENRY MILLER, 5th St. bet. Mill and Stone, Cincinnati. | *Secretary*, G. EVERSMAN, 644 W. Fifth St., Cincinnati.
Captain, W. NICHOL, 660 West Point St., " " " "

ORGANIZATION.

Organized,	January 1, 1869.	Honorary Members allowed by the Constitution, no report.
Meetings for Election of Officers,	Every two years.	Active Members Enrolled, Nov. 30, 1870, 18
Monthly Meetings,	First Monday in each Month.	Honorary Members, Nov. 30, 1870, 0
Active Members allowed by the Constitution, no report.		Total Membership, Nov. 30, 1870, 18

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Ohio River, one and a quarter miles. (No description of direction or limits given.)

OUTFIT.

THE BOAT-HOUSE with its contents was destroyed by fire, in September, 1870; will be rebuilt next season. Invested value of lands, etc. (no report).

BOATS.—None (all destroyed by fire).

Invested values of boats and fittings (none).

TOTAL INVESTED VALUES, NOV. 30, 1870 (NO REPORT).

Sigma Chi Boat Club,

OHIO WESLEYAN UNIVERSITY, DELAWARE, OHIO.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	ARCHD. LYBRAND, . . .	Delaware.	<i>Purser,</i>	I. K. DAVIS, . . .	Delaware.
<i>Vice-President,</i>	CHAS. JONES, . . .	"	<i>Coxswain, 1st Crew,</i>	I. K. DAVIS, . . .	"
<i>Secretary,</i>	E. B. BAUDER, . . .	"	<i>" 2d "</i>	R. F. HURLBUTT, . . .	"

ORGANIZATION.

Organized,	April 9, 1870.	Honorary Members allowed by the Constitution, no limit.
Annual Meetings for Elec- } tion of Officers, } Monthly Meetings,	Third Saturday in September. no report.	Active Members Enrolled, Nov. 30, 1870, 21 Honorary Members, Nov. 30, 1870, 0
Active Members allowed by the Constitution,	no limit.	Total Membership, Nov. 30, 1870, 21

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Olentangy Creek, from the Dam to within 50 yards of a Foot-Bridge crossing the river. (No report of distance given.)

OUTFIT.

THE BOAT-HOUSE is to be built the coming season on the Olentangy, foot of ——— Street. Invested value of boat-house, lands, etc. (no report).

BOATS. —OUTRIGGER SHELLS, OUTRIGGER AND INRIGGER GIGS, - - - - -	0
CUTTERS AND BARGES, one four-oared barge (30 feet long, 36 inches wide), - - - - -	1
MISCELLANEOUS, - - - - -	0

Invested values of boats and fittings, \$100.

Total number of boats, - 1

TOTAL INVESTED VALUES, NOV. 30, 1870, \$100.

Dardine Boat Club,

MARTIN'S FERRY, BELMONT COUNTY, OHIO.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	J. H. SWEENEY, . . .	Martin's Ferry.	<i>Treasurer,</i>	THOMAS CHARLTON, . . .	Martin's Ferry.
<i>Vice-President,</i>	J. C. HANES, . . .	"	<i>Commodore,</i>	A. EINN, . . .	"
<i>Secretary,</i>	P. BROCKS, . . .	"	<i>Captain,</i>	JAMES CRAIG, . . .	"

ORGANIZATION.

Organized,	October 30, 1867.	Honorary Members allowed by the Constitution, no limit.
Annual Meeting for Election } of Officers, } Monthly Meetings,	Thirtieth of October. Last Saturday in each Month.	Active Members Enrolled, Nov. 30, 1870, 50 Honorary Members, November 30, 1870, 0
Active Members allowed by the Constitution,	50	Total Membership, Nov. 30, 1870, 50

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Ohio River, from the Excelsior Glass Works to Suspension Bridge—one and a half miles.

OUTFIT.

THE BOAT-HOUSE is located at the foot of Hanover Street. Invested value of boat-house, lands, etc., \$300.

BOATS. —OUTRIGGER SHELLS, one single, one double, one four-oared, - - - - -	3
OUTRIGGER AND INRIGGER GIGS, CUTTERS AND BARGES, - - - - -	0
MISCELLANEOUS, one dingy, - - - - -	1

Invested values of boats and fittings, \$775.

Total number of boats, - 4

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,075.

Naiad Boat Club,

TOLEDO, OHIO.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	ARTHUR Q. DRAPER, Toledo.	<i>Captain,</i>	GEO. N. STORMS, Toledo.
<i>Vice-President,</i>	GEO. N. STORMS, Toledo.	<i>Steward,</i>	WILLIAM CARRINGTON, Toledo.
<i>Sec. and Treas.,</i>	FRANK PERIGO, Toledo.		

ORGANIZATION.

Organized,	May 3, 1870.	Honorary Members allowed by the Constitution, no report.
Annual Meeting for Election of Officers,	First Wednesday in May.	Active Members Enrolled, Nov. 30, 1870, 15
Monthly Meetings,	First Wednesday in each Month.	Honorary Members, Nov. 30, 1870, 0
Active Members allowed by the Constitution,	50	Total Membership, Nov. 30, 1870, 15

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Maumee River, from the Boat-House to Manhattan Mills, one and a half miles and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located at the foot of Elm Street. Invested value of boat-house, lands, etc., \$150.

BOATS. —OUTRIGGER SHELLS,	-	-	-	-	-	-	-	-	0
OUTRIGGER GIGS, one six-oared,	-	-	-	-	-	-	-	-	1
INRIGGER GIGS, one four-oared,	-	-	-	-	-	-	-	-	1
CUTTERS, BARGES, AND MISCELLANEOUS,	-	-	-	-	-	-	-	-	0

Invested values of boats and fittings, \$400.

Total number of boats, 2

TOTAL INVESTED VALUES, NOV. 30, 1870, \$550.

Toledo Boat Club,

TOLEDO, OHIO.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	JOHN COPLAND, Toledo.	<i>Sec. and Treas.,</i>	GEORGE C. PEPPER, Toledo.
<i>Vice-President,</i>	GEORGE MERRILL, Toledo.	<i>Captain,</i>	GEORGE E. POMEROY, Jr., Toledo.

ORGANIZATION.

Organized,	August 14, 1865.	Honorary Members allowed by the Constitution, no limit.
Annual Meeting for Election of Officers,	First Thursday in April.	Active Members Enrolled, Nov. 30, 1870, 36
Monthly Meetings,	First Thursday in each Month.	Honorary Members, Nov. 30, 1870, 6
Active Members allowed by the Constitution,	no limit.	Total Membership, Nov. 30, 1870, 42

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSE is on the Maumee River, from Cherry Street Bridge to city limits, one and a half miles and return—three miles. A clear, straight course of ten miles can be had on this river.

OUTFIT.

THE BOAT-HOUSE is located at the foot of Cherry Street. Invested value of boat-house, lands, etc., \$1,000.

BOATS. —OUTRIGGER SHELLS, two four-oared,	-	-	-	-	-	-	-	-	2
OUTRIGGER GIGS, one six-oared,	-	-	-	-	-	-	-	-	1
INRIGGER GIGS,	-	-	-	-	-	-	-	-	0
CUTTERS AND BARGES, one eight-oared,	-	-	-	-	-	-	-	-	1
MISCELLANEOUS, one New York working-boat,	-	-	-	-	-	-	-	-	1

Invested values of boats and fittings, \$1,200.

Total number of boats, 5

TOTAL INVESTED VALUES, NOV. 30, 1870, \$2,200.

Undine Boat Club,

TOLEDO, OHIO.

OFFICERS, NOVEMBER 30, 1870.

<i>President</i> , F. B. SHOEMAKER, Toledo.			
<i>1st Vice-President</i> , J. A. WAITE,	Toledo.	<i>Captain</i> , C. T. HEWITT,	Toledo.
<i>2d</i> " W. J. CHASE,	"	<i>Lieutenant</i> , H. B. TAYLOR,	"
<i>Secretary</i> , R. M. HUBBARD,	"	<i>Directors</i> , { C. B. SCOTT,	"
<i>Treasurer</i> , T. H. BALDY,	"		
		J. B. THOMAS,	"

ORGANIZATION.

Organized,	April 28, 1865.	Honorary Members allowed by the Constitution, no limit.	
Semi-Annual Meetings for } Second Tuesday in April and		Active Members Enrolled, Nov. 30, 1870,	58
Election of Officers, } October.		Honorary Members, Nov. 30, 1870,	5
Monthly Meetings,	Second Tuesday in each Month.		
Active Members allowed by the Constitution, no limit.		Total Membership, Nov. 30, 1870,	63

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSE for racing is on the Maumee River, from Road Bridge down the river one and a half miles and return—three miles. For reviews, between the R. R. Bridge and Cherry Street Bridge.

OUTFIT.

THE BOAT-HOUSE is located on the Bayou, near Island House. Invested value of boat-house, lands, etc., \$2,000.

BOATS. —OUTRIGGER SHELLS, one pair-oared, one four-oared, one six-oared, - - - - -	3
OUTRIGGER GIGS, one pair-oared, one six-oared, - - - - -	2
INRIGGER GIGS, - - - - -	0
CUTTERS AND BARGES, one pair-oared; MISCELLANEOUS, none, - - - - -	1

Invested values of boats and fittings, \$1,500. Total number of boats, 6

TOTAL INVESTED VALUES, NOV. 30, 1870, \$3,500.

Xantho Boat Club,

TOLEDO, OHIO.

OFFICERS, NOVEMBER 30, 1870.

<i>President</i> , W. H. GOWILL,	Toledo.	<i>Sec., Treas., and</i> } JOHN H. DOYLE,	Toledo.
<i>Vice-President</i> , E. E. SMITH,	"		
		<i>Captain</i> , {	

ORGANIZATION.

Organized, 1866; reorganized,	1870.	Honorary Members allowed by the Constitution, none.	
Annual Meeting for Elec- }	First of January.	Active Members Enrolled, Nov. 30, 1870,	9
tion of Officers, }		Honorary Members, Nov. 30, 1870,	0
Monthly Meetings,	First Tuesday in each Month.		
Active Members allowed by the Constitution,	20	Total Membership, Nov. 30, 1870,	9

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Maumee River and Bay, from Cherry Street Bridge one and a half miles east and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located at the foot of Elm Street. Invested value of boat-house, lands, etc., \$150.

BOATS. —OUTRIGGER SHELLS, OUTRIGGER AND INRIGGER GIGS, - - - - -	0
CUTTERS AND BARGES, one four-oared, one six-oared, - - - - -	2
MISCELLANEOUS, - - - - -	0

Invested values of boats and fittings, \$600. Total number of boats, 2

TOTAL INVESTED VALUES, NOV. 30, 1870, \$750.

Columbia Boat Club,

ALLEGHENY CITY, PENN.

OFFICERS, NOVEMBER 30, 1870.

<i>President</i> , R. M. BLAIR,	Allegheny City.	<i>Secretary</i> , JOHN STOKES,*	Allegheny City.
<i>Vice-President</i> , W. M. KENNEDY,	" "	<i>Treasurer</i> , WM. GARDNER,	" "

ORGANIZATION.

Organized,	October 10, 1869.	Honorary Members allowed by the Constitution, no limit.
Semi-Annual Meetings for } First Tuesdays in October and		Active Members Enrolled Nov. 30, 1870, 44
Election of Officers, } April.		Honorary Members, Nov. 30, 1870, 0
Monthly Meetings,	First Tuesday in each month.	
Active Members allowed by the Constitution,	no limit.	Total Membership, Nov. 30, 1870, 44

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Allegheny River, from Suspension Bridge, one and a half miles up the river to Herr's Island and return—three miles.

OUTFIT.

THE BOAT-HOUSE is a floating one, located at the foot of Morgan Street. Invested value of boat-house, lands, etc., \$2,500.

BOATS. —OUTRIGGER SHELLS, three singles,	-	-	-	-	-	-	-	-	3
OUTRIGGER GIGS, one pair sculls,	-	-	-	-	-	-	-	-	1
INRIGGER GIGS,	-	-	-	-	-	-	-	-	0
CUTTERS AND BARGES, one ten-oared,	-	-	-	-	-	-	-	-	1
MISCELLANEOUS, three skiffs,	-	-	-	-	-	-	-	-	3

Invested values of boats and fittings, \$500.

Total number of boats, 8

TOTAL INVESTED VALUES, NOV. 30, 1870, \$3,000.

Duquesne Boat Club,

ALLEGHENY CITY, PENN.

OFFICERS, NOVEMBER 30, 1870.

<i>President</i> , GOTTLIEB FUSHER, Allegheny City, Penn.		
<i>Vice-Pres.</i> , JOHN GORDON,	Allegheny City.	<i>W. WORTHINGTON</i> , Allegheny City.
<i>Secretary</i> , JOHN STRAUB,	" "	<i>ADAM SHAUER</i> , " "
<i>Treasurer</i> , JOHN C. FISHER,	" "	<i>V. M. FOLTZ</i> , " "
<i>Commodore</i> , ANDREW ENNING,	" "	<i>JAMES MOODES</i> , " "
<i>Captain</i> , ALBERT WORTHINGTON,	" "	<i>CHRISTIAN ACKERMAN</i> , " "

ORGANIZATION.

Organized,	October 8, 1865.	Honorary Members allowed by the Constitution, no limit.
Annual Meeting for Election } Second Monday in Decem-		Active Members Enrolled Nov. 30, 1870, 45
of Officers, } ber.		Honorary Members, Nov. 30, 1870, 3
Monthly Meetings,	Second Monday in each Month.	
Active Members allowed by the Constitution,	no limit.	Total Membership, Nov. 30, 1870, 48

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Allegheny River, from Suspension Bridge, one and a half miles up the river to Herr's Island and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located at the foot of Pine Street, on Allegheny Wharf, midway between Chestnut Street Bridge and Herr's Island. Invested value of boat-house, lands, etc., \$750.

BOATS. —OUTRIGGER SHELLS, three singles, one four-oared, one six-oared,	-	-	-	-	-	-	-	-	5
OUTRIGGER AND INRIGGER GIGS, CUTTERS, AND BARGES,	-	-	-	-	-	-	-	-	0
MISCELLANEOUS, one skiff,	-	-	-	-	-	-	-	-	1

Invested values of boats and fittings, \$900.

Total number of boats, 6

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,650.

* Secretary in 1871, James McCowen, 63 Anderson St., Allegheny City, Pa.

R. C. Howard Boat Club,

ALLEGHENY CITY, PENN.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i> JOHN McVAY,	Pittsburg.	<i>Secretary,</i> JOHN JOHNSON,	Allegheny City.
<i>Vice-President,</i> JOHN V. HAYS,	Allegheny City.	<i>Treasurer,</i> H. C. MENDEL,	"

ORGANIZATION.

Organized,	August, 1866.	Honorary Members allowed by the Constitution, no report.
Annual Meeting for Election of Officers,	First Monday in January.	Active Members Enrolled, Nov. 30, 1870, 26
Monthly Meetings,	First Monday in each Month.	Honorary Members, Nov. 30, 1870, 0
Active Members allowed by the Constitution,	30	Total Membership, Nov. 30, 1870, 26

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSE is on the Allegheny River, from Suspension Bridge, one and a half miles up the river to Herr's Island and return—three miles.

OUTFIT.

THE BOAT-HOUSE is a floating one, and is located at the foot of Chestnut Street, Allegheny City. Invested value of boat-house, lands, etc., \$1,100.

BOATS. —OUTRIGGED SHELLS, three singles, one four-oared,	4
OUTRIGGED AND INRIGGED GIGS, CUTTERS, BARGES, AND MISCELLANEOUS,	0
	—

Invested values of boats and fittings, \$600.	Total number of boats,	4
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TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,700.

J. B. Jones Boat Club,

ALLEGHENY CITY, PENN.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i> W. ANTHONY, 9 Anderson Street, Allegheny City.	
<i>Vice-Pres.,</i> R. BROWN, 75 River Street, Allegheny City.	<i>Treasurer,</i> J. B. JONES, 4th Ward House, Allegheny City.
<i>Secretary,</i> WILLIAM SMITH, 6 Grey's Alley,	<i>Commodore,</i> LEWIS CAVIT, Bell's Alley,

ORGANIZATION.

Organized,	July 21, 1869.	Honorary Members allowed by the Constitution, no report.
Annual Meeting for Election of Officers,	First Tuesday in January.	Active Members Enrolled, Nov. 30, 1870, 25
Monthly Meetings,	First Tuesday in each Month.	Honorary Members, Nov. 30, 1870, 0
Active Members allowed by the Constitution,	25	Total Membership, Nov. 30, 1870, 25

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Allegheny River, from Suspension Bridge, one and a half miles up the river to Herr's Island and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located at the foot of Morgan Street, Allegheny City. Invested value of boat-house, lands, etc., \$800.

BOATS. —OUTRIGGED SHELLS, three singles, one double, one four-oared,	5
OUTRIGGED AND INRIGGED GIGS,	0
CUTTERS AND BARGES, one ten-oared,	1
MISCELLANEOUS, one skiff,	1
	—

Invested values of boats and fittings, \$1,200.	Total number of boats,	7
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TOTAL INVESTED VALUES, NOV. 30, 1870, \$2,000.

Xantha Boat Club,

ALLEGHENY CITY, PENN.

OFFICERS, NOVEMBER 30, 1870.

<i>President</i> , HENRY COULTER, 31 Walnut St., Allegheny City.	<i>Treasurer</i> , R. N. FLANNEGAN, . . . Allegheny City.
<i>Vice-Pres.</i> , GORDON JACKSON, . . . " "	<i>Commodore</i> , R. KINKARD, JR., . . . " "
<i>Secretary</i> , ANDERSON ROSS, . . . " "	<i>Captain</i> , DAVID SPEER, . . . " "

ORGANIZATION.

Organized, June, 1860.	Honorary Members allowed by the Constitution, no limit.
Annual Meeting for Election of } . . . First of April.	Active Members Enrolled, Nov. 30, 1870, . . . 15
Officers, }	Honorary Members, Nov. 30, 1870, . . . 4
Monthly Meetings, . . . First Monday in each Month.	
Active Members allowed by the Constitution, no limit.	Total Membership, Nov. 30, 1870, . . . 19

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Ohio River, from Monongahela Bridge down the river to Cork's Run, two and a half miles and return—five miles.

OUTFIT.

THE BOAT-HOUSE is located at the foot of Walnut Street, Fifth Ward, Allegheny City. Invested value of boat-house, lands, etc. (no estimate given).

BOATS. —OUTRIGGER SHELLS, three singles, one double, two four-oared, one six-oared, -	-	-	7
OUTRIGGER AND INRIGGER GIGS, -	-	-	0
CUTTERS, BARGES, AND MISCELLANEOUS, -	-	-	0
			—

Invested values of boats and fittings, \$1,220.

Total number of boats, - 7

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,220.

Beck Boat Club,

BIRMINGHAM, PENN.

OFFICERS, NOVEMBER 30, 1870.

<i>President</i> , F. HARY, Buchanan P.O., Allegheny Co.	<i>Treasurer</i> , JAMES SLATTERY, Buchanan P.O. Allegheny Co.
<i>Vice-Pres.</i> , THOMAS JONES, " " "	<i>Commodore</i> , JOHN SCHROTH, " " "
<i>Secretary</i> , HENRY YOST, " " "	<i>Captain</i> , EVAN WILLIAMS, " " "

ORGANIZATION.

Organized, May 22, 1869.	Honorary Members allowed by the Constitution, no limit.
Annual Meeting for Election of } Twenty-second of May.	Active Members Enrolled, Nov. 30, 1870, . . . 23
Officers, }	Honorary Members, Nov. 30, 1870, . . . 0
Monthly Meetings, . . . Twice during the Month.	
Active Members allowed by the Constitution, no limit.	Total Membership, Nov. 30, 1870, . . . 23

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on Monongahela River, below Dam No. 1, from the foot of 19th Street down the river one and a half miles, and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located at the foot of 15th Street. Invested value of boat-house, lands, etc., \$900.

BOATS. —OUTRIGGER SHELLS, one single, one four-oared, -	-	-	2
OUTRIGGER AND INRIGGER GIGS, CUTTERS, AND BARGES, -	-	-	0
MISCELLANEOUS, one New York working-boat, -	-	-	1
			—

Invested values of boats and fittings, \$350.

Total number of boats, - 3

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,250.

Chambers Boat Club,

BIRMINGHAM, PENN.

OFFICERS, NOVEMBER 30, 1870.

President, A. TROUTMAN, Buchanan P.O., Allegheny Co.
Vice-Pres., J. SINCLAIR, Buchanan P.O., Allegheny Co. | *Treasurer*, HENRY SWITZER, Buchanan P.O., Allegheny Co.
Secretary, ANTHONY DITMORE, " " | *Comm.*, SOLOMON MITCHELL, " "

ORGANIZATION.

Organized,	July 4, 1867.	Honorary Members allowed by the Constitution, . . .	none.
Semi-Annual Meetings for Elec- } tion of Officers,	In April and October.	Active Members Enrolled, Nov. 30, 1870, . . .	23
Monthly Meetings,	First Saturday in each Month.	Honorary Members, Nov. 30, 1870, . . .	0
Active Members allowed by the Constitution, . . .	25	Total Membership, Nov. 30, 1870, . . .	23

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSES are on Monongahela River. *Upper course*, from 17th Street, up the river to Beck's Run, one and a half miles and return—three miles. *Lower course*, from Suspension Bridge, down the Ohio River to Cork's Run, two and a half miles and return—five miles.

OUTFIT.

THE BOAT-HOUSE is located at the foot of 10th Street, Birmingham. Invested value of boat-house, lands, etc., \$500.

BOATS.—OUTRIGGER SHELLS, four singles, two four-oared, 6
 OUTRIGGER AND INRIGGER GIGS, CUTTERS, BARGES, AND MISCELLANEOUS, 0

Invested values of boats and fittings, \$800. Total number of boats, . . . 6

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,300.

Good-Will Boat Club,

BIRMINGHAM, PENN.

OFFICERS, NOVEMBER 30, 1870.

President, E. REDMOND, Jr., Buchanan P.O., Allegheny Co.
Vice-Pres., JOHN AIKMAN, Buchanan P.O., Allegheny Co. | *Treasurer*, GEO. HOFFMAN, Buchanan P.O., Allegheny Co.
Secretary, JOHN RENZ, " " | *Assist. Sec.*, HENRY WAGNER, " "

ORGANIZATION.

Organized,	May 22, 1869.	Honorary Members allowed by the Constitution, . . .	10
Annual Meetings for Election of } Officers,	Twice every Year.	Active Members Enrolled, Nov. 30, 1870, . . .	25
Stated Meetings,	Twice in each Month.	Honorary Members, Nov. 30, 1870, . . .	9
Active Members allowed by the Constitution, . . .	25	Total Membership, Nov. 30, 1870, . . .	34

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Monongahela River. The *lower course*, from Suspension Bridge, down the river to Cork's Run, two and a half miles and return—five miles.

OUTFIT.

THE BOAT-HOUSE is located at the foot of 9th Street, Birmingham, Pa. Invested value of boat-house, lands, etc., \$1,500.

BOATS.—OUTRIGGER SHELLS, OUTRIGGER AND INRIGGER GIGS, CUTTERS, AND BARGES (no report given).
 MISCELLANEOUS, 5

Invested values of boats and fittings, \$180. Total number of boats, . . . 5

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,680.

Juniata Boat Club,

BIRMINGHAM, PENN.

OFFICERS, NOVEMBER 30, 1870.

President, BOICE TEASTER, Buchanan P. O., Allegheny Co. | *Secretary*, A. ERMVEIN, Buchanan P. O., Allegheny Co.
Vice-Pres., J. JONES, " " | *Treasurer*, W. BUHLAND, " " " "

ORGANIZATION.

Organized, May 22, 1869.	Honorary Members allowed by the Constitution, no report.
Annual Meeting for Elec-) no report.	Active Members Enrolled, Nov. 30, 1870, 14
tion of Officers,	Honorary Members, Nov. 30, 1870, 0
Monthly Meetings, no report.	—
Active Members allowed by the Constitution, no report.	Total Membership, Nov. 30, 1870, 14

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Monongahela and Ohio Rivers. *The Lower Course*, from Suspension Bridge, two and a half miles down the river to Cork's Run, and back—five miles.

OUTFIT.

THE BOAT-HOUSE is located at foot of Tenth Street, below the Birmingham Bridge. Invested value of boat-house, lands, etc., \$600.

BOATS. —OUTRIGGER SHELLS, one single, one pair-oared,	2
OUTRIGGER GIGS,	0
INRIGGER GIGS,	0
CUTTERS AND BARGES,	0
MISCELLANEOUS, one skiff,	1
	—

Invested values of boats and fittings, \$350.

Total number of boats, 3

TOTAL INVESTED VALUES, NOV. 30, 1870, \$950.

McKee Barge Club,

EAST BIRMINGHAM, PENN.

OFFICERS, NOVEMBER 30, 1870.

President, PHILLIP SHARFF, Buchanan P. O., Allegheny Co.
V.-Pres., L. F. VANDERGRIFF, Buchanan P. O., Allegheny Co. | *Treasurer*, DAVID CARL, Buchanan P. O., Allegheny Co.
Sec., JOHN LONG, " " | *Captain*, C. MINHARD, " " " "

ORGANIZATION.

Organized, October 13, 1867.	Active Members Enrolled, Nov. 30, 1870, 26
Annual Meeting for Election of Officers, October.	Honorary Members, Nov. 30, 1870, 0
Monthly Meetings, Last Saturday in each Month.	—
Active Members allowed by the Constitution, 28	Total Membership, Nov. 30, 1870, 26
Honorary " " " " " " no report.	

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Monongahela River, from foot of Joseph Street, up the river to Redman's Saw Mills, two and a half miles and return—five miles.

OUTFIT.

THE BOAT-HOUSE is located at foot of 19th Street. Invested value of boat-house, lands, etc., \$1,300.

BOATS. —OUTRIGGER SHELLS, three singles, one four-oared, one six-oared,	5
OUTRIGGER AND INRIGGER GIGS,	0
CUTTERS AND BARGES,	0
MISCELLANEOUS, two skiffs,	2
	—

Invested values of boats and fittings, \$2,356.

Total number of boats, 7

TOTAL INVESTED VALUES, NOV. 30, 1870, \$3,656.

Sheridan Boat Club,

BIRMINGHAM, PENN.

OFFICERS, NOVEMBER 30, 1870.

President, JOSEPH HOOVER, Buchanan P.O., Allegheny Co. | *Secretary*, ALEX. MOORE, Buchanan P.O., Allegheny Co.
Vice-Pres., HENRY CUNNINGHAM, " " | *Treasurer*, ALBERT ISREAL, " " " "

ORGANIZATION.

Organized, May 22, 1869.

Annual Meeting for Election.	Last Saturday in May.	Active Members Enrolled, Nov. 30, 1870,	25
Monthly Meetings,	Last Saturday in each Month.	Honorary Members, Nov. 30, 1870,	0
Active Members allowed by the Constitution,	25		
Honorary " " " "	none.	Total Membership, Nov. 30, 1870,	25

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Monongahela, from Dam No. 1, down the river to the junction of the Allegheny and Monongahela Rivers, one and a half miles and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located at the foot of 17th Street, Birmingham. Invested value of boat-house, lands, etc., \$1,500.

BOATS. —OUTRIGGER SHELLS, three singles, one four-oared,	-	-	-	-	-	-	-	4
OUTRIGGER GIGS,	-	-	-	-	-	-	-	0
INRIGGER GIGS,	-	-	-	-	-	-	-	0
CUTTERS AND BARGES,	-	-	-	-	-	-	-	0
MISCELLANEOUS,	-	-	-	-	-	-	-	0

Invested values of boats and fittings, \$500.

Total number of boats, 4

TOTAL INVESTED VALUES, NOV. 30, 1870, \$2,000.

Argonaut Boat Club,

EASTON, PENN.

OFFICERS, FEBRUARY 1, 1871.

President, HENRY FIRMSTONE, Easton. | *Secretary*, ISAAC FINE, Easton.
Vice-President, S. V. B. PATTERSON, " | *Treasurer*, JOS. RODENBOUGH, " "

ORGANIZATION.

Organized,	August, 1869.	Honorary Members allowed by the Constitution,	none.
Semi-Annual Meetings for } Second Tuesday in August and		Active Members Enrolled, Feb. 1, 1871,	11
Election of Officers, } February.		Honorary Members, Feb. 1, 1871,	0
Monthly Meetings,	Second Tuesday in each Month.		
Active Members allowed by the Constitution,	no limit.	Total Membership, Feb. 1, 1871,	11

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Lehigh River, from Third Street Bridge to Glendon Furnace Bridge, two miles and return—four miles.

OUTFIT.

THE BOAT-HOUSE is a floating one, located at the foot of Third Street, on the Lehigh River. Invested value of boat-house, lands, etc., \$1,200.

BOATS. —OUTRIGGER SHELLS,	-	-	-	-	-	-	-	0
OUTRIGGER GIGS, one two-pair sculls,	-	-	-	-	-	-	-	1
INRIGGER GIGS,	-	-	-	-	-	-	-	0
CUTTERS AND BARGES, one four-oared,	-	-	-	-	-	-	-	1
MISCELLANEOUS,	-	-	-	-	-	-	-	0

Invested values of boats and fittings, \$475.

Total number of boats, 2

TOTAL INVESTED VALUES, FEB. 1, 1871, \$1,675.

Class of 1872 Boat Club,

LAFAYETTE COLLEGE, EASTON, PENN.

OFFICERS, NOVEMBER 30, 1870.

President, J. B. ANDREWS, Lafayette College, Easton.
Vice-President, THOS. FASSITT, P.O. Box 229, Easton.
Secretary, J. S. GAUTZ, P.O. Box 121, " *Captains*, { J. S. GAUTZ, P.O. Box 121, Easton.
Treasurer, W. P. GAINES, P.O. Lock Box 21, " { J. E. SHULL, P.O. Box 121, "
 { R. P. SNOWDEN, P.O. Lock Box 21, "

ORGANIZATION.

Organized, September 1, 1870. Honorary Members allowed by the Constitution, none.
 Annual Meeting for Elec- } First of September. Active Members Enrolled, Nov. 30, 1870, 30
 tion of Officers, } Honorary Members, Nov. 30, 1870, 0
 Monthly Meetings, . . . First Saturday in each Month. —
 Active Members allowed by the Constitution, 30 Total Membership, Nov. 30, 1870, 30

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Lehigh River, from Third Street Bridge to Glendon Furnace Bridge, two miles and return—four miles.

OUTFIT.

THE BOAT-HOUSE is located at the foot of Fourth Street, on Lehigh River. Invested value of boat-house, lands, etc., \$800. (House building; will be ready for occupation in April, 1871.)

BOATS.—OUTRIGGER SHELLS, - - - - - 0
 INRIGGER GIGS, none; OUTRIGGER GIGS, one six-oared, - - - - - 1
 CUTTERS AND BARGES, one four-oared barge, - - - - - 1
 MISCELLANEOUS, - - - - - 0

Invested values of boats and fittings, \$350.

Total number of boats, 2

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,150.

Delta Kappa Epsilon Boat Club,

LAFAYETTE COLLEGE, EASTON, PENN.

OFFICERS, NOVEMBER 30, 1870.

Captain, { OSCAR JEWELL HARVEY, Class '71, Easton.
 { P.O. Lock Box 55, Easton.
Lieutenant, { W. E. SMITH, Class '72, P.O. Lock " *Executive*
 { Box 55, " *Committee*, { ELISHA L. HILLIS, Class '72, P.O.
 { ROBERT MCCONANSHY, P.O. Lock " { Lock Box 55, Easton.
Purser, { Box 55, " { EDWARD N. BARRETT, Class '73,
 { " " " { P.O. Lock Box 55, "
 { " " " { CHARLES E. BURNS, Class '73, P.O.
 { " " " { Lock Box 55, "

ORGANIZATION.

Organized, September 8, 1870. Honorary Members allowed by the Constitution, no limit.
 Semi-Annual Meetings for } First Wednesday in Septem- Active Members Enrolled, Nov. 30, 1870, 25
 Election of Officers, } ber and February. Honorary Members, Nov. 30, 1870, 5
 Monthly Meetings, . . . no time specified. —
 Active Members allowed by the Constitution, no limit. Total Membership, Nov. 30, 1870, 30

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Lehigh River, from the Boat-House to Glendon Furnace Bridge, two miles and return—four miles.

OUTFIT.

THE BOAT-HOUSE is located at the foot of Fourth Street, and is the same as used by the Class of 1872 Club. Invested value of boat-house, lands, etc. (given with Class of 1872 Club report).

BOATS.—OUTRIGGER SHELLS, - - - - - 0
 OUTRIGGER GIGS, one six-oared, per Coxswain (*Delta*), - - - - - 1
 INRIGGER GIGS, CUTTERS, BARGES, AND MISCELLANEOUS, - - - - - 0

Invested values of boats and fittings, \$500.

Total number of boats, 1

TOTAL INVESTED VALUES, NOV. 30, 1870, \$500.

Undine Boat Club,

EASTON, PENN.

OFFICERS, FEBRUARY 28, 1871.

President, ISAAC A. SMITH, P.O. Box 101, Easton.
Vice-Pres., CHAS. A. DALY, P.O. Box 165, Easton. | *Treasurer*, CHAS. M. LUDWIG, P.O. Box 111, Easton.
Secretary, J. K. DAWES, P.O. Box 139, " | *Captain*, HENRY C. DAWES, Lock Box 56, "

ORGANIZATION.

Organized, May 7, 1867.

Annual Meeting for Elec- tion of Officers,	{ Last Tuesday in February.	Honorary Members allowed by the Constitution,	none.
Quarterly Meetings,	{ Last Tuesday in February, May, August, and November.	Active Members Enrolled, Nov. 30, 1870,	9
Active Members allowed by the Constitution,	10	Honorary Members, Nov. 30, 1870,	0
		Total Membership, Nov. 30, 1870,	9

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Lehigh River, from the Dam foot of Green Street to Glendon Bridge, and return—five miles.

OUTFIT.

THE BOAT-HOUSE is located on Ferry Street at the foot of Green Street. Invested value of boat-house, lands, etc., \$175.

BOATS. —OUTRIGGER SHELLS, INRIGGER GIGS, CUTTERS, AND BARGES,	-	-	-	-	-	0
OUTRIGGER GIGS, one four-oared,	-	-	-	-	-	1
MISCELLANEOUS, one four-oared batteaux,	-	-	-	-	-	1

Invested values of boats and fittings, \$210.

Total number of boats, 2

TOTAL INVESTED VALUES, NOV. 30, 1870, \$385.

Undine Boat Club,

ERIE, PENN.

OFFICERS, NOVEMBER 30, 1870.

President, E. WHITLEY, . . . Erie. | *Sec. and Treas.*, W. ARBUCKLE, West 7th St., Erie.
Vice-Pres., D. BENSON, . . . " | *Captain*, R. E. CLEMENS, . . . "

ORGANIZATION.

Organized, May, 1865.

Annual Meeting for Election,	First Thursday in April.	Active Members Enrolled, Nov. 30, 1870,	22
Monthly Meetings,	First Thursday in each Month.	Honorary Members, Nov. 30, 1870,	134
Active Members allowed by the Constitution,	no limit.		
Honorary " " " "	no limit.	Total Membership, Nov. 30, 1870,	156

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSE is on Erie Bay, three miles. (No details of direction, starting-point, or termination given.)

OUTFIT.

THE BOAT-HOUSE is located at the foot of State Street. Invested value of boat-house, lands, etc., \$1,000.

BOATS. —OUTRIGGER SHELLS, one single, one six-oared,	-	-	-	-	-	2
OUTRIGGER GIGS,	-	-	-	-	-	0
INRIGGER GIGS, one six-oared,	-	-	-	-	-	1
CUTTERS AND BARGES, one six-oared,	-	-	-	-	-	1
MISCELLANEOUS,	-	-	-	-	-	0

Invested values of boats and fittings, \$700.

Total number of boats, 4

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,700.

ERIE, PENN.

President, C. H. STRONG, East 6th Street, Erie.

Erie.
“

Organized, April 18, 1870.

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

OUTFIT.

BOATS.—OUTRIGGER SHELLS, one four-oared,

Invested values of boats and fittings, \$100.

Total number of boats,	-	<u>2</u>
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TOTAL INVESTED VALUES, NOV. 30, 1870, \$100.

OIL CITY, PENN.

Pres., { A. D. BARBOUR, care of Hasson, Cornwall
 { & Co., Oil City.
V. Pres., C. W. OWSTON, "

<i>Secretary,</i>	FRANK TACK,	Oil City.
<i>Treasurer,</i>	W. K. VANDERGRIFF,	"
<i>Commodore,</i>	ISAAC REINEMAN,	"

Captain, T. J. LECKY, Oil City.

Organized,	July 15, 1870.	Honorary Members allowed by the Constitution, no report.
Annual Meeting for Elec- } tion of Officers, }	Third Saturday in July.	Active Members Enrolled, Nov. 30, 1870, 40
Monthly Meetings, } Active Members allowed by the Constitution, } no limit.	First Saturday in each Month.	Honorary Members, Nov. 30, 1870, no report.
		Total Membership, Nov. 30, 1870, 40

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSE is on the Allegheny River, two and three miles. (No description of direction or termination of the course given.)

OUTFIT.

THE BOAT-HOUSE is located above junction of Oil Creek and Allegheny River. Invested value of boat-house, lands, etc., \$700.

Invested values of boats and fittings, \$560.

Total number of boats, - 7

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,260.

Bachelors' Barge Club,

PHILADELPHIA, PENN.

OFFICERS, NOVEMBER 30, 1870.

President. JAMES M. LONGACRE, Philadelphia. | *Secretary,* JOHN HUGGARD, 215 Chestnut St., Philadelphia.
Vice-President, JOHN L. BOARDMAN, " | *Treasurer,* E. C. PROSSER, " "

ORGANIZATION.

Organized, July 4, 1853. | Honorary Members allowed by the Constitution, no limit.
 Semi-Annual Meetings for Elec- | First Friday in July and | Active Members Enrolled, Nov. 30, 1870, 33
 tion of Officers, January. | Honorary Members, Nov. 30, 1870, 17
 Monthly Meetings, Last Friday in each Month. |
 Active Members allowed by the Constitution, no limit. | Total Membership, Nov. 30, 1870, 50

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSES are as follows: for three-mile turning races, from Turtle Rock, up the river to the middle of Peter's Island, above Columbia Bridge, one and a half miles and return; for straight-away three-mile races or pleasure rowing, from a point above Fairmount Dam, 445 feet below the Undine Boat-House, up the river three miles to the stone Bridge at the falls of the Schuylkill. (These distances have been accurately measured on the ice.)

OUTFIT.

THE BOAT-HOUSE is located on the Main Drive, river front of Fairmount Park, is built of brownstone, Gothic style, 25 x 55, two stories high. Invested values of boat-house, lands, etc., \$10,500.

BOATS.—OUTRIGGER SHELLS, two singles (*Brat* and *Cub*), one pair-oared, one six-oared (*Bachelor*), 4
 OUTRIGGER GIGS, one two-pair sculls (*Gazelle*, 25 ft. long), one four-oared (*Lotus*, 42 ft. long), 2
 CUTTERS AND BARGES, one six-oared (*Linda*, 50 feet long), 1

Invested values of boats and fittings, \$1,350.

Total number of boats, 7

TOTAL INVESTED VALUES, NOV. 30, 1870, \$11,850.

Crescent Boat Club,

PHILADELPHIA, PENN.

OFFICERS, NOVEMBER 30, 1870.

President, HARVEY K. HINCHMAN, 810 Market Street, Philadelphia.
Vice-Pres., GEO. G. PIERIE, Sec. Commer. Exchange, Phila. | *Coxswain,* W. A. STEEL, 1837 Coates Street, Phila.
Secretary, SAMUEL A. WELCH, 716 Walnut Street, " | *Vice-Cox.,* { G. F. JORDAN, care MacKellar, Smiths &
Treasurer, CHARLES HOWSON, 119 South 4th Street, " | { Jordan, Sansom Street, "

ORGANIZATION.

Organized, December 1, 1867. | Contributing Members allowed by the Constitution, no limit.
 Semi-Annual Meetings for Elec- | First Monday in January | Active Members Enrolled, Nov. 30, 1870, 29
 tion of Officers, and July. | Contributing Members, Nov. 30, 1870, 20
 Monthly Meetings, First Monday in each Month. |
 Active Members allowed by the Constitution, 30 | Total Membership, Nov. 30, 1870, 49

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSES for exercise and racing are on the Schuylkill River. (For description, see report of Bachelors' Barge Club, Philadelphia, Pa.)

OUTFIT.

THE BOAT-HOUSE is located on the east side of the Schuylkill River, at Fairmount Park, is built of brownstone, two stories, 20 x 50, with mansard roof. Invested value of boat-house, lands, etc., \$4,000.

BOATS.—OUTRIGGER SHELLS, three singles, one double, one four-oared, 5
 OUTRIGGER GIGS, one pair-sculls, two two-pair sculls, one six-oared, 4
 INRIGGER GIGS, CUTTERS, AND BARGES, one six-oared barge, 1
 MISCELLANEOUS, one gunning skiff, 1

Invested values of boats and fittings, \$2,100.

Total number of boats, 11

TOTAL INVESTED VALUES, NOV. 30, 1870, \$6,100.

Keystone Barge Club,*

PHILADELPHIA, PENN.

OFFICERS, NOVEMBER 30, 1870.

President. THOS. WILLOUGHBY, 28 N. 3d St., Phila. | *Captain.* JOHN M. McCURDY, 717 Sansom St., Phila.
Sec. and Treas., H. W. HUNTINGTON, 701 Chestnut St., " | *Vice-Cox.*, JOSEPH S. RILEY, 611 Vine St., "

ORGANIZATION.

Organized, December 1, 1869.

Annual Meeting for Election, First Monday in April.	Active Members Enrolled, Nov. 30, 1870.	11
Monthly Meetings, First Monday in each Month.	Honorary Members, Nov. 30, 1870.	7
Active Members allowed by the Constitution, 12		
Honorary Members allowed by the Constitution, 10	Total Membership, Nov. 30, 1870.	18

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSES for exercise and racing are on the Schuylkill River. (For description, see report of Bachelors' Barge Club, of Philadelphia, Pa.)

OUTFIT.

THE BOAT-HOUSE is located on the east side of the Schuylkill River, at Fairmount Park. Invested value of boat-house, lands, etc. (no report).

BOATS. —OUTRIGGER SHELLS,	-	-	-	-	-	-	-	0
OUTRIGGER GIGS, one six-oared,	-	-	-	-	-	-	-	1
INRIGGER GIGS, one six-oared,	-	-	-	-	-	-	-	1
CUTTERS AND BARGES,	-	-	-	-	-	-	-	0
MISCELLANEOUS,	-	-	-	-	-	-	-	0

Invested values of boats and fittings, \$400.

Total number of boats, 2

TOTAL INVESTED VALUES, NOV. 30, 1870, \$400

Malta Boat Club,

PHILADELPHIA, PENN.

OFFICERS, NOVEMBER 30, 1870.

President. E. GRAFTON LUKENS, 727 Corinthian Av., Phila. | *Treasurer.* S. H. ILLMAN, 1712 North 13th St., Phila.
Vice-Pres., S. C. COLLIS, 517 Coates St., " | *Coxswain.* W. H. LEES, 517 Coates St., "
Secretary. W. H. LEES, 517 Coates St., " | *Vice-Cox.*, J. S. ILLMAN, 517 Coates St., "

ORGANIZATION.

Organized, February 22, 1860.

Annual Meeting for Election, In January of each year.	Active Members Enrolled, Nov. 30, 1870.	21
Monthly Meetings, First Tuesday in each Month.	Honorary Members, Nov. 30, 1870.	1
Active Members allowed by the Constitution, 30		
Honorary Members allowed by the Constitution, no limit.	Total Membership, Nov. 30, 1870.	22

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSES for exercise and racing are on the Schuylkill River. (For description, see report of Bachelors' Barge Club, of Philadelphia, Pa.)

OUTFIT.

THE BOAT-HOUSE is located on the east side of the Schuylkill River, at Fairmount Park. Invested value of boat-house, lands, etc., \$3,500.

BOATS. —OUTRIGGER SHELLS,	-	-	-	-	-	-	-	0
OUTRIGGER GIGS, one six-oared (<i>Hiawatha</i> , 43 feet long),	-	-	-	-	-	-	-	1
INRIGGER GIGS, one six-oared (<i>Minnehaha</i> , 35 feet long),	-	-	-	-	-	-	-	1
CUTTERS AND BARGES, one pair-oared (<i>Wasp</i> , 18 feet long),	-	-	-	-	-	-	-	1
MISCELLANEOUS,	-	-	-	-	-	-	-	0

Invested values of boats and fittings, \$1,500.

Total number of boats, 3

TOTAL INVESTED VALUES, NOV. 30, 1870, \$5,000

* This club has recently (August, 1871) been consolidated with the Malta Boat Club.

Oneida Barge Club,

PHILADELPHIA, PENN.

OFFICERS, NOVEMBER 30, 1870.

President, L. WARKINS, 27 Bank Street, Philadelphia. | *Treas.*, F. H. CLEMENT, 208 South Fourth St., Philadelphia.
Secretary, W. H. JOHNSON, 32 South Third St., " | *Capt.*, F. D. TOY, 2002 Mount Vernon St., "

ORGANIZATION.

Organized, February 26, 1869. | Honorary Members allowed by the Constitution, no limit.
 Annual Meeting for Election of Officers, First Wednesday in January. | Active Members Enrolled, Nov. 30, 1870, 9
 Monthly Meetings, First Wednesday in each Month. | Honorary Members, Nov. 30, 1870, 0
 Active Members allowed by the Constitution, no limit. | Total Membership, Nov. 30, 1870, 9

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSES for exercise and racing are on the Schuylkill River, same as used by the clubs of the Schuylkill Navy. (For description, see report of Bachelors' Barge Club.)

OUTFIT.

THE BOAT-HOUSE is located on the east bank of the Schuylkill River, at Fairmount Park. Invested value of boat-house, lands, etc. (no report made).

BOATS. —OUTRIGGER SHELLS, one single (<i>Baby</i>),	-	-	-	-	-	-	1
OUTRIGGER GIGS, one two-pair sculls,	-	-	-	-	-	-	1
INRIGGER GIGS,	-	-	-	-	-	-	0
CUTTERS AND BARGES, one six-oared (<i>Thistle</i>),	-	-	-	-	-	-	1
MISCELLANEOUS,	-	-	-	-	-	-	0

Invested values of boats and fittings, \$800.

Total number of boats, 3

TOTAL INVESTED VALUES, NOV. 30, 1870, \$800.

Pacific Barge Club,

PHILADELPHIA, PENN.

OFFICERS, NOVEMBER 30, 1870.

President, RICHARD PETERSON, 812 North Broad Street, Philadelphia.
V.-Pres., CHARLES KLOSE, 533 N. 19th Street, Philadelphia. | *1st Lieut.*, FRANK M. CALDWELL, 1726 Wallace St., Phila.
Sec., JAS. T. PIGGOTT, JR., 217 Chestnut St., " | *2d "*, GEORGE THOMSON, 2031 Spring Garden St., "
Treas., W. W. EMERICK, 721 Market Street, " | *Coxswain*, THOMAS JOHNSON, 13 Bank Street, "

ORGANIZATION.

Organized, June 15, 1859. | Honorary Members allowed by the Constitution, no limit.
 Semi-Annual Meetings for Election of Officers, First Wednesday in January and July. | Active Members Enrolled, Nov. 30, 1870, 20
 Monthly Meetings, First Wednesday in each Month. | Honorary Members, Nov. 30, 1870, 1
 Active Members allowed by the Constitution, 30 | Total Membership, Nov. 30, 1870, 21

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSES for exercise and racing are on the Schuylkill River, same as used by the clubs of the Schuylkill Navy. (See report of Bachelors' Barge Club.)

OUTFIT.

THE BOAT-HOUSE is located on the east bank of the Schuylkill River, at Fairmount Park. Invested value of boat-house, lands, etc., \$3,000.

BOATS. —OUTRIGGER SHELLS, two singles,	-	-	-	-	-	-	2
OUTRIGGER GIGS, one two-pair sculls,	-	-	-	-	-	-	1
INRIGGER GIGS,	-	-	-	-	-	-	0
CUTTERS AND BARGES, one four-oared (<i>Flirt</i> , 38 ft. long), one six-oared (<i>Imp</i> , 42 ft. long),	-	-	-	-	-	-	2
MISCELLANEOUS,	-	-	-	-	-	-	0

Invested values of boats and fittings, \$1,500.

Total number of boats, 5

TOTAL INVESTED VALUES, NOV. 30, 1870, \$4,500.

Pennsylvania Barge Club,

PHILADELPHIA, PENN.

OFFICERS, NOVEMBER 30, 1870.

<i>President</i> , F. W. MURPHY, . . . Philadelphia,	<i>Treasurer</i> , JOHN CULIN, . . . Philadelphia,
<i>Vice-Pres.</i> , G. K. RICHARDS, . . . "	<i>Coxswain</i> , EMIL CAUFFMAN, . . . "
<i>Secretary</i> , THOMAS MASSEY, 2018 Vine St., "	<i>Vice-Cox.</i> , J. M. BENNETT, . . . "

ORGANIZATION.

Organized, May 27, 1861.	Contributing Members allowed by the Constitution, no limit.
Annual Meeting for Election of Officers, . . . First Tuesday in January.	Active Members Enrolled, Nov. 30, 1870, . . . 21
Monthly Meetings, . . . First Tuesday in each Month.	Contributing Members, Nov. 30, 1870, . . . 40
Active Members allowed by the Constitution, . . . 30	Total Membership, Nov. 30, 1870, . . . 61

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSES are the usual ones on the Schuylkill River, as used by the clubs of the Schuylkill Navy. (See report of Bachelors' Barge Club.)

OUTFIT.

THE BOAT-HOUSE is located on the east bank of the Schuylkill River, at Fairmount Park. Invested value of boat-house, lands, etc., \$4,000.

BOATS. —OUTRIGGER SHELLS, four singles (<i>Josie</i> , <i>Henry Coulter</i> , <i>John Culin</i>), 4
OUTRIGGER GIGS, one two-pair sculls (<i>Celia</i>), one four-oared (<i>Mermaid</i>), 2
INRIGGER GIGS, one four-oared (<i>Stranger</i>), one six-oared (<i>Falcon</i>), 2
CUTTERS, BARGES, AND MISCELLANEOUS, 0

Invested values of boats and fittings, \$2,000.	Total number of boats, . . . 8
TOTAL INVESTED VALUES, NOV. 30, 1870. \$6,000.	

Philadelphia Barge Club,

PHILADELPHIA, PENN.

OFFICERS, NOVEMBER 30, 1870.

<i>President</i> , H. C. SPACKMAN, . . . Philadelphia,	<i>Treasurer</i> , CHARLES B. HART, . . . Philadelphia,
<i>Vice-Pres.</i> , N. H. THORON, . . . "	<i>Coxswain</i> , JOHN STRUTHERS, . . . "
<i>Secretary</i> , H. B. PANCOAST, care Pancoast & Maule, "	<i>Vice-Cox.</i> , CHARLES E. DANA, . . . "

ORGANIZATION.

Organized, December 8, 1862.	Honorary Members allowed by the Constitution, no limit.
Annual Meeting for Election of Officers, . . . Second Monday in January.	Active Members Enrolled, Nov. 30, 1870, . . . 21
Monthly Meetings, . . . Second Monday in each Month.	Honorary Members, Nov. 30, 1870, . . . 4
Active Members allowed by the Constitution, . . . 40	Total Membership, Nov. 30, 1870, . . . 25

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSES are the usual ones on the Schuylkill River, as used by the clubs of the Schuylkill Navy. (See report of Bachelors' Barge Club.)

OUTFIT.

THE BOAT-HOUSE is located on the east bank of Schuylkill River, at Fairmount Park, and is built of Chester greenstone, 42 x 57 feet, with a mansard roof. Invested value of boat-house, lands, etc., \$4,000.

BOATS. —OUTRIGGER SHELLS, 0
OUTRIGGER GIGS, one six-oared (<i>Faugh A Ballagh</i>), 1
INRIGGER GIGS, CUTTERS, AND BARGES, 0
MISCELLANEOUS, one skiff, 1

Invested values of boats and fittings, \$500.	Total number of boats, . . . 2
TOTAL INVESTED VALUES, NOV. 30, 1870, \$4,500.	

Quaker City Barge Club,

PHILADELPHIA, PENN.

OFFICERS, NOVEMBER 30, 1870.

President, J. D. FERGUSON, 12 South Water St., Philadelphia.
Vice-Pres., J. B. AGNEW, 839 Chestnut St., Phila. *Treasurer*, H. D. GUMMERE, 309 Market St., Phila.
Secretary, H. C. TOWNSEND, 3d and Willing's Alley, " *Commodore*, J. M. FERGUSON, 1034 North 2d St., "

ORGANIZATION.

Organized, October 17, 1858.

Annual Meeting for Election, . . . Second Tuesday in Oct.	Active Members Enrolled, Nov. 30, 1870, . . .	24
Monthly Meetings, . . . Second Tuesday in each Month.	Honorary Members, Nov. 30, 1870, . . .	12
Active Members allowed by the Constitution, . . . 30		—
Honorary " " " " " no limit.	Total Membership, Nov. 30, 1870, . . .	36

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSES for exercise and racing are on the Schuylkill River, same as used by all the clubs of the Schuylkill Navy. (For description, see report of Bachelors' Barge Club.)

OUTFIT.

THE BOAT-HOUSE is located on the east bank of the Schuylkill River, at Fairmount Park. Built in 1860, of stone, 35x55 feet, two stories high. Invested value of boat-house, lands, etc., \$5,000.

BOATS. —OUTRIGGER SHELLS, two singles (<i>Spider</i> and <i>Swan</i>), one four-oared (<i>Nautilus</i> , 48 feet long), . . .	3
OUTRIGGER GIGS, one two-pair sculls (<i>Bertha</i>), one four-oared (<i>Cygnets</i> , 42 feet long), . . .	2
INRIGGER GIGS AND MISCELLANEOUS, . . .	0
CUTTERS AND BARGES, one six-oared (<i>Iris</i> , 40 feet long), . . .	1
	—

Invested values of boats and fittings, \$1,500.

Total number of boats, . . . 6

TOTAL INVESTED VALUES, NOV. 30, 1870, \$6,500.

Undine Barge Club,

PHILADELPHIA, PENN.

OFFICERS, NOVEMBER 30, 1870.

<i>President</i> , CHAS. VEZIN, 9 Bank St., . . . Phila.	<i>Coxswain</i> , E. D. YATES (non-resident).	
<i>Vice-President</i> , HENRY GODLEY, 1003 Vine St., . . . "	<i>Vice-Cox.</i> , W. R. TUCKER, 5 Walnut St., . . . Phila.	
<i>Secretary and Treasurer</i> , } JACOB S. MILLER, 707 North 8th St., . . . "	<i>Boat-House</i> , } S. H. CLARK, 1124 Chestnut St., . . . "	
	<i>Committee</i> , } W. R. TUCKER, . . . "	

ORGANIZATION.

Organized, May 9, 1856.

Annual Meeting for Election, . . . First Saturday in June.	Active Members Enrolled, Nov. 30, 1870, . . .	55
Monthly Meetings, . . . First Saturday in each Month.	Honorary Members, Nov. 30, 1870, . . .	8
Active Members allowed by the Constitution, . . . no limit.		—
Honorary " " " " " no limit.	Total Membership, Nov. 30, 1870, . . .	63

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSES for exercise and racing are on the Schuylkill River, same as used by all the clubs of the Schuylkill Navy. (For description, see report of Bachelors' Barge Club.)

OUTFIT.

THE BOAT-HOUSE is located on the east bank of the Schuylkill River, at Fairmount Park. Invested value of boat-house, lands, etc., \$10,000.

BOATS. —OUTRIGGER SHELLS, one single, two four-oared, . . .	3
OUTRIGGER GIGS, one two-pair sculls, two six-oared, . . .	3
INRIGGER GIGS, one six-oared, . . .	1
CUTTERS AND BARGES, . . .	0
MISCELLANEOUS, two New York working-boats, . . .	2
	—

Invested values of boats and fittings, \$2,000.

Total number of boats, . . . 9

TOTAL INVESTED VALUES, NOV. 30, 1870, \$12,000.

University Barge Club,

PHILADELPHIA, PENN.

OFFICERS, NOVEMBER 30, 1870.

<i>President</i> , HENRY B. CONE, 2022 Walnut Street,	Phila.	<i>Treasurer</i> , JOHN B. THAYER, 725 Walnut Street,	Phila.
<i>Vice-Pres.</i> , HARRY W. BIDDLE, 1720 Spruce Street,	"	<i>Coxswain</i> , E. S. MILES, 314 South Broad Street,	"
<i>Secretary</i> , W. BROOKE RAWLE, 710 Walnut Street,	"	<i>Assist. Cox.</i> , J. D. WINSOR, 338 S. Delaware Avenue,	"

ORGANIZATION.

Organized,	April 25, 1854.	Honorary Members allowed by the Constitution,	no limit.
Annual Meeting for Election of Officers,	Last Thursday in March.	Active Members Enrolled, Nov. 30, 1870,	40
Monthly Meetings,	Last Thursday of each Month.	Honorary Members, Nov. 30, 1870,	36
Active Members allowed by the Constitution,	75	Total Membership, Nov. 30, 1870,	76

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSES for exercise and rowing are on the Schuylkill River, same as used by the clubs of the Schuylkill Navy. (For description, see report of Bachelors' Barge Club.)

OUTFIT.

THE BOAT-HOUSE is located on the east bank of the Schuylkill River, at Fairmount Park, and is a portion of that occupied by the Philadelphia Barge Club. Invested value of boat-house, lands, etc., \$5,000.

BOATS. —OUTRIGGER SHELLS, two four-oared (<i>University</i> , 48 feet long; <i>Hesperus</i> , 36 feet long),	-	-	2
OUTRIGGER GIGS, one six-oared (<i>Lucifer</i> , 45 feet long),	-	-	1
INRIGGER GIGS, CUTTERS, BARGES, AND MISCELLANEOUS,	-	-	0

Invested values of boats and fittings, \$1,000.	Total number of boats,	3
TOTAL INVESTED VALUES, NOV. 30, 1870, \$6,000.		

Vesper Boat Club,

PHILADELPHIA, PENN.

OFFICERS, NOVEMBER 30, 1870.

<i>President</i> , T. S. NELSON, 42 Bank Street,	Philadelphia.	<i>Treasurer</i> , T. A. GRAHAM, 13 Bank Street,	Philadelphia.
<i>Vice-Pres.</i> , D. L. MONSON, 13 Bank Street,	"	<i>Coxswain</i> , R. C. M. MINGES, 227 Walnut St.,	"
<i>Secretary</i> , F. V. BONNAFFIN, 1225 Market St.,	"	<i>Vice-Cox.</i> , T. C. STOKES, 249 Chester Street,	"

ORGANIZATION.

Organized,	February 22, 1865.	Honorary Members allowed by the Constitution,	no limit.
Annual Meeting for Election of Officers,	Fourteenth of December.	Active Members Enrolled, Nov. 30, 1870,	35
Monthly Meetings,	Second Monday in each Month.	Honorary Members, Nov. 30, 1870,	10
Active Members allowed by the Constitution,	no limit.	Total Membership, Nov. 30, 1870,	45

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSES for exercise and racing are on the Schuylkill River, same as used by the clubs of the Schuylkill Navy. (For description, see report of Bachelors' Barge Club.)

OUTFIT.

THE BOAT-HOUSE is located on the east bank of the Schuylkill River, at Fairmount Park, and is an ornate structure of stone, the Malta Boat Club using a portion of the building. Invested value of boat-house, lands, etc., \$7,000.

BOATS. —OUTRIGGER SHELLS, two singles,	-	-	2
OUTRIGGER GIGS, one two-pair sculls, one four-oared (<i>Onward</i> , 37 feet long),	-	-	2
INRIGGER GIGS, one four-oared (<i>Venture</i> , 37 feet long), one six-oared, (<i>Vesper</i> , 42½ feet long),	-	-	2
CUTTERS AND BARGES, none. MISCELLANEOUS, one New York working-boat,	-	-	1

Invested values of boats and fittings, \$2,000.	Total number of boats,	7
TOTAL INVESTED VALUES, NOV. 30, 1870, \$9,000.		

Wissahickon Boat Club,*

PHILADELPHIA, PENN.

OFFICERS, NOVEMBER 30, 1870.

President, W. G. HOPPAR, care of Bailey & Co., 12th and Chestnut Sts., Phila. *Secretary and Treasurer*, W. W. MARIS, care of DeHaven & Bro., 40 South 3d St., Phila. *Coxswain*, F. P. ADDICKS, 1909 Market St., Philadelphia.

ORGANIZATION.

Organized, April 1, 1869. Honorary Members allowed by the Constitution, no limit.
Semi-Annual Meetings for } First Tuesday in July and Active Members Enrolled, Nov. 30, 1870, 12
Election of Officers, } January. Contributing Members, Nov. 30, 1870, 4
Monthly Meetings, First Tuesday in each Month. Total Membership, Nov. 30, 1870, 16
Active Members allowed by the Constitution, no limit.

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSES for exercise and racing are on the Schuylkill River, same as used by all the clubs of the Schuylkill Navy. (For description, see report of Bachelors' Barge Club.)

OUTFIT.

THE BOAT-HOUSE is located on the east bank of the Schuylkill River, at Fairmount Park. Invested value of boat-house, lands, etc. (boat-house rented).

BOATS. —OUTRIGGER SHELLS,	-	-	-	-	-	-	-	-	0
OUTRIGGER GIGS, one four-oared,	-	-	-	-	-	-	-	-	1
INRIGGER GIGS,	-	-	-	-	-	-	-	-	0
CUTTERS AND BARGES,	-	-	-	-	-	-	-	-	0
MISCELLANEOUS,	-	-	-	-	-	-	-	-	0

Invested values of boats and fittings, \$250.

Total number of boats, 1

TOTAL INVESTED VALUES, NOV. 30, 1870, \$250.

Clipper Boat Club,

PITTSBURGH, PENN.

OFFICERS, NOVEMBER 30, 1870.

President, JOHN PHELAN, Pittsburgh. *Treasurer*, ALBERT ZACHARIAS, Pittsburgh.
Vice-President, FRANK SHERER, " *Commodore*, JAMES MUSGRAVE, "
Secretary, JAMES SLATTERY, 474 Penn St., " *Captain*, JOSEPH BROWN, "

ORGANIZATION.

Organized, August 12, 1867. Honorary Members allowed by the Constitution, none.
Annual Meeting for Election of Officers, First Monday in April. Active Members Enrolled, Nov. 30, 1870, 17
Monthly Meetings, First Monday in each Month. Honorary Members, Nov. 30, 1870, 0
Active Members allowed by the Constitution, 20 Total Membership, Nov. 30, 1870, 17

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSES are on the Allegheny and Monongahela Rivers, from Suspension Bridge up the Allegheny to Herr's Island, one and a half miles and return; and from Lower Bridge, on Monongahela River, to Cork's Run, two and a half miles down the river and return—three and five miles.

OUTFIT.

THE BOAT-HOUSE is located at the foot of 14th Street. Invested value of boat-house, lands, etc., \$1,500.

BOATS. —OUTRIGGER SHELLS, four singles, one four-oared,	-	-	-	-	-	-	-	-	5
OUTRIGGER AND INRIGGER GIGS, CUTTERS, AND BARGES,	-	-	-	-	-	-	-	-	0
MISCELLANEOUS, two skiffs,	-	-	-	-	-	-	-	-	2

Invested values of boats and fittings, \$1,000.

Total number of boats, 7

TOTAL INVESTED VALUES, NOV. 30, 1870, \$2,500.

* This club has recently (August, 1871) been consolidated with the Vesper Boat Club.

Excelsior Boat Club,

PITTSBURGH, PENN.

OFFICERS, NOVEMBER 30, 1870.

Pres., HENRY SPAHMAN, 13 Wood Street, . Pittsburgh. | *Sec.*, ERNEST JOHNS, 321 Fifth Avenue, . Pittsburgh.
V.-Pres., S. W. WAYMAN, 321 Fifth Avenue, . " | *Treas.*, M. McCLOSKEY, Excelsior Flint Glass Works, "

ORGANIZATION.

Organized, August 13, 1870.	Honorary Members allowed by the Constitution, 6
Semi-Annual Meetings for } First Mondays in March and	Active Members Enrolled, Nov. 30, 1870, 17
Election of Officers, } September.	Honorary Members, Nov. 30, 1870, 2
Monthly Meetings, Thirteenth of each Month.	
Active Members allowed by the Constitution, 18	Total Membership, Nov. 30, 1870, 19

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Monongahela, from Glenwood to the Copper Works, and return. (No details of distance given.)

OUTFIT.

THE BOAT-HOUSE is building, and will be ready for occupancy in the season of 1871. Invested value of boat-house, lands, etc. (no estimate given).

BOATS.—Being a recently organized club, have no boats on hand as yet.

TOTAL INVESTED VALUES, NOV. 30, 1870 (NO ESTIMATE).

F. Fisher Barge Club,

PITTSBURGH, PENN.

OFFICERS, NOVEMBER 30, 1870.

<i>President</i> , W. S. McGHEE, 438 Penn Street, Pittsburgh.	<i>Directors</i> , { D. JORDAN, 248 Cherry Alley, . Pittsburgh. T. MCINTIRE, 156 First Avenue, " JAS. JACKSON, 8 Matock's Alley, " JAS. RILEY, " W. SCOTT, 20 Scott's Alley, "
<i>Vice-Pres.</i> , S. McMICHAEL, Chestnut Street, . "	
<i>Secretary</i> , { JAS. RENZIEHAUSEN, 216 Liberty	
<i>Treasurer</i> , { Street, "	
<i>THOS. DONNELEV, 4 Matock's Alley, "</i>	

ORGANIZATION.

Organized, July 16, 1870.	Honorary Members allowed by the Constitution, none.
Semi-Annual Meetings for } 16th of July and January.	Active Members Enrolled, Nov. 30, 1870, 30
Election of Officers, }	Honorary Members, Nov. 30, 1870, 0
Monthly Meetings, First Monday in each Month.	
Active Members allowed by the Constitution, 40	Total Membership, Nov. 30, 1870, 30

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Allegheny River, from Suspension Bridge up the river to Herr's Island, one and a half miles, and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located at the foot of Eighth Street. Invested value of boat-house, lands, etc., \$1,000.

BOATS. —OUTRIGGER SHELLS,	0
OUTRIGGER GIGS,	0
INRIGGER GIGS,	0
CUTTERS AND BARGES,	0
MISCELLANEOUS, one New York working boat, one skiff,	2

Invested values of boats and fittings, \$100.

Total number of boats, 2

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,100.

Jones & Laughlin Boat Club,

ORMSBY BOROUGH, ALLEGHENY CO., PENN.

OFFICERS, NOVEMBER 30, 1870.

<i>President</i> , MARK DONLEY,	Ormsby P.O., Allegheny Co.	<i>Treasurer</i> , JOSEPH DAVIS,	Ormsby P.O., Allegheny Co.
<i>Vice-Pres.</i> , MART PHEIL,	" " "	<i>Financial</i> , } JOHN COSS,	" " "
<i>Secretary</i> , DANIEL CUSH,	" " "	<i>Secretary</i> , }	" " "

ORGANIZATION.

Organized,	July 23, 1870.	Honorary Members allowed by the Constitution, no report.
Semi-Annual Meetings for Elec- } Twenty-third of July and		Active Members Enrolled, Nov. 30, 1870, . . . 30
tion of Officers, } January.		Honorary Members, Nov. 30, 1870, . . . 0
Monthly Meetings, . . . Second Monday in each Month.		—
Active Members allowed by the Constitution, . . . 40		Total Membership, Nov. 30, 1870, . . . 30

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Upper Monongahela River, from Phillips Hollow to Habberman's Tipple, two and a half miles and return—five miles.

OUTFIT.

THE BOAT-HOUSE is located on First Street. Invested value of boat-house, lands, etc., \$1,200.

BOATS.—Being a new organization, own no boats as yet.

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,200.

Max Moorhead Boat Club,

PITTSBURGH, PENN.

OFFICERS, NOVEMBER 30, 1870.

<i>Vice-President</i> , HENRY BURNS,	<i>President</i> , DAVID EDWARDS, Soho, Pittsburgh.	<i>Treasurer</i> , JOHN H. REES,	Soho, Pittsburgh.
<i>Secretary</i> , RICHARD MORGAN,	" " "	<i>Commodore</i> , P. O. RIELLY,	" " "

ORGANIZATION.

Organized, July 3, 1869.	
Meetings for Election of Officers, . . . Semi-Annually.	Active Members Enrolled, Nov. 30, 1870, . . . 18
Monthly Meetings, . . . Sixth of each Month.	Honorary Members, Nov. 30, 1870, . . . 0
Active Members allowed by the Constitution, . . . 20	—
Honorary " " " " " no report.	Total Membership, Nov. 30, 1870, . . . 18

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Monongahela River, above Dam No. 1, from Joseph Street Buoy, at Frankstown, one and a half miles up and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located at Moorhead's Wharf, Soho. Invested value of boat-house lands, etc., \$1,500.

BOATS. —OUTRIGGER SHELLS, two singles, one four-oared,	3
OUTRIGGER GIGS,	0
INRIGGER GIGS,	0
CUTTERS AND BARGES,	0
MISCELLANEOUS, one New York working-boat,	1
	—

Invested values of boats and fittings, \$526.

Total number of boats, 4

TOTAL INVESTED VALUES, NOV. 30, 1870, \$2,026.

John W. Pittock Barge Club,

PITTSBURGH, PENN.

OFFICERS, NOVEMBER 30, 1870.

President, W. J. DAWSON, Pittsburgh. | *Secretary*, J. H. WILLIAMS, 103 Pike St., Pittsburgh.
Vice-Pres., SAMUEL ELLISON, JR., " | *Treasurer*, JAMES BOYD, "

ORGANIZATION.

Organized, July 12, 1869. | Honorary Members allowed by the Constitution, 50
 Semi-Annual Meetings for } First Monday in April and | Active Members Enrolled, Nov. 30, 1870, 30
 Election of Officers, } October. | Honorary Members, Nov. 30, 1870, 0
 Monthly Meetings, First Monday in each Month. | —
 Active Members allowed by the Constitution, 30 | Total Membership, Nov. 30, 1870, 30

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Allegheny River, from Suspension Bridge up the river to Herr's Island, one and a half miles and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located at the foot of 13th Street, on the Allegheny River. Invested value of boat-house, lands, etc., \$600.

BOATS.—OUTRIGGER SHELLS, two singles, one double, one four-oared, one six-oared, 5
 OUTFITTERS AND INRIGGER GIGS, CUTTERS, BARGES, AND MISCELLANEOUS, 0

Invested values of boats and fittings, \$1,000. Total number of boats, 5

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,600.

Pittsburgh Barge Club,

PITTSBURGH, PENN.

OFFICERS, NOVEMBER 30, 1870.

President, ALEXANDER NIMICK, of Nimick & Co., Pittsburgh.
Vice-Pres., J. P. WOOD, of Burke & Wood, Pittsburgh. | *Treasurer*, RODMAN WESTER, 29 Wood St., Pittsburgh.
Secretary, J. F. LEECH, Duquesne Way, " | *Coxswain*, J. P. WOOD, of Burke & Wood, "

ORGANIZATION.

Organized, February, 1870. | Honorary Members allowed by the Constitution, no limit.
 Semi-Annual Meetings for } First Friday in January and | Active Members Enrolled, Nov. 30, 1870, 73
 Election of Officers, } July. | Honorary Members, Nov. 30, 1870, 9
 Monthly Meetings, First Friday in each Month. | —
 Active Members allowed by the Constitution, 75 | Total Membership, Nov. 30, 1870, 82

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSE for racing is on the Allegheny River, from the Suspension Bridge one and a half miles up the river to Herr's Island, and return—three miles. The club row also on the Monongahela and Ohio Rivers. Five miles races and excursions extend to Sharpsburg.

OUTFIT.

THE BOAT-HOUSE is located at the foot of Seventh Street, Duquesne Way. Invested values of boat-house, lands, etc., \$900.

BOATS.—OUTRIGGER SHELLS, one double, two four-oared (*Whisper* and *Unknown*), 3
 OUTFITTERS GIGS, one six-oared (*Naiad*), 1
 INRIGGER GIGS, 0
 CUTTERS AND BARGES, one eight-oared barge (*Alice*), 1
 MISCELLANEOUS, 0

Invested values of boats and fittings, \$1,772. Total number of boats, 5

TOTAL INVESTED VALUES, NOV. 30, 1870, \$2,672.

Soho Boat Club,

PITTSBURGH, PENN.

OFFICERS, NOVEMBER 30, 1870.

President, WILLIAM GLOVER, . Soho, Pittsburgh. | *Secretary,* JAMES WHELAN, . . . Soho, Pittsburgh.
Vice-President, JOHN FENOUGH, . . . " " | *Treasurer,* EDWARD SKEES, . . . " "

ORGANIZATION.

Organized,	February 22, 1870.	Honorary Members allowed by the Constitution, no report.	
Annual Meeting for Elec- } tion of Officers,	Twenty-second of February.	Active Members Enrolled, Nov. 30, 1870,	17
Monthly Meetings,	First Monday in each Month.	Honorary Members, Nov. 30, 1870,	0
Active Members allowed by the Constitution,	20	Total Membership, Nov. 30, 1870,	17

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSES are on the Monongahela River, both below and above Dam No. 1; the lower a five miles, and the upper a three miles turning course.

OUTFIT.

THE BOAT-HOUSE is located at the foot of Brady Street. Invested value of boat-house, lands, etc., \$1,500.

BOATS. —OUTRIGGER SHELLS,	0
OUTRIGGER AND INRIGGER GIGS,	0
CUTTERS AND BARGES,	0
MISCELLANEOUS, two New York working-boats, one skiff,	3

Invested values of boats and fittings, \$100.

Total number of boats,

3

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,600.

D. Rolfe Boat Club,

SOUTH PITTSBURGH, PENN.

OFFICERS, NOVEMBER 30, 1870.

President, TIMOTHY O'BRIEN, Pittsburgh. | *Secretary,* JOHN THOMAS, 332 Brigham St., S. Pittsburgh.
Vice-President, JAMES GARVEY, Birmingham. | *Treasurer,* HENRY DRESSLER, Manor Street, " "

ORGANIZATION.

Organized,	September 1, 1870.	Honorary Members allowed by the Constitution,	50
Annual Meeting for Election of } Officers,	First of September.	Active Members Enrolled, Nov. 30, 1870,	10
Monthly Meetings,	First Saturday in each Month.	Honorary Members, Nov. 30, 1870,	20
Active Members allowed by the Constitution,	30	Total Membership, Nov. 30, 1870,	30

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Monongahela River, from Suspension Bridge to the head of the island—five miles. (No other details given.)

OUTFIT.

THE BOAT-HOUSE is located at foot of First Street. Invested value of boat-house, lands, etc., \$1,000.

BOATS. —OUTRIGGER SHELLS,	0
OUTRIGGER GIGS, three pair-sculls,	3
INRIGGER GIGS, CUTTERS, AND BARGES,	0
MISCELLANEOUS, five dingys, one skiff, two canoes,	8

Invested values of boats and fittings, \$420.

Total number of boats,

11

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,420.

Union Boat Club,

PITTSBURGH, PENN.,

OFFICERS, NOVEMBER 30, 1870.

President, JOHN MAXWELL, Vigilant Eng. House, Pittsburgh. | *Secretary*, W. F. HALEY, 4 Market Alley, Pittsburgh.
V.-Pres., HENRY REISMEYER, " " " " | *Treasurer*, GEO. BRAMLEE, " " " "

ORGANIZATION.

Organized, May 14, 1869.

Annual Meeting for Election of Officers,	First of May.	Active Members Enrolled Nov. 30, 1870,	25
Monthly Meetings,	First Monday in each Month.	Honorary Members, Nov. 30, 1870,	4
Active Members allowed by the Constitution,	40		—
Honorary " " " " " " " " " "	no report.	Total Membership, Nov. 30, 1870, .	29

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Monongahela River, from Monongahela Bridge to Saw Mill Run, one and a half miles and return, and from Monongahela Bridge to Cork's Run, two and a half miles down the river and return—three and five miles.

OUTFIT.

THE BOAT-HOUSE is located at foot of Ross Street. Invested value of boat-house, lands, etc., \$1,000.

BOATS. —OUTRIGGER SHELLS, two singles, two four-oared,	-	-	-	-	-	-	4
OUTRIGGER AND INRIGGER GIGS,	-	-	-	-	-	-	0
CUTTERS AND BARGES,	-	-	-	-	-	-	0
MISCELLANEOUS, one skiff,	-	-	-	-	-	-	1

Invested values of boats and fittings, \$800.

Total number of boats, 5

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,800.

Class of 1871 Boat Club,

BROWN UNIVERSITY, PROVIDENCE, R. I.

OFFICERS, NOVEMBER 30, 1870.

Pres., GEO. W. BUCKLIN, Brown University., Providence. | *Lieutenant*, THOS. C. HENNESSY, Brown Univ., Providence.
Sec., ARTHUR F. BOWERS, " " " " | *Prudential* { GEO. W. BUCKLIN, } " " "
Purser, JOSEPH H. JEWELL, " " " " | *Committee*, { CHAS. C. LUTHER, } " " "
Capt., CHARLES C. LUTHER, " " " " | { ED. F. CHILD, } " " "

ORGANIZATION.

Organized, Fall of 1869.

Annual Meetings for Election of Officers,	First week of Fall Term.	Honorary Members allowed by the Constitution, no report.
Monthly Meetings,	At the call of the President.	Active Members Enrolled, Nov. 30, 1870, .
Active Members allowed by the Constitution,	Limited to Members of the Class of 1871.	Honorary Members, Nov. 30, 1870, .
		Total Membership, Nov. 30, 1870, .

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSES are on the Seekonk River and Providence Harbor. The *three miles turning course* commences at the Club House, thence up the river to a stake opposite Swan Point Cemetery, one and a half miles and return. The *three miles straight-away course* commences at a point just above Durnell's Wharf, Pawtucket, thence down the river three miles, to opposite the Club House.

OUTFIT.

THE BOAT-HOUSE is located on the Seekonk River, at the foot of Angel Street. (See University Club report.) Invested values of boat-house, lands, etc. (see University Club report).

BOATS. —OUTRIGGER SHELLS, one six-oared,	-	-	-	-	-	-	1
OUTRIGGER AND INRIGGER GIGS,	-	-	-	-	-	-	0
CUTTERS, BARGES, AND MISCELLANEOUS,	-	-	-	-	-	-	0

Invested values of boats and fittings, \$375.

Total number of boats, 1

TOTAL INVESTED VALUES, NOV. 30, 1870, \$375.

Class of 1872 Boat Club,

BROWN UNIVERSITY, PROVIDENCE, R. I.

OFFICERS, NOVEMBER 30, 1870.

<i>President</i> , JAMES W. HENDRICK, Brown University, Providence.			
<i>Vice-Pres.</i> , WM. W. LANDRUM, Brown Univ., Providence.	<i>Lieutenant</i> , GEO. WASHBURN, Brown Univ., Providence.		
<i>Secretary</i> , JAMES M. DUANE, " " "	<i>Prudential Committee</i> {	F. A. HOWARTH, " " "	"
<i>Purser</i> , WM. V. KELLEN, " " "		J. C. B. WOODS, " " "	"
<i>Captain</i> , FRANCIS A. HOWARTH, " " "		W. B. HULL, " " "	"

ORGANIZATION.

Organized,	October 1, 1870.	Honorary Members allowed by the Constitution, no report.
Annual Meeting for Election,	First week of Fall Term.	Active Members Enrolled, Nov. 30, 1870,
Other Meetings,	no report.	Honorary Members, Nov. 30, 1870,
Active Members allowed by the Constitution, } Limited to members of the Class of 1872.		Total Membership, Nov. 30, 1870,

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSES are on the Seekonk River (same as described in Class of 1871 Boat Club report).

OUTFIT.

THE BOAT-HOUSE is located on the Seekonk River, foot of Angel Street (see description in report of University Boat Club). Invested value of boat-house, lands, etc. (see U. B. C. report).

BOATS.—OUTRIGGER SHELLS, one six-oared,	1
OUTRIGGER AND INRIGGER GIGS, CUTTERS, AND BARGES,	0
MISCELLANEOUS,	0

Invested values of boats and fittings, \$150. Total number of boats, 1

TOTAL INVESTED VALUES, NOV. 30, 1870, \$150.

Class of 1873 Boat Club,

BROWN UNIVERSITY, PROVIDENCE, R. I.

OFFICERS, NOVEMBER 30, 1870.

<i>Secretary</i> , EDWARD Y. BOGMAN, Brown Univ., Providence.	<i>Captain</i> , EDWARD N. LUTHER, Brown Univ., Providence.
<i>Treasurer</i> , JOHN B. GRINNELL, " " "	<i>Lieutenant</i> , WM. E. CALDWELL, " " "

ORGANIZATION.

Organized, November, 1869.	
Annual Meeting for Election of Officers, } At the commencement of each college year.	Honorary Members allowed by the Constitution, no report.
Other Meetings,	At the call of the Captain.
Active Members allowed by the Constitution, } Limited to members of the Class of 1873.	Active Members Enrolled, Nov. 30, 1870,
	Honorary Members, Nov. 30, 1870,
	Total Membership, Nov. 30, 1870,

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSES are on the Seekonk River (same as described in report of Class of 1871 Boat Club).

OUTFIT.

THE BOAT-HOUSE is located on the Seekonk River, at the foot of Angel Street* (for description, see report of University Boat Club). Invested value of boat-house, lands, etc. (see U. B. C. report).

BOATS.—OUTRIGGER SHELLS, two six-oared,	2
OUTRIGGER AND INRIGGER GIGS, CUTTERS, BARGES, AND MISCELLANEOUS,	0

Invested values of boats and fittings, \$500. Total number of boats, 2

TOTAL INVESTED VALUES, NOV. 30, 1870, \$500.

Class of 1874 Boat Club,

BROWN UNIVERSITY, PROVIDENCE, RHODE ISLAND.

OFFICERS, NOVEMBER 30, 1870.

Sec. and Treas., J. L. LINCOLN, Jr., Brown Univ., Providence. | Captain, HENRY CORNETT, Brown University, Providence.

ORGANIZATION.

Organized, October 1, 1870.

Annual Meeting for Election of Officers,	{ At the commencement of each College Year.	Honorary Members allowed by the Constitution, no report.	
Other Meetings,	{ no report.	Active Members Enrolled, Nov. 30, 1870,	80
Active Members allowed by the Constitution,	{ Limited to the Members of the Class of 1874.	Honorary Members, Nov. 30, 1870,	0
		Total Membership, Nov. 30, 1870,	80

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSES are on the Seekonk River, same as described in report of Class of 1871 Boat Club.

OUTFIT.

THE BOAT-HOUSE is located on the Seekonk River, at the foot of Angel Street. (For description, see report of University Boat Club.) Invested value of boat-house, lands, etc. (see U. B. C. report).

BOATS.—The club owns as yet no boats, using those belonging to the University Boat Club.

TOTAL INVESTED VALUES, NOV. 30, 1870 (NO REPORT).

Brown University Boat Club,

PROVIDENCE, RHODE ISLAND.

OFFICERS, NOVEMBER 30, 1870.

Captain, CHARLES C. LUTHER, Brown University, Providence.

Lieutenant, GEO. A. STOCKWELL, Brown Univ., Providence.		Directors, { CHAS. C. LUTHER, Brown Univ., Providence.	
Secretary, WM. W. DUNNELL, " "		{ W. E. CALDWELL, " "	
Purser, J. C. B. WOODS, " "		{ A. M. SMITH, " "	

ORGANIZATION.

Organized,	1857.	Honorary Members allowed by the Constitution, no limit.	
Annual Meeting for Election of Officers,	{ First Saturday in the Fall Term.	Active Members Enrolled, Nov. 30, 1870,	(See summary below).
Monthly Meetings,	{ At the call of the Captain or ten Members.	Honorary Members, Nov. 30, 1870,	0
Active Members allowed by the Constitution,	no limit.	Total Membership, Nov. 30, 1870 (see summary below).	

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSES are on the Seekonk River, same as described in the report of Class of 1871 Boat Club.

OUTFIT.

THE BOAT-HOUSE is located on the Seekonk River, at the foot of Angel Street. It is about being replaced by a new house, two stories high, 60 x 80 feet, to cost \$3,000. Present invested value of boat-house, lands, etc., \$500.

BOATS.—OUTRIGGER SHELLS, three singles, one double, four six-oared,	-	-	-	-	8
OUTRIGGER AND INRIGGER GIGS, CUTTERS, AND BARGES,	-	-	-	-	0
MISCELLANEOUS, two skiffs,	-	-	-	-	2
					10

Invested values of boats and fittings, \$1,200.

Total number of boats,

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,700.

SUMMARY OF BROWN UNIVERSITY BOATING STATISTICS.

CLUBS.	Members.	BOATS.						VALUES.		
		Shells.					Tptal.	Boats.	Boat-House, Lands, etc.	Total.
		Singles.	Doubles.	4-oared.	6-oared.	Skiffs.				
Class of 1871 B. C...	38	..	..	..	1	..	1	\$375	..	\$375
Class of 1872 B. C...	47	..	..	..	1	..	1	150	..	150
Class of 1873 B. C...	45	..	..	..	2	..	2	500	..	500
Class of 1874 B. C...	80	..	..	..	..	..	..	..	..	..
University B. C.....	..	3	1	..	4	2	10	1,200	\$500	1,700
TOTALS.....	210	3	1	..	8	2	14	\$2,225	\$500	\$2,725

Narragansett Boat Club,

PROVIDENCE, RHODE ISLAND.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	ORVILLE M. REMINGTON,	Providence.		<i>Directors,</i>	ORVILLE M. REMINGTON,	Providence.
<i>Secretary and</i>	SAMUEL HAYWARD,	"	"		SAMUEL HAYWARD,	"
<i>Treasurer,</i>					NEWTON DEXTER,	"
<i>Captain,</i>	NEWTON DEXTER,	"	"		N. R. KNIGHT,	"
<i>Lieutenant,</i>	N. R. KNIGHT,	"	"		J. C. BUTTERWORTH, JR.,	"
					S. H. BROWNELL,	"

ORGANIZATION.

Organized, March, 1866.

Semi-Annual Meetings for } First Wednesday in January	Honorary Members allowed by the Constitution,	no limit.
Election of Officers, } and July.	Active Members Enrolled, Nov. 30, 1870,	55
Quarterly Meetings, { First Wednesday in January, April,	Honorary Members, Nov. 30, 1870,	5
		—
Active Members allowed by the Constitution,	Total Membership, Nov. 30, 1870,	60

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSES are on the Providence and Seekonk Rivers and Narragansett Bay. For three miles turning races, on Seekonk River, from a point a short distance above Red Bridge, up the river one and a half miles to a stake boat, and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located at the foot of Orange Street, on Railroad Wharf. Invested value of boat-house, lands, etc. (no estimate given).

BOATS.—OUTRIGGER SHELLS, nine singles, three doubles, two four-oared, three six-oared, 17
OUTRIGGER AND INRIGGER GIGS, CUTTERS, AND BARGES, none; MISCELLANEOUS, one row-boat, 1

Invested values of boats and fittings, \$2,300. Total number of boats, 18
TOTAL INVESTED VALUES, NOV. 30, 1870, \$2,300.

Undine Boat Club,

WESTERLY, RHODE ISLAND.

OFFICERS, NOVEMBER 30, 1870.

		<i>President,</i>	S. C. BURDICK, Westerly.	
<i>Vice-President,</i>	A. L. BARBOUR,	Westerly.	<i>Treasurer,</i>	E. H. COTTRELL,
<i>Secretary,</i>	C. C. MAXSON,	"	<i>Captain,</i>	G. EDWARD STILLMAN,
				Westerly.

ORGANIZATION.

Organized,	June 20, 1867.	Honorary Members allowed by the Constitution,	no report.
Annual Meeting for Elec- } Twentieth of June.		Active Members Enrolled, Nov. 30, 1870,	27
tion of Officers, }		Honorary Members, Nov. 30, 1870,	0
Monthly Meetings,	First Monday in each Month.		—
Active Members allowed by the Constitution,	no report.	Total Membership, Nov. 30, 1870,	27

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on Pawcatuck River and Little Narragansett Bay, three miles (no details given).

OUTFIT.

THE BOAT-HOUSE is located foot of Mechanic Street. Invested value of boat-house, lands, etc., \$125.

BOATS.—OUTRIGGER SHELLS, one single, one four-oared, 2
OUTRIGGER GIGS, one eight-oared, 1
INRIGGER GIGS, one eight-oared, 1
CUTTERS, BARGES, AND MISCELLANEOUS, 0

Invested values of boats and fittings, \$440. Total number of boats, 4
TOTAL INVESTED VALUES, NOV. 30, 1870, \$565.

Look-Out Boat Club,

CHATTANOOGA, TENN.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	ALBERT FELL, . . .	Chattanooga.	<i>Treasurer,</i>	C. M. CAMPBELL, . . .	Chattanooga.
<i>Vice-President,</i>	HARRY WILCOX, . . .	"	<i>Commodore,</i>	W. HOWELL, . . .	"
<i>Secretary,</i>	RICHARD FELL, Jr., . . .	"	<i>Captain,</i>	C. CRETZER, . . .	"

ORGANIZATION.

Organized,	October 24, 1870.	Honorary Members allowed by the Constitution, no report.
Semi-Annual Meetings for Elec- } tion of Officers, } Other Meetings,	Twenty-fourth of Octo- ber and April. no report.	Active Members Enrolled, Nov. 30, 1870, 30 Honorary Members, Nov. 30, 1870, 20
Active Members allowed by the Constitution,	no report.	Total Membership, Nov. 30, 1870, 50

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Tennessee River. (No description of direction or limits given.)

OUTFIT.

A BOAT-HOUSE is to be built, but its position is not yet designated. Invested value of boat-house, lands, etc. (no estimate).

BOATS.—The club, having just been organized, has no boats, but is negotiating for two six-oared racing-boats for use next season.

TOTAL INVESTED VALUES, NOV. 30, 1870 (NO ESTIMATE).

Chickasaw Boat Club,

MEMPHIS, TENN.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	JAMES B. EMERY, . . .	Memphis.	<i>Trustees,</i>	DR. J. W. JUSTICE, . . .	Memphis.
<i>Secretary,</i>	FRED. G. GUTHERZ, . . .	"		F. AMES TYLER, . . .	"
<i>Treasurer,</i>	A. A. JAMES, . . .	"		JO. W. ALLISON, . . .	"
<i>Captain,</i>	WM. WORSHAM, . . .	"		A. A. JAMES, . . .	"
				J. B. EMERY, . . .	"

ORGANIZATION.

Organized,	May, 1868.	Honorary Members allowed by the Constitution, no limit.
Semi-Annual Meeting for Elec- } tion of Officers, } Monthly Meetings,	In January and July. Second Tuesday in each Month.	Active Members Enrolled, Nov. 30, 1870, 16 Honorary Members, November 30, 1870, 10
Active Members allowed by the Constitution,	30	Total Membership, Nov. 30, 1870, 26

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Mississippi River—length, three miles. (No details of direction or limits reported.)

OUTFIT.

THE BOAT-HOUSE is located at the foot of Beale Street. Invested value of boat-house, lands, etc. (house rented).

BOATS.—OUTRIGGER SHELLS, one six-oared,	1
OUTRIGGER GIGS,	0
INRIGGER GIGS, one six-oared,	1
CUTTERS AND BARGES, one ten-oared,	1
MISCELLANEOUS,	0

Invested values of boats and fittings, \$1,200.

Total number of boats, 3

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,200.

De Soto Boat Club,

MEMPHIS, TENN.

OFFICERS, NOVEMBER 30, 1870.

	<i>President</i> , J. E. CLARIE, Memphis.	
<i>Vice-Pres.</i> , J. TRABUCCO,	Memphis.	<i>Treasurer</i> , W. F. CARROLL,
<i>Secretary</i> , A. B. WEAVER, 375 Shelby St.,	"	<i>Captain</i> , W. W. MAINTGAULT,
		Memphis.

ORGANIZATION.

Organized,	May 15, 1867.	Honorary Members allowed by the Constitution,	20
Annual Meeting for Elec- }	First Tuesday in June.	Active Members Enrolled, Nov. 30, 1870,	17
tion of Officers, }		Honorary Members, Nov. 30, 1870,	7
Monthly Meetings,	First Tuesday in each month.		
Active Members allowed by the Constitution,	30	Total Membership, Nov. 30, 1870,	24

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Mississippi River. Length, three miles. (No report of direction or limits given.)

OUTFIT.

THE BOAT-HOUSE is located on McCall Street, near river bank. Invested value of boat-house, lands, etc. (no report).

BOATS. —OUTRIGGED SHELLS,	-	-	-	-	-	-	-	-	-	0
OUTRIGGED GIGS, one six-oared,	-	-	-	-	-	-	-	-	-	1
INRIGGED GIGS, one eight-oared,	-	-	-	-	-	-	-	-	-	1
CUTTERS AND BARGES,	-	-	-	-	-	-	-	-	-	0
MISCELLANEOUS,	-	-	-	-	-	-	-	-	-	0

Invested values of boats and fittings, \$600.

Total number of boats, 2

TOTAL INVESTED VALUES, NOV. 30, 1870, \$600.

Essex Boat Club,

MEMPHIS, TENN.

OFFICERS, NOVEMBER 30, 1870.

	<i>President</i> , L. E. DYER, Memphis.	
<i>Vice-Pres.</i> , A. P. CURRY,	Memphis.	<i>Treasurer</i> , G. S. RICHARDSON,
<i>Secretary</i> , W. J. JOHNSTON, 20 Madison St.,	"	<i>Coxswain</i> , J. S. SMITH, JR.,
		Memphis.

ORGANIZATION.

Organized,	July 1, 1867.	Honorary Members allowed by the Constitution, no report.
Annual Meeting for Elec- }	First Tuesday in July.	Active Members Enrolled, Nov. 30, 1870,
tion of Officers, }		Honorary Members, Nov. 30, 1870,
Monthly Meetings,	First Tuesday in each Month.	
Active Members allowed by the Constitution,	no report.	Total Membership, Nov. 30, 1870,

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Mississippi River, from the foot of Market Street to South Street, one and a half miles and return—three miles.

OUTFIT.

BOAT-HOUSE.—The club owns no boat-house at present; boats are stored on private premises. Invested value of boat-house, lands, etc. (no estimate given).

BOATS. —OUTRIGGED SHELLS, two singles,	-	-	-	-	-	-	-	-	-	2
OUTRIGGED GIGS, CUTTERS, BARGES, AND MISCELLANEOUS,	-	-	-	-	-	-	-	-	-	0
INRIGGED GIGS, one four-oared,	-	-	-	-	-	-	-	-	-	1

Invested values of boats and fittings, \$500.

Total number of boats, 3

TOTAL INVESTED VALUES, NOV. 30, 1870, \$500.

Memphis Boat Club,

MEMPHIS, TENN.

OFFICERS, NOVEMBER 30, 1870.

President, CHARLES L. LOOP, Office Southern Express Company, Memphis.
Vice-Pres., J. A. J. SMITH, 225 Main Street, Memphis.
Secretary, R. M. McKIE, 315 Main Street, " *Coxswains*, { LOUIS PODESTA, corner of Main and
Treasurer, A. IRWIN, cor. Main and Court Sts., " { North Court Streets, . . . Memphis.
 { N. TATE PERKINS, . . . "

ORGANIZATION.

Organized,	May 5, 1866.	Honorary Members allowed by the Constitution, no limit.
Annual Meeting for Election of Officers,	First of January.	Active Members Enrolled, Nov. 30, 1870, . . . 20
Monthly Meetings,	First Day in each Month.	Honorary Members, Nov. 30, 1870, . . . 6
Active Members allowed by the Constitution,	25	Total Membership, Nov. 30, 1870, . . . 26

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSE is on the Mississippi, from foot of Union Street to a point three miles up the river, and return—six miles. Rowing is also practised on Wolf River.

OUTFIT.

BOAT-HOUSE—No report made in regard to it. Invested value of boat-house, lands, etc. (no estimate given.)

BOATS .—OUTRIGGER SHELLS AND GIGS,	-	-	-	-	-	0
INRIGGER GIGS, two four-oared (<i>Ivanhoe</i> and <i>Lizzie</i>),	-	-	-	-	-	2
CUTTERS, BARGES, AND MISCELLANEOUS,	-	-	-	-	-	0

Invested values of boats and fittings, \$1,000.

Total number of boats, . . . 2

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,000.

Queen City Boat Club,

BURLINGTON, VERMONT.

OFFICERS, NOVEMBER 30, 1870.

President, G. W. HINDS, Burlington.
Vice-President, W. A. CROMBIE, Burlington. *Treasurer*, T. F. GRISWOLD, Burlington.
Secretary, W. W. NICHOLS, P.O. Box 546, " *Captain*, JOHN DULLEHAN, "

ORGANIZATION.

Organized,	July, 1870.	Honorary Members allowed by the Constitution, no report.
Meetings for Election of Officers,	First Wednesday in April.	Active Members Enrolled, Nov. 30, 1870, . . . 25
Monthly Meetings,	no report.	Honorary Members, Nov. 30, 1870, . . . 0
Active Members allowed by the Constitution,	30	Total Membership, Nov. 30, 1870, . . . 25

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on Lake Champlain, opposite the city, from Juniper Island to the Breakwater—three miles.

OUTFIT.

THE BOAT-HOUSE is located on Burlington Bay, at the foot of King Street. Invested value of lands, etc., \$200.

BOATS .—OUTRIGGER SHELLS, one single, two six-oared,	-	-	-	-	-	3
OUTRIGGER AND INRIGGER GIGS,	-	-	-	-	-	0
CUTTERS AND BARGES, two four-oared,	-	-	-	-	-	2
MISCELLANEOUS, one skiff, one canoe,	-	-	-	-	-	2

Invested values of boats and fittings, \$1,000.

Total number of boats, . . . 7

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,200.

Albert Sidney Boat Club,

WASHINGTON COLLEGE, LEXINGTON, VIRGINIA.

OFFICERS, NOVEMBER 30, 1870.

Captain, L. DESHA, Lexington.
Lieutenant, J. A. LACY, Lexington. | *Purser*, E. B. KRUTTSCHNITT, P.O. Box 252, Lexington.

ORGANIZATION.

Organized,	August 12, 1867.	Honorary Members allowed by the Constitution, no limit.	
Annual Meeting for Election of Officers,	First Saturday in October.	Active Members Enrolled, Nov. 30, 1870,	15
Monthly Meetings,	First Saturday in each Month.	Honorary Members, Nov. 30, 1870,	5
Active Members allowed by the Constitution,	42	Total Membership, Nov. 30, 1870,	20

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the North River, from Lexington to the First Lock of James River and Kanawha Canal, one and three-quarter miles and return—three and a half miles.

OUTFIT.

THE BOAT-HOUSE was located on the North River, but was washed away by a late flood. Invested value of boat-house, lands, etc. (no report).

BOATS. —OUTRIGGER SHELLS AND GIGS,	-	-	-	-	-	-	-	0
INRIGGER GIGS, one six-oared,	-	-	-	-	-	-	-	1
CUTTERS, BARGES, AND MISCELLANEOUS,	-	-	-	-	-	-	-	0

Invested values of boats and fittings, \$300.

Total number of boats, 1

TOTAL INVESTED VALUES, NOV. 30, 1870, \$300.

Lutine Boat Club,

NORFOLK, VIRGINIA.

OFFICERS, NOVEMBER 30, 1870.

Treasurer, FRED. S. TAYLOR, Norfolk.
Captain, F. B. DORNIN, Norfolk. | *Coxswain*, P. T. MOORE, Norfolk.

ORGANIZATION.

Organized,	March 1, 1870.	Honorary Members allowed by the Constitution, no report.	
Annual Meeting for Election of Officers,	First of April.	Active Members Enrolled, Nov. 30, 1870,	6
Other Meetings,	no report.	Honorary Members, Nov. 30, 1870,	0
Active Members allowed by the Constitution,	50	Total Membership, Nov. 30, 1870,	6

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Elizabeth River, one and a half miles and return—three miles. (No description of direction of course or of termini given.)

OUTFIT.

THE BOAT-HOUSE is located at the foot of Main Street. Invested value of boat-house, lands, etc. (no estimate given.)

BOATS. —OUTRIGGER SHELLS AND GIGS,	-	-	-	-	-	-	-	0
INRIGGER GIGS, one four-oared,	-	-	-	-	-	-	-	1
CUTTERS AND BARGES, one four-oared,	-	-	-	-	-	-	-	1
MISCELLANEOUS, one skiff,	-	-	-	-	-	-	-	1

Invested values of boats and fittings, \$300.

Total number of boats, 3

TOTAL INVESTED VALUES, NOV. 30, 1870, \$300.

Mildred Boat Club,

NORFOLK, VIRGINIA.

OFFICERS, NOVEMBER 30, 1870.

Sec. and Treas., A. TAYLOR, . . . Norfolk. | *President,* T. W. SELDEN, Norfolk. | *Captain,* T. C. BAKER, . . . Norfolk.

ORGANIZATION.

Organized,	April 15, 1870.	Honorary Members allowed by the Constitution,	none.
Annual Meeting for Elec- }	Fifteenth of April.	Active Members Enrolled, Nov. 30, 1870,	6
tion of Officers, }		Honorary Members, Nov. 30, 1870,	0
Monthly Meetings,	Nineteenth of each Month.		
Active Members allowed by the Constitution,	6	Total Membership, Nov. 30, 1870,	6

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Elizabeth River, from foot of Freemason Street down the river one and a half miles, around Buoy, and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located at Chamberlain's Wharf. Invested value of boat-house, lands, etc., \$50.

BOATS. —OUTRIGGER SHELLS,	0
OUTRIGGER GIGS,	0
INTRIGGER GIGS, one four-oared,	1
CUTTERS AND BARGES,	0
MISCELLANEOUS, one skiff,	1

Invested values of boats and fittings, \$150.

Total number of boats, 2

TOTAL INVESTED VALUES, NOV. 30, 1870, \$200.

Neptune Boat Club,

NORFOLK, VIRGINIA.

OFFICERS, NOVEMBER 30, 1870.

Secretary, JOSEPH T. ALLYN, P.O. Box 217, Norfolk. | *Treas. and Capt.,* THOS. R. BORLAND, P.O. Box, 234, Norfolk.

ORGANIZATION.

Organized,	July 1, 1870.	Honorary Members allowed by the Constitution,	none.
Annual Meeting for Elec- }	Fifth of March.	Active Members Enrolled, Nov. 30, 1870,	7
tion of Officers, }		Honorary Members, Nov. 30, 1870,	0
Monthly Meetings,	At the call of the Captain or Treasurer.		
Active Members allowed by the Constitution,	7	Total Membership, Nov. 30, 1870,	7

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Elizabeth River, from west end of Freemason Street down the river one and a half miles, around Buoy, and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located on Chamberlain's Wharf, at west end of Main Street. Invested value of boat-house, lands, etc. (no estimate given).

BOATS. —OUTRIGGER SHELLS,	0
OUTRIGGER GIGS, one six-oared,	1
INTRIGGER GIGS, CUTTERS, BARGES, AND MISCELLANEOUS,	0

Invested values of boats and fittings, \$250.

Total number of boats, 1

TOTAL INVESTED VALUES, NOV. 30, 1870, \$250.

Undine Boat Club,

NORFOLK, VIRGINIA.

OFFICERS, NOVEMBER 30, 1870.

<i>President</i> , SAMUEL KIMBERLY, Norfolk.	<i>Treasurer</i> , WILLIAM A. POWER, Norfolk.
<i>Vice-Pres.</i> , JOHN LOCKHART, P.O. Box 100, "	<i>Commodore</i> , J. C. LYNCH, "
<i>Secretary</i> , E. B. LEPAGE, "	<i>Coxswain</i> , B. F. BAXTER, "

ORGANIZATION.

Organized, July 17, 1870.	Honorary Members allowed by the Constitution, no limit.
Annual Meeting for Elec- } Second Monday in January.	Active Members Enrolled, Nov. 30, 1870, 19
tion of Officers, }	Honorary Members, Nov. 30, 1870, 21
Monthly Meetings, Second Monday in each Month.	
Active Members allowed by the Constitution, 20	Total Membership, Nov. 30, 1870, 40

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Elizabeth River, from Todd's Point to Piney Point, one and a half miles and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located at Powers's Wharf. Invested value of boat-house, lands, etc., \$1,500.

BOATS. —OUTRIGGER SHELLS, three singles, one double, - - - - -	4
OUTRIGGER GIGS, one pair-sculls, one two-pair sculls, two four-oared, one six-oared, - - - - -	5
INRIGGER GIGS, - - - - -	0
CUTTERS AND BARGES, two four-oared, one six-oared, - - - - -	3
MISCELLANEOUS, one New York working-boat, - - - - -	1
	—

Invested values of boats and fittings, \$1,620.

Total number of boats, - 13

TOTAL INVESTED VALUES, NOV. 30, 1870, \$3,120.

Chippewa Falls Pioneer Boat Club,

CHIPPEWA FALLS, WIS.

OFFICERS, MAY 27, 1871.

<i>President</i> , ALBERT TAYLOR, Chippewa Falls.	<i>Vice-Comm.</i> , ROBERT JACKSON, Chippewa Falls.
<i>Vice-Pres.</i> , EDWARD H. COLEMAN, "	<i>Captain</i> , LEWIS WHITNEY, "
<i>Secretary</i> , THOMAS MCBENN, "	<i>Coxswain</i> , J. P. CLURLAND, "
<i>Treasurer</i> , EDWARD P. HASTINGS, "	<i>Steward</i> , CHARLES COLE, "
<i>Commodore</i> , JOHN M. DAY, "	<i>Measurer</i> , JOHN F. HALE, "

ORGANIZATION.

Organized, April 6, 1869.	Honorary Members allowed by the Constitution, none.
Annual Meeting for Election } Sixth of April.	Active Members Enrolled, Nov. 30, 1870, 25
of Officers, }	Honorary Members, Nov. 30, 1870, 0
Monthly Meetings, Sixth of each Month.	
Active Members allowed by the Constitution, 25	Total Membership, Nov. 30, 1870, 25

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Chippewa River, commencing at the foot of Spring Street, Chippewa Falls, thence three miles to the foot of Bolingay Street, Frenchtown and return—six miles.

OUTFIT.

THE BOAT-HOUSE is located at the foot of Spring Street, Chippewa Falls. Invested value of boat-house, lands, etc., \$4,756.

BOATS. —OUTRIGGER SHELLS, - - - - -	0
OUTRIGGER GIGS, two pair-sculls, two two-pair sculls, two six-oared, - - - - -	6
INRIGGER GIGS, one pair-oared, one six-oared, - - - - -	2
CUTTERS, BARGES, AND MISCELLANEOUS, - - - - -	0
	—

Invested values of boats and fittings, \$900.

Total number of boats, - 8

TOTAL INVESTED VALUES, NOV. 30, 1870, \$3,656.

Madison Boat Club,

MADISON, WISCONSIN.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	CHARLES E. BROSS,	Madison.	<i>Members of the Executive Committee, in addition to the Officers ex officio,</i>	H. L. GRAY,	Madison.
<i>Vice-President,</i>	MANNING TREDWAY,	"		W. T. FISH,	"
<i>Secretary and Treasurer,</i>	CHANDLER P. CHAPMAN,	"		B. JEFFERSON,	"
<i>Coxswain,</i>	HENRY W. ABBOTT,	"		J. VAN ETTA,	"
				H. G. ATWOOD,	"

ORGANIZATION.

Organized,	October 1, 1870.	Honorary Members allowed by the Constitution,	25
Annual Meeting for Election of Officers,	First Thursday in October.	Active Members Enrolled, Nov. 30, 1870,	75
Other Meetings,	At the call of the Executive Committee.	Honorary Members, Nov. 30, 1870,	0
Active Members allowed by the Constitution,	75	Total Membership, Nov. 30, 1870,	75

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSES are on Lake Monona. *First*, from the Milwaukee and St. Paul R. R. Bridge, down the lake one and a half miles in a northeasterly direction to a flag boat off the Soldiers' Home, and return—three miles; *second*, from same point in a northeasterly direction, down the lake to its foot, three miles and return—six miles.

OUTFIT.

THE BOAT-HOUSE is located at the foot of Carroll Street, on Lake Monona. Invested value of boat-house, lands, etc., \$250.

BOATS. —OUTRIGGER SHELLS, one six-oared (<i>Lady Fairchild</i> , 26 in. beam x 50 ft. long),	-	-	1
OUTRIGGER GIGS, one pair-sculls (<i>Peshigo</i> , 27 in. beam x 25 ft. long),	-	-	1
CUTTERS AND BARGES, one eight-oared (<i>Waubesa</i> , 60 in. beam x 45 ft. long), one four-oared (<i>Skeneda</i> , 44 in. beam x 20 ft. long),	-	-	2
MISCELLANEOUS, two skiffs (<i>Pneilo</i> , 48 in. x 14 ft.; <i>Waigra</i> , 48 in. x 16 ft.),	-	-	2
			6

Invested values of boats and fittings, \$540.

Total number of boats, 6

TOTAL INVESTED VALUES, NOV. 30, 1870, \$790.

Cream City Boat Club,*

MILWAUKEE, WISCONSIN.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	ROBERT JOHNSON, 498 Milwaukee St., Milwaukee.	<i>Treasurer,</i>	H. SMITH, 222 Wisconsin St., Milwaukee.
<i>Vice-Pres.,</i>	E. BARKER, 175 Wisconsin St., Milwaukee.	<i>Captain,</i>	RUSSELL BERRY, 573 Broadway, "
<i>Secretary,</i>	CHAS. HANEY, 341 E. Wisconsin St., "		

ORGANIZATION.

Organized,	March, 1869.	Honorary Members allowed by the Constitution,	no limit.
Annual Meeting for Election of Officers,	Fifth of January.	Active Members Enrolled, Nov. 30, 1870,	12
Monthly Meetings,	Tenth of each Month.	Honorary Members, Nov. 30, 1870,	28
Active Members allowed by the Constitution,	no limit.	Total Membership, Nov. 30, 1870,	40

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on Lake Michigan, inside the Bay, two and a half and three miles. (Details of direction and termini not given.)

OUTFIT.

THE BOAT-HOUSE is located at the foot of Mason Street. (Rented at \$25 per annum.)

BOATS. —OUTRIGGER SHELLS, one six-oared lapstreak,	-	-	-	1
OUTRIGGER GIGS, none; INRIGGER GIGS, one pair-oared, one four-oared,	-	-	-	2
CUTTERS AND BARGES, one eight-oared; MISCELLANEOUS, two skiffs, two canoes,	-	-	-	5
				8

Invested values of boats and fittings, \$625.

Total number of boats, 8

TOTAL INVESTED VALUES, NOV. 30, 1870, \$625.

* Formerly "Western Boating Association."

Duncain Crew,

MILWAUKEE, WIS.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	W. H. WRIGHT, . . . Milwaukee.	<i>Captain,</i>	} GEORGE R. WRIGHT, 3d Street, bet. Clybourn and Fowler, Milwaukee.
<i>Secretary,</i>	W. H. S. WRIGHT, . . . " . . .		

ORGANIZATION.

Organized, July 30, 1868.	Honorary Members allowed by the Constitution, no report.
Annual Meeting for Elec- } no report.	Active Members Enrolled, Nov. 30, 1870, 4
tion of Officers, }	Honorary Members, Nov. 30, 1870, 1
Other Meetings, no report.	
Active Members allowed by the Constitution, no report.	Total Membership, Nov. 30, 1870, 5

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on Milwaukee River and Lake Michigan, one and a half miles north from Harbor Light and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located on Milwaukee River, north of Spring Street Bridge. Invested value of boat-house, lands, etc., \$550.

BOATS. —OUTRIGGED SHELLS, one four-oared (<i>Lady Evelyn</i> , 21 inches beam by 46 feet long),	1
OUTRIGGED GIGS,	0
INRIGGED GIGS,	0
CUTTERS AND BARGES,	0
MISCELLANEOUS,	0

Invested values of boats and fittings, \$350.

Total number of boats, 1

TOTAL INVESTED VALUES, NOV. 30, 1870, \$900.

Independent Boating Association,

MILWAUKEE, WIS.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	G. W. MONTGOMERY, . . . Milwaukee.	<i>Secretary and</i>	} HORACE L. PALMER, No. 2 In- surance Buildings, . . . Milwaukee.
<i>Vice-President,</i>	GEORGE C. ALLEN, . . . " . . .	<i>Treasurer,</i>	

ORGANIZATION.

Organized, May 1, 1870.	Honorary Members allowed by the Constitution, no report.
Semi-Annual Meeting for Elec- } First Thursday in Febru- }	Active Members Enrolled, Nov. 30, 1870, 11
tion of Officers, } ary and August.	Honorary Members, Nov. 30, 1870, 0
Monthly Meetings, First Thursday in each Month.	
Active Members allowed by the Constitution, no limit.	Total Membership, Nov. 30, 1870, 11

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on Milwaukee River and Bay, one and a half miles north from Harbor Light and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located on Milwaukee River, one door north of Wells Street, Fourth Ward. Invested value of boat-house, lands, etc. (premises rented).

BOATS. —OUTRIGGED SHELLS,	0
OUTRIGGED GIGS, one six-oared,	1
INRIGGED GIGS,	0
CUTTERS, BARGES, AND MISCELLANEOUS,	0

Invested values of boats and fittings, \$200.

Total number of boats, 1

TOTAL INVESTED VALUES, NOV. 30, 1870, \$200.

Light Weight Boat Club,

MILWAUKEE, WIS.

OFFICERS, NOVEMBER 30, 1870.

President, M. J. HACKETT, 363 Milwaukee Street, Milwaukee.
Secretary } A. J. WETHERBEE, 342 and 344 Broadway, Milwaukee.
and Treas. } *Commodore*, HENRY ATKINS, 336 East Water St., Milwaukee.
Captain, W. F. BRUCE, 85 Michigan Street, "

ORGANIZATION.

Organized, August, 1869.

Annual Meeting for Election of Officers, First of February.	Active Members Enrolled, Nov. 30, 1870,	15
Monthly Meetings, First Monday in each Month.	Honorary Members, Nov. 30, 1870,	10
Active Members allowed by the Constitution, 20		
Honorary " " " " no limit.	Total Membership, Nov. 30, 1870,	25

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on the Milwaukee River and Bay, from head of Division Street to Milwaukee Light House, one and a half miles, and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located at 242 West Water Street. Invested value of boat-house, lands, etc., \$250.

BOATS. —OUTRIGGER SHELLS, one four-oared,	-	-	-	-	-	-	-	1
OUTRIGGER GIGS AND INRIGGER GIGS,	-	-	-	-	-	-	-	0
CUTTERS AND BARGES,	-	-	-	-	-	-	-	0
MISCELLANEOUS,	-	-	-	-	-	-	-	0

Invested values of boats and fittings, \$150.

Total number of boats, 1

TOTAL INVESTED VALUES, NOV. 30, 1870, \$400.

Milwaukee Boat Club,

MILWAUKEE, WIS.

OFFICERS, NOVEMBER 30, 1870.

President, A. McD. YOUNG, Milwaukee.
Vice-Pres., CHAS. J. CARY, " *Secretary*, C. E. MOSLEY, Milwaukee.
Treasurer, WILLIAM J. BURKE, "

Coxswains, five (names not given).

ORGANIZATION.

Organized, July 22, 1865.	Honorary Members allowed by the Constitution, no limit.
Annual Meeting for Election of Officers, First Wednesday in March.	Active Members Enrolled, Nov. 30, 1870,
Monthly Meetings, First Wednesday in each Month.	Honorary Members, Nov. 30, 1870,
Active Members allowed by the Constitution, 75	Total Membership, Nov. 30, 1870,

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSE is on the Milwaukee River and Bay, from head of Division Street to Light-House, one and a half miles, and return—three miles.

OUTFIT.

THE BOAT-HOUSE is located at foot of Sycamore Street. Invested value of boat-house, etc., \$300.

BOATS. —OUTRIGGER SHELLS, two six-oared (<i>Lady Alice</i> , 26 in. beam × 50 ft. long; <i>No Name</i> , 20 in. beam × 49 ft. long),	-	-	-	-	-	-	-	2
OUTRIGGER GIGS, one six-oared lapstreak (<i>Kinnickinnick</i> , 36 in. beam × 45 ft. long),	-	-	-	-	-	-	-	1
INRIGGER GIGS,	-	-	-	-	-	-	-	0
CUTTERS AND BARGES, one six-oared (<i>Milwaukee</i> , 51 in. beam × 30 ft. long), one sixteen-oared (<i>Michigan</i> , 6 ft. beam × 43 ft. long),	-	-	-	-	-	-	-	2
MISCELLANEOUS, one wherry (<i>Menominee</i> , 46 in. beam × 20 ft. long),	-	-	-	-	-	-	-	1

Invested values of boats and fittings, \$2,500.

Total number of boats, 6

TOTAL INVESTED VALUES, NOV. 30, 1870, \$2,800.

Union Boat Club,

OSHKOSH, WIS.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	J. H. JENKINS,	Oshkosh.	<i>Commodore,</i>	OWEN ROBERTS,	Oshkosh.
<i>Secretary,</i>	JAMES BYRNE,	"	<i>1st Captain,</i>	W. H. FORE,	"
<i>Treasurer,</i>	WILLIAM JAMES,	"	<i>2d "</i>	W. A. CLARK,	"

ORGANIZATION.

Organized,	April, 1868.	Honorary Members allowed by the Constitution,	no limit.
Annual Meeting for Election of Officers,	Fourth Monday in April.	Active Members Enrolled, Nov. 30, 1870,	16
Semi-Monthly Meetings, 2d and 4th Tuesdays in each Month.		Honorary Members, Nov. 30, 1870,	10
Active Members allowed by the Constitution,	no limit.	Total Membership, Nov. 30, 1870,	26

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSE is on Lake Winnebago and Fox River. *For exercise*, two miles and return—four miles; *for racing*, one mile and return—two miles. (No details of course given.)

OUTFIT.

THE BOAT-HOUSE is located at Klotch's Wharf, foot of Court House Street. Invested value of boat-house, lands, etc., \$100.

BOATS. —OUTRIGGER SHELLS,	-	-	-	-	-	-	-	-	0
OUTRIGGER GIGS, one four-oared,	-	-	-	-	-	-	-	-	1
INRIGGER GIGS AND MISCELLANEOUS,	-	-	-	-	-	-	-	-	0
CUTTERS AND BARGES, one eight-oared barge,	-	-	-	-	-	-	-	-	1

Invested values of boats and fittings, \$500.

Total number of boats, 2

TOTAL INVESTED VALUES, NOV. 30, 1870, \$600.

Halifax Boating Club,

HALIFAX, NOVA SCOTIA.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	Alderman JAMES PRYOR,	Halifax.	<i>Secretary and</i>	H. GREENWOOD,	Halifax.
<i>Vice-Pres.,</i>	R. BURNS BOAK,	"	<i>Treasurer,</i>		

ORGANIZATION.

Organized,	March, 1870.	Honorary Members allowed by the Constitution,	no limit.
Annual Meeting for Election of Officers,	Second Wednesday in March.	Active Members Enrolled, Nov. 30, 1870,	62
Monthly Meetings,	Second Wednesday in each Month.	Honorary Members, Nov. 30, 1870,	0
Active Members allowed by the Constitution,	no limit.	Total Membership, Nov. 30, 1870,	62

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSE is in Halifax Harbor, from Commissioners' Point to George's Island, about three miles.

OUTFIT.

THE BOAT-HOUSE is located at Steven's Dock. Invested value of boat-house, lands, etc., \$465.

BOATS. —OUTRIGGER SHELLS AND GIGS, CUTTERS, AND BARGES,	-	-	-	-	-	-	-	-	0
INRIGGER GIGS, two six-oared,	-	-	-	-	-	-	-	-	2
MISCELLANEOUS, eleven skiffs, three wherries, two four-oared whalers,	-	-	-	-	-	-	-	-	16

Invested values of boats and fittings, \$685.

Total number of boats, 18

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,150.

Hamilton Rowing Club,

HAMILTON, ONTARIO.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	A. H. ASKIN,	Hamilton.	<i>Treasurer,</i>	H. A. STINSON,	Hamilton.
<i>Vice-Presidents,</i>	{ D. GEORGE GREER,	"	<i>Executive</i>	{ W. A. GREEN,	"
	{ JOHN LITTLE,	"	<i>Committee,</i>	{ J. B. YOUNG,	"
<i>Secretary,</i>	J. J. KENNY,	"		{ A. H. MOORE,	"

ORGANIZATION.

Organized, May 4, 1870.

Annual Meetings for Election of Officers,	{ First Wednesday in May.	Honorary Members allowed by the Constitution,	none.
Other Meetings,	{ Every alternate Wednesday during the Rowing Season.	Active Members Enrolled, Nov. 30, 1870,	102
Active Members allowed by the Constitution,	no limit.	Honorary Members, Nov. 30, 1870,	0
		Total Membership, Nov. 30, 1870,	102

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSE.—No special course has as yet been adopted. Burlington Bay is used for rowing.

OUTFIT.

THE BOAT-HOUSE is located on Bastien's Wharf, foot of Bay Street. Invested value of boat-house, lands, etc. (no estimate given).

BOATS. —OUTRIGGER SHELLS, one single, two four-oared,	-	-	-	-	3
OUTRIGGER GIGS, CUTTERS, AND BARGES, none ; INRIGGER GIGS, three four-oared,	-	-	-	-	3
MISCELLANEOUS, seven pair-scutt skiffs, two canoes, eight two-pair scull skiffs,	-	-	-	-	17
					—

Invested values of boats and fittings, \$750.

Total number of boats, 23

TOTAL INVESTED VALUES, NOV. 30, 1870, \$750.

Lachine Boating Club,

MONTREAL, DOM. OF CANADA.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	WM. McNAUGHTON,	Montreal.	<i>Sec. and Treas.,</i>	SAMUEL H. WALLIS,	Montreal.
<i>Vice-President,</i>	JAMES HERVEY,	"	<i>Commodore,</i>	WM. McNAUGHTON,	"

ORGANIZATION.

Organized,	June, 1864.	Honorary Members allowed by the Constitution,	no limit.
Annual Meeting for Election of Officers,	{ First Monday in May.	Active Members Enrolled, Nov. 30, 1870,	150
Weekly Meetings of Committee during Boating Seasons.		Honorary Members, Nov. 30, 1870,	2
Active Members allowed by the Constitution,	no limit.	Total Membership, Nov. 30, 1870,	152

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSES for rowing and sailing are upon Lake St. Louis, near Montreal. For *rowing*, two and four mile courses ; for *yachting*, the course is thirty miles in length.

OUTFIT.

THE BOAT-HOUSE is located on the St. Lawrence River, at Lachine, six miles above Montreal. Invested value of boat-house, lands, etc. (no return).

BOATS. —OUTRIGGER SHELLS, one single, two four-oared,	-	-	-	-	3
OUTRIGGER GIGS, none ; INRIGGER GIGS, one four-oared,	-	-	-	-	1
MISCELLANEOUS, seven yachts (two of which are reported to be the fastest in the Dominion),	-	-	-	-	7
					—

Invested values of boats and fittings (no return).

Total number of boats, 11

TOTAL INVESTED VALUES, NOV. 30, 1870 (NO RETURN).

SAINT JOHN, NEW BRUNSWICK.

ORGANIZATION.

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

OUTFIT.

TOTAL INVESTED VALUES, NOV. 30, 1870, \$400.

TORONTO, ONTARIO.

ORGANIZATION.

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

OUTFIT.

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,200.

Toronto Rowing Club,

TORONTO, ONTARIO.

OFFICERS, NOVEMBER 30, 1870.

President, ANGUS MORRISON, M.P., Toronto.
1st Vice-President, T. SHIVERS BIRCHALL, Toronto. *Secretary and Treasurer*, W. M. DAVIDSON, Toronto.
2d " " GEO. H. WYATT, " *Executive Committee*, Ten, elected annually.

ORGANIZATION.

Organized,	August 23, 1863.	Honorary Members allowed by the Constitution,	none.
Annual Meeting for Election of Officers,	First Monday in April.	Active Members Enrolled, Nov. 30, 1870,	180
Monthly Meetings,	First Monday in each Month.	Honorary Members, Nov. 30, 1870,	none.
Active Members allowed by the Constitution,	no limit.	Total Membership, Nov. 30, 1870,	180

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE COURSE is from a point about opposite the centre of the city, and extends in a straight line to buoys at either end of the bay, one mile distant each. *Four-mile races* begin at centre, pass westward to first buoy, one mile, thence eastward two miles, passing starting point midway, round second buoy, thence west to point of starting.

OUTFIT.

THE BOAT-HOUSE is located at the foot of Scott Street, on the Esplanade. Is not owned by the club, but is leased for a term of years. Invested value of boat-house, lands, etc., \$3,000.

BOATS. —OUTRIGGER SHELLS, four singles, two doubles, three four-oared,	9
OUTRIGGER GIGS, five pair-sculls, three two-pair sculls, two four-oared,	10
INRIGGER GIGS, six pair-oared, five four-oared, two eight-oared,	13
CUTTERS AND BARGES,	0
MISCELLANEOUS, thirty pleasure-boats,	30
	62

Invested values of boats and fittings, \$3,000.

Total number of boats,

TOTAL INVESTED VALUES, NOV. 30, 1870, \$6,000.

West End Boat Club,

TORONTO, ONTARIO.

OFFICERS, NOVEMBER 30, 1870.

President, no report. *Secretary*, WM. WILSON,* Union Teleg. Station, Toronto.
Vice-President, no report. *Treasurer*, no report.

ORGANIZATION.

Organized, 1868.	
Annual Meeting for Election of Officers,	no report.
Other Meetings,	no report.
Active Members allowed by the Constitution,	no report.
Honorary Members allowed by the Constitution,	no report.
Active Members Enrolled, Nov. 30, 1870,	20
Honorary Members, Nov. 30, 1870,	0
Total Membership, Nov. 30, 1870,	20

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE COURSES are on Toronto Bay. *Two-miles course* commences foot of Bay Street, thence one mile east to Gooderham's Wharf, and return. *Four-miles course* commences foot of Day Street, thence one mile east to Gooderham's Wharf, thence two miles west to the northern elevator, and back to starting point.

OUTFIT.

THE BOAT-HOUSE is located on Tinning's Wharf, foot of York Street. Invested value of boat-house, lands, etc. (no report).

BOATS. —OUTRIGGER SHELLS, one single, one four-oared,	2
OUTRIGGER GIGS, one four-oared,	1
INRIGGER GIGS, one four-oared,	1
CUTTERS AND BARGES,	0
MISCELLANEOUS,	0
	4

Invested values of boats and fittings, \$550.

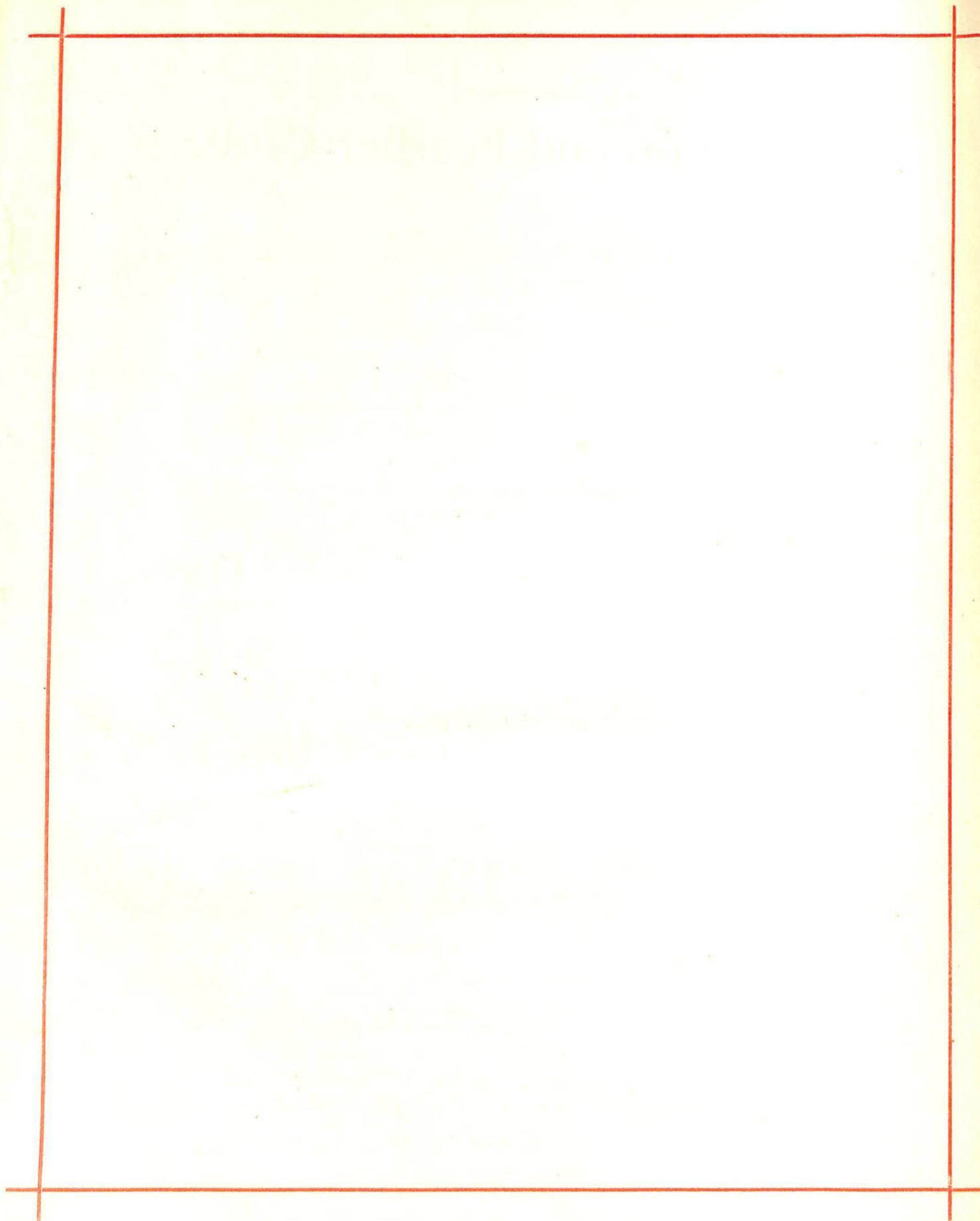
Total number of boats,

TOTAL INVESTED VALUES, NOV. 30, 1870, \$550.

* Mr. Wilson having resigned shortly after this report was sent in, all communications should be sent to Mr. Godfrey M. Donnelly, stroke of "West End" Crew, P.O. Box 1141, or 68 Yonge Street, Toronto, Canada.

THE
SHOOTING, FISHING, AND SPORTING CLUBS
OF
THE UNITED STATES,

November 30, 1870.



Fur, Fin, and Feather Club,

PORTLAND, MIDDLESEX CO., CONN.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	WILLIAM W. COE, . . .	Portland, Conn.	<i>Secretary,</i>	F. GILDERSLEEVE, . . .	Portland, Conn.
<i>Vice-Pres.,</i>	R. G. LIVERMORE, . . .	Pensaukee, Wis.	<i>Treasurer,</i>	CHARLES C. GOODRICH, . .	" "

ORGANIZATION.

Organized,	September 18, 1869.	Active Members allowed by the Constitution, . . .	20
Annual Meeting for Election of Officers,	{ Eighteenth of September. If September 18 falls on Sun- day, then on the following Monday.	Honorary " " " " " " " "	no report.
		Active Members Enrolled, Nov. 30, 1870, . . .	11
		Honorary Members, Nov. 30, 1870, . . .	0
No other Regular Meetings.		Total Membership, Nov. 30, 1870, . . .	11

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE HUNTING AND FISHING GROUNDS are on the Connecticut River and vicinity.

OUTFIT.

BOAT-HOUSE.—No report in regard to it. Invested value of boat-house, lands, etc. (no report).

BOATS.—MISCELLANEOUS, one skiff, three canoes, 4

Invested values of boats and fittings, \$150. Total number of boats, . . . 4

TOTAL INVESTED VALUES, NOV. 30, 1870, \$150.

Potomac Fishing Club,

WASHINGTON, D. C.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	Dr. J. M. JONER, . . .	Washington.	<i>Secretary,</i>	{ JOHN D. HYER, 627 Virginia	Washington.
<i>Treasurer,</i>	F. B. MCGUIRE, . . .	"		Avenue, or P.O. Box 349,	

ORGANIZATION.

Organized, February 2, 1868.		Active Members allowed by the Constitution, . . .	20
Annual Meeting for Election of Officers,	{ First Tuesday in January.	Active Members Enrolled, Nov. 30, 1870, . . .	18
		Corresponding Member, Nov. 30, 1870, . . .	1
Monthly Meetings, . . .	First Tuesday of each Month.		
Corresponding Members allowed by the Constitution,	{ . . . no limit.	Total Membership, Nov. 30, 1870, . . .	19

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE FISHING-GROUNDS are on the Potomac and Patuxent Rivers and Chesapeake Bay, Md.

OUTFIT.

BOAT-HOUSE.—Have none. Boats are, for the present, hired as wanted.

Hunting and Fishing Club,

CRAWFORDSVILLE, INDIANA.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	P. R. SIMPSON,	Crawfordsville.	<i>Treasurer,</i>	U. M. SCOTT,	Crawfordsville.
<i>Vice-Pres. and Sec.,</i>	JAMES WATSON,	"	<i>Directors,</i>	ANDREW YOUNT,	"
				T. T. SCOTT,	"

ORGANIZATION.

Organized,	October 15, 1870.	Honorary Members allowed by the Constitution, no report.
Annual Meeting for Election of Officers,	Second Monday in Nov.	Active Members Enrolled, Nov. 30, 1870, 24
Other Meetings,	no report.	Honorary Members, Nov. 30, 1870, 3
Active Members allowed by the Constitution,	24	Total Membership, Nov. 30, 1870, 27

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE HUNTING AND FISHING GROUNDS are on the Kankakee River.

OUTFIT.

THE BOAT-HOUSE is located on the Kankakee River, near R. R. Bridge, Crawfordsville. Invested value of boat-house, lands, etc., \$300.

BOATS.—OUTRIGGER SHELLS, OUTRIGGER AND INRIGGER GIGS, CUTTERS, AND BARGES,	0
MISCELLANEOUS, four skiffs,	4

Invested values of boats and fittings, \$100.

Total number of boats, 4

TOTAL INVESTED VALUES, NOV. 30, 1870, \$400.

Burlington Sportsmen's Club,

BURLINGTON, IOWA.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	A. G. ADAMS,	Burlington.	<i>Directors,</i>	WILLIAM BELL,	Burlington.
<i>Vice-Pres.,</i>	G. R. HENRY, M.D.,	"		DR. H. B. RANSOM,	"
<i>Secretary,</i>	GEORGE ROBERTSON,	"		D. B. HARPER,	"
<i>Treasurer,</i>	HENRY MOORE,	"		CHARLES H. PHELPS,	"
				H. A. TWINING,	"
				E. S. EDGER,	"

ORGANIZATION.

Organized,	January 5, 1869.	Honorary Members allowed by the Constitution, none.
Annual Meeting for Election of Officers,	First Thursday in Jan.	Active Members Enrolled, Nov. 30, 1870, 34
Monthly Meetings,	First Tuesday in each Month.	Honorary Members, Nov. 30, 1870, 0
Active Members allowed by the Constitution,	no limit.	Total Membership, Nov. 30, 1870, 34

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE HUNTING AND FISHING GROUNDS are on the Mississippi River and the tributaries in the vicinity.

OUTFIT.

BOAT-HOUSE.—No description given or location reported. Invested value of boat-house, lands, etc. (no report).

BOATS.*—OUTRIGGER SHELLS, OUTRIGGER AND INRIGGER GIGS, CUTTERS, AND BARGES,	0
MISCELLANEOUS, five skiffs (four iron, one wood), one canoe, one yacht (1½ tons), one propeller,	8

Invested values of boats and fittings, \$1,000.

Total number of boats, 8

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,000.

* All the boats described are the property of individual members—the association own none.

Androscoggin Sporting Club,

AUBURN, MAINE.

OFFICERS, NOVEMBER 30, 1870.

President, GEORGE ANDREWS, Auburn. *Secretary*, J. MARFIELD, Auburn. *Treasurer*, C. F. NASON, Auburn.

ORGANIZATION.

Organized,	October 16, 1868.	Honorary Members allowed by the Constitution,	no limit.
Annual Meeting for Elec- } tion of Officers,	Second Thursday in January.	Active Members Enrolled, Nov. 30, 1870,	24
Other Meetings,	no regular time.	Honorary Members, Nov. 30, 1870,	2
Active Members allowed by the Constitution,	no limit.	Total Membership, Nov. 30, 1870,	26

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

HUNTING AND FISHING GROUNDS.—(No report of their location.)

OUTFIT.

BOAT-HOUSE.—(No report in regard to any.) Invested value of boat-house, lands, etc. (no report).

BOATS.—MISCELLANEOUS, three skiffs, - - - - - 3

Invested values of boats and fittings, \$100. Total number of boats, - 3

TOTAL INVESTED VALUES, NOV. 30, 1870, \$100.

Madawaska Club,

PITTSFIELD, MAINE.

OFFICERS, NOVEMBER 30, 1870.

Rear-Admiral, JAMES B. HATCH, Springfield, Mass. *Secretary*, GEORGE HALL, Medford, Mass. *Commodore*, HENRY HASTINGS, Boston, Mass.
Treasurer, H. H. GILMORE, Croton Landing, N. Y. *Chaplain*, E. T. HASTINGS, Medford, Mass.

ORGANIZATION.

Organized, in 1857.	Honorary Members allowed by the Constitution,	no limit.
Annual Meeting for Elec- } Nene; the Officers are elected	Active Members Enrolled, Nov. 30, 1870,	21
tion of Officers, } for life.	Honorary Members, Nov. 30, 1870,	0
Annual Meetings of the Club, at Pittsfield, from August 15	Total Membership, Nov. 30, 1870,	21
to September 22.		
Active Members allowed by the Constitution,	21	

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE HUNTING AND FISHING GROUNDS comprise all the rivers and lakes within a circuit of fifty miles of Pittsfield, Maine.

OUTFIT.

THE BOAT-HOUSE is located at Pittsfield. Invested value of boat-house, lands, etc. (no estimate given).

BOATS.—MISCELLANEOUS, five skiffs, - - - - - 5

Invested values of boats and fittings (no report). Total number of boats, - 5

TOTAL INVESTED VALUES, NOV. 30, 1870 (NO REPORT).

Parmachenee Club,

PORTLAND, MAINE.

OFFICERS, NOVEMBER 30, 1870.

President, C. H. CHASE, care McKenney & Chase, Portland.

Treasurer, { SUMNER C. STANLEY, 192 Fore Street, Portland. | *Commissary*, { CHARLES J. PERKINS, 863 Commercial Street, Portland.

ORGANIZATION.

Organized, in August, 1865.

Annual Meeting for Election of Officers,	First of August.	Active Members Enrolled, Nov. 30, 1870,	 11
Monthly Meetings,	no report.	Honorary Members, Nov. 30, 1870,	 0
Active Members allowed by the Constitution,	no report.		—
Honorary " " " " " "	no report.	Total Membership, Nov. 30, 1870,	 11

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE HUNTING AND FISHING GROUNDS are Parmachenee Lake and Megalloway River, in Northwestern Maine, seventy miles north of Umbagog Lake.

OUTFIT.

THE CLUB-HOUSE is located on Parmachenee Lake. Invested value of boat-house, lands, etc. (no estimate given).

BOATS.—MISCELLANEOUS, one skiff, one canoe, one portable zinc boat, - - - - - 3

Invested values of boats and fittings, \$150. Total number of boats, - - - 3

TOTAL INVESTED VALUES, NOV. 30, 1870, \$150.

Branch Co. Field and Sporting Club,

COLDWATER, MICH.

OFFICERS, NOVEMBER 30, 1870.

President, HARRY HAYNES, Coldwater.

Vice-President, JOHN O. PELTON, Coldwater. | *Secretary and Treasurer*, GEORGE W. STEARNS, Coldwater.

ORGANIZATION.

Organized,	 In January, 1867.	Honorary Members allowed by the Constitution,	 0
Annual Meeting for Elec-	 Fifteenth of January.	Active Members Enrolled, Nov. 30, 1870,	 40
tion of Officers,		Honorary Members, Nov. 30, 1870,	 0
Other Meetings,	 no report.		—
Active Members allowed by the Constitution,	 40	Total Membership, Nov. 30, 1870,	 40

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE HUNTING GROUNDS are in Branch County and the vicinity.

OUTFIT.

BOAT-HOUSE.—None owned by the club at present.

BOATS.—The club at present confines itself to field hunting and shooting; but as there are fine waters for boating purposes in the vicinity of Coldwater, it is in contemplation to purchase boats for rowing and hunting purposes.

Audubon Club,

DETROIT, MICH.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	GEORGE FOOTE,	Detroit.	<i>Board of Managers,</i>	{	G. H. PARKER,	Detroit.
<i>1st Vice-Pres.,</i>	G. W. LLOYD,	"			WILLIAM WRIGHT,	"
<i>2d " "</i>	CHARLES DUCHARME,	"			H. C. PENNY,	"
<i>Secretary,</i>	W. H. GREGOR,	"			SAMUEL LEWIS,	"
<i>Treasurer,</i>	C. C. CADMAN,	"			JOHN D. LONG,	"

ORGANIZATION.

Organized,	February 15, 1867.	Honorary Members allowed by the Constitution,	no limit.
Annual Meetings for Election } of Officers,	Fifteenth of February.	Active Members Enrolled, Nov. 30, 1870,	123
Monthly Meetings,	First Thursday in each Month.	Honorary Members, Nov. 30, 1870,	20
Active Members allowed by the Constitution,	no limit.	Total Membership, Nov. 30, 1870,	143

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

This club was organized for the special protection of game, under the State laws, and for the collection of specimens of natural history.

Tam O'Shanter Shooting Club,

DETROIT, MICH.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	S. J. GIDDAY,	Detroit.	<i>Executive Committee,</i>	{	J. E. LONG,	Detroit.
<i>Vice-President,</i>	H. T. PHILLIP,	"			S. J. GIDDAY,	"
<i>Sec. and Treas.,</i>	W. J. MASON, 110 Woodward Ave.,	"			H. T. PHILLIP,	"

ORGANIZATION.

Organized,	July, 1866.	Honorary Members allowed by the Constitution,	no limit.
Annual Meeting for Election } of Officers,	Second Tuesday in Jan.	Active Members Enrolled, Nov. 30, 1870,	25
Monthly Meetings,	none.	Honorary Members, Nov. 30, 1870,	3
Active Members allowed by the Constitution,	25	Total Membership, Nov. 30, 1870,	28

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE HUNTING-GROUNDS of this club are not designated.

Gun Lake Fishing Club,

KALAMAZOO, MICH.

OFFICERS, NOVEMBER 30, 1870.

President, H. G. WELLS, Kalamazoo.
Secretary, T. S. COBB, Kalamazoo. | *Treasurer*, JOHN C. BASSETT, Kalamazoo.

ORGANIZATION.

Organized, June 12, 1866.

Annual Meeting for Election of Officers,	{ First Thursday in June.	Honorary Members allowed by the Constitution,	no limit.
Quarterly Meetings,		{ First Tuesday in January, April, June, and September.	Active Members Enrolled, Nov. 30, 1870,	30
Active Members allowed by the Constitution,	30	Honorary Members, Nov. 30, 1870,	1
		Total Membership, Nov. 30, 1870,	31

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE FISHING-GROUNDS are Gun Lake, Barry County, Michigan.

OUTFIT.

THE BOAT-HOUSE is located on the south shore of Gun Lake. Invested values of boat-house, lands, etc., \$1,000.

BOATS.—MISCELLANEOUS, six skiffs, 6

Invested values of boats and fittings, \$500. Total number of boats, 6

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,500.

Wilson Shooting Club,

GRAND RAPIDS, MICH.

OFFICERS, NOVEMBER 30, 1870.

President, A. J. DYGERT, Grand Rapids. | *Secretary*, J. H. MORGAN, Grand Rapids.
Vice-President, F. S. EARLE, " | *Treasurer*, A. PREUSSER, "

ORGANIZATION.

Organized,	May 1, 1868.	Honorary Members allowed by the Constitution,	10
Annual Meeting for Election of Officers,	{ First of May.	Active Members Enrolled, Nov. 30, 1870,	20
Monthly Meetings,		Honorary Members, Nov. 30, 1870,	0
Active Members allowed by the Constitution,	25	Total Membership, Nov. 30, 1870,	20

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

THE HUNTING-GROUNDS of this club are not designated in the report.

No details in regard to outfit are given.

Black Point Association,

CANANDAIGUA, ONTARIO CO., N. Y.

OFFICERS, NOVEMBER 30, 1870.

<i>President and G. M.</i> , A. H. HOWELL, . . . Canandaigua.	<i>Treasurer</i> , JACOB CORSON, . . . Canandaigua.
<i>Vice-President</i> , LEVI TILLOTSON, . . . "	<i>Commodore</i> , LEVI TILLOTSON, . . . "
<i>Secretary</i> , THOMAS M. HOWELL, . . . "	<i>Commissary</i> , JONAS M. WHEELER, . . . "

ORGANIZATION.

Organized, In 1825.	Honorary Members allowed by the Constitution, . . . none.
Annual Meeting for Election } Monday before the Second	Active Members Enrolled, Nov. 30, 1870, . . . 7
of Officers, } Tuesday in November.	Honorary Members, Nov. 30, 1870, . . . 0
Monthly Meetings, . . . First Monday in each Month.	—
Active Members allowed by the Constitution, . . . 10	Total Membership, Nov. 30, 1870, . . . 7

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

For Hunting and Fishing, the club use Canandaigua Lake and vicinity. This lake is about eighteen miles in length, from one to two miles in width, and from 200 to 600 feet deep.

OUTFIT.

THE BOAT-HOUSE in Canandaigua is located at the foot of Main Street. The club-house or cabin is at Black Point, on the west shore of the lake, nine miles from the northern end. Invested value of boat-houses, lands, etc., \$3,200.†

BOATS.—MISCELLANEOUS, seven skiffs, - - - - - 7

Invested values of boats and fittings, \$500. Total number of boats, - 7

TOTAL INVESTED VALUES, NOV. 30, 1870, \$3,700.

Canandaigua Forrester Club,

CANANDAIGUA, ONTARIO CO., N. Y.

OFFICERS, NOVEMBER 30, 1870.

<i>President</i> , W. H. SMITH, Canandaigua.	
<i>Secretary and Treasurer</i> , ISAAC B. SMITH, Canandaigua.	<i>Commissary</i> , JAMES S. COOLEY, . . . Canandaigua.

ORGANIZATION.

Organized, In 1859.	Honorary Members allowed by the Constitution, . . . none.
Annual Meeting for Election } First Tuesday in Septem-	Active Members Enrolled, Nov. 30, 1870, . . . 8
of Officers, } ber.	Honorary Members, Nov. 30, 1870, . . . 0
Other Meetings, no report.	—
Active Members allowed by the Constitution, . . . no limit.	Total Membership, Nov. 30, 1870, . . . 8

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

For Hunting, Fishing, and Rowing, the club use Canandaigua Lake.

OUTFIT.

THE BOAT-HOUSE or Cabin is located at Black Point, on the west shore of Canandaigua Lake, nine miles from Canandaigua. Invested value of boat-house, lands, etc., \$2,500.

BOATS.—MISCELLANEOUS, five skiffs (the property of individual members), - - - - - 5

Invested values of boats and fittings, \$300. Total number of boats, - 5

TOTAL INVESTED VALUES, NOV. 30, 1870, \$2,800.

Hermitage Social Club,

CANANDAIGUA, ONTARIO CO., NEW YORK.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	GEO. B. SACKETT,	Canandaigua.	<i>Secretary and</i>	{	CHARLES E. SHEPARD,	Canandaigua.
<i>Vice-President,</i>	JOHN MALTMAN,	"	<i>Treasurer,</i>			

ORGANIZATION.

Organized,	In 1866.	Honorary Members allowed by the Constitution, no report	
Annual Meeting for Elec- } tion of Officers,	Last Wednesday in August.	Active Members Enrolled, Nov. 30, 1870,	10
Other Meetings,	no report.	Honorary Members, Nov. 30, 1870,	0
Active Members allowed by the Constitution,	10	Total Membership, Nov. 30, 1870,	10

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

For Hunting, Fishing, and Rowing, the club use Canandaigua Lake.

OUTFIT.

THE BOAT-HOUSE is located at the foot of Main Street, Canandaigua Lake. Invested value of boat-house, lands, etc., \$500.

BOATS.—MISCELLANEOUS, two skiffs, - - - - - 2

Invested values of boats and fittings, \$50. Total number of boats, - 2

TOTAL INVESTED VALUES, NOV. 30, 1870, \$550.

Seneca Lodge,

CANANDAIGUA, ONTARIO CO., NEW YORK.

OFFICERS, NOVEMBER 30, 1870.

<i>Chief,</i>	J. H. MASON,	Canandaigua.	{	<i>Trustees,</i>	GEO. EWINS,	Canandaigua.
<i>Secretary,</i>	ROBERT SPENCER,	"			I. R. PARCELL,	"
<i>Treasurer and</i>	S. W. GREGORY,	"			J. J. STEBBINS,	"
<i>Steward,</i>					C. D. CASTLE,	"

ORGANIZATION.

Organized,	In 1849; Chartered, April 17, 1863.	Honorary Members allowed by the Constitution, no limit.	
Annual Meeting for Election } of Officers,	First Tuesday in October.	Active Members Enrolled, Nov. 30, 1870,	20
Other Meetings,	Whenever called by the Chief.	Honorary Members, Nov. 30, 1870,	0
Active Members allowed by the Constitution,	20	Total Membership, Nov. 30, 1870,	20

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

Canandaigua Lake is used by the Club for Hunting, Fishing, and Rowing.

OUTFIT.

THE BOAT-HOUSE is located on the Lake Pier, foot of Main Street. The summer Club-House, or "Cabin," is on the shore of the lake, 10 miles from Canandaigua. Invested value of boat-house, club-house, lands, etc., \$2,900.

BOATS.—MISCELLANEOUS, ten round-bottomed hunting-skiffs (owned by individual members), - - - 10

Invested values of boats and fittings, \$400. Total number of boats, - 10

TOTAL INVESTED VALUES, NOV. 30, 1870, \$3,100.

Vine Cottage Club,

CANANDAIGUA, N. Y.

OFFICERS, NOVEMBER 30, 1870.

President, CHARLES CARY, . . . Canandaigua. | *Sec. and Treas.,* A. DUNCAN PAUL, . . . Canandaigua.

ORGANIZATION.

Organized,	August 29, 1860.	Honorary Members allowed by the Constitution, no report.	
Annual Meeting for Elec- } First Wednesday after first		Active Members Enrolled, Nov. 30, 1870, . . .	10
tion of Officers, } Monday in November.		Honorary Members, Nov. 30, 1870, . . .	0
Monthly Meetings,	none.		—
Active Members allowed by the Constitution, . . .	10	Total Membership, Nov. 30, 1870, . . .	10

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

Canandaigua Lake is used by the club for hunting, fishing, and rowing.

OUTFIT.

BOAT-HOUSE.—No report in regard to its location. Invested value of boat-house, lands, etc. (no report).

BOATS.—MISCELLANEOUS, seven skiffs, - - - - - 7

Invested values of boats and fittings, \$400. Total number of boats, - 7

TOTAL INVESTED VALUES, NOV. 30, 1870, \$400.

Canandaigua Walton Club,

WALTON POINT, SOUTH BRISTOL, N. Y.

OFFICERS, NOVEMBER 30, 1870.

President, JAMES C. SMITH, Canandaigua.
Vice-Pres., HENRY O. CHESEBRO, . . . Canandaigua. | *Treasurer,* HELAND F. BENNETT, . . . Canandaigua.
Secretary, HENRY M. FIELD, . . . " | *Commissary,* J. ALBERT GRANGER, . . . "

ORGANIZATION.

Organized in 1857; chartered,	1862.	Honorary Members allowed by the Constitution, . . .	none.
Annual Meeting for Elec- } First Tuesday in September.		Active Members Enrolled, Nov. 30, 1870, . . .	9
tion of Officers, }		Honorary Members, Nov. 30, 1870, . . .	0
Other Meetings,	no report.		—
Active Members allowed by the Constitution, . . .	15	Total Membership, Nov. 30, 1870, . . .	9

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

The club was organized for sporting purposes and recreation, and for hunting, fishing, and rowing use Canandaigua Lake.

OUTFIT.

THE CLUB-HOUSE and property is located on the west shore of the lake, seventeen miles from Canandaigua, and comprises ten acres of land and a two story club-house ("Walton Lodge"). Invested value of club-house, lands, etc., \$5,000.

BOATS.—The club own no boats; a number are owned by individual members.

Invested values of boats and fittings (no report). Total number of boats (no report).

TOTAL INVESTED VALUES, NOV. 30, 1870, \$5,000.

Ithaca Sportsman's Club,

ITHACA, TOMPKINS CO., N. Y.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i> LORIN DAY, Ithaca.	<i>Secretary,</i> FRANCIS M. FINCH, Ithaca.
<i>Vice-President,</i> SAMUEL M. HOLMES, "	<i>Treasurer,</i> HORACE J. SMITH, "

ORGANIZATION.

Organized, In 1857.	Honorary Members allowed by the Constitution, no report.
Annual Meeting for Elec- } Last Monday in December.	Active Members Enrolled, Nov. 30, 1870, 18
tion of Officers, }	Honorary Members, Nov. 30, 1870, 1
Monthly Meetings, First Monday in each Month.	—
Active Members allowed by the Constitution, 20	Total Membership, Nov. 30, 1870, 19

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

The club shoot and fish on Cayuga Lake, its inlet, its outlet Seneca River, and the vicinity.

OUTFIT.

THE BOAT-HOUSE is located at the Steamboat Landing, on inlet to Cayuga Lake at Ithaca. Invested value of boat-house, lands, etc., \$150.

BOATS.—MISCELLANEOUS, one yawl, one skiff, one St. Lawrence boat, one sail-boat, three small boats, 8

Invested values of boats and fittings, \$1,000.	Total number of boats, 8
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TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,150.

Monroe County Sportsmen's Club,

ROCHESTER, N. Y.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i> A. H. FOWLER, Rochester.	<i>Secretary,</i> JAMES RATCHIFFE, Rochester.
<i>Vice-President,</i> F. H. ORIEL, "	<i>Treasurer,</i> L. A. PRATT, "

ORGANIZATION.

Organized, November 1, 1848.	Honorary Members allowed by the Constitution, no limit.
Annual Meeting for Election } First Thursday in March.	Active Members Enrolled, Nov. 30, 1870, 94
of Officers, }	Honorary Members, Nov. 30, 1870, 4
Monthly Meetings, First Thursday in each Month.	—
Active Members allowed by the Constitution, no limit.	Total Membership, Nov. 30, 1870, 98

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

The shooting and fishing grounds used by the members of the club are not reported.

OUTFIT.

BOAT-HOUSE.—The club have no boat-house. **BOATS.**—The club own no boats of any description.

TOTAL INVESTED VALUES, NOV. 30, 1870 (NO REPORT).

Ganundawah Club,

RUSHVILLE, NEW YORK.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	LYMAN LOOMIS,	Rushville.	<i>Treasurer,</i>	D. B. HARKNESS,	Rushville.
<i>Vice-President,</i>	ASAHEL GREENE,	Vine Valley.	<i>Board of Six</i>	{ (Names not given.) }	
<i>Secretary,</i>	S. S. CATLIN,	Rushville.	<i>Directors,</i>		

ORGANIZATION.

Organized,	September 1, 1861.	Honorary Members allowed by the Constitution,	20
Annual Meeting for Election of Officers,	First Monday in June.	Active Members Enrolled, Nov. 30, 1870,	35
Other Meetings,	no report.	Honorary Members, Nov. 30, 1870,	12
Active Members allowed by the Constitution,	40	Total Membership, Nov. 30, 1870,	47

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

The club shoot, fish, and row for pleasure on Canandaigua Lake.

OUTFIT.

BOAT-HOUSE.—(No report of its locality or description given.) Invested value of boat-house, lands, etc., \$1,500.

BOATS.—MISCELLANEOUS, five four-oared skiffs, for fishing and pleasure, 5

Invested values of boats and fittings, \$150. Total number of boats, 5

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,650.

Onondaga Co. Sportsman's Club,

SYRACUSE, NEW YORK.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	F. E. CARROLL,	Syracuse.	<i>Financial</i>	{ JOHN C. BENNETT,	Syracuse.
<i>Vice-President,</i>	JOHN RYAN,	"	<i>Secretary,</i>		"
<i>Secretary,</i>	JOHN STEDMAN,	"	<i>Executive</i>	{ C. H. FINCH,	"
<i>Treasurer,</i>	CHARLES TAMKIN,	"	<i>Committee,</i>		"
<i>Attorney,</i>	JOHN C. BENNETT,	"		{ JOHN BRANDON,	"
				{ JOHN BEDFORD,	"

ORGANIZATION.

Organized,	in 1866.	Honorary Members allowed by the Constitution,	no limit.
Annual Meeting for Election of Officers,	First Tuesday in April.	Active Members Enrolled, Nov. 30, 1870,	132
Monthly Meetings,	First Tuesday in each Month.	Honorary Members, Nov. 30, 1870,	0
Active Members allowed by the Constitution,	no limit.	Total Membership, Nov. 30, 1870,	132

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

The club was organized for hunting and fishing, and to assist in the enforcement of the game laws of the State of New York. No report is made of the localities used by the members for shooting purposes.

OUTFIT.

THE BOAT-HOUSES are located on Onondaga Lake, are six or eight in number, and are the property of the individual members. Invested value of boat-houses, lands, etc., about \$800.

BOATS.—MISCELLANEOUS, twelve St. Lawrence boats, 12

Invested values of boats and fittings, \$600. Total number of boats, 12

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,400.

Red Cap Shooting Club,

CINCINNATI, OHIO.

OFFICERS, NOVEMBER 30, 1870.

<i>President</i> (none).	} At each meeting a chairman is appointed, who acts as president <i>pro tem</i> .	<i>Secretary and</i>	} GEO. W. PICARD, care of Picard & Wood, 189 Walnut St., Cincinnati.
<i>Vice-Pres.</i> (none).		<i>Treasurer,</i>	

ORGANIZATION.

Organized,	May 9, 1870.	Honorary Members allowed by the Constitution,	no limit.
Annual Meeting for Election of Officers,	First Monday in May.	Active Members Enrolled, Nov. 30, 1870,	7
Monthly Meetings,	At the call of the Secretary.	Honorary Members, Nov. 30, 1870,	0
Active Members allowed by the Constitution,	10	Total Membership, Nov. 30, 1870,	7

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

The club shoot and row on St. Mary's Reservoir, Lewistown Reservoir, and English Lake, Auglaize Co., Ohio.

OUTFIT.

THE BOAT-HOUSE is located on the south shore of St. Mary's Reservoir, Auglaize Co. Invested value of boat-house, lands, etc., \$100.

BOATS.—MISCELLANEOUS, six hunting skiffs, 6

Invested values of boats and fittings, \$175. Total number of boats, 6

TOTAL INVESTED VALUES, NOV. 30, 1870, \$275.

Dayton Hunting Club,

DAYTON, OHIO.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i> CHARLES HARRIS,	Dayton.	<i>Secretary,</i> H. R. PARROTT,	Dayton.
<i>Vice-Pres.,</i> R. C. ANDERSON,	"	<i>Treasurer,</i> J. H. GORMAN,	"

ORGANIZATION.

Organized,	October 21, 1868.	Honorary Members allowed by the Constitution,	no report.
Annual Meeting for Election of Officers,	Fifteenth of October.	Active Members Enrolled, Nov. 30, 1870,	12
Other Meetings,	no report.	Honorary Members, Nov. 30, 1870,	0
Active Members allowed by the Constitution,	no report.	Total Membership, Nov. 30, 1870,	12

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

The club shoot and fish on St. Mary's Reservoir, and in the vicinity, using a floating club-house for shelter and the conveniences of cooking, etc.

OUTFIT.

THE BOAT-HOUSE is located at the Public Landing, Third Street, Dayton. Invested value of boat-house, lands, etc. (no estimate).

BOATS.—MISCELLANEOUS, five hunting skiffs, one floating club-house, 70 feet long, 6

Invested values of boats and fittings, \$600. Total number of boats, 6

TOTAL INVESTED VALUES, NOV. 30, 1870, \$600.

Maumee Valley Shooting Assoc.

TOLEDO, OHIO.

OFFICERS, NOVEMBER 30, 1870.

<i>President</i> , C. O. BRIGHAM, Toledo.			
<i>Vice-President</i> ,	D. J. MATTOX,	Toledo.	<i>Directors</i> , { A. B. CARTER, . . . Toledo. THEO. KLEMM, . . . " THOMAS PURNEY, . . . "
<i>Secretary</i> ,	Z. C. PHEATT,	"	
<i>Treasurer</i> ,	E. R. SKINNER,	"	

ORGANIZATION.

Organized,	October 28, 1867.	Honorary Members allowed by the Constitution, no limit.
Annual Meeting for Election of Officers,	Second Friday in January.	Active Members Enrolled Nov. 30, 1870, 60
Monthly Meetings,	Second Friday in each Month.	Honorary and Life Members, Nov. 30, 1870, 15
Active Members allowed by the Constitution,	no limit.	Total Membership, Nov. 30, 1870, 75

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

THE HUNTING-GROUNDS used by the club are not described in the report.

OUTFIT.

THE CLUB-ROOMS are located in Drummond's Block, Toledo. The club have no boat-house, and own no boats.

Winous Point Shooting Club,

WINOUS POINT, SANDUSKY BAY, OHIO.

OFFICERS, NOVEMBER 30, 1870.

<i>President</i> ,	E. B. SADLER,	Sandusky, O.	<i>Secretary and Treasurer</i> , { H. M. CHAPIN, . . . Cleveland, O.
<i>Vice-President</i> ,	O. N. SKEELS,	Cleveland, O.	

ORGANIZATION.

Organized,	in November, 1850.	Honorary Members allowed by the Constitution, 2
Annual Meeting for Election of Officers,	Second Thursday in October.	Active Members Enrolled, Nov. 30, 1870, 30
Other Meetings,	no report.	Honorary Members, Nov. 30, 1870, 2
Active Members allowed by the Constitution,	30	Total Membership, Nov. 30, 1870, 32

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

The club shoot over the marshes of Sandusky Bay.

OUTFIT.

THE BOAT AND CLUB HOUSE is located on Winous Point, Sandusky Bay. Invested values of boat-house, club-house, lands, etc., \$10,000.

BOATS.—MISCELLANEOUS, forty hunting skiffs, of wood, iron, and paper, 40

Invested values of boats and fittings, \$1,700. Total number of boats, 40

TOTAL INVESTED VALUES, NOV. 30, 1870, \$11,700.

The "Club,"

MONTPELIER, VT.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	S. C. WOOLSON,	Montpelier.	<i>Directors,</i>	J. W. BROCK,	Montpelier.
<i>Vice-President,</i>	C. B. WILSON,	"		L. B. CROSS,	"
<i>Secretary and Treasurer,</i>	J. C. TAPLIN,	"		J. S. PECK,	"

ORGANIZATION.

Organized,	April 5, 1870.	Honorary Members allowed by the Constitution, no report.
Annual Meeting for Election of Officers,	First Tuesday in April.	Active Members Enrolled, Nov. 30, 1870, 18
Monthly Meetings,	First Tuesday in each Month.	Honorary Members, Nov. 30, 1870, 6
Active Members allowed by the Constitution,	no report.	Total Membership, Nov. 30, 1870, 24

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

No report made of the localities frequented by the members of the club for hunting or fishing.

OUTFIT.

BOAT-HOUSE.—The club have no boat-house or boats.

Madison Audubon Club,

MADISON, WIS.

OFFICERS, NOVEMBER 30, 1870.

<i>Vice-President,</i>	J. ALDEN ELLIS,	<i>President,</i>	DERRICK C. BUSH, Madison, Wis.	<i>Treasurer,</i>	JAMES L. HILL, Madison, Wis.
<i>Secretary,</i>	J. D. GURNEE,		Chicago, Ill.	<i>Board of Directors,</i>	Five (names not reported).
			Madison, Wis.		

ORGANIZATION.

Organized,	January 21, 1860.	Honorary Members allowed by the Constitution,	no limit.
Annual Meeting for Election of Officers,	Second Tuesday in January.	Active Members Enrolled, Nov. 30, 1870,	42
Monthly Meetings,	Second Tuesday in each Month.	Honorary Members, Nov. 30, 1870,	0
Active Members allowed by the Constitution,	no limit.	Total Membership, Nov. 30, 1870,	42

THE CONSTITUTION AND BY-LAWS ARE NOT PRINTED.

The club fish and shoot on Lakes Monona and Mendota, near Madison, Wis.

OUTFIT.

BOAT-HOUSE.—The club own no boat-house or boats. Boats are hired as required.

Society of the Catfish,

MADISON, WIS.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	Col. E. E. BRYANT,	Madison.	<i>Treasurer,</i>	JOHN GRIFFITHS,	Madison.
<i>Vice-President,</i>	S. W. BOTKIN,	"	<i>Commodore,</i>	H. M. LEWIS,	"
<i>Secretary,</i>	Capt. F. BARNES,	"	<i>Steward,</i>	A. CHENEY,	"

ORGANIZATION.

Organized, Sept. 15, 1868; chartered,	1869.	Honorary Members allowed by the Constitution,	none.
Annual Meeting for Election of Officers,	First Tuesday in October.	Active Members Enrolled, Nov. 30, 1870,	33
Other Meetings,	no report.	Honorary Members, Nov. 30, 1870,	0
Active Members allowed by the Constitution,	50	Total Membership, Nov. 30, 1870,	33

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

The club shoot and fish on Lakes Monona, Waubesa, and Kegonsa, near Madison, Wisconsin. They celebrate four feasts in the year, as follows: 1. Feast of Open, upon the opening of the lakes and disappearance of the ice; 2. Feast of Yonder, in July; 3. Feast of Over, in September; 4. Feast of Shut, in November, before the lakes are closed by ice.

OUTFIT.

THE BOAT-HOUSE is located at the foot of Carroll Street. Invested value of boat-house, camp equipage, etc., \$750.

BOATS. —CUTTERS AND BARGES, one four-oared,	1
MISCELLANEOUS, three row-boats,	3

Invested values of boats and fittings, \$300. Total number of boats, 4

TOTAL INVESTED VALUES, NOV. 30, 1870, \$1,050.

Milwaukee Shooting Club,

QUA-QUA ISLAND, DODGE CO., WIS.

OFFICERS, NOVEMBER 30, 1870.

<i>President,</i>	WILLIAM YOUNG,	Milwaukee, Wis.	<i>Secretary and Treasurer,</i>	A. J. AIKENS,	Milwaukee, Wis.
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ORGANIZATION.

Organized,	In summer of 1865.	Honorary Members allowed by the Constitution, no report.
Annual Meeting for Election of Officers,	In January.	Active Members Enrolled, Nov. 30, 1870,
Other Meetings,	no report.	Honorary Members, Nov. 30, 1870,
Active Members allowed by the Constitution,	16	Total Membership, Nov. 30, 1870,

THE CONSTITUTION AND BY-LAWS ARE PRINTED.

The club shoot on Lake Horicon, Dane County, Wisconsin, a natural marsh artificially overflowed, making a water area of eighteen miles in length by three to eight in breadth, with a depth of from three inches to ten feet.

OUTFIT.

THE BOAT AND CLUB HOUSE is located on Qua-Qua Island, Lake Horicon, where the club own forty acres of land. Invested value of boat and club house, lands, etc., \$3,000.

BOATS. —MISCELLANEOUS, thirty hunting skiffs,	30
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Invested values of boats and fittings, \$1,500. Total number of boats, 30

TOTAL INVESTED VALUES, NOV. 30, 1870, \$4,500.

ATTN: ASSOCIATIONS

ATTN: ASSOCIATIONS

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REGATTA ASSOCIATIONS.

NEW ENGLAND ROWING ASSOCIATION.

ORGANIZED AT BOSTON, MASS., APRIL 20, 1868.

Annual Meeting for the Election of Officers, July 3.

New England
Rowing Association.

OFFICERS OF THE ASSOCIATION SINCE ITS ORGANIZATION.

PRESIDENTS.

- From April 20, 1868, to July 3, 1868, EDWIN M. CHAMBERLIN, of the UNION BOAT CLUB, of Boston, Mass.
 " July 4, 1868, to July 3, 1869, EDWIN M. CHAMBERLIN, of the UNION BOAT CLUB, of Boston, Mass.
 " July 4, 1869, to July 3, 1870, ROBINSON WILLIAMS, of the UNA BOAT CLUB, of Portland, Maine.
 " July 4, 1870, to July 3, 1871, ROBINSON WILLIAMS, of the UNA BOAT CLUB, of Portland, Maine.

VICE-PRESIDENTS.

- From April 20, 1868, to July 3, 1868, JOHN TYLER, Jr., of the UNION BOAT CLUB, of Boston, Mass.
 " April 20, 1868, to July 3, 1868, HENRY F. LAMBERT, of the UNION BOAT CLUB, of Boston, Mass.
 " July 4, 1868, to July 3, 1869, HENRY COLEMAN, of the BOYLSTON BOAT CLUB, of Boston, Mass.
 " July 4, 1868, to July 3, 1869, A. M. MILLETT, of the ALPHA BOAT CLUB, of Portland, Maine.
 " July 4, 1869, to July 3, 1870, EDWARD N. FENNO, of the UNION BOAT CLUB, of Boston, Mass.
 " July 4, 1869, to July 3, 1870, GEORGE A. HILLS, of the LOWELL BOAT CLUB, of Lowell, Mass.
 " July 4, 1870, to July 3, 1871, EDWARD N. FENNO, of the UNION BOAT CLUB, of Boston, Mass.
 " July 4, 1870, to July 3, 1871, GEORGE A. HILLS, of the LOWELL BOAT CLUB, of Lowell, Mass.

SECRETARIES.

- From April 20, 1868, to July 3, 1868, EDWARD B. ROBINS, of the UNION BOAT CLUB, of Boston, Mass.
 " July 4, 1868, to July 3, 1869, EDWARD B. ROBINS, of the UNION BOAT CLUB, of Boston, Mass.
 " July 4, 1869, to July 3, 1870, EDWARD B. ROBINS, of the UNION BOAT CLUB, of Boston, Mass.
 " July 4, 1870, to July 3, 1871, EDWARD B. ROBINS,* of the UNION BOAT CLUB, of Boston, Mass.

TREASURERS.

- From April 20, 1868, to July 3, 1868, EDWARD D. BLAKE, of the UNION BOAT CLUB, of Boston, Mass.
 " July 4, 1868, to July 3, 1869, A. B. PROUTY, of the WINNISEMNET BOAT CLUB, of Chelsea, Mass.
 " July 4, 1869, to July 3, 1870, WILLIAM R. BAGNALL, Jr., of the WINNISEMNET BOAT CLUB, of Chelsea, Mass.
 " July 4, 1870, to July 3, 1871, WILLIAM R. BAGNALL, Jr., of the WINNISEMNET BOAT CLUB, of Chelsea, Mass.

REGATTAS HAVE BEEN HELD AS FOLLOWS:

1868.—First Annual Regatta, on the Union Boat Club Course, Charles River, Mass., May 22, 1868.†

1869.—Second Annual Regatta, on the Union Boat Club Course, Charles River, Mass., June 15, 1869.‡

CLUBS BELONGING TO THE NEW ENGLAND ROWING ASSOCIATION, WITH A STATEMENT OF THEIR CONDITION ON THE 30TH DAY OF NOVEMBER, 1870.

CLUBS.			MEMBERS.			BOATS.	VALUES.		
Names.	Of	Date of joining the Association.	Active.	Hon'y.	Total.		Boats.	Lands and Boat-Houses.	Total.
Boylston Boat Club,§	Boston, Mass.,	April, 1868.	..	..	..	..	....	....	....
Lowell Boat Club,	Lowell, Mass.,	July 3, 1868.	40	..	40	3	\$700	\$400	\$1,100
Una Boat Club,	Portland, Me.,	June 1, 1868.	25	13	38	20	2,400	6,200	8,600
Union Boat Club,	Boston, Mass.,	April 1, 1868.	115	35	150	27	5,000	25,000	30,000
Winnisemmet Boat Club,	Chelsea, Mass.,	June 30, 1868.	38	..	38	21	800	Leased.	800
TOTALS.....	.....	.....	218	48	266	71	\$8,900	\$31,600	\$40,500

* Communications should be addressed to 51 Franklin Street, Boston, Mass.

† Reported on page 275.

‡ Reported on page 276.

§ This club, having united with the Shawmut Boat Club, in November, 1870, no report has been received from it.

CONSTITUTION.

- Membership.** ART. 1. Any boat club may become a member of this organization on written notification of its secretary to the secretary of this association that it desires to be enrolled as such member, and paying into the treasury of this association fifty cents for each and every member of said club.
- Meetings.** ART. 2. There shall be a meeting of the association, at Boston, Mass., on the evening of the 3d of July in each year, at such place as may be announced. At said meeting, each member present, of every club that belongs to this organization, shall be entitled to vote on all questions affecting the association; provided, that such member is furnished with credentials of his membership of said club, and said club has paid the dues required by Article 1 of this Constitution. A majority of the clubs uniting may call a meeting to be held at Boston, at any time that they see fit, and at such meeting transact any and all business that they might do at the meeting of July 3.
- Officers.** ART. 3. The officers of this association shall consist of a president, two vice-presidents, secretary, treasurer, and board of directors. The president, vice-presidents, secretary, and treasurer shall be elected at the regular meeting in July, and they shall hold their offices for one year, or until their successors are elected. They shall be *ex officio* members of the board of directors, of which the president shall be chairman.
- Powers.** Each club that is a member of this association may elect, or remove when so elected, one director; such election or removal being certified to by its officers, and a copy of the certificate transmitted to the secretary of this association.
- Duties of President.** ART. 4. The president shall preside at the meetings of the association, and, in case of his absence, the senior officer present shall preside. He may make rules and orders governing the association (not contravening any laid down previously by the association or board of directors), subject to the subsequent action of said association or board. He shall submit a detailed statement of such rules and orders as he may have made, at the first meeting of the association or board of directors held thereafter.
- Of Vice-President.** ART. 5. The senior vice-president shall perform the duties of president in case of the inability of the president to perform them. The junior vice-president shall perform said duties in case of the inability of the president and senior vice-president.
- Of Secretary.** ART. 6. The secretary shall keep the records and manage the correspondence of the association.
- Of Treasurer.** ART. 7. The treasurer shall receive all money of the association, and pay all just demands. He shall submit a detailed statement of its financial affairs at every meeting of the association or board of directors.
- Meetings, how called.** ART. 8. The president shall call a meeting of the board of directors, at Boston, whenever a majority of them unite in requesting him to issue such a call, and they may do all business that the association might do, subject, however, to the action of the association at any meeting held thereafter.
- ART. 9. This constitution may be amended at any meeting of the association.

Hudson Amateur Rowing Association.

HUDSON AMATEUR ROWING ASSOCIATION.

ORGANIZED AT NEW YORK CITY, N. Y., NOVEMBER 26, 1866.

Annual Meeting for the Election of Officers, Third Wednesday in January. Quarterly Meetings, Third Wednesday in January, April, July, and October.

OFFICERS OF THE ASSOCIATION SINCE ITS ORGANIZATION.

PRESIDENTS.

- From November 26, 1866, to January 15, 1868, BENJAMIN F. BRADY, of the WAVERLEY BOAT CLUB, of New York, N. Y.
 " January 16, 1868, to January 20, 1869, DAVID BANKS, Jr., of the ATALANTA BOAT CLUB, of New York, N. Y.
 " January 21, 1869, to January 19, 1870, DAVID BANKS, Jr., of the ATALANTA BOAT CLUB, of New York, N. Y.
 " January 20, 1870, to January 18, 1871, BENJAMIN F. BRADY, of the WAVERLEY BOAT CLUB, of New York, N. Y.
 " January 19, 1871, to January 16, 1872, BENJAMIN F. BRADY, of the WAVERLEY BOAT CLUB, of New York, N. Y.

FIRST VICE-PRESIDENTS.

- From November 26, 1866, to January 15, 1868, HAMILTON WALLIS, of the HUDSON BOAT CLUB, of Jersey City, N. J.
 " January 16, 1868, to January 20, 1869, J. G. P. HOLDEN, of the PALISADE BOAT CLUB, of Yonkers, N. Y.
 " January 21, 1869, to January 19, 1870, J. G. P. HOLDEN, of the PALISADE BOAT CLUB, of Yonkers, N. Y.
 " January 20, 1870, to January 18, 1871, TIMOTHY SHEA, of the GULICK BOAT CLUB, of New York, N. Y.
 " January 19, 1871, to January 16, 1872, JOSEPH RUSSELL, of the ATLANTIC BOAT CLUB, of Hoboken, N. J.

SECOND VICE-PRESIDENTS.

- From November 26, 1866, to January 15, 1868, D. W. MERCHANT, of the MUTUAL BOAT CLUB, of Albany, N. Y.
 " January 16, 1868, to January 20, 1869, H. G. GRAVES, Jr., of the MUTUAL BOAT CLUB, of Albany, N. Y.

From January 21, 1869, to January 19, 1870, GEORGE W. FORTMEYER, of the WAVERLEY BOAT CLUB, of New York, N. Y.
 " January 20, 1870, to January 18, 1871, GEORGE L. WATT, of the VESPER BOAT CLUB, of Yonkers, N. Y.
 " January 19, 1871, to January 16, 1872, E. C. NEILSON, of the HUDSON BOAT CLUB, of Jersey City, N. J.

CORRESPONDING SECRETARIES.

From November 26, 1866, to January 15, 1868, CHARLES TATE, of the COLUMBIA BOAT CLUB, of New York, N. Y.
 " January 16, 1868, to January 20, 1869, RICHARD C. ELLIOTT, of the VESPER BOAT CLUB, of Yonkers, N. Y.
 " January 21, 1869, to January 19, 1870, JAMES W. EDWARDS, of the ATALANTA BOAT CLUB, of New York, N. Y.
 " January 20, 1870, to January 18, 1871, GEORGE W. FORTMEYER, of the WAVERLEY BOAT CLUB, of New York, N. Y.
 " January 19, 1871, to January 16, 1872, GEORGE W. FORTMEYER, of the WAVERLEY BOAT CLUB, of New York, N. Y.

RECORDING SECRETARIES.

From November 26, 1866, to January 15, 1868, JOHN McNULTY, of the ALCYON BOAT CLUB, of New York, N. Y.
 " January 16, 1868, to January 20, 1869, HENRY G. HASHEGAN, of the COLUMBIA BOAT CLUB, of New York, N. Y.
 " January 21, 1869, to January 19, 1870, HENRY G. HASHEGAN, of the COLUMBIA BOAT CLUB, of New York, N. Y.
 " January 20, 1870, to January 18, 1871, GEORGE W. FORTMEYER, of the WAVERLEY BOAT CLUB, of New York, N. Y.
 " January 19, 1871, to January 16, 1872, GEORGE W. FORTMEYER, of the WAVERLEY BOAT CLUB, of New York, N. Y.

TREASURERS.

From November 26, 1866, to January 15, 1868, CHARLES B. TUTHILL, of the ATLANTIC BOAT CLUB, of Hoboken, N. J.
 " January 16, 1868, to January 20, 1869, THEODORE M. TUTHILL, of the ATLANTIC BOAT CLUB, of Hoboken, N. J.
 " January 21, 1869, to January 19, 1870, THEODORE M. TUTHILL, of the ATLANTIC BOAT CLUB, of Hoboken, N. J.
 " January 20, 1870, to January 18, 1871, THEODORE M. TUTHILL, of the ATLANTIC BOAT CLUB, of Hoboken, N. J.
 " January 19, 1871, to January 16, 1872, THEODORE M. TUTHILL, of the ATLANTIC BOAT CLUB, of Hoboken, N. J.

OPENING DAYS AND REVIEWS.

1867.—First Annual Opening Day, Wednesday, May 29, 1867.
 1868.—Second Annual Opening Day, Wednesday, June 17, 1868.
 1869.—Third Annual Opening Day, Thursday, May 20, 1869.
 1870.—Fourth Annual Opening Day, Wednesday, May 18, 1870.
 1871.—Passed. (Each associate club having its own opening day.)

REGATTAS.*

1867.—First Annual Regatta, on the Hudson River, at Hoboken, N. J., Thursday, September 12.
 1868.—Second Annual Regatta, on the Hudson River, at Hoboken, N. J., Thursday, September 10.
 1869.—Third Annual Regatta, on the Hudson River, at Pleasant Valley, N. J., Friday, September 10.
 1870.—Fourth Annual Regatta, on the Hudson River, at Pleasant Valley, N. J., Monday, September 5.
 1871.—Fifth Annual Regatta, on the Hudson River, at Pleasant Valley, N. J., Monday, October 9.

CLUBS BELONGING TO THE HUDSON AMATEUR ROWING ASSOCIATION, WITH A STATEMENT OF THEIR CONDITION ON THE 30TH DAY OF NOVEMBER, 1870.

CLUBS.			MEMBERS.			BOATS.	VALUES.		
Names.	Of	Date of Joining the Association.	Active.	Hon'y.	Total.		Boats.	Lands, Boat-houses, etc.	Total.
Atlantic Boat Club,	Hoboken, N. J.,	Nov. 15, 1866.	30	10	40	19	\$2,970	\$1,850	\$4,820
Beaverwyck Rowing Club,	Albany, N. Y.,	July 20, 1870.	50	..	50	4	700	500	1,200
Gulick Boat Club,	New York, N. Y.,	Nov. 15, 1866.	60	25	85	18	2,975	3,500	6,475
Hudson Boat Club,	Jersey City, N. J.,	Nov. 15, 1866.	46	20	66	10	1,650	1,640	3,290
La Favorita Boat Club,	Hack'ns'ck, N. J.,	Nov. 16, 1869.	18	3	21	16	1,500	3,200	4,700
Vesper Boat Club,	Yonkers, N. Y.,	Sept. 2, 1866.	24	9	33	17	3,400	4,000	7,400
Waverley Boat Club,	New York, N. Y.,	Nov. 15, 1866.	22	18	40	6	1,400	2,000	3,400
TOTALS.....			250	85	335	90	\$14,595	\$16,690	\$31,285

CONSTITUTION.

ART. I. This association shall be known as "The Hudson Amateur Rowing Association."

ART. II. The objects of this association shall be to improve, encourage, and perpetuate the healthful exercise of rowing, and to cultivate friendly intercourse among the members of the various rowing clubs.

ART. III. Sec. 1. The association shall be composed of such amateur rowing clubs as shall have been duly admitted to a representation therein.

Name.

Object.

Membership.

* For detailed reports of these Regattas, see pages 277 to 281.

Board of Delegates.	Sec. 2. The government of this association shall be vested in a board of delegates, consisting of three members from each of the clubs represented in the association.
Applications for admission.	Sec. 3. Any amateur rowing club desiring to be represented in this association may make written application for admission at any regular meeting, stating date of organization, officers, number of members, active and honorary, number and class of boats; and a majority vote of the delegates present shall determine whether such club is entitled to such representation.
Restrictions.	Sec. 4. No club shall be represented in this association unless composed of at least ten active members, nor by any delegate under twenty years of age; and no delegate shall be admitted unless he shall have filed with the secretary of this association a certificate of his election as such delegate, signed by the presiding officer and secretary of the club he may represent.
Officers.	ART. IV. Sec. 1. The officers of this association shall be a president, first vice-president, second vice-president, recording secretary, corresponding secretary, treasurer, and an executive committee, to consist of five delegates. Sec. 2. They must be elected separately, by ballot, at the regular meeting held in January of each year, and they must each receive a majority of the ballots cast; but the five members of the executive committee may be voted for jointly, and the five that receive the greatest number of votes cast shall be declared elected. Sec. 3. Vacancies occurring may be filled for the balance of the term at any regular meeting of the association.
Duties of the President.	ART. V. Sec. 1. It shall be the duty of the president to preside at all meetings; to preserve order, and see that the laws are carried into effect; to call extra meetings whenever he shall deem it necessary, or whenever requested to do so (in writing) by delegates from at least three clubs; to appoint all committees, unless otherwise ordered, and take charge of and conduct all regattas or reviews of the association.
Of the Vice-President.	Sec. 2. It shall be the duty of the first vice-president to perform all the duties of the president in his absence; and in the absence of both the aforementioned officers, the second vice-president shall discharge all the duties of the president.
Of the Recording Secretary.	Sec. 3. It shall be the duty of the recording secretary to keep an accurate record of all the proceedings of the association in a book; to notify clubs of their election, by certificate, and to issue all notices of meetings at least one week previous to such meetings.
Of the Corresponding Secretary.	Sec. 4. It shall be the duty of the corresponding secretary to take charge of all communications, and reply thereto, in accordance with such instructions as he may receive from the association, and keep and record in a book a copy thereof; and he shall immediately deliver to his successor in office all books or other property of the association that may be in his possession.
Of the Treasurer.	Sec. 5. The treasurer shall receive and hold all the funds of the association, and disburse the same as he may be authorized to do by a majority vote of the delegates, on order of the president, in writing. He shall keep a correct account of all moneys received and disbursed by him, in a book to be provided for that purpose, which shall at all times be open to the inspection of any of the officers of the association, or of any committee duly authorized therefor by the association; and he shall report in detail the state of the finances for the past year, at the annual meeting, or whenever required by a vote of the delegates; and he shall immediately deliver to his successor in office (after his accounts have been audited by the executive committee) all the books, papers, or other property of the association in his possession.
Of the Executive Committee.	Sec. 6. It shall be the duty of the executive committee to take charge of all property of the association, for the safe keeping of which they shall be responsible; to make all necessary preparations for regattas or reviews of the association; to inspect and pass upon the accounts of the treasurer, and to inspect and classify each boat belonging to, or hereafter to belong to, the clubs composing this association, and designate to which of the classes specified in the rules and regulations such boat or boats belong, and to furnish the recording secretary a written report of said classification at least twenty days previous to the annual regatta of the association.
Committee on Qualifications.	Sec. 7. The said committee, in the performance of their duties, shall be allowed for their expenses a sum not exceeding four cents per mile travelled for each person—counting from New York City.
How elected.	ART. VI. Sec. 1. On the adoption of this constitution, and at each annual meeting thereafter of this association, there shall be elected a committee, which shall be composed of seven delegates, and shall be known as the "committee on qualifications." Sec. 2. Such committee shall be elected by ballot, and in the following manner: each delegate shall deposit in the ballot-box a ballot containing the names of not more than three delegates, and the six delegates receiving the greatest number of votes shall be elected as members of such committee, who shall elect from the delegates the seventh member of such committee.
Duties.	Sec. 3. Each club shall furnish to the chairman of the said committee a full and complete list of its members, both active and honorary, and shall, from time to time, furnish the names of all new members they may elect, within ten days succeeding their election. Sec. 4. The said committee shall decide, by ballot, upon each name so presented to them, within ten days after such presentation, whether such person shall be classified as an amateur oarsman or otherwise. Sec. 5. The said committee shall have power to require any person whose name shall be submitted to their consideration, to appear before them in person, and submit himself to such examination regarding standing as an oarsman, as the committee shall prescribe, provided such person shall reside within twenty miles of the city of New York, otherwise the standing of such person as an oarsman may be communicated to the said committee in writing, verified by affidavit, in legal form. Sec. 6. No person shall be privileged to row in any race given under the auspices of this association unless he shall have been first decided by such committee to be an amateur oarsman, and from the decision of said committee there shall be no appeal.

ART. VII. Sec. 1. The regular meetings of the board of delegates shall be held on the third Wednesday in the months of January, April, July, and October, in each year, at such place in the city of New York as the president may designate, and the meeting in January shall be known as the annual meeting. Meetings of the Board of Delegates.

Sec. 2. Delegates representing a majority of the clubs shall constitute a quorum for the transaction of business.

ART. VIII. Sec. 1. Each club now or hereafter represented in this association shall, at or before the annual meeting in each year, pay to the treasurer the sum of ten dollars as annual dues. Annual Club dues.

Sec. 2. Assessments upon the clubs composing the association may be levied only at the regular meetings, and only for the purpose of paying amounts actually appropriated by the association. Assessments.

Sec. 3. Every club shall be entitled to three votes upon any question, which may be cast by such delegate of the club as may be present at any meeting. Each club entitled to three votes.

Sec. 4. No delegate shall be entitled to a vote at any meeting if the club which he represents shall be in arrears for dues or assessments; and if such club shall be in arrears one year, it shall cease to belong to the association. If club is in arrears.

Sec. 5. No delegates shall retain position in this association whose club shall, by improper action, become detrimental to the prosperity and reputation of the clubs composing the same.

ART. IX. Sec. 1. The rules and regulations hereafter made shall govern all regattas or races between the clubs belonging to this association. Rules for regattas.

Sec. 2. This constitution, by-laws, and rules and regulations shall not be construed to govern or control the actions of clubs within this association when outside of its legal jurisdiction.

ART. X. Sec. 1. There shall be at least one general review and one regatta of the association in each year, at such time and place as may be designated by the board of delegates; and the date of holding such regatta shall be decided upon at least sixty days previous to its taking place. Reviews and regattas.

Sec. 2. At all reviews or regattas of this association, the president shall assume the title of commodore, and shall be known and designated by such title. Duties of President at regattas.

Sec. 3. The president shall have power to call upon any club in this association for a boat fully manned and equipped for his use at such regatta or review.

Sec. 4. During all regattas or reviews of this association, implicit and unquestioning obedience shall be given to all orders emanating from the commodore by the members of the clubs participating therein.

Sec. 5. Clubs shall take rank in this association in the order of their priority of organization.

ART. XI. For any infringement of this constitution, or the by-laws, rules and regulations enacted in conformity therewith, the president shall have power to inflict upon the member or club so offending such fine or other punishment as he shall elect, subject to the approval of the association. Provided that no fine greater than \$10 shall be inflicted upon any club, nor upon a member one greater than \$5; nor shall any club be suspended from representation in the association for a longer period than six months. Fines.

ART. XII. All proposed alterations or amendments to the constitution or by-laws, or rules and regulations, shall be submitted in writing, at a meeting held at least one month previous to the meeting on which action shall be taken; and a two-thirds vote of the delegates present at a meeting regularly organized shall be necessary for their adoption. Amendments.

BY-LAWS.

SEC. 1. The order of business, at all meetings, shall be as follows:

1. Roll-call.
2. Reading minutes.
3. Reading communications.
4. Reports of committees.
5. Balloting for admission.
6. Collection of dues and assessments.
7. Unfinished business.
8. Election of officers.
9. New business.

Order of business.

SEC. 2. The meetings of this association shall be governed by the rules of parliamentary law as laid down in Jefferson's Manual. Rules.

SEC. 3. No delegate shall speak more than twice on any one question, nor more than ten minutes at any time, unless by unanimous consent.

SEC. 4. Any delegate may, at any time, call for the reading of any article of the constitution or by-laws, or minutes of any meeting, or any other paper relating to the question then under consideration.

SEC. 5. The yeas and nays shall be taken on any question at the request of five delegates.

SEC. 6. Any delegate belonging to this association behaving in an ungentlemanly manner, or rendering himself obnoxious thereto, may, by a vote of two-thirds of the delegates present, be expelled. A Delegate may be expelled.

SEC. 7. All charges against any delegate, or club, must be submitted in writing to the secretary of this association, within ten days from the occurrence of causes upon which they may be predicated; and the club or person against whom said charges are made, shall be furnished with a copy thereof at the same time by the person or persons making them. The secretary shall record the same, and submit the original charge to the board of delegates, who shall investigate all such complaints or charges at the next meeting of the association regularly organized, and a vote of two-thirds of the members present at such meeting shall be necessary to sustain such charges. Charges against Delegates.

Empire City
Regatta Club.

EMPIRE CITY REGATTA CLUB, OF NEW YORK CITY, N. Y.

ORGANIZED 1852.

Annual Meeting for the Election of Officers, in August.

OFFICERS OF THE CLUB ON THE 30TH OF NOVEMBER, 1870.

PRESIDENT—STEPHEN ROBERTS, 368 South Street, New York.
VICE-PRESIDENT—WILLIAM COYLE, 124th Street and Harlem River, New York.
SECRETARY—J. R. ALBERTSON, 114th Street, Harlem, N. Y.
TREASURER—JAMES M. BOYD, Harlem, N. Y.

Number of active members enrolled on the 30th of November, 1870—150.

This club is composed of the members of various sailing and rowing clubs and private individuals in the city of New York, and has for its object the promotion of rowing and sailing, by giving an Annual Regatta at Harlem, N. Y. Since its organization, nine such regattas have been held on the Harlem River.*

Genesee Ri-
ver Rowing As-
sociation.

GENESEE RIVER ROWING ASSOCIATION, OF ROCHESTER, N. Y.

ORGANIZED FEBRUARY 17, 1870.

Annual Meeting for the Election of Officers, February 17.

OFFICERS OF THE ASSOCIATION SINCE ITS ORGANIZATION.

COMMODORES.

From February 17, 1870, to February 17, 1871, HIRAM H. EDGERTON, of the RIVERSIDE ROWING CLUB, of Rochester, N. Y.
" February 17, 1871, to February 17, 1872, HIRAM H. EDGERTON, of the RIVERSIDE ROWING CLUB, of Rochester, N. Y.

PRESIDENTS.

From February 17, 1870, to February 17, 1871, JOHN H. WILSON, of the ATLANTIC BOAT CLUB, of Rochester, N. Y.
" February 17, 1871, to February 17, 1872, JOHN H. WILSON, of the ATLANTIC BOAT CLUB, of Rochester, N. Y.

SECRETARIES.

From February 17, 1870, to February 17, 1871, EDWARD H. C. GRIFFEN, of the EXCELSIOR ROWING CLUB, of Rochester, N. Y.
" February 17, 1871, to February 17, 1872, EDWARD H. C. GRIFFEN, of the EXCELSIOR ROWING CLUB, of Rochester, N. Y.

TREASURERS.

From February 17, 1870, to February 17, 1871, WILLIAM R. OATLEY, of the RIVERSIDE ROWING CLUB, of Rochester, N. Y.
" February 17, 1871, to February 17, 1872, WILLIAM R. OATLEY, of the RIVERSIDE ROWING CLUB, of Rochester, N. Y.

FLAG OFFICERS.

From February 17, 1870, to February 17, 1871, BENJAMIN F. RIDLEY, of the GENESEE BOAT CLUB, of Rochester, N. Y.
" February 17, 1871, to February 17, 1872, BENJAMIN F. RIDLEY, of the GENESEE BOAT CLUB, of Rochester, N. Y.

REGATTAS HAVE BEEN HELD AS FOLLOWS:

1870.—First Annual Regatta on the Genesee River, at Rochester, N. Y., Saturday, September 24.

The Constitution and By-laws are not printed.

* No details of these regattas, or a list of the officers of the club since its organization, has been furnished.

CLUBS BELONGING TO THE GENESEE RIVER ROWING ASSOCIATION, WITH A STATEMENT OF THEIR CONDITION ON THE 30TH DAY OF NOVEMBER, 1870.

CLUBS.			MEMBERS.			BOATS.	VALUES.		
Names.	Of	Date of joining the Association.	Active.	Hon'y.	Total.		Boats and Fittings.	Boat-Houses, Lands, etc.	Total.
Aegia Rowing Club,	Rochester, N. Y.,	Feb. 17, 1870.	20	..	20	3	\$200	\$100	\$300
Atlantic Boat Club,	Rochester, N. Y.,	Feb. 17, 1870.	14	..	14	1	200	300	500
Excelsior Rowing Club,	Rochester, N. Y.,	Sept., 1870.	14	5	19	7	400	150	550
Flour City Boat Club,	Rochester, N. Y.,	Feb. 17, 1870.	14	..	14	2	250	Rented.	250
Genesee Boat Club,	Rochester, N. Y.,	June, 1870.	16	..	16	1	150	do.	150
Olympian Boat Club,	Rochester, N. Y.,	Feb. 17, 1870.	8	..	8	2	200	do.	200
Riverside Rowing Club,	Rochester, N. Y.,	Feb. 17, 1870.	19	1	20	6	520	400	920
TOTALS.....			105	6	111	22	\$1,920	\$950	\$2,870

NEW JERSEY BOATING ASSOCIATION.

New Jersey
Boating Associ-
ation.

Composed of the Boat Clubs of Hoboken, Jersey City, Newark, and Paterson, N. J.

ORGANIZED OCTOBER, 1868.

Annual Meeting for the Election of Officers, Second Tuesday in March.

OFFICERS OF THE ASSOCIATION ON THE 30TH DAY OF NOVEMBER, 1870.

COMMODORE—CASIMIR TAG,	Address, P. O. Box 2,699, New York City.
1ST VICE-COMMODORE—H. L. TYLER,	Jersey City, N. J.
2D VICE-COMMODORE—E. B. VANDERVEER,	St. Nicholas Bank, New York City.
SECRETARY—E. A. CONDIT,	New York City, N. Y.
TREASURER—J. F. ROICE,	Paterson, N. J.

REGATTAS HAVE BEEN HELD AS FOLLOWS:

- 1868.—First Annual Regatta, on the Passaic River, at Newark, N. J., Friday, October 9, 1868.
 1869.—Second Annual Regatta, on the Passaic River, at Newark, N. J., Tuesday, September 7, 1869.
 1870.—No Regatta held.

CLUBS BELONGING TO THE NEW JERSEY BOATING ASSOCIATION, WITH A STATEMENT OF THEIR CONDITION ON THE 30TH DAY OF NOVEMBER, 1870.

CLUBS.			MEMBERS.			BOATS.	VALUES.		
Names.	Of	Date of joining the Association.	Active.	Hon'y.	Total.		Boats.	Land and Buildings.	Total.
Atlantic Boat Club,	Hoboken, N. J.,	1868.	30	10	40	19	\$2,970	\$1,850	\$4,820
Hudson Boat Club,	Jersey City, N. J.,	1868.	46	20	66	10	1,650	1,640	3,290
Passaic Boat Club,	Newark, N. J.,	1868.	24	6	30	13	1,750	Leased.	1,750
Dundee Boat Club,	Paterson, N. J.,	1869.	23	4	27	8	1,500	2,500	4,000
TOTALS.....			123	40	163	50	\$7,870	\$5,990	\$13,860

Rutherford
Park Boating
Association.

RUTHERFORD PARK BOATING ASSOCIATION, OF RUTHERFORD PARK, N. J.

ORGANIZED AT RUTHERFORD PARK, ON THE PASSAIC RIVER, N. J., JUNE 15, 1870.

Annual Meeting for the Election of Officers, June 15.

OFFICERS OF THE ASSOCIATION ON THE 30TH DAY OF NOVEMBER, 1870.

COMMODORE—JOHN McNULTY, Care of Devlin & Co., Broadway, New York.
SECRETARY & TREASURER—J. FISHER SATTERTHWAITE, 10 Pine Street, New York.
REGATTA COMMITTEE—MR. J. C. BOYD, MR. J. C. WHITE, MR. W. W. BUCKLEY, MR. J. FISHER SATTERTHWAITE.

REGATTAS AND REVIEWS:

1870.—First Annual Regatta, on the Passaic River, at Rutherford Park, on Monday, July 4, 1870.

This association is composed of boating-men, connected with the numerous rowing clubs of New York City and vicinity, who spend the summer at Rutherford Park. The courses are on the Passaic River. *The two miles course commences opposite the Rutherford Park Hotel, thence north, up the river one mile to a flag-boat, and return. The three miles course commences one mile south of the Hotel, thence north two miles to a flag-boat, and then back one mile to the Hotel—three miles.*

The Constitution and By-laws of the Association are not printed.

The Schuyl-
kill Navy.

THE SCHUYLKILL NAVY, OF PHILADELPHIA, PENN.

ORGANIZED OCTOBER 19, 1858.

Annual Meeting for the Election of Officers, the First Monday in January.

OFFICERS OF THE SCHUYLKILL NAVY SINCE IT ORGANIZATION.

COMMODORES.

From October 19, 1858, to January 3, 1859, CHARLES M. PREVOST, of the CAMILLA BOAT CLUB, Philadelphia, Pa.
" January 4, 1859, to January 1, 1860, DR. J. M. BROLASKI, of the CHEBUCTOO BOAT CLUB, Philadelphia, Pa.
" January 2, 1860, to January 7, 1861, SAMUEL M. GROOME, of the UNIVERSITY BARGE CLUB, Philadelphia, Pa.
" January 8, 1861, to January 6, 1862, SAMUEL M. GROOME, of the UNIVERSITY BARGE CLUB, Philadelphia, Pa.
" January 7, 1862, to January 5, 1863, SAMUEL M. GROOME, of the UNIVERSITY BARGE CLUB, Philadelphia, Pa.
" January 6, 1863, to January 3, 1864, SAMUEL M. GROOME, of the UNIVERSITY BARGE CLUB, Philadelphia, Pa.
" January 4, 1864, to January 2, 1865, SAMUEL M. GROOME, of the UNIVERSITY BARGE CLUB, Philadelphia, Pa.
" January 3, 1865, to January 1, 1866, SAMUEL M. GROOME, of the UNIVERSITY BARGE CLUB, Philadelphia, Pa.
" January 2, 1866, to January 7, 1867, SAMUEL M. GROOME, of the UNIVERSITY BARGE CLUB, Philadelphia, Pa.
" January 8, 1867, to January 5, 1868, CHARLES VEZIN, of the UNIVERSITY BARGE CLUB, Philadelphia, Pa.
" January 6, 1868, to January 4, 1869, WILLIAM F. GRIFFITHS, of the UNDINE BARGE CLUB, Philadelphia, Pa.
" January 5, 1869, to January 3, 1870, JAMES M. FERGUSON, of the BACHELORS' BARGE CLUB, Philadelphia, Pa.
" January 4, 1870, to January 2, 1871, JAMES M. FERGUSON, of the QUAKER CITY BARGE CLUB, Philadelphia, Pa.
" January 3, 1871, to January 1, 1872, HENRY B. COXE, of the QUAKER CITY BARGE CLUB, Philadelphia, Pa.

VICE-COMMODORES.

From October 19, 1858, to January 3, 1859, FRANK MITCHELL, of the QUAKER CITY BARGE CLUB, Philadelphia, Pa.
 " January 4, 1859, to January 1, 1860, FRANK MITCHELL, of the QUAKER CITY BARGE CLUB, Philadelphia, Pa.
 " January 2, 1860, to January 7, 1861, CHARLES VEZIN, of the UNDINE BARGE CLUB, Philadelphia, Pa.
 " January 8, 1861, to January 6, 1862, CHARLES VEZIN, of the UNDINE BARGE CLUB, Philadelphia, Pa.
 " January 7, 1862, to January 5, 1863, CHARLES VEZIN, of the UNDINE BARGE CLUB, Philadelphia, Pa.
 " January 6, 1863, to January 3, 1864, CHARLES VEZIN, of the UNDINE BARGE CLUB, Philadelphia, Pa.
 " January 4, 1864, to January 2, 1865, CHARLES VEZIN, of the UNDINE BARGE CLUB, Philadelphia, Pa.
 " January 3, 1865, to January 1, 1866, J. WOOD, of the BACHELORS' BARGE CLUB, Philadelphia, Pa.
 " January 2, 1866, to January 7, 1867, J. WOOD, of the BACHELORS' BARGE CLUB, Philadelphia, Pa.
 " January 8, 1867, to January 5, 1868, J. D. MCKEE, of the BACHELORS' BARGE CLUB, Philadelphia, Pa.
 " January 6, 1868, to January 4, 1869, JAMES M. FERGUSON, of the QUAKER CITY BARGE CLUB, Philadelphia, Pa.
 " January 5, 1869, to January 3, 1870, JOHN CULIN, of the PENNSYLVANIA BARGE CLUB, Philadelphia, Pa.
 " January 4, 1870, to January 2, 1871, JOHN CULIN, of the PENNSYLVANIA BARGE CLUB, Philadelphia, Pa.
 " January 3, 1871, to January 1, 1872, J. D. FERGUSON, of the QUAKER CITY BARGE CLUB, Philadelphia, Pa.

The Schuyl-
kill Navy.

SECRETARIES AND TREASURERS.

From October 19, 1858, to January 3, 1859, B. F. VAN DYKE, of the UNDINE BARGE CLUB, Philadelphia, Pa.
 " January 4, 1859, to January 1, 1860, B. W. FLANAGAN, of the INDEPENDENT BARGE CLUB, Philadelphia, Pa.
 " January 2, 1860, to January 7, 1861, FRANK MITCHELL, of the QUAKER CITY BARGE CLUB, Philadelphia, Pa.
 " January 8, 1861, to January 6, 1862, FRANK MITCHELL, of the QUAKER CITY BARGE CLUB, Philadelphia, Pa.
 " January 7, 1862, to January 5, 1863, FRANK MITCHELL, of the QUAKER CITY BARGE CLUB, Philadelphia, Pa.
 " January 6, 1863, to January 3, 1864, FRANK MITCHELL, of the QUAKER CITY BARGE CLUB, Philadelphia, Pa.
 " January 4, 1864, to January 2, 1865, FRANK MITCHELL, of the QUAKER CITY BARGE CLUB, Philadelphia, Pa.
 " January 3, 1865, to January 1, 1866, FRANK MITCHELL, of the QUAKER CITY BARGE CLUB, Philadelphia, Pa.
 " January 2, 1866, to January 7, 1867, FRANK MITCHELL, of the QUAKER CITY BARGE CLUB, Philadelphia, Pa.
 " January 8, 1867, to January 5, 1868, FRANK MITCHELL, of the QUAKER CITY BARGE CLUB, Philadelphia, Pa.
 " January 6, 1868, to January 4, 1869, LOUIS F. BARGER, of the MALTA BOAT CLUB, Philadelphia, Pa.
 " January 5, 1869, to January 3, 1870, LOUIS F. BARGER, of the MALTA BOAT CLUB, Philadelphia, Pa.
 " January 4, 1870, to November 7, 1870, FRANK WOOD, of the QUAKER CITY BARGE CLUB, Philadelphia, Pa.
 " November 8, 1870, to January 1, 1872, WILLIAM A. STEEL,* of the CRESCENT BOAT CLUB, Philadelphia, Pa.

REGATTAS HAVE BEEN HELD, ON THE SCHUYLKILL RIVER, AT FAIRMOUNT, AS FOLLOWS:†

1859.—June —.
 1860.—Tuesday, June 26.
 1865.—Saturday, October 21.
 1866.—Saturday, June 9.
 1867.—Saturday, June 8; Wednesday, June 12; Saturday,
 June 15; Saturday, September 28.
 1868.—Saturday, June 20; Saturday, June 27.
 1869.—Saturday, June 12; Saturday, June 19.
 1870.—Saturday, October 1; Wednesday, October 5.
 1871.—Saturday, June 10; Saturday, September 30.

CLUBS BELONGING TO THE SCHUYLKILL NAVY, WITH A STATEMENT OF THEIR CONDITION, ON THE 30TH DAY OF NOVEMBER, 1870.

CLUBS.			MEMBERS.			BOATS.	VALUES.		
Names	Of	Date of joining the Association.	Active.	Hon'y.	Total.		Boats.	Lands, Buildings.	Total.
Bachelors' Barge Club,	Philadelphia,	October, 1858.	33	17	50	6	\$1,350	\$10,500	\$11,850
Crescent Boat Club,	do.	December, 1867.	29	20	49	11	2,100	4,000	6,100
Keystone Barge Club,	do.	(No report.)	11	7	18	2	400	Rented.	400
Malta Boat Club,	do.	1860.	21	1	22	3	1,500	3,500	5,000
Pennsylv'a Barge Club,	do.	1861.	21	40†	61	8	2,000	4,000	6,000
Philad'phia Barge Club,	do.	1862.	21	4	25	2	500	4,000	4,500
Quaker City Barge Club,	do.	October, 1858.	24	12	36	6	1,500	5,000	6,500
Undine Barge Club,	do.	October, 1858.	55	8	63	9	2,000	10,000	12,000
University Barge Club,	do.	October, 1858.	40	36	76	3	1,000	5,000	6,000
Vesper Boat Club,	do.	1865.	35	10	45	7	2,000	7,000	9,000
TOTALS.....			290	155	445	57	\$14,350	\$53,000	\$67,350

* Address, 1837 Coates Street, Philadelphia, Pa.

† A full report of these Regattas will be given in the edition of the Manual for 1872.

‡ Contributing members.

TABLE OF DISTANCES ON THE SCHUYLKILL COURSE, AT FAIRMOUNT PARK.

From	To	Miles.	Feet.
Turtle Rock (near boat-houses),	Girard Avenue Bridge,	..	2,060
do. do.	Rock on west bank, just beyond connecting railway bridge,	1 1/2	..
do. do.	Point half way between lower end of the island and steamboat landing, west bank,	1	..
do. do.	The Columbia Bridge,	1	1,400
do. do.	The middle of Peter's Island,	1 1/2	..
do. do.	Berkenbine's Clearing,	2	..
do. do.	Laurel Hill Landing,	2	2,300
do. do.	A long white house, on the west bank, half way between landing and Falls Bridge,	2 1/2	..
do. do.	The Falls Bridge,	2	4,600
Point 650 feet S.E. Turtle Rock,	The Falls Bridge,	3	..

CONSTITUTION OF THE SCHUYLKILL NAVY.

Organization.

ART. I. Sec. 1. This association of boating clubs shall be known as "The Schuylkill Navy."

Government.

Sec. 2. The object of the association shall be to secure concord between the several clubs, and united action for the promotion of amateur oarsmanship on the river Schuylkill.

Officers.

ART. II. Sec. 1. The government of the association shall be entrusted to a "naval board," to which each club shall appoint one delegate, selected from its active members.

Of the "Naval Board."

ART. III. Sec. 1. The officers of the association shall be a commodore, vice commodore, secretary, and treasurer, to be elected by ballot annually by the naval board.

Sec. 2. All officers must be active members of clubs belonging to this association.

ART. IV. Sec. 1. It shall be the power and duty of the board from time to time to prescribe and publish, through the secretary, such general rules for the government of the navy, and such special rules respecting regattas, receptions, celebrations, and other like public occasions, as shall be consistent with the constitution and objects of the association. The board shall also act as one of arbitration, to hear and decide all disputes arising between the clubs (except during races), and shall take cognizance of infractions of the constitution or rules of the association, and, at its discretion, enforce any penalties provided by the constitution therefor. The board shall also elect the officers provided for in Article III.

Sec. 2. The board shall hold regular monthly meetings for the transaction of business, and shall also hold special meetings at the call of the commodore.

Duties of the Commodore.

Sec. 3. A majority of the whole board shall constitute a quorum for the transaction of business.

ART. V. Sec. 1. The commodore shall be presiding and executive officer of the naval board. He shall exercise all the privileges of a presiding officer, except that he shall in no case vote, and it shall be his duty to see to the observance and execution of the provisions of the constitution, and of all rules, general and special, issued by the board in conformity therewith, and promptly to report to the board and require its action upon any violation of the said constitution or rules which shall come to his knowledge.

Sec. 2. He shall call special meetings of the board, upon the written request of at least two members thereof, and shall preside over such meetings.

Sec. 3. He shall take command of the fleet upon the occasion of regattas, receptions, reviews, or other public displays of the navy, and shall have the power of calling out the fleet at his discretion, upon occasions not otherwise provided for in the constitution, by-laws, and rules.

Of the Vice-Commodore.

Sec. 4. The vice commodore shall act as the assistant, and under the direction of the commodore. Should the latter be absent, or for any reason vacate his office before the expiration of the year for which elected, the vice-commodore shall, during such absence in the one case, or until the next election in the other, assume and perform the duties of the commodore.

Duties of the Secretary and Treasurer.

ART. VI. Sec. 1. The secretary and treasurer shall be elected by, and from among the members of, the naval board.

Sec. 2. The secretary shall keep full minutes of the proceedings of all meetings of the board, shall read and file all communications and other papers, and shall perform generally all the duties appertaining to the office of a recording and corresponding secretary.

Sec. 3. It shall be a special duty of the secretary to compile annually from the minutes of the board, and from data affecting the navy, which shall have occurred during the preceding year, together with a precise statement of the condition of the several clubs at the date of such report. This report and statement he shall submit to the April meeting of the board for revision and approval, and shall immediately thereafter print, publish, and distribute as many copies of the same as the board may direct.

Sec. 4. The treasurer shall receive and disburse all moneys due to or from the association, shall keep accurate accounts of such receipts and disbursements, and shall present to the board monthly and annual statements of account.

Clubs.

ART. VII. Sec. 1. The unanimous vote of a business quorum of the naval board shall be necessary for the admission of any club into this association.

Initiation Fee

Sec. 2. Any club desirous of admission shall present, through the secretary of the board, an application in writing,

together with the sum of ten (10) dollars as initiation fee, and a statement of the date of its organization, its officers, a list of its members, and a detailed description of its property. This statement shall, unless objection is offered and sustained, be submitted by the commodore to an investigating committee of three, which shall, at the next meeting, present a written report of the information it has obtained, and of the sources from which procured; and immediately upon the presentation of such written report, and not before, shall the vote of the board be taken.

Sec. 3. A club rejected by the board shall not be again proposed for membership within six months thereafter.

Sec. 4. Every club admitted to membership shall be forthwith notified of its admission by the secretary, and furnished with a copy of the Constitution, By-laws, and Rules, and shall be required to choose its delegate to the naval board, prior to the next regular meeting of said board.

Sec. 5. Each club shall pay specified monthly dues into the treasury of the association.

ART. VIII. The annual election of officers shall take place at the January meeting of the naval board.

ART. IX. Sec. 1. No assessments or special fines shall be levied upon the clubs, or any of them, unless by the vote of a majority of the whole board.

ART. X. For any cause determined to be sufficient, resolutions of censure or expulsion may be passed against any officer of the board, or against any club belonging to this association, by a two-thirds vote of the members present at any regular meeting of the board; providing that such officer or club, as well as the representatives of the several clubs, shall have received due notice of the nature of the accusations, and of the meeting at which the resolutions are to be acted upon.

ART. XI. Sec. 1. The constitution and by-laws of this association shall not be altered or amended unless by a vote of a majority of the whole board.

Sec. 2. Any such alteration or amendment shall be proposed in writing at a regular monthly meeting, and shall be acted upon at the next regular meeting, after *due notice* given by the secretary to the several clubs of the nature of the proposed amendment.

BY-LAWS OF THE NAVAL BOARD.

ART. I. The stated meetings of the naval board shall be held on the first Monday of each month, at eight o'clock P.M.; and special meetings at the call of the commodore.

ART. II. Sec. 1. The order of business at regular meetings of the board shall be: 1. Calling the roll. 2. Reading the minutes of previous meeting. 3. Reading of communications. 4. Reports of standing committees. 5. Reports of special committees. 6. Balloting for admission of new clubs, or election of officers. 7. Unfinished business. 8. New business. 9. Collection of dues, fines, and assessments.

Sec. 2. At special meetings of the board, the special business shall be proceeded with immediately after roll-call, and none other be transacted.

Sec. 3. At all meetings of the board, each delegate shall be entitled to one vote, and each delegate shall represent his own club only.

ART. III. Each club shall pay monthly, in advance, the sum of two (2) dollars into the treasury of the association.

ART. IV. The following general fines shall be payable into the treasury of the association: For neglect to be

represented at any meeting of the board, \$1. For default in payment of dues, fines, or assessments for two successive months, \$1. And an additional dollar for every successive month in default.

RULES AND REGULATIONS OF THE NAVY.

ART. I. Sec. 1. It shall be the duty of the representative of each club to present, on the first Monday in March of each year, to the secretary of the naval board, a written report, setting forth the number, names, and styles of the boats owned by this club, together with the names of its members, list of officers, etc.

Sec. 2. There shall be two *regular reviews* of the navy in each and every year—one opening, and the other closing the season—and to be held at such dates as the naval board shall determine. Of these reviews, at least two weeks' notice shall be given to the several clubs.

Sec. 3. An annual regatta shall be held at such time or times as the naval board may determine, such time or times, as well as the course to be rowed over, to be determined and signified to the several clubs at least six weeks beforehand.

Sec. 4. In any public displays of the navy, excepting regattas, the order of precedence as to the position of the respective clubs "in line" shall be regulated by relative seniority as members of the navy.

Sec. 5. Each club shall provide itself with distinguishing flags for boats and boat-house, the character of such flags to be reported to the naval board. (*For the designs of these flags, see page 193.*)

Sec. 6. Boats belonging to the navy shall be distinguishable after nightfall by green lights, to be carried at the bow.

ART. II. Sec. 1. Racing for money is positively prohibited.

Sec. 2. For racing purposes, the boats of the navy shall be classified as follows: 1st class, *shells*; 2d class, *outrigger*

lap-treak boats; 3d class, *smooth gunwale barges*.

Sec. 3. All races provided for in these rules shall be between boats of the same class.

Sec. 4. Five seconds per oar per mile shall be allowed to boats pulling the lesser number of oars, and the total allowance of time shall be given at the start.

Rejections.

Clubs admitted.

Monthly dues.

Election of Officers.
Assessments.

Penalties.

Amendments.

Meetings.

Order of Business.

Dues.

Fines.

Annual Reports.

Reviews.

Regattas.

Precedence.

Flags.

Lights.

Racing for money.
Classification of Boats.

Allowances.

Challenges.

Sec. 5. Any club desiring to send or accept a challenge must do so through the secretary of the naval board ; and any such challenge must be accepted within fifteen days from the time of receipt, or in default shall be considered rejected.

Sec. 6. Within one week after the acceptance of a challenge, the contestants shall agree upon the course to be rowed, the time of the race (which shall not be less than thirty days after the acceptance of the challenge), and any other terms and conditions not inconsistent with these rules ; of all of which particulars the commodore shall be forthwith notified in writing.

Contestants must be amateurs.

Sec. 7. *In all races*, the coxswain and crew of each contesting boat shall be amateurs and *bona fide* members of the club to which the boat belongs, and the starter, judges, and umpire shall also be amateurs and members of the Schuylkill Navy.

Sec. 8. No changes shall be made in any crew during a race.

Sec. 9. Each competitor in a race shall be at the starting-point promptly at the time appointed, or in default shall be adjudged out of the race, unless all of the competing parties shall signify their consent to the contrary.

Sec. 10. The standing course shall be three miles, unless otherwise agreed upon.

Special rules regulating the preliminaries & conditions of regattas.

ART. III. Sec. 1. Each club intending to enter a boat or boats for the annual regatta must give written notice to the secretary of the naval board at least one month before the time set for the regatta, and a fine, to be determined by the board, shall be imposed for withdrawing or refusing to race any boat or boats thus entered.

Sec. 2. Objections to any entry may be made at any time previous to the race ; such objections shall be addressed in writing to the secretary, and be submitted to the decision of the naval board. If such objection be made, however, just before the start, and the boat or crew objected to should win the race, no prize shall be delivered unless the objection raised shall have been decided in its favor.

Sec. 3. The respective positions of the competitors at the start shall be decided by lot, to be drawn by their representatives at least two weeks before the race.

Sec. 4. A starter, umpire, and judge shall be elected by ballot by the naval board at its last meeting preceding the first day of the regatta.

Sec. 5. The commodore shall, at least one week before the first day of the regatta, issue general orders, specifying the order and times of the respective races, and such other details not inconsistent with these rules as he shall consider essential.

Sec. 6. The winning boats in the annual regatta shall hold the champion flags of their respective classes until taken from them at any subsequent annual regatta. (This rule also applies to the winner of the champion belt in single-scul races.)

Rules in regard to the conduct of races.

ART. IV. Sec. 1. All races shall be started in the following manner : The starter on being satisfied that the competitors are ready, shall ask the question, Are you ready ? and, receiving no reply, shall give the signal to start by calling, Go ! If he considers the start false, he shall at once recall the boats to their stations by suitable signal, and any boat disregarding the order shall be considered out of the race.

Sec. 2. The umpire shall follow the race throughout, and shall see that it is regularly and fairly conducted ; and the judge shall be stationed at the winning-post.

Sec. 3. No fouling shall be allowed. It shall be adjudged a foul where, after a race has commenced, any competitor, by his oar, boat, or person, comes in contact with the oar, boat, or person of another competitor.

Sec. 4. Any competitor judged to have caused a foul shall be distanced.

Sec. 5. A boat which has been fouled shall continue and complete the course in order to claim the race.

Sec. 6. When, in any race in which more than two boats start, a foul occurs, and, owing to that foul, one of the contesting boats (other than that causing the foul) wins, if, in the umpire's opinion, such boat would not otherwise have won, the race shall be rowed again.

Sec. 7. In the event of a dead heat taking place, or where it is impossible to adjudge a foul, the same crews shall contend again within seven days, or the crew or crews refusing to do so shall be adjudged to have lost the race.

Sec. 8. Any boat may leave its own course to take the water of a competitor as soon as there is clear water between its own stern and the stem of such competitor.

Sec. 9. A boat which has thus taken the water of a competitor shall not cross and recross to and from its own course for the purpose of wilfully and unnecessarily annoying its competitor.

Sec. 10. No boat shall be allowed to accompany a competing boat for the purpose of directing its course, or of affording other assistance ; and any competing boat permitting such conduct shall be declared distanced.

Sec. 11. Competing boats must abide by any accidents which may happen to them.

Sec. 12. Claims of foul must be tendered to the umpire by the competitor or competitors in person, and before leaving the boat.

Sec. 13. Claims of foul or other disputes arising during any race shall be heard and summarily decided by the umpire ; and the judge shall decide as to the respective order of the incoming competitors, and as to the time made ; and the decisions of both umpire and judge shall be final.

NORTHWESTERN AMATEUR BOATING ASSOCIATION.

Northwestern
Amateur Boating
Association.

ORGANIZED OCTOBER 29, 1868.

Annual Meeting for the Election of Officers, the Second Friday in July.

OFFICERS OF THE ASSOCIATION SINCE ITS ORGANIZATION.

PRESIDENTS.

- From October 29, 1868, to July 9, 1869, GEORGE R. WRIGHT, of the MILWAUKEE BOAT CLUB, of Milwaukee, Wis.
 " July 10, 1869, to July 15, 1870, GEORGE R. WRIGHT, of the MILWAUKEE BOAT CLUB, of Milwaukee, Wis.
 " July 16, 1870, to July 13, 1871, HENRY E. BANGS, of the TOLEDO BOAT CLUB, of Toledo, Ohio.
 " July 14, 1871, to July 11, 1872, LEVI T. GRIFFIN, of the DETROIT BOAT CLUB, of Detroit, Mich.

VICE-PRESIDENTS.

- From October 29, 1868, to July 9, 1869, CHARLES M. GARRISON, of the DETROIT BOAT CLUB, of Detroit, Mich.
 " July 10, 1869, to July 15, 1870, FREDERICK B. SHOEMAKER, of the UNDINE BOAT CLUB, of Toledo, Ohio.
 " July 16, 1870, to July 13, 1871, FREDERICK H. POTTER, of the WAH-WAH-SUM BOAT CLUB, of Saginaw City, Mich.
 " July 14, 1871, to July 11, 1872, JAMES F. BROWN, of the NEPTUNE BOAT CLUB, of East Saginaw, Mich.

SECRETARIES AND TREASURERS.

- From October 29, 1868, to July 9, 1869, CHARLES L. BLANCHARD, of the MILWAUKEE BOAT CLUB, of Milwaukee, Wis.
 " July 10, 1869, to July 15, 1870, FRANK G. BIGELOW, of the MILWAUKEE BOAT CLUB, of Milwaukee, Wis.
 " July 16, 1870, to July 13, 1871, SAMUEL H. WARING, of the UNDINE BOAT CLUB, of Toledo, Ohio.
 " July 14, 1871, to July 11, 1872, FRANK RAYMOND, Jr., of the EXCELSIOR BOAT CLUB, of Detroit, Mich.

COMMODORES.

- From October 29, 1868, to July 9, 1869, HENRY E. BANGS, of the TOLEDO BOAT CLUB, of Toledo, Ohio.
 " July 10, 1869, to July 15, 1870, SAMUEL E. PITTMAN, of the DETROIT BOAT CLUB, of Detroit, Mich.
 " July 16, 1870, to July 13, 1871, WILLIAM H. WRIGHT, of the DUNCAIRN BOAT CLUB, of Milwaukee, Wis.
 " July 14, 1871, to July 11, 1872, THOMAS M. WALKER, of the UNDINE BOAT CLUB, of Erie, Penn.

VICE-COMMODORES.

- From October 29, 1868, to July 9, 1869, THOMAS E. HOYT, of the NEPTUNE BOAT CLUB, of East Saginaw, Mich.
 " July 10, 1869, to July 15, 1870, WALTER SCOTT, of the UNDINE BOAT CLUB, of Erie, Penn.
 " July 16, 1870, to July 13, 1871, WILLIAM H. WHITEHEAD, of the UNDINE BOAT CLUB, of Erie, Penn.
 " July 14, 1871, to July 11, 1872, JOHN B. THOMAS, of the UNDINE BOAT CLUB, of Toledo, Ohio.

SIGNAL OFFICERS.

- From October 29, 1868, to July 9, 1869, EDWARD H. NORTON, of the UNDINE BOAT CLUB, of Toledo, Ohio.
 " July 10, 1869, to July 15, 1870, WILLIAM TILLMAN, of the DETROIT BOAT CLUB, of Detroit, Mich.
 " July 16, 1870, to July 13, 1871, ROBERT HILL, of the MILWAUKEE BOAT CLUB, of Milwaukee, Wis.
 " July 14, 1871, to July 11, 1872, ROBERT W. RUSSELL, of the UNDINE BOAT CLUB, of Erie, Penn.

REGATTAS HAVE BEEN HELD AS FOLLOWS:*

- 1869.—First Annual Regatta, on the Maumee River, at Toledo, Ohio, Thursday and Friday, July 8 and 9, 1869.
 1870.—Second Annual Regatta, on the Detroit River, at Detroit, Michigan, Thursday and Friday, July 14 and 15, 1870.
 1871.—Third Annual Regatta, on Lac-la-Belle, Oconomowoc, near Milwaukee, Wisconsin, Wednesday and Thursday, July 12 and 13, 1871.

* For details of these Regattas, see pages 282 to 287.

CLUBS BELONGING TO THE NORTHWESTERN AMATEUR BOATING ASSOCIATION, WITH A STATEMENT OF THEIR CONDITION ON THE 30TH DAY OF NOVEMBER, 1870.

CLUBS.			MEMBERS.			BOATS.	VALUES.		
Names.	Of	Date of joining the Association.	Active.	Hon'y.	Total.		Boats.	Lands and Buildings.	Total.
Chicago Rowing Club,	Chicago, Ill.,	July 14, 1870.	10	..	10	7	\$1,050	None.	\$1,050
Detroit Boat Club,	Detroit, Mich.,	Oct. 29, 1868.	51	28	79	12	2,150	"	2,150
Excelsior Boat Club,	do. do.	Oct. 29, 1868.	28	63	91	4	1,600	\$900	2,500
Undine Boat Club,	Erie, Penn.,	June 24, 1869.	22	134	156	4	700	1,000	1,700
Neptune Boat Club,	E. Saginaw, Mich.	Oct. 29, 1868.	29	51	80	9	1,450	1,200	2,650
Dun Cairn Crew,	Milwaukee, Wis.,	Oct. 29, 1868.	4	1	5	1	350	550	900
Milwaukee Boat Club,	Milwaukee, Wis.,	Oct. 29, 1868.	49	40	89	5	2,500	300	2,800
Wah-Wah-Sum B't Club,	Saginaw, Mich.	July 9, 1869.	25	50	75	11	1,200	1,050	2,250
Toledo Boat Club,	Toledo, Ohio,	Oct. 29, 1868.	36	6	42	4	1,200	1,000	2,200
Undine Boat Club,	do. do.	Oct. 29, 1868.	58	5	63	6	1,500	2,000	3,500
TOTALS.....			312	378	690	63	\$13,700	\$8,000	\$21,700

CONSTITUTION.

- Name.** ART. I. Sec. 1. This association shall be known as the Northwestern Amateur Boating Association.
- Object.** Sec. 2. The object of this association shall be a friendly union of all clubs and individuals interested in the healthful exercise of boating, for the more effectual promotion and protection of their rights and interests, and to give annually a regatta on the second Thursday of July of each year.
- Composition.** Sec. 3. This association shall be composed of the clubs which have been duly admitted to a representation in the convention framing this constitution, and from each of the clubs which may be hereafter admitted.
- Officers.** ART. II. Sec. 1. The officers of this association shall consist of president, vice-president, secretary and treasurer, commodore, vice-commodore, and signal officer, who shall constitute an executive board.
- Duties of President.** Sec. 2. It shall be the duty of the president to preside at all meetings, to preserve order, and see that the laws are carried into effect. He shall have no vote, except in the election of officers and new members, and in equal divisions, when he shall have the casting vote.
- Vice-President.** Sec. 3. The vice-president shall perform the duties of the president during his absence.
- Secretary and Treasurer.** Sec. 4. The secretary and treasurer shall keep accurate records of the proceedings of the association, notify all clubs of their admission, carry on the general correspondence of the association, and keep an accurate account of all funds received and disbursed by him.
- Commodore.** Sec. 5. Duties of the commodore: He shall have complete control and general management of the annual regatta.
- Vice-Commodore.** Sec. 6. Vice-commodore: In the absence of the commodore, the vice-commodore shall perform all the duties of the commodore, and shall succeed to the rank of commodore upon the vacation of that office, to hold the same until the next annual election.
- Signal Officer.** Sec. 7. The signal officer shall act under the direction of the commodore, and, in the absence of the commodore and vice-commodore, shall take charge of the regatta.
- Elections.** ART. III. Sec. 1. The first election of officers shall take place by ballot, immediately after the adoption of this constitution, with the exception of the signal officer, who shall be appointed by the commodore. They shall hold office until the last day of the regatta in 1869, or until their successors are elected or appointed: and thereafter said officers shall be elected or appointed on the last day of the regatta of each year, to hold their respective offices until the last day of the following regatta, or until their successors are elected or appointed.
- Delegates.** Sec. 2. Each club of the association shall be represented by two delegates at each annual meeting, provided said club shall not be in arrears.
- Fees.** ART. IV. Sec. 1. The initiation fee to this association shall be \$10, which shall in all cases accompany the application, and the annual dues shall be \$1 for each active member of the respective clubs. The fund arising from these sources shall be used for no other purpose than purchasing prizes.
- Application for Membership.** Sec. 2. Any regularly organized boat club wishing to join the association may make application in writing to the secretary of the association, enclosing the necessary fee. In case two-thirds of the executive board endorse the petition favorably, blanks will be forwarded to the proper officer of the club, who will see that they are properly filled out and returned, and upon receipt of these, the said club shall become a member of the association.
- Payments.** Should the petition be disapproved by at least two thirds of the board, the application shall be deemed rejected, and the secretary will notify the said club of the fact, and return the fee.
- Judges and Referee.** ART. V. Sec. 1. The proceeds arising from the grand stand shall be disbursed as follows: First, the payment of incidental expenses; second, in aid of payment of prizes, if needed.
- ART. VI. Sec. 1. Four judges and one referee shall be chosen annually on the morning of the first day of the regatta, at ten o'clock, by a majority vote of all clubs present belonging to the association, each club casting one vote. The executive board shall act as canvassers. The judges elect shall decide all questions in dispute as to the awards made by the executive board, all decisions to be rendered in accordance with established rules.
- Races with Clubs not members.** ART. VII. Sec. 1. No club belonging to the association shall engage in a contest with any club outside of this association, without the consent of the executive board, under penalty of expulsion.

Sec. 2. No delegates shall retain their position in the association, whose club shall, in the opinion of two-thirds of the association, by improper action, become detrimental to the prosperity and reputation of the association.

ART. VIII. Sec. 1. No alterations or amendments shall be made to this constitution, except by a two-thirds vote of all the delegates present at any regular meeting of the association. Amendments.

ART IX. Sec. 1. The order of business at all meetings shall be as follows: 1st, roll-call; 2d, reading the minutes; 3d, reading of communications; 4th, reports of committees; 5th, considering applications; 6th, balloting for members; 7th, reports of officers; 8th, unfinished and miscellaneous business; 9th, balloting for place of holding next annual regatta; 10th, election of officers. Order of Business.

Sec. 2. Delegates from a majority of the clubs comprising this association shall constitute a quorum for the transaction of business. Quorum.

Sec. 3. Meetings shall be governed by the usual parliamentary rules; the chair to decide, subject to appeal. Rules.

RULES AND REGULATIONS.

1. The standing course shall be three miles, unless otherwise agreed upon by the contending clubs. Course.
2. The races shall be either on a straight course with the tide, or with but one turn, at the option of the challenging party. Kind of race.
3. The challenged party shall name the time and place, and the race shall be rowed within one month from the date of receipt of the challenge. Time and Place.
4. Each party shall appoint two judges, who will agree upon a referee. Judges and referee shall not belong to the club of either contending party. Judges.
5. In case the race be with one turn, one judge, representing each contestant, shall be stationed in the stake-boat, the others at the starting-point. Stations.
6. No boat shall take the water of another, unless she has a clear lead of a boat's length.
7. The referee shall start the boats, and, at the termination of the race, each crew shall report to its respective judge, prior to any decision being given. Starter.
8. In all races rowed between clubs composing this association, the crews shall be *bona fide* members of the respective clubs at the time of the acceptance of the challenge. Crews.
9. The boats will be classed as follows: 1st class, shells; 2d class, lapstreaks; 3d class, barges. Classification.
10. Five seconds per oar per mile shall be allowed by boats pulling the greater number of oars. Allowances.
11. The blank form of report for clubs used at this convention shall be adopted by this association.

REGATTA ASSOCIATION, OF CHATHAM COUNTY, GEORGIA.

ORGANIZED AT SAVANNAH, GA., JUNE 18, 1869.

Regatta Association,
Chatham Co., Ga.

OFFICERS OF THE ASSOCIATION ON THE 30TH DAY OF NOVEMBER, 1870.

COMMODORE—JOSIAH TATNALL, Savannah, Ga.

VICE COMMODORE—JOHN SCREVEN, Savannah, Ga.

SECRETARY & TREASURER—A. MCC. DUNCAN, Savannah, Ga.

ASSISTANT-SECRETARIES—H. H. WOODBRIDGE, WILLIAM R. BOYD, Savannah, Ga.

PATROL JUDGES—JULIAN MEYERS, J. T. MCFARLAND, M.D., Savannah, Ga.

STEWARDS.

R. T. GIBSON, Savannah, Ga.	MARTIN TUFFTS, Savannah, Ga.	W. NEYLE HABERSHAM, Savannah, Ga.
OCTAVIUS COHEN, " "	A. L. HARTRIDGE, " "	F. W. SIMS, " "
JOS. S. CLAGHORN, " "	JOHN H. GARDNER, " "	T. P. HUGER, " "
A. R. LAWTON, " "	DANIEL HAYWARD, " "	GEO. S. OWENS, " "
J. M. B. LOVELL, " "	ANDREW LOW, " "	CHARLTON H. WAY, " "
JAMES H. JOHNSTON, " "	J. M. SCHLEY, " "	LOUIS G. YOUNG, " "

Active members, 110; honorary, 2. Total membership, 112.

REGATTAS HAVE BEEN HELD AS FOLLOWS:

1869.—First Annual Regatta, on the Savannah River, at Savannah, Ga., on Tuesday and Wednesday, July 6 and 7, 1869.

1870.—Second Annual Regatta, on the Savannah River, at Savannah, Ga., on Wednesday, Thursday, Friday, and Saturday, May 25, 26, 27, and 28, 1870.

NOTE.—In the spring of 1871, this association was merged in the Regatta Association of the State of Georgia, full details of which will be given in the edition of the Manual for 1872.

PART FIFTH.

THE CONSTRUCTION OF BOAT-HOUSES.

CHAPTER I.

GENERAL OBSERVATIONS ON THE LOCATION, SIZE, STYLE, AND CONSTRUCTION OF BOAT-HOUSES.

IN order that boats designed for pleasure or exercise should at all times be found in the best condition for service, and be preserved in this condition as long as possible, according to the material of which they are constructed and the excellence of their workmanship, it is of essential importance that they should be sheltered from the effect of the weather when not in use. For this purpose, and the better to protect them from accident or removal by improper persons, a boat-house is necessary. Next to the selection and purchase of boats, the choice of a site, and the erection upon it of a structure adapted to their needs, is the business which first demands the attention of individuals or clubs about entering upon regular practice with the oar.

Importance of boat-houses for the purposes of shelter and protection.

In the selection of a location for such a building, the main consideration to be attended to is, that it be central, and easily accessible to those who are to make use of it. As regards the site, it must be chosen with reference principally to security from high tides, floods, or heavy waves in storms, as it is better to suffer some inconvenience by being sufficiently removed from the water's edge, to avoid the effect of such causes, than to run a constant risk of having the house and all it contains swept off by a rise of water.

Considerations influencing the selection of a proper site.

In cities or towns where gas is used, or in neighborhoods where chemicals are manufactured, care must be taken not to select a site in the vicinity of, and particularly just below the outlet of the gas-works or laboratory refuse, as the floating matter, or the acids and salts with which the water is charged, will greatly soil, if not injure, the boats, besides being in other ways a constant source of annoyance. For the same reason, localities where there is a natural eddy caused by the ebb and flow of the tide or the current of the river, which collects and retains on its surface all the floating matter of the neighborhood, should be avoided.

Should not be near gas or chemical works.

In considering the question of sites with reference to the physical characteristics of the sheet of water on which the boats are to be used, we find that, as regards the rise or fall of the water surface and the position of the corresponding shore line, such navigable waters may be divided into three classes: First, harbors, arms of the sea, or tidal

Water used for boating purposes classified.

rivers, where the tide ebbs and flows regularly with a fall and rise of from three to fifteen feet, according to the locality, as is seen at different points on the Atlantic coast; second, rivers subject to a periodical rise of from ten to fifty feet, or sudden floods of equal volume, such as the Ohio, Missouri, Mississippi, and many of their tributaries; third, inland slack waters, ponds, and lakes, where the rise and fall of the surface is confined to a few inches, or at most a foot or two, due to the varying effects of summer evaporation or spring floods; examples of which are the lakes of New York and the great fresh-water lakes of the Northwest. For each of these situations a different style of boat-house should be adopted. For example, in places where there is a great difference between the lowest and highest stages of the water, or where the tide rises to a great height, a floating house, connected with the shore by suitable stagings or other more permanent approaches, will, in the majority of cases, be the best. But, where the fluctuations of the water surface are slight, the house can be built on the bank, sufficiently removed only from the water's edge to avoid the wash of waves raised by high winds.

The boat-house should be adapted to the peculiarities of the situation.

In northern latitudes boat-houses should not be exposed to the effects of ice.

Influence of the introduction of light outriggered shell-boats.

After the site, the next points to be decided are the size and the style.

An estimate of the cost of the smallest structure needed should be made.

Estimates for larger accommodations can next be made.

But in northern latitudes, where heavy ice forms during the winter on all bodies of water, it is not advisable to build upon piles, or in any situation where the foundation will be exposed to the ice pressure when the river or stream breaks up in the spring. The heavy masses of ice which are carried along by the current will sweep off any obstacles to their progress, such as boat-houses as ordinarily built. Hence, in such situations, the house had better be erected entirely on the shore, or protected by some natural or artificial breakwater, which will make it quite secure at such seasons. The introduction of the light outriggered shell-boats of the present day, which can be carried with ease by their crews, permits the erection of the sheltering house at any moderate distance from the water which convenience of access or security from floods or storms may demand, independent of the matter of moving the boats, and thus permits the erection of structures of a much more permanent and ornate character.

Having well considered these points in the selection of a position for the boat-house, and the kind of house—whether a floating one or a permanent structure on shore—having been decided upon, the next points to be settled are its size and style. These must be determined by the number of boats to be housed, the extent of accommodations proposed for the personal convenience of those who are to make use of the house, and the amount of money available for building purposes. It will be well to estimate, first, the cost of the plainest and smallest building required to properly protect the boats. This ascertained, other estimates involving additional items can readily be made from this as a basis.

Bearing in mind that all kinds of light boats, such as shells, skiffs, or outriggered gigs, can be stowed to advantage one above another, on racks placed against the sides of the house, a calculation of space required for the simple storage of the boats can easily be made. Adding to this sufficient room for handling and carrying them into and out of the house without turning, we have at once the minimum limits of space required. Any good carpenter can, from these data, estimate the cost of a plain enclosed shed, which would be the cheapest form of shelter obtainable.

If, now, more extended accommodations are required, such as conveniences for washing and dressing on returning from rowing, closets for the boating suits, etc., or a meeting-room, a new disposition of the areas required must be made, and a new

series of calculations undertaken. Regarding the question of the expediency or advisability of providing such accommodations, many oarsmen, who have been accustomed to do without them, may maintain that they are quite unnecessary, and that money spent for anything beyond sheltering the boats is money wasted. But we conceive that, if the boats are worth any care, the convenience and health of those who use them are worth much more; and in such matters the experience of older clubs is worthy of attention and consideration. Their testimony goes to show that, where the boat-house is eligibly situated, roomy, the personal comfort and health of the men duly considered in all the various appointments, and the whole establishment maintained in order and kept up steadily to the best standard, the place is made attractive, and far more and far better rowing can be, and is, accomplished by the members than if all these details are neglected, and each one is left to shift for himself.

It is not our purpose, in this chapter, to enter into the consideration of all the details of construction of this class of buildings, many of which will be treated upon in connection with the plans and estimates given herewith; so far as the superstructure and mechanical work on them is concerned, their erection is governed by the same rules as other buildings, and for the faithful adherence to which the professional architect or builder must be held responsible. A few general remarks on the materials employed, and some hints on points which might otherwise be overlooked, will not be out of place.

Construction.

The most common material used in the construction of boat-houses is wood. This is owing to its cheapness, and to its being always easily obtainable. Within five years, a few such structures have been built in the United States of brick and stone. An example of the first is the house of the Laureate Boat Club, of Troy, N. Y., of which plans are given in Plates 10 and 11; while at Fairmount Park, on the Schuylkill River, near Philadelphia, a number of handsome stone houses have been erected within this period.

Building materials.

For most organizations, a well-built house of wood will suffice for all needs. All such, if erected at considerable expense, should be painted both for preservation and ornament.

Houses built on shore should face the south, east, or west; the south is preferable; a northern exposure or frontage is the most undesirable.

Aspect.

If the house is built entirely on shore, the ground under and about it should be well drained, so that there may be no standing water to give out unpleasant exhalations or endanger the health of the users.

Drainage.

The foundation or substructure should be well protected against the encroachments or wash of the waves, either by sheet piling, stone facing, or other proper means.

Foundation.

For all shore houses, suitable floats, from which the boats can be launched, should be provided. They may be either light rafts, formed of logs covered with planks, or water-tight caissons, of suitable dimensions. In either case, they should be well secured to the shore.

Floats or landing stage.

In our description of floating houses, the main points to be observed in their construction will be particularly dwelt upon.

Floating houses.

Finally, we would remark that, whatever be the size, kind, or style of the house to be built, let good, thorough, honest work be the rule. Spend no money on sham orna-

Work should be thorough.

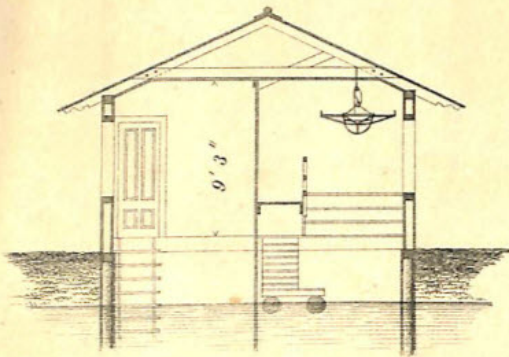
mentation, but let everything about the building be made for use, and be the best adapted to its purpose.

Our object in presenting the accompanying plans and estimates is merely to offer hints to those wishing to build, and which, by suggesting ideas, will be found useful in making special plans adapted to particular localities.

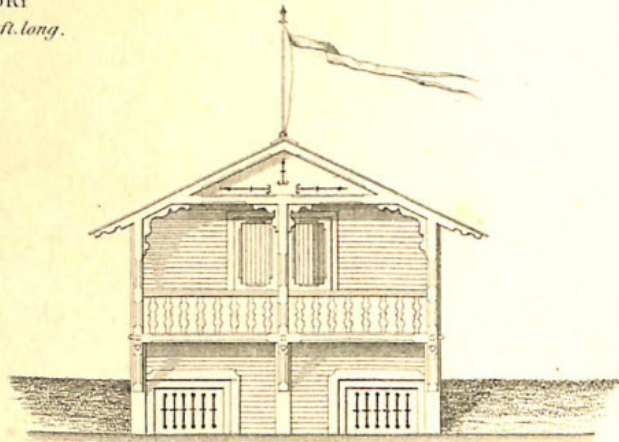
Design in offering the accompanying plans and estimates.

In some cases, our plans may be found to be just what is wanted, and no changes in the details will be necessary; in others, they may serve only as warnings to indicate what should be avoided, rather than guides to that which is sought. In either case, our object will be accomplished.

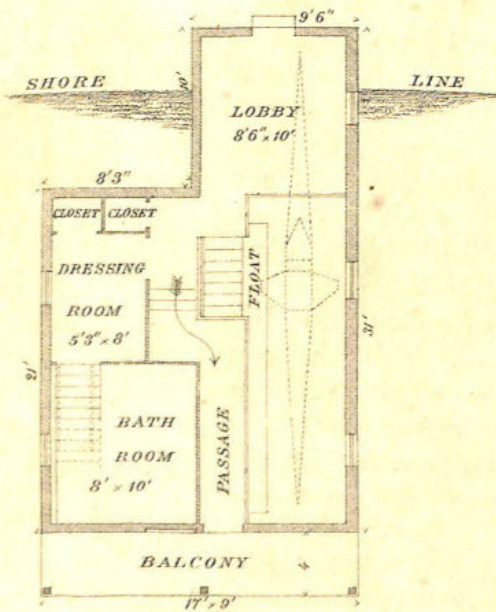
PRIVATE BOAT HOUSE
of Wood
ONE STORY
18 ft. wide x 31 ft. long.



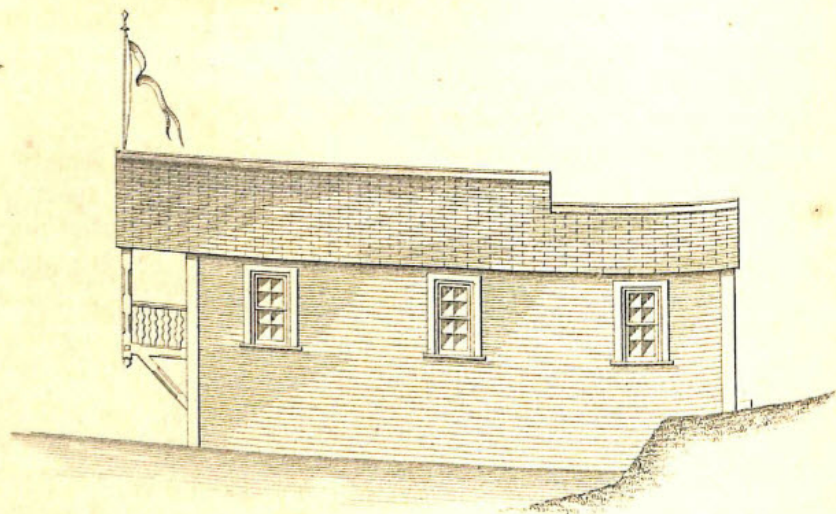
SECTION.



RIVER FRONT.



GROUND PLAN.



SIDE ELEVATION.

Scale $\frac{3}{32}$ inch to one foot.

CHAPTER II.

DESIGNS FOR BOAT-HOUSES.

I.—PRIVATE BOAT-HOUSE OF WOOD, 18 FEET BY 31 FEET—PLATE V.



THE design given herewith is intended to meet the wants of a family whose members are fond of rowing and still-water bathing, or of a small club of gentlemen owning two or three boats, used for fishing, excursions, or general exercise. Its arrangements and size are adapted for situations either on salt-water estuaries, or shores where the rise and fall of the tide is moderate, or for inland ponds or lakes of fresh water, subject to but slight variation of depth. It combines accommodations for bathing and the storage or shelter of one or more light gigs, skiffs, dingys, or shells.

Special wants
to be met.

Passing from the bank, the shore entrance opens into a lobby 8' 6" x 10', lighted by one window on the left side. On entering the main building, the dressing-room, opening into the bathing-room, is on the right. This room is lighted by one window, and has a good-sized closet. Another small closet for rowing-suits, etc., is placed next the door of the dressing-room. The floors of the dressing-room and closets are on the same level with that of the lobby; but to reach the balcony, overlooking the water, at the outer end of the house, it is necessary to rise about two feet by three steps placed just beyond the dressing-room door, in order to afford head-room for persons standing on the float below. The bathing-room is so arranged that the water will flow freely through it, without permitting any floating matter or fish to enter. It should be planked or otherwise floored at a suitable depth. Steps with a broad tread lead from the dressing-room into the basin.

Description.

Bathing-room.

The well, or slip for the boats, is protected or enclosed by suitable railings, and lighted by two windows; the float is reached by a plank incline, to which battens are nailed to prevent the feet from slipping, the lower end being fitted with rollers, to enable it to play back and forth on the float as the latter rises and falls with the tide.

Slip for boats.

The length of the house (31 ft.) permits of the stowage of a single shell, thirty feet long, as shown in the drawings; and, by attaching swinging-racks in the form of framed brackets to the side of the house over the well, three or four single shells can easily be put away. Alongside the float is ample room for gigs or skiffs of four to five feet beam, and the well admits of hoisting boats of nineteen feet in length. In case boats of not over twenty feet in length are to be housed, the portion of the house now used as a lobby can be cut off, and thus the size and cost materially reduced.

Capacity.

To pass the boats from the house, the lattice door [see front elevation] is raised by a person standing in the passage to the balcony; and, as it is to be hung with cords and balance-weights, it can easily be opened. When the house is not in use, this door should be securely fastened.

Estimate.

The following estimate is intended to cover the cost of such a structure, built of wood, framed, finished, and painted in the best manner :

BILL OF MATERIALS.

	Board Measure, each.	Total Board Measure.	Cost.
20 piles of oak or hackmatack, 6" to 8" in diameter, about 12 ft. long, according to depth of water and nature of bottom, at \$1 50 each,	..	..	\$30 00
1 sill of pine, 6" x 8" x 31 ft. long,	124	..	..
1 " " 6" x 8" x 20 ft. long,	80	..	..
1 " " 6" x 8" x 18 ft. long,	72	..	..
1 " " 6" x 8" x 10 ft. 6 in. long,	42	..	..
1 " " 6" x 8" x 9 ft. 6 in. long,	38	..	..
1 " " 6" x 8" x 9 ft long,	36	392	98
6 plates, of hard pine, spruce, or hemlock, 3" x 4", same length as sills,	..	9	576
64 studs, spruce or hemlock, 2" x 4" x 13 ft. long,	9	13	182
14 " " 3" x 4" x 13 ft. long,	13	13	312
24 rafters, " 2" x 6" x 13 ft. long,	13	9	108
12 " " 2" x 6" x 9 ft. long,	9	8	96
12 tie-pieces, " 2" x 6" x 8 ft. long,	8	24	288
12 floor timbers, pine, 3" x 8" x 12 ft. long,	24	30	90
3 posts for balcony, pine, 6" x 6" x 10 ft. long,	30	..	30
1 tie-beam " 6" x 4" x 15 ft. long,	..	..	36
1 sill " 6" x 4" x 18 ft. long,	..	..	10
3 braces " 6" x 4" x 5 ft. long,	..	12	36
3 cross beams " 6" x 6" x 4 ft. long,	12	18	36
2 floor timbers " 2" x 6" x 18 ft. long,	18	..	..
Total feet of timber, at \$25 per M.,	..	2,290	57 25
1 1/4-inch flooring, at \$30 per M.,	..	300	9 00
Novelty siding, at \$30 per M.,	..	1,200	36 00
Inside ceiling, at \$30 per M.,	..	1,600	48 00
1 1/4 matched plank for partitions, planed both sides, at \$33,	..	500	16 50
1 1/4 pine for casings, corner boards, shelves, etc., at \$30,	..	500	15 00
1 1/2 pine plank for steps and railings, at \$30 per M.,	..	500	15 00
12 strips, 1 1/2" x 3" x 18 ft., for balcony floor,	..	500	6 00
Hemlock or other cheap boards for roof, at \$18,	..	600	10 80
Matched pine boards for eaves of roof, at \$30,	..	200	6 00
7,000 sawed pine shingles, at \$4 per M.,	..	..	28 00
8 ornamental brackets, 2" thick, for balcony,	..	..	4 00
25 running feet of 2" x 4" pine railing for balcony, at 8c. per ft.,	..	..	2 00
28 scroll-sawed balusters, 1" thick x 10" wide x 2' 6" long, at 8c. per ft.,	..	..	16 80
1 scroll-sawed gable panel, 3" x 10" x 2" thick,	..	..	1 50
3 batten doors, with chamfered stiles and rails (one to be stationary), at \$3 each,	..	..	9 00
2 water-gates, at \$10 each,	..	..	20 00
4 panelled inside doors, 1 1/4" x 2' 6" x 6' 8", at \$2 25,	..	..	9 00
5 windows, with 1 1/2-inch four-light sash, each window 8 lights, of 10" x 12" glass, at \$2,	..	..	10 00
Hardware, nails, locks, etc.,	..	..	40 15
Carpenters' work, say	..	..	175 00
Painting,	..	..	80 00
Total,	..	..	\$645 00

For a boat-house on this plan, in which the lobby is dispensed with, reducing the length correspondingly, the cost at the prices given would be about \$500.

II.—ONE-STORY SHORE BOAT-HOUSE OF WOOD, 16 x 54 FEET—PLATES VI. AND VII.

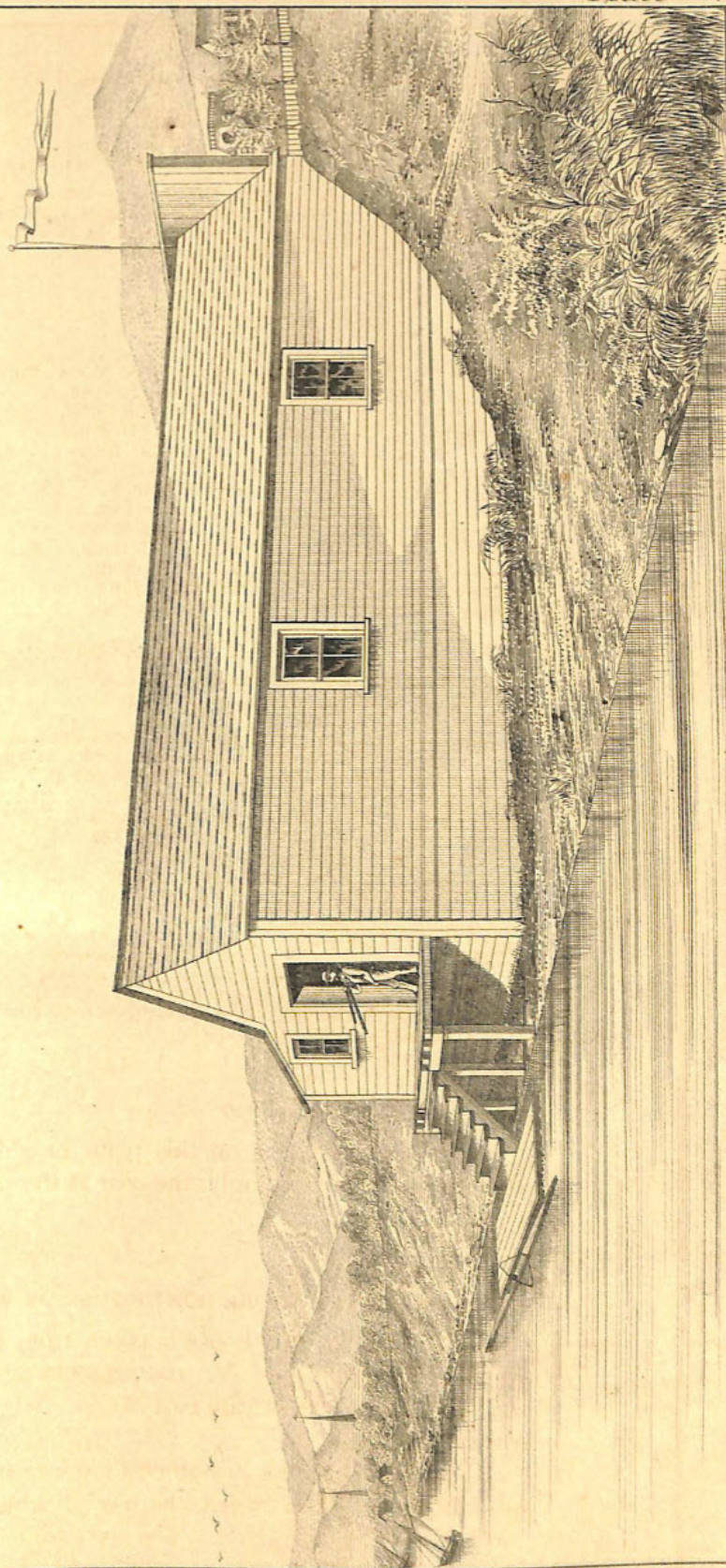
Boat-house of
the Ulysses
Boat Club,
Troy, N. Y.

The plan of this house is taken from that erected and occupied by the Ulysses Boat Club, of Troy, N. Y., and presents an excellent example of a plain house, which can be built at a moderate cost, well suited to the wants of a small club using shells and other light boats.

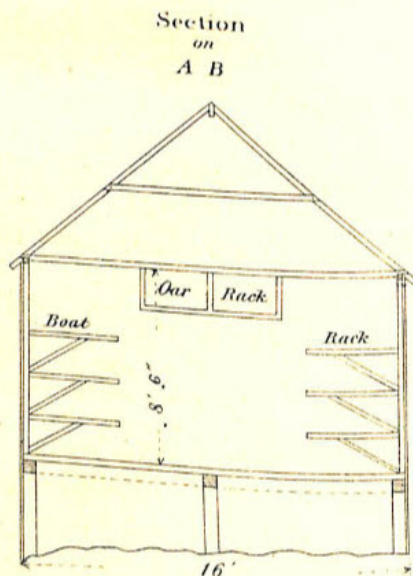
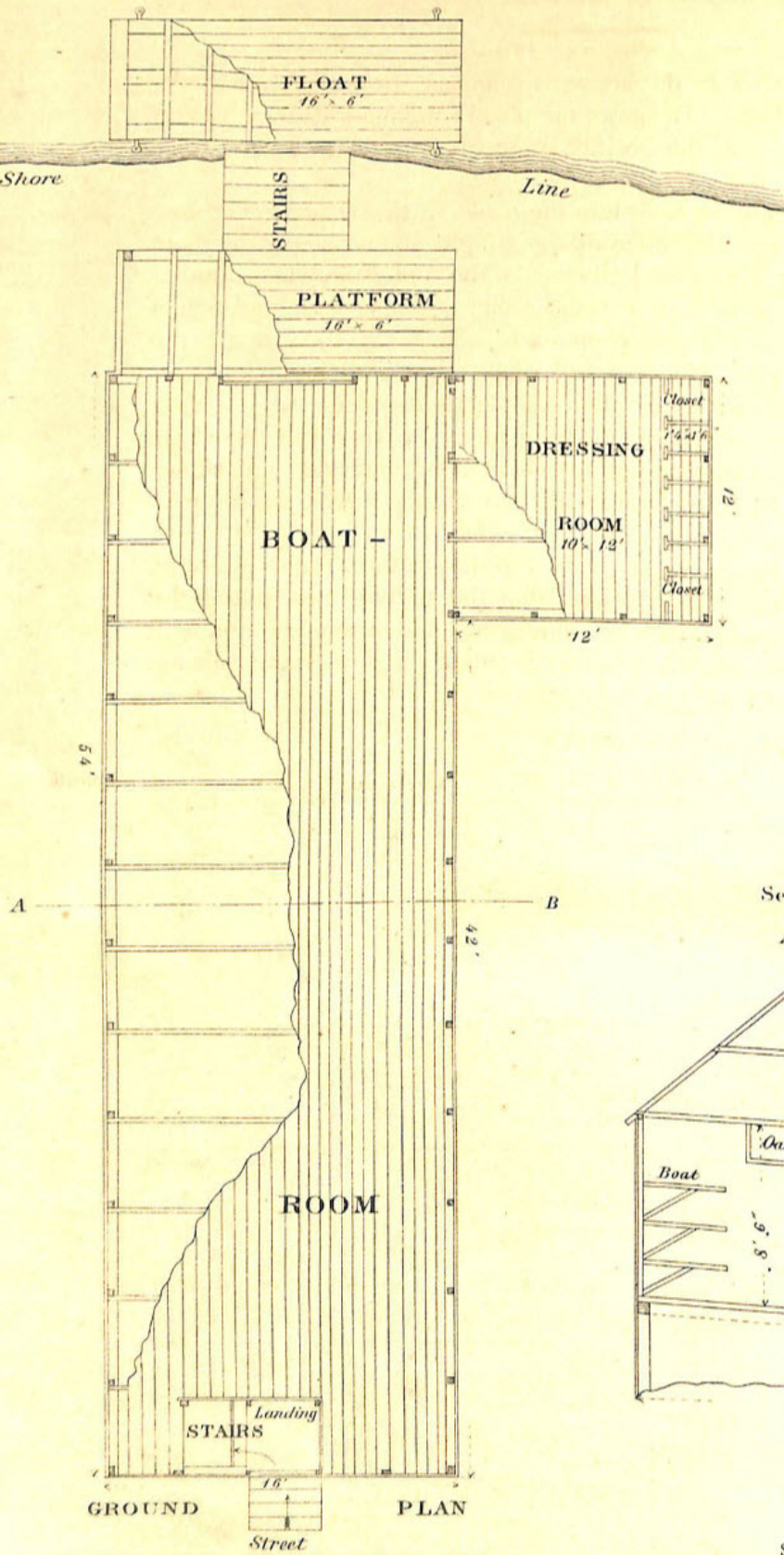
Site.

The house stands on the east bank of the Hudson, above the State dam, its eastern end facing on River Street, the level of which is at this point about eighteen feet above ordinary low-water mark. The river front faces the west.

Perspective View
of
SHORE BOAT HOUSE
OF WOOD
16 ft. x 5 1/2 ft.



Plan and Section
of
SHORE BOAT HOUSE
of
Wood 16' x 54 ft.



Scale of $\frac{1}{8}$ inch to one foot

Plate VI. gives a perspective view of the house as it appears from the river, looking in a northeasterly direction. Plate VII. shows the plan of the main floor, a section through the centre of the building, and the position of the building with reference to the shore.

It will be observed that the house is built into the bank, so that it presents a low front on the street. Descending from the sidewalk by a flight of four steps, the main door opens on to a landing on a level with the tie-beams of the roof, from which another short flight of steps leads to the main floor or boat-room, 16 by 54 feet, and 8 feet 6 inches high in the clear. Suitable racks on each side serve to support the boats, which are stowed bottom up. The oars and sculls are placed in racks overhead, 6 feet 6 inches from the floor, so as to allow ample head-room. At the river end, and opening into the boat-room, is the dressing-room, 12 x 12 feet, fitted up with lockers, which can be placed on three sides, as well as along one side, as is shown on the plan. A door, 6 feet wide by 8 feet high, with two sliding leaves, leads on to a platform of plank, 6 x 16 feet, on the same level as the boat-room floor, from which plank steps descend to the float, also 6 x 16 feet, secured to the platform frame by ropes.

It will be observed, on examining the estimate, that the timbers are quite light. For the sheltered situation of the house, they are, however, quite heavy enough, as it is so well under the bank that the wind has but little effect on it, and the sills are amply large enough to bear the light weights they have to support.

BILL OF MATERIALS.

TIMBER.				Estimate.	
		Board Measure, feet, each.	Total Feet, Board Measure.	Cost.	Description.
19	chestnut or oak posts, 4" x 6" x 12 ft. long,	24	456		
2	pine or spruce sills, 3" x 6" x 54 ft. long,	81	162		
3	" " 3" x 6" x 16 ft. long,	24	72		
3	" " 3" x 6" x 12 ft. long,	18	54		
2	" plates, 2" x 3" x 54 ft. long,	27	54		
2	" " 2" x 3" x 16 ft. long,	8	16		
2	" " 2" x 3" x 12 ft. long,	6	12		
26	" floor timbers, 3" x 4" x 16 ft. long,	16	416		
5	" " 3" x 4" x 12 ft. long,	12	60		
9	" " 3" x 4" x 6 ft. long,	6	54		
6	" posts, 3" x 6" x 9 ft. long,	14	84		
74	" studs, 2" x 3" x 12 ft. long,	6	444		
63	" rafters, 2" x 3" x 12 ft. long,	6	378		
8	" racks, 2" x 3" x 12 ft. long,	6	48		
3	logs or timbers of dry pine to work, 10" x 10" x 16 ft. long,	134	402		
2	" " 10" x 10" x 6 ft. long,	50	100		
9	pine floor timbers, 3" x 4" x 6 ft. long,	6	54		
Total, at \$25 per M.,			2,866	\$71 65	
DRESSED PINE LUMBER.					
1½	inch flooring for boat and dressing-room, platform and float, at \$30 per M.,		1,500	45 00	
1	inch roof boarding, at \$18 per M.,		1,452	26 13	
7-8th	inch novelty siding, at \$30 per M.,		2,200	66 00	
	Assorted lumber for casings, corner-boards, stairs, closets, etc., at \$30 per M.,		1,000	30 00	
SUNDRIES.					
	Shingles, 14 M., at \$4,			56 00	
	1 pair of batten doors, 6 ft. by 8 ft., to slide,		\$6 00		
	1 front sash-door, 2' 10" x 7' x 1½" thick,		3 00		
	1 plain panelled door for dressing-room, 2' 6" x 6' 8",		2 50		
	14 batten doors for closets, 3' x 16', at \$1,		14 00		
	3 Windows, each 2 frames of 6 lights, 10" x 12" glass, \$4,		12 00		
	Nails, locks, and miscellaneous hardware,		30 00	67 50	
	Carpenters and laborer's wages,			150 00	
	Painting exterior, two coats, and dressing-room,			100 00	Labor, Painting.
Total cost,				\$612 28	

Floating Boat-Houses.

Where used. As has been previously remarked, this kind of shelter for boats is in common use in localities where there is either a daily or periodical rise and fall of the water, or in situations where it is not convenient to use a boat-house built on shore.

Advantages. Their advantages are, first, they can be removed from one position to another on the water as necessity or convenience may dictate, and, second, their plan admits of launching the boats either with or without the aid of a float, and thus avoids carrying them down steps or banks, and the chances of injury incident thereto. Such houses may be specially designed for the purpose, or the old hulls of some kinds of water-craft may be reconstructed for this use. In some parts of the country, where canal-boats are common, boat-houses are frequently improvised from one of these craft, whose hull or upper works are too much worn or decayed to bear further rough service, but which, moored in a quiet basin, will last a long time. Their flat floors and vertical sides are well adapted for the storage of shells and other light boats. By cutting away the stern just above the water-line, a convenient passage to the boat-room can be made, and, by means of a float moored across the stern, the boats can be readily launched.

Disadvantages. The disadvantages of this kind of house are, first, their greater liability to injury in severe storms, unless moored in slips or other situations where they can be protected from the effects of the wind and the force of waves; next, their liability to be carried away, cut down, or crushed by ice in the winter or spring, when used in northern latitudes; and, lastly, their liability to leakage, and the constant watchfulness required to see that the hulls are kept free from water by the pumps.

How overcome. As regards the first two objections, their importance depends on the situation in which it is desirable to moor the house, and the facilities the locality affords for protection from storms or ice. In reference to the third, experience has shown that, where a constant agitation of the surface of the water is kept up by the waves from passing steamers or any other cause, the undulating motion imparted to the hulls, particularly where they are very long, with low gunwales, causes a gradually increasing working of the joints, loosening the calking, and thus becoming the principal source of the leaks. This evil can, in a large measure, be overcome by making the hulls stiff, and particularly by the introduction of well-arranged side or hog-frames. By means of these, the ends of the hull are raised up and supported, the strain being transferred into a downward pressure on the middle of the gunwales. This plan gives the most desirable form to the bottom, and strengthens the whole hull.

With these remarks, we pass to the details of the two floating houses presented in the accompanying plates.

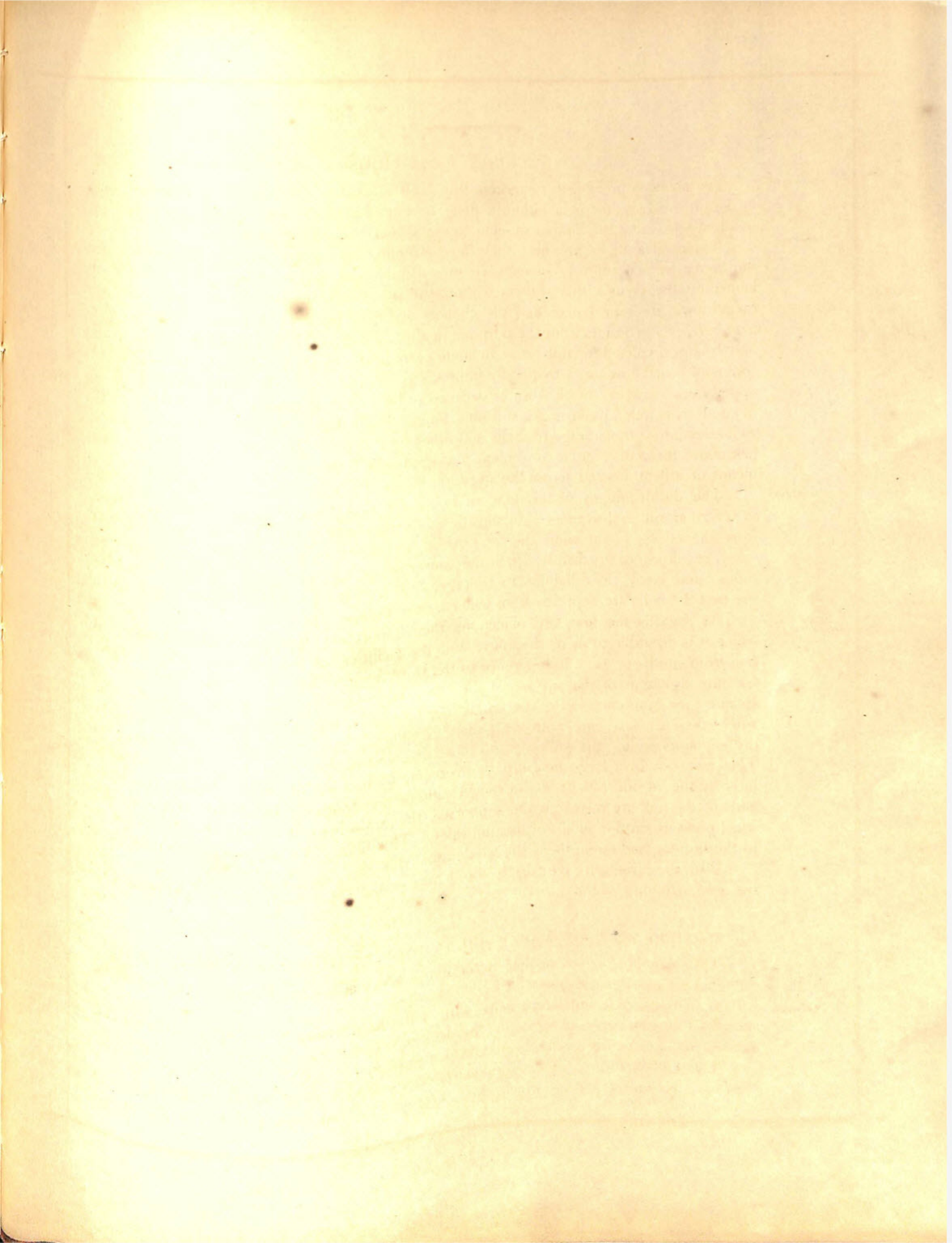
III.—FLOATING BOAT-HOUSE OF WOOD, 18 x 92 FEET, WITH ONE DECK—PLATE VIII.

House of the
Howard Boat
Club, of Alle-
gheny City, Pa.
Description.

The plan here given is that of the house occupied by the Howard Boat Club, of Allegheny City, Pennsylvania.

It consists of a hull constructed with a flat floor, rising at the ends, built on the model of a common punt or scow, the deck of which serves as the floor of the boat-house, and over which a suitable superstructure is built.

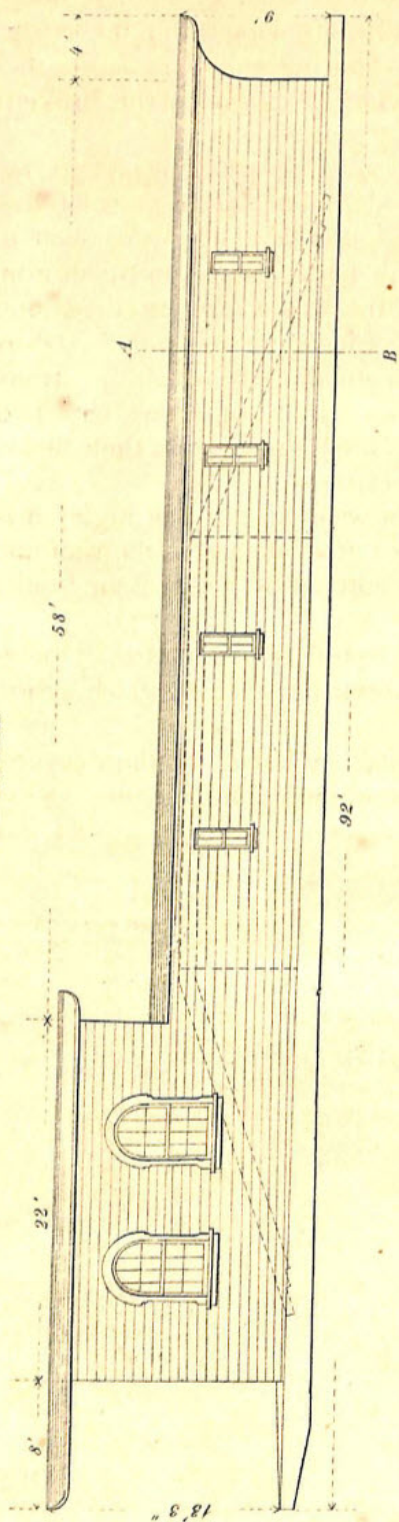
The hull is formed of two gunwales, each 92 feet long, 8 inches thick, 18 inches deep at one end (that on which the club-room is built), and 8 inches at the other,



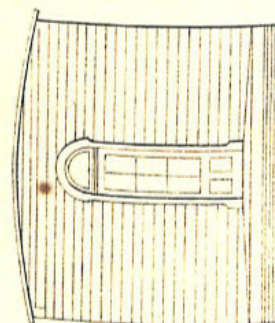
Section and Elevations

of a
FLOATING BOAT HOUSE
of Wood

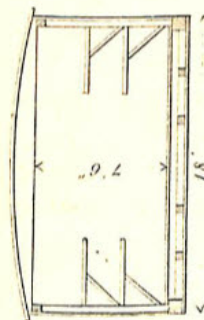
18 feet x 92 feet
with one Deck.



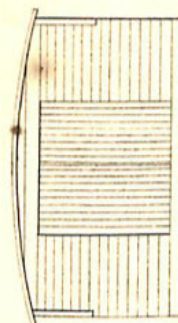
SIDE ELEVATION



BOW



SECTION on A B



STERN

formed from a single tree, without scarfs. They are framed together by suitable floor timbers, on to which are notched five lines of longitudinal beams, supporting the cross beams for the deck or floor of the boat and club rooms. The gunwales are strengthened vertically by wooden hog-frames, the position of which is shown by the broken lines in the side elevation.

These frames were put in after the boat was built, and are simply oak beams 3 x 10 inches, used as straps in the place of the ordinary iron rods. The lower ends of the slanting pieces are laid flat against the inside of the gunwale, and firmly bolted thereto. The upper ends are secured to the ends of the horizontal beam by an iron plate covering the ends of the beams and bolted to both, the whole forming a continuous wooden strap, the downward pressure from which is caught up and transferred to the middle of each gunwale, through the medium of the studding, to which the straps are also bolted.* In building a new hull on this plan, a regular hog-frame, with two oak posts amidships (say twenty feet apart), should be used, carrying on their heads the straining-rod of iron, fitted with turnbuckles in the usual way.

The cabin, or meeting-room, is 22 feet long, 18 feet wide, and 11 feet high; it is wainscoted as high as the sills of the windows, and ceiled from thence to the roof and overhead with matched and beaded ceiling stuff. It is entered by a sash door from a deck 8 feet long and the width of the boat.

The boat-room is 58 feet long, 17 feet wide, and 8½ feet high in the clear. Double doors, which may be made to slide, open on to a platform 4 x 18 feet, which affords room for launching.

The roof is covered with tarred paper, held in place by lath. Felting, covered with fine sand or painted canvas, would be much better and more durable.

BILL OF MATERIALS.

TIMBER.		Board Measure, each piece.	Total Board Measure, ft.	Price.	Estimate.
2 gunwales, each 92' long x 8" thick x 18" wide at one end and 8" at the other,		797	1,594		
47 floor timbers, 4" x 6" x 17' long,		34	1,598		
2 end timbers, 6" x 8" x 17' long,		68	136		
20 longitudinal bracing and tie pieces for floor timbers, 3" x 8" x 23' long,		46	920		
40 deck beams, 2½" x 6" x 17' long,		21	840		
8 plates, 4" x 6" x 23' long,		46	368		
66 studs, 3" x 4" x 10' long,		10	660		
30 " 3" x 4" x 13' long,		13	390		
16 brackets, 3" x 3" x 8' long,		6	96		
4 oak straps, 3" x 10" x 22' long,		55	220		
2 " 3" x 10" x 26' long,		75	150		
Total timber, at \$25 per M.,			6,972	\$169 80	
PLANK AND BOARDS.					
2-inch plank for sheathing bottom, rough, clear, at \$30,			3,400	102 00	
1½-inch flooring for decks, dressed, good, at \$30,			2,100	63 00	
1-inch roof boards, rough, common, at \$18,			1,900	34 20	
48 carlines or rafters for roof, 1" x 12" x 18', at \$25,			864	21 60	
Siding, dressed, good, at \$30,			1,900	57 00	
Lining and wainscoting of meeting-room, dressed, at \$30,			2,000	60 00	
Assorted lumber for casings, corner-boards, closets, etc., dressed, at \$30,			500	15 00	
Total dressed lumber,					
Carried forward,				\$522 60	

* In Plate VIII., by an error of the draughtsman, iron suspending rods were put in, and the frame given the appearance of a truss. The rods should be omitted.

Brought forward,	Price.	\$522 60
SUNDRIES.		
Sash for 4 circular-headed windows, 16 lights each, at \$3 per window,	12 00	
" for 8 narrow, square-headed windows, 8 lights each, at \$1 per window,	8 00	
1 circular head-light sash-door,	3 75	
1 pair of large batten doors for boat-room,	5 00	
1 panelled door from cabin to boat-room,	2 25	
19 squares of felt roofing, at \$4 per square,	76 00	
Nails, locks, and other hardware,	50 00	
Painting,	100 00	
Labor of carpenters and calkers,	420 40	
Total estimated cost,	\$1,200 00	

IV.—FLOATING BOAT-HOUSE OF WOOD, 20 x 86 FEET, WITH TWO DECKS—PLATE IX.

Description
of the house of
the Columbia
Boat Club, Al-
legheny, Pa.
Hull.

The following described plan is taken from that of the house occupied by the Columbia Boat Club, of Allegheny City, Penn. The hull is scow built, 20 feet wide, 101 feet long, and 15 inches deep, cut up at the shore end so as to show a bow of 8 inches in height. The gunwales, which are 8 inches thick, are fastened together by twelve floor or bottom timbers and two end timbers; notched on to them are five longitudinal timbers or kelsons, placed at equal distances apart, serving to stiffen and brace the floor timbers and carry the cross-beams for the deck. The bottom is sheathed with 2½-inch pine plank, calked and pitched in the usual manner. The planks run across the hull. It would be better to so arrange the interior frame as to admit of the planking running fore and aft, as in the floating house previously described.

Guards are built along the lower deck on both sides, the supporting brackets or short beams being placed two feet apart, and notched into 3 x 6 inch gunwales of oak, resting on the main gunwales. Deck beams, placed 20 inches from centre to centre, are laid on the kelsons, supporting the main deck of 1¼ tongued, grooved, and dressed pine plank.

Bitts.

Bitts are placed at the bow and stern, on each side of the open decks or platforms, for attaching the lines by which the house is moored to the shore. They are made of 8 x 8 inch timber, the uprights firmly bolted to the gunwales on the inside, and the cross-piece notched into and bolted to their heads, as shown in the drawing.

All the timber used in the hull is oak.

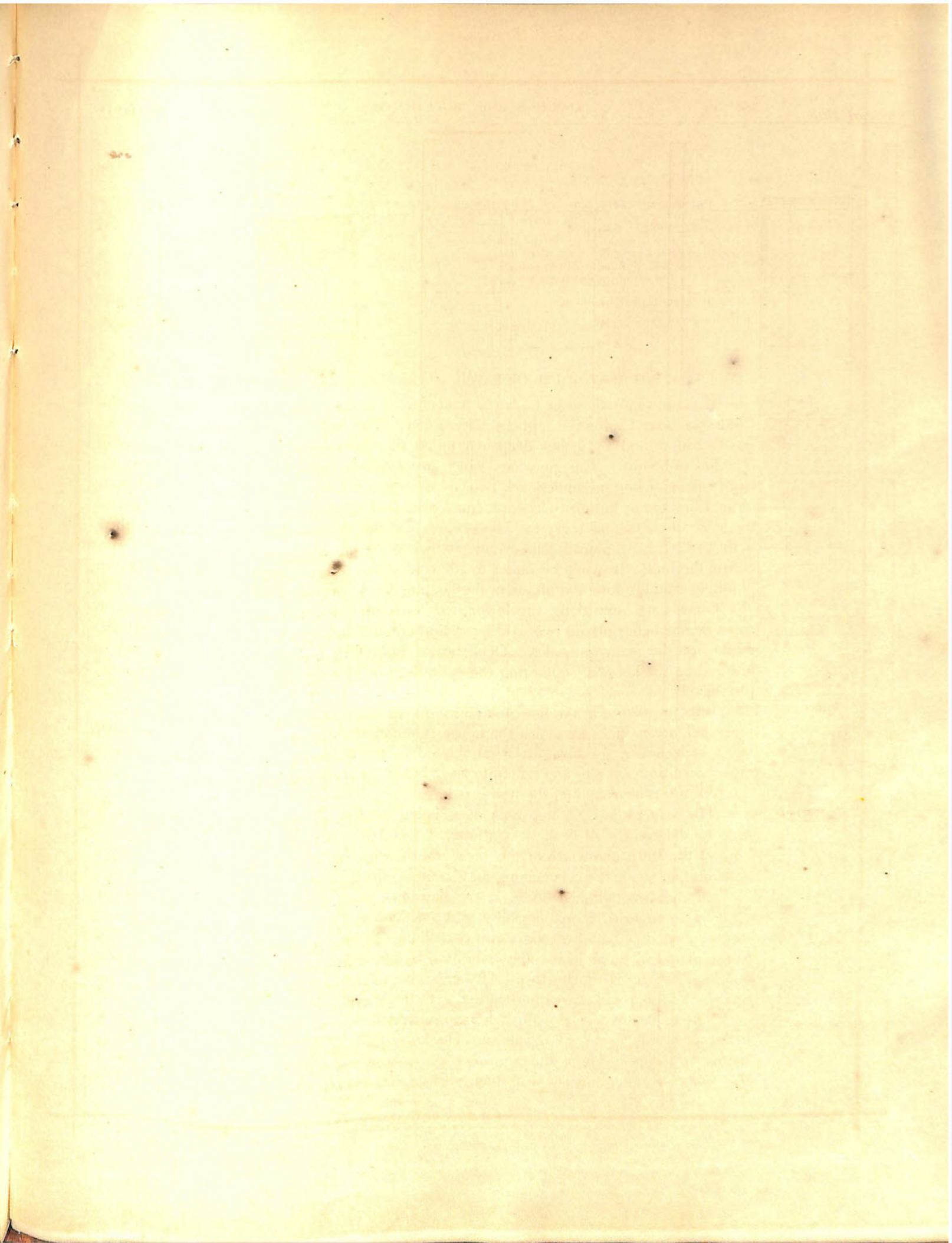
Boat-room.

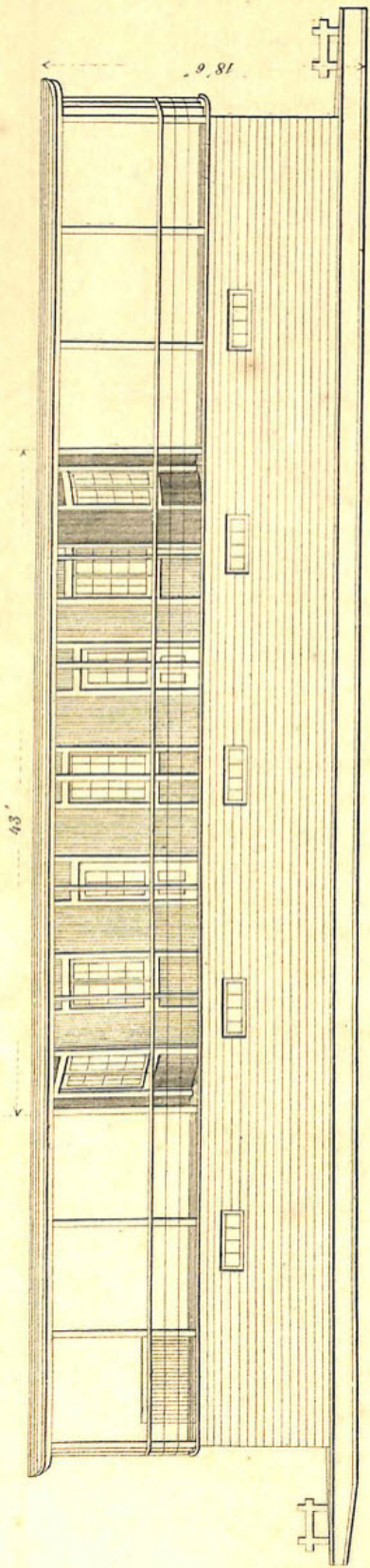
The boat-room is on the main deck, being 20 feet wide, 86 feet long, and 7 feet high in the clear. A deck or platform, 8 feet long at the bow, and another 7 feet long at the stern, the width of the boat, affords, with the guards, which are 22 inches wide, ample facilities for launching and handling the boats.

Of the two battened doors at the bow end, the middle one leads to the upper deck by an enclosed companion-way, and the side one opens into the boat-room at the stern. A double battened door, with two sliding leaves, opens from the boat-room on to the platform. The boat-room is lighted by ten windows, each four lights wide and one high, of 10 x 12 inch glass. The sash slide to the side, in suitable grooves. The exterior of this room is weatherboarded with novelty siding.

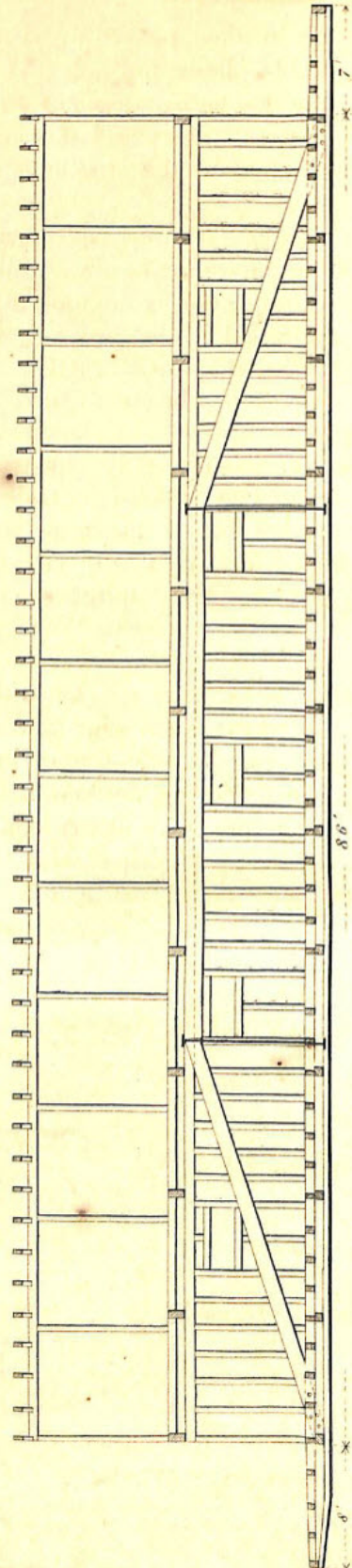
Hog-frame.

The extremities of the gunwales are sustained by a wooden hog-frame, of 3 x 10 inch oak beams, arranged as follows: The lower ends of the inclined pieces are either bolted on to the inside of the gunwales, or enclosed by iron plates, which pass down the sides of the gunwales near their ends, and are bolted to them and to the feet of

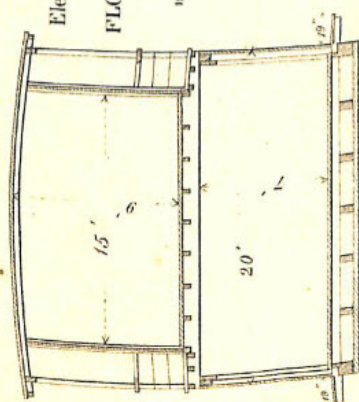




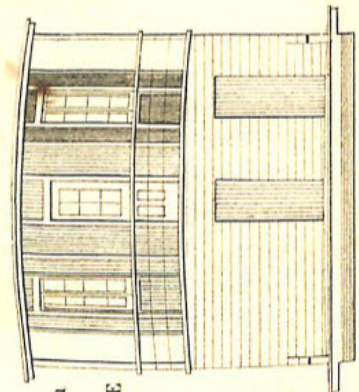
SIDE ELEVATION



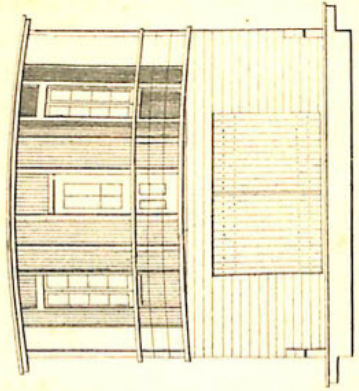
LONGITUDINAL SECTION OF FRAME



TRANSVERSE SECTION



BOW



STERN

Elevations & Section
of a
FLOATING BOAT HOUSE
OF WOOD
with Two Decks.
20 ft. x 86 ft.

Scale $\frac{3}{32}$ in. to one Foot.

the inclined pieces. The upper ends of the inclined pieces are secured to the ends of the horizontal portion of the frame by suitable plates and bolts, so as to form a continuous arc between the ends of the hull; the downward strain of which is transmitted either directly through the studding set between them and the main gunwales (into the latter of which they are mortised), or bolted to the studding against which they are laid along the middle section.*

This plan of using wooden frames instead of iron rods has the advantage of giving stiffness to the sides of the boat; but if there is any sagging at the ends, it cannot be remedied as easily as where the hog-frame is composed of iron rods, fitted with turnbuckles, by which they can be shortened at pleasure, and supported on both sides of the midship section on the heads of suitable posts of oak.

The upper deck is supported on twelve cross-beams of oak, each 5 x 10 inches, notched to receive the floor joists, 2½ feet by 6 inches, and placed two feet from centre to centre. These beams have a rise in the middle of five inches, so as to give the necessary inclination to all that portion of the deck which is outside the cabin.

The beams which support the cabin are left flat, as shown in the transverse section. The cabin is 43 feet long, 15 feet wide, and 9 feet high, with circular ends. Its sides are formed of 2½-inch square posts, ploughed to receive tongued and grooved flooring, worked and beaded on both sides, and let into the grooves in the posts, so as to form panels both on the inside and outside. There are six sash-doors, each 2 feet 6 inches wide by 7 feet high, with a six-light sash in each, two lights wide and three lights high. It is lighted in addition by twelve windows, each with two sash of eight lights of 6 x 14 inch glass. The sash are hung on the side frames in the French style. The cabin and upper deck are floored with inch flooring, dressed, tongued, and grooved.

The hurricane deck is supported by five posts, 2½ inches square, tenoned into a plate 2½ x 5 inches. Cross-beams or carlines, 1½ inches thick and 4 inches wide, having a rise of eight inches in the centre, and placed two feet from centre to centre, rest on the plates and carry the deck, made of 1-inch tongued and grooved boards, dressed and beaded on under side. This deck, as also all that portion of the upper deck outside the cabin, is covered with stout cotton canvas, well nailed down, painted and sanded. Suitable rails enclose the upper deck and the companion-way leading up to it from below.

BILL OF MATERIALS.

TIMBER FOR HULL.		Board Measure, each piece.	Total Board Measure, ft.	Cost.	Estimate.
2 gunwales of oak, each of 3 pieces, 8" x 15" x 38' long,		380	2,280		
14 floor beams, of oak, 6" x 8" x 20' long,		80	1,120		
22 longitudinal pieces or kelsons, of oak, 4" x 8" x 25' long,		66	1,452		
60 deck timbers, of oak, 3" x 7" x 20' long,		35	2,100		
104 supports or outriggers for guards, oak, 3" x 6" x 2' long,		3	312		
Total oak timber, at \$30 per M.,			7,264	\$217 92	
TIMBER FOR UPPER WORKS.					
12 pieces of oak, 5" x 10" x 20' long,		83	1,000		
15 " 2½" x 10" x 16' long,		33	500		
6 " 5" x 10" x 30' long,		75	450		
4 " 3" x 6" x 16' long,		24	96		
12 " 1½" x 20" x 20' long,		50	600		
Total oak, at \$30,			2,646	79 38	
Carried forward,				\$297 30	

* The tie-rods shown in the engraving were put in by an error of the draughtsman, and should be omitted.

						Feet, each.	Total feet.	Cost.
Brought forward,								\$297 30
66	pieces of pine,	2 1/2" x 6" x 16' long,	.	.	.	20	1,320	
91	"	3" x 4" x 16' long,	.	.	.	16	1,456	
6	"	2 1/2" x 6" x 24' long,	.	.	.	30	180	
95	"	2 1/2" x 2 1/2" x 10' long,	.	.	.	5'25	500	
14	"	2 1/2" x 5" x 21' long,	.	.	.	22	308	
22	"	1 1/2" x 16" x 24' long,	.	.	.	48	968	
1	"	6" x 12" x 20' long,	.	.	.		120	
Total pine, at \$25,							4,852	121 30
PLANK AND DRESSED STUFF.								
2 1/2-inch pine plank, for bottom, at \$25 per M.,						5,100	127 50	
1 1/4-inch matched and dressed floor plank, pine, 3 1/2" wide, at \$33 per M.,						2,500	82 50	
1-inch						4,000	132 00	
1-inch pine boards, assorted, at \$30 per M.,						500	15 00	
2-inch pine plank, assorted, at \$30 per M.,						200	6 00	
Rabbeted siding, for boat-room, at \$33 per M.,						2,000	66 00	
3/8 matched pine, worked and beaded both sides, narrow, for sides of cabin, at \$40,						500	20 00	
STRIPS.								
300 feet running measure, 1 1/2" x 2", at 1 1/2 cents,						4 50		
36	"	"	1 1/2" x 4", at 2 1/2 "	.	.	90		
288	"	"	1 1/2" x 8", at 4 "	.	.	11 52		
100	"	"	1 1/2" x 4", at 2 1/2 "	.	.	2 50		
238	"	"	1 1/2" x 5", at 3 "	.	.	7 14		
840	"	"	1" x 2", at 1 1/2 "	.	.	12 60		39 16
MOULDINGS.								
240 feet running measure, nosing, at 2 1/2 cents,						6 00		
200	"	"	weather beads, at 1 cent,	.	.	2 00		8 00
SUNDRIES.								
10 sliding sashes, 4 lights, 10" x 14" each, at 75 cents,							7 50	
6 pairs straight sash, hung with hinges, each 8 lights, 6" x 14" glass, at \$1 75 per window,							10 50	
4 pairs of curved sash, "							14 00	
4 straight sash doors, with 6 lights of 9" x 16" glass, at \$3 50,						3 50	14 00	
2 curved "						7 00	14 00	
1 double and 2 single batten doors on main deck (included in lumber and labor estimate).								
20 squares of canvas for upper deck, painted and sanded, at \$4 00 per square,							80 00	
Nails, locks, bolts, and other hardware,							80 00	
LABOR.								
Building hull, carpenter's and calker's work,						150 00		
Building upper works, carpenter's and joiner's work,						650 00		
Painting, exclusive of canvas on decks,						600 00		
Total cost,							1,400 00	
								\$2,534 76

V.—SHORE BOAT-HOUSE OF BRICK, 68 x 30 FEET, TWO STORIES—PLATES X. AND XI.

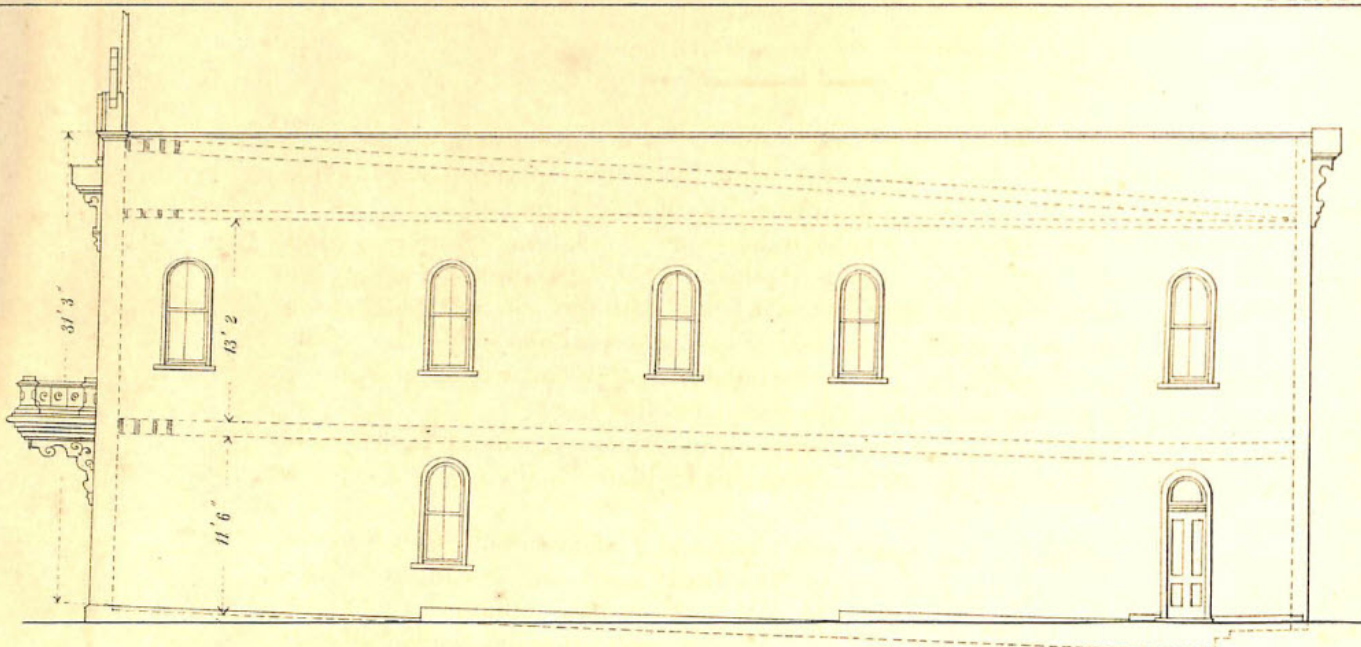
Boat-house of
the Laureate
Boat Club,
Troy, N. Y.

Site.

The plans in the accompanying plates are taken from those of the boat-house recently erected by the Laureate Boat Club, of Troy, N. Y.

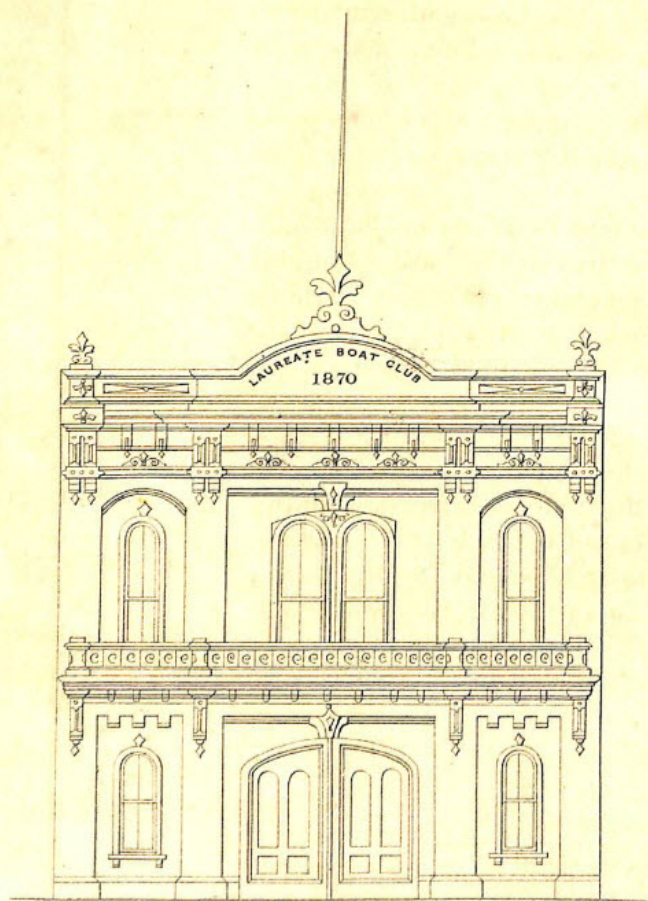
The house is situated on the eastern bank of the Hudson River, at Troy, about half a mile above the State dam, which, from the character and extent of the slack-water navigation it produces, presents one of the finest boating levels for racing and exercise to be found in the country.

The building is placed sixty feet back from ordinary low-water mark, the main or river front facing nearly west. On the south it is bounded by Turner's Lane, a street running perpendicular to the course of the river, and on to which the side entrance opens. The floor of the boat-room is about twelve feet above the ordinary stage of

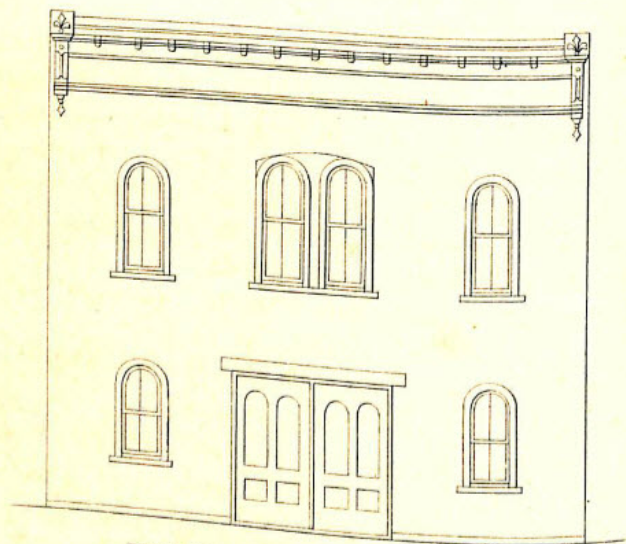


SIDE ELEVATION

Elevations & Longitudinal Section
of a
SHORE BOAT HOUSE
of Brick
Two Stories
30 ft. x 68 ft.



ELEVATION ON RIVER



ELEVATION ON STREET

Scale $\frac{3}{32}$ in. to one Foot

the water. A roomy raft or float for launching is moored in front of the house, and is reached by a substantial plank incline, ten feet wide, the edges of the planks being laid an inch apart to secure good drainage from the drip of the boats.

The building is of brick, resting on a substantial stone foundation. The elevation on the river is in the Italian style, with engaged pilasters, the openings being in the panels formed between them. It is built of pressed brick, with brown and blue stone trimmings. A broad balcony, supported on heavy brackets, extends along the whole front on a level with the second story. A heavy bracketed cornice, supporting a suitable pediment bearing the name of the club, completes this front.

The front on the back street is plain, without unnecessary ornament or finish. All the windows have circular heads. The elevations in Plate X. give a correct view of both fronts.

The boat-room is 28 feet wide by 66 feet long, and 11 feet 6 inches high in the clear, and occupies the whole of the first story. The boats are kept in swinging racks, which are hinged to posts bolted into the side walls. Four oak columns, which support the main girder of the second floor, sustain suitable racks for the sculls and oars in daily use. The floor of this room is laid with one and a quarter inch best Georgia pine flooring, finished with three coats of boiled linseed oil. The front and rear doors have each two leaves, which are arranged to slide on rails instead of being hung with hinges.

The second floor is reached by a staircase of oak, with walnut handrail, balusters, and newel-post, and leads into a hall on the second floor, forming also a passage from the dressing-room to the parlor.

The original design for the arrangement of this floor was as shown in Plate XI., but the dressing-room was subsequently altered, so that at present the bath-room and dressing-room, as shown in the plan, form one room, the bathing tub and washing sink having been given up. For washing, two sinks, with wash-hand basins, are placed, one in each of the east corners of the dressing-room. Around this room are arranged closets, 5 feet high and 18 inches square, for clothes, with lockers for shoes, etc., below, projecting a foot from the face of the line of closets, and forming convenient seats for dressing purposes. This room is finished off in oiled walnut.

The parlor, 28 feet by 34 feet 6 inches, occupies the remaining portion of the second story, and is used as the meeting and reception-room of the club; the windows in the front extending to the floor, giving easy access to the balcony, from which a superb view of the whole course of the river, from the dam north, for two and a half miles above the boat-house, is obtained.

All the work is done in the most thorough and substantial manner.

BILL OF MATERIALS AND LABOR.

MASONWORK.		Estimate.
Excavating trenches for foundations and for space underneath first floor, 200 cubic yards, at 50c. per yard.	\$100 00	
Base course of best large building-stone, 10' thick and 3' 6" wide, under outside walls = 810 cubic feet; also, under four piers, 10' thick and 36" wide = 30 cubic feet; foundation walls, 20" thick by 4' high on the average, and built in offsets = 1,333 cubic feet; the whole laid in mortar, at 21c. per foot, 2,173 cub. ft.,	456 33	\$556 33
Foundation,		\$556 33
Carried forward,		

Brought forward, \$556 33

BRICKWORK.

For outside walls, 1 ft. thick, with one-half of openings deducted, 5,350 ft. = 112,350 brick,
Fire walls, 8" thick, 408 feet = 5,712 "
Four piers, 20' square by 2' high = 560 "

118,622 brick,

Of good merchantable quality, laid in mortar, stroke jointed, at \$15 per M., \$1,779 33
River front, faced with pressed bricks laid in tuck joints, 4,300 brick, at \$40 per M., 172 00
Total brickwork, 1,951 33

STONEMWORK.

Water-table on river front, of Milton bluestone, 10" x 12" x 24' in length, at \$3 per ft., \$72 00
Door-sill on river front, of Milton bluestone, 5" x 14" x 10', at \$2 per ft., 20 00
4 window-sills " Conn. brownstone, 5" x 7" x 4', at \$1 50 per ft., 24 00
1 " " " " 5" x 7" x 8', at \$1 50 per ft., 12 00
2 large keystones " " " (door and large window), at \$10, 20 00
4 small " " " (windows), at \$3, 12 00
4 corbels, " " " (lower windows), at \$1 50, 6 00

(All the above to be fine dressed.)

Common dressed bluestone water-table on top of foundation walls, on both of the
sides and the street front to be 8" above ground by 4" thick, and laid in cement
flush with brick, 332 square feet, at 50c. per foot, 166 00
Door-sill of east front, 5" x 13" x 8' 6" long, at 60c. per foot, 5 10
Door-cap on " 4" x 13" by 9' long, at 55c. per foot, 4 95
Door-sill on side street (south side), 5" x 13" x 3' 6" long, at 60c. per foot, 2 10
Window-sill for double window on east front, 4" x 7" x 7' long, at 35c. per foot, 2 45
17 window-sills, on both sides and east front, 4" x 7" x 3' 4", at \$1 25 each, 21 25
4 caps for piers, 4" thick x 20' square, at \$2 each, 8 00
Stone chimney-cap, 10 00

Total stonework,

Lathing and plastering whole of second story, three-coats, work hard-finished, 550
square yards, at 50c. per yard,

Total cost of foundation and masonwork,

Foundation
and mason
work.

CARPENTER'S WORK.

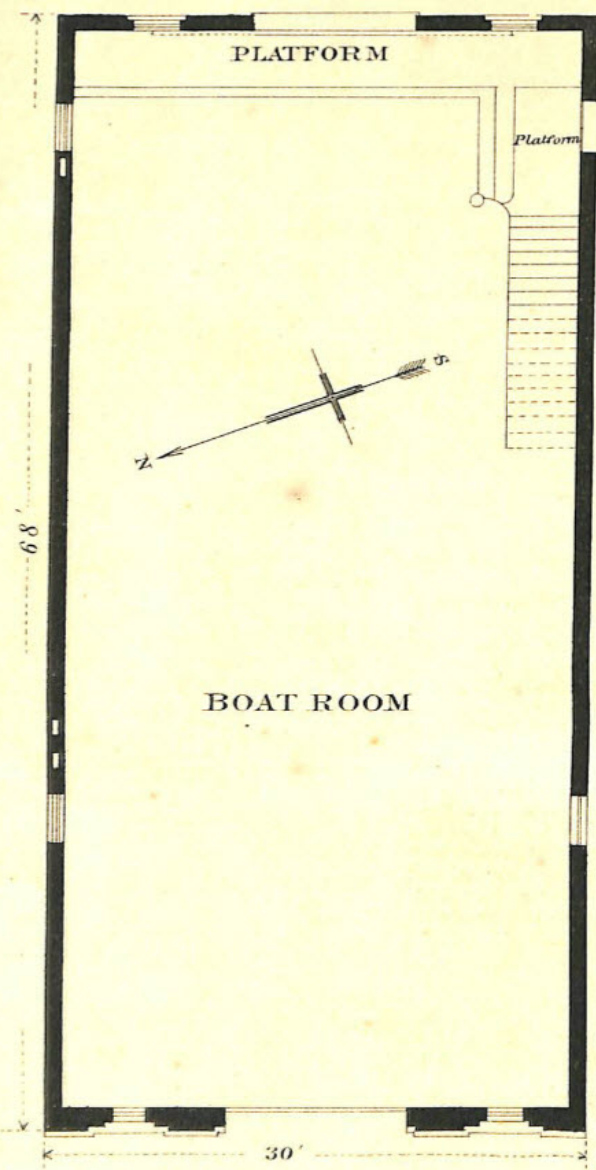
Timber.

	Feet in each Piece.	Total Feet, Board Measure.	
2 girders, 8" x 10" x 66' long,			
104 floor timbers, 3" x 10" x 29', placed 16" from centre to centre	440	880	
50 ceiling joists, 2" x 6" x 29', 16" between centres,	73	7,592	
40 rafters, 3" x 14" x 29', 20" between centres,	29	1,450	
112 partition joists, 3" x 4" x 13' long,	97	3,880	
1 door-lintel, 8" x 12" x 9' long,	13	1,456	
26 door and window lintels, 4" x 6" x 4' long,	8	208	
Sound spruce timber, framed and placed in position, at \$35 per M.,		15,538	\$543 83
Bridging three rows on each tier of floor timbers, and two rows all partitions, at \$4 per row,			
4 turned oak columns, 8" diameter x 14' long, at \$8,			20 00
Furring outside walls in second story with 1" x 2" spruce strips, 94, at 15c. each,			32 00
First story floor, 1,848 square feet, laid with matched Georgia pine, 1 1/4" thick, not over 5" wide, blind-nailed, at 8c. per foot,			14 20
Second story floor, 1,848 square feet, laid with matched spruce, 1 1/4" thick, not over 6" wide, at 6c. per foot,			147 84
Balcony floor, 120 square feet, laid with clean white pine, 1 1/4" thick, not over 6" wide, at 8c. per foot,			110 88
Roof boarding, of sound matched spruce, 1 1/4" thick, not over 9" wide, 1,848 square feet, at 5c. per foot,			9 60
Gravel roofing, 181 1/2 squares, at \$7 per square,			92 40
Coping for fire walls, 2" x 10" x 136' long, at 10c.,			135 00
24 coping anchors, at 12c. each,			13 60
56 wall " at 20c. each,			2 88
Tinning of coping, cornices, and pediments, with M. F. tin, 300 square feet, at 11c. per foot,			11 20
Conductor of XXX. tin, 6" diameter, 27' long, at 75c.,			33 00
Scuttle opening,			20 75
Carried forward,			5 00
			\$1,192 18

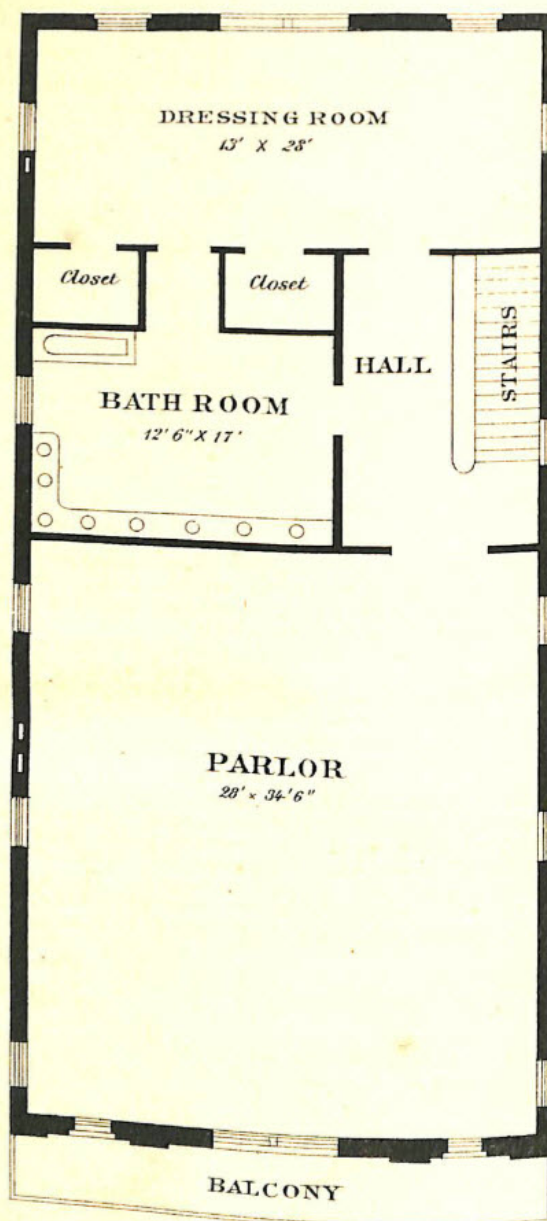
Floors.

Roofing.

Plans
of a
SHORE BOAT HOUSE
of Brick
Two Stories
30 ft. x 68 ft.



FIRST STORY PLAN.



SECOND STORY PLAN

Scale 1/2 in. to one Foot

Brought forward,	\$1,192 18	
300 feet of grounds in second story, at 3c.,	9 00	
Wooden cornice, with pediment, on river front, 30' long x 5' wide, at \$9 per foot,	270 00	Cornices.
Wooden cornice, brackets, and railing of balcony, 38 feet, at \$5 per foot,	190 00	
Wooden cornice on east front, 30 feet, at \$3 per foot,	90 00	
Covering ceiling of first story and under side of balcony with narrow, matched, and beaded 5-8th white pine boards, 1,968 feet, at 6c. per foot,	118 08	Wainscoting.
Wainscoting, 3' high, in second story hall, of 5-8th" ceiling stuff, with suitable cap, 50' long, at 50c. per foot,	25 00	
Base, 10' wide, 7-8th" thick, with moulding, tongued and grooved, 300 feet in second story, at 25c. per foot,	75 00	
Staircase of oak, with 5" x 3" moulded handrail, 2 1/2" fluted balusters, and 10" fluted newel-post of walnut,	200 00	
Portable step-ladder to scuttle,	12 00	
6 swinging racks for boats alongside of boat-room, three on each side, at \$10 each,	60 00	
	\$2,241 26	

Doors.

Sliding doors on river front, first floor, 10' wide x 10' high x 2 1/2" thick, with sunk panels and raised mouldings on outside, and flush panels on inside,	\$100 00	Doors.
Sliding doors on east front, first floor, 8' wide x 10' high x 2 1/2" thick, plain panelled both sides,	60 00	
Single door on south side, 3' wide x 7' high x 2" thick, plain panelled both sides, including circular head-light,	40 00	
2 single doors in second story hall 3' x 8', panelled, with raised mouldings on hall side, each \$25,	50 00	
Double door, hall to parlor, 5' x 8' sunk panelled, with raised mouldings both sides, \$15,	40 00	
3 single doors in dressing-room, plain panelled both sides, \$15,	45 00	
(All casings, jambs, and hardware of best quality are included in these prices.)		
Total for doors,		335 00

Windows.

One double window and two single windows in second story, river front, each four lights, 14" x 50" glass, finished complete, 4, at \$25 each,	\$100 00	Windows.
Two single windows in river front, first story, each four lights, of 14" x 36" glass each, finished complete, at \$20 per window,	40 00	
Five single windows on sides and east front, first story, each four lights, of 14" x 32" glass, finished complete, at \$19 per window,	95 00	
One double window on east front, second story, each side four lights, 14" x 42" glass, finished complete, equal to two single windows, at \$22 each,	44 00	
Twelve single windows on both sides and the east front, in second story, each four lights, 14" x 38 glass, finished complete, at \$20 each,	240 00	
Total for windows,		519 00
NOTE.—Sash to be glazed with No. 2 French glass; sash in second story, river front, to be 2" thick; all others 1 1/2" thick, hung in two parts, in box frames, with iron axle pulleys and weights, best woven cords, and good sash locks. Casings, frames, jambs, and back panels in parlor. The estimates include all necessary hardware and cost of hanging, complete. The cost of fitting up closets and lockers will depend on the number wanted and the finish and material required. Each closet and locker will cost from \$5 to \$15 each, according to the grade of finish.		Sash.

Blinds.

If blinds inside are wanted, add, for four fold inside blinds of pine, with rolling slats and panels, \$12 per window. For usual outside blinds, with rolling slats, add \$5 per window,	\$3,095 26	Blinds.
Total carpenter's and tinner's work,		

PLUMBER'S WORK.

Bath-tub, lined with tinned copper and fitted, supply and waste pipes, necessary faucets, suitably enclosed with wood, complete,	\$5c 00	Wash - hand stands.
Wash-stand, with eight porcelain basins, fitted with supply and waste pipes, faucets, plugs, etc., properly enclosed with matched boards, suitable battened doors, marble top, ends, and back, complete,	80 00	
Service-pipe and connection with street main,	35 00	
Waste-pipe from bath-room to cesspool or sewer,	20 00	
Total plumbing,		\$185 00

PAINTING.

Painting. All outside and inside finished pine wood-work, and all tin-work, to have three coats best lead paint. Cornices to have two coats of sand. First story floor and all other finished hard, and to have three coats of linseed oil. Painting complete,

\$500 00

RECAPITULATION.

Foundation,	\$556 33
Brickwork,	1,951 33
Stonework,	557 85
Lathing and plastering,	275 00
Carpenter's work,	3,095 26
Plumber's work,	185 00
Painting,	500 00
Total estimate,	<u>\$7,120 77</u>

