



HE immense and increasing importance which the art of Rowing is assuming in this country has induced the publisher to include the subject in the MANUAL.

The publisher feels himself justified in recommending the present volume to the attention of Youths whose proclivities take the form of Rowing or Sailing.

ROWING.

WE suppose that every American man or boy who takes to rowing or sailing for amusement wishes to go fast; now, every fast boat is more or less liable to be upset, even with the best and most skillful management; and when a boat is upset, while he who can swim laughs at the adventure, he who cannot is not only himself in danger, but endangers others who feel obliged to risk their own lives in order to save his. Therefore, let every one learn to swim before he attempts either to row or sail in a fast boat; he will then be able to enjoy the amusement, and his friends on shore will feel at ease, and not wish to deter him. Having acquired this art, he may safely proceed in learning to row, and with it to learn the general management of a rowing-boat. Boys at school, and men at college, can often row very well without being *watermen*—that is to say, without understanding how the boat, the oars, the rudder, etc., ought to be fitted, or how to steer or manage a boat in difficulties, or how to row except in a boat and with

an oar fitted exactly as it ought to be; but let the beginner not follow this example—let him determine to learn how to detect and correct any fault in the fittings of a boat, and how to row under difficulties. Of course any one can row better in a properly-fitted boat than in one that is not so, but grumbling at the boat and fittings is the sign of a greenhorn; a good waterman should be able to row anywhere and anyhow—with a mopstick across a tenpenny nail, if necessary, and at the same time should know how to make the best of a good boat and oars when he has got them. These arts are only to be acquired by rowing in all sorts of boats, by listening to what watermen or experienced oarsmen have to say on the subject, by always looking out to pick up something new, and to learn something every day; and, first, let the beginner learn the names and use of every part of a boat, and of its fittings.

There are several methods of fitting the oars and boat, according to the purpose required: we will begin with fresh-water boats and the style of rowing adapted for them, inas much as seamen hate rowing, and without exception row badly. The boats now used in fresh water are either *outriggers* or *gigs*; wherries, funnies, skiffs, etc., being almost superseded. The *outrigger* is so called from having an iron frame or *outrigger* on each side of the boat to carry the *rowlock*, and so enable a longer-handled oar to be used. They were first brought into notice by the Claspers from Newcastle, in England, and have now superseded all other boats for racing purposes. The *gig* is a broader and higher boat, and has a straight *gunwale*, a stern nearly upright, and a *transom*, or flat piece, to the stern. A *funny* is a long sculling boat, sharp at each end; a *skiff* is a stronger, shorter, heavier, and wider boat, used to carry people or goods without risk of upsetting; a *shallop* is a still larger boat, used for pleasure parties, etc.; a *punt* is a strongly-built boat, with a flat bottom and square ends, used for fishing, and is usually propelled by pushing on the ground with a *punt-pole*. *Four-oars*, *six-oars* (seldom used)

and *eight-oars* are now always outriggers when used for racing, gigs for ordinary pulling. An outrigger wayer sculler's boat is 30 feet long, 16 inches wide, and weighs about 40 pounds; a pair-oar wayer-boat is 36 feet long, 20 inches wide; an eight-oar from 56 feet to 66 feet long, and 2 feet 3 inches wide.

We proceed to give the technical names of the parts of a boat:—1. The *bow*, or front part of the boat; the *stern*, *after part*, or hind part of the boat; the rest of the boat is called the *midships*. Under the bottom of the boat, projecting about an inch, is a long piece of wood called a *keel*; where the keel turns up forward, it is called the *stem*; the upright piece of wood fitting into the keel abaft is called the *stern-post*, and to this the *rudder* is hung. In *square-sterned* boats there is, besides, the *transom*. The sides of the boat are made of planks nailed together, and called *strakes*; the lowest strakes next the keel are called the *garboards*. The strakes are strengthened and the boat is kept in shape by pieces of wood crossing the boat in the inside, like ribs, called *timbers* or *lands*. The square holes are called *rowlocks*, and consist of the *thole*, against which the oar is pulled; the *stopper*, or *after thole*, forming the other side of the rowlock; and the leather *filling*, forming the bottom of the rowlock. The seats across the boat are called *thwarts*; the pieces of wood fastening them to the sides of the boat are *knees*; the piece of board against which the feet rest, the *stretcher*; the boards for standing on at the bottom of the boat amidships are *bottom-boards* or *burdens*; the boards in the bow, the *bow-sheets*; those in the stern, the *stern-sheets*; the space between the steerer's thwart and the thwart of the stroke-oar is the *stateroom*, and in large boats has seats on each side for *sitters*.

Fitted to the top of the rudder is a cross-piece of wood or brass called the *yoke*, attached to which are ropes called *yoke-lines*, for the steerer's hands. In eight-oars it is usual to have the yoke-lines attached to the side of the boat, and passing through pulleys in the yoke, in order to give more power to the steerer. The rope by which the boat is *made fast* is called the *painter*, or sometimes the *headfast*. Wayer-boats are built of white fir or mahogany, gigs usually of white fir, but sometimes of oak. Fir is perhaps lighter, but oak lasts much longer. Sea-going boats are usually built of elm; and the timbers of ash.

When the rower rows with an oar in each hand, the oars are called *sculls*, and are shorter; when he uses only one oar, it is called an *oar*, and is about 13 feet 5 inches long. Sculls and oars are usually of white pine, and consist of the *handle* and the *loom*, within the rowlock, the part outside of the rowlock consisting of the shank or *small*, and the *blade*, and are fitted either with *boxing* or *filling*, and a *button*, or with *leather* and a *stop*. The sculls usually *overlap* about four inches; the handle of the oar should just clear the other side of the boat. The oars in a boat are numbered from the bow, No. 1 being the bow, No. 2 the next, and so on to No. 8, or stroke in an eight-oar. The stroke-oar is always on the *port*, *larboard*, or left side of the boat, and the oars on that side are called the *stroke* or *larboard* oars; the oars on the right side of the boat, the *bow* or *starboard* oars.

It should be recollected that pair-oar rowing is the foundation of all rowing; in a four, and still more easily in an eight,

defects, especially *shirking*, may pass undetected, but not easily in a pair-oar. Let the beginner, therefore, get some experienced friend or a waterman to give the first lessons in a steady and not too light boat; if he can get some one to row stroke whilst the friend or waterman steers and instructs, so much the better; if not, let the friend or waterman pull the bow oar so as to see his pupil at his work. The *mat* must be firmly tied to the thwart, and this every man should learn to do for himself, as the men at the boat-house never do it properly. Flannel mats with strings are much the best. Let the pupil then seat himself on the thwart nearly on the *after edge* of it, bending his knees a little, and opening them about a foot, and placing his feet firmly against the stretcher, with heels close together and toes turned out straight before him; if the strap is used, the outside foot, or that nearest the middle of the boat, will be passed under it; but for the first few lessons, the strap should not be used, as a man ought to be able to row without it. The stretcher must of course be adjusted to the proper length. The pupil will then take hold of the oar with the button just inside the thole, and grasp the oar with the outside hand close to the end, but not capping it, and thumb above the oar, the inside hand about three inches from the other, just where the square loom begins, thumb under the oar. Let him then sit upright, straighten his back, flatten and drop his shoulders, keeping them perfectly square, and hold his head a very little forward, elbows close to his sides, sitting very nearly as he would be directed to sit by a drill sergeant or dancing-master, the only exception being that the knees are open and the head a little forward, and that he holds the oar. Let him then stretch forward as far as the stopper will allow the oar to go, which is about as far as he can reach, still keeping his back straight, his shoulders square, though of course a little raised, his arms extended, his outside wrist flat with the arm, his inside wrist bent convexly. And here let the pupil understand clearly that all the motions are to be made by swinging evenly backwards and forwards on his seat as on a hinge; the back is never to be bent, and though the shoulders must necessarily be raised a little in reaching forward, in going back they should be dropped as low as they can be brought. There is a common notion that rowing rounds the back and shoulders, and *bad* rowing does so, but a good oar has his shoulders and back as flat as any drill sergeant would wish them to be; when his shoulders are humped or his back rounded, it is a sign that he is tired out and done. If the rower raises one shoulder higher than the other, or does not swing evenly backwards and forwards, he makes the boat *roll*, and prevents the other men from rowing properly. Let the pupil then resume the upright position, stretch forward a little, and dip the oar into the water, taking care that the blade is upright, and the button against the thole; let him then pull a short stroke, keeping the blade upright and leaning back a little, the first stroke or two without any pressure, afterwards pressing on the oar, taking care to have the chest well bent forward towards the loom, so as to strike the water and feel resistance at once. Let the pupil continue to make short strokes like this until he can keep his oar upright and recover himself after each stroke, keeping the button against the thole, and when he can do this

pretty well, let him begin to *feather*, or bring the oar out of the water in a horizontal or flat position; this is done by dropping the wrists sharply at the end of the stroke, and, though difficult at first, is very soon acquired.

There are different styles of feathering: the Harvard men feather high; Yale men almost graze the surface of the water, which certainly looks well, but cannot be done if there is any *sea* or rough water. In about an hour any one who takes pains ought to have mastered these points, and that ought to suffice for one day; and at the end of each quarter of an hour, the pupil should change sides and work with the other oar. If this is not done at the very beginning, he is likely to contract a habit of rowing on one side only, and will never learn to row on the other side: a deficiency which will cause great inconvenience to himself and others in future time.

On the following day, the pupil should be taught to stretch out and pull his stroke through, and to keep time, the instructor pulling a very long, slow, and steady stroke; the pupil should then be taught to *back water*, which is exactly the reverse of pulling, as the oar is then pushed through the water so as to propel the boat stern foremost, or to assist in turning the boat round; he should also be taught to *ship* his oar neatly and quickly; and this is done by letting go with the outside hand, and lifting the oar sharply up out of the rowlock with the inside hand, letting the blade float astern. The beginner would do well to go out in a safe boat with a friend, and practice backing and shipping till he can do both quickly and neatly at the word of command; and in about three lessons of an hour each the pupil ought to become a passable oar. This system of pair-oared tuition is immeasurably superior to and *quicker than* the ordinary plan pursued at schools and colleges, of putting seven raw hands into an eight-oar with a tolerable stroke and a good coxswain, and trying to teach them all at once. The unhappy wretches have no idea of what they ought to do, and cannot understand the directions of their coxswain, who sits raving and storming at them, and at the end of the lesson they return stiff, sore, tired, and disgusted, having learnt very little, and probably begun to contract faults which they may never get rid of. Let the first rowing of every man be carefully attended to, and all faults checked at once before they grow into habits. For all further tuition we refer to the following extract from "The Principles of Rowing and Steering," by studying which the beginner, or even the advanced oar, may learn what to do and what to avoid:—

"The requisites for a perfect stroke are:—

"1. Taking the whole reach forward, and falling back gradually a little past the perpendicular, preserving the shoulders throughout square, and the chest developed at the end.

"2. Catching the water and beginning the stroke with a full tension on the arms at the instant of contact.

"3. A horizontal and dashing pull through the water immediately the blade is covered, without deepening in the space subsequently traversed.

"4. Rapid recovery after feathering by an elastic motion of the body from the hips, the arms being thrown forward perfectly straight simultaneously with the body, and the forward motion of each ceasing at the same time.

"5. Lastly, equability in all actions, preserving full strength without harsh, jerking, isolated, and uncompensated movements in any single part of the frame."

"*Faults in Rowing.*—The above laws are sinned against when the rower—

"1. Does not straighten both arms before him.

"2. Keeps two convex wrists instead of the outside wrist flat.

"3. Contrives to put his hands forward by a subsequent motion after the shoulders have attained their reach, which is getting the body forward without the arms.

"4. Extends the arms without a corresponding bend on the part of the shoulders, which is getting the arms forward without the body.

"5. Catches the water with unstraightened arms or arm, and a slackened tension as its consequence: thus time may be kept but not stroke; keeping stroke always implying uniformity of work.

"6. Hangs before dipping downward to begin the stroke.

"7. Does not cover the blade up to the shoulder.

"8. Rows round and deep in the middle, with hands high and blade still sunken after the first contact.

"9. Curves his back forward or aft.

"10. Keeps one shoulder higher than the other.

"11. Jerks.

"12. Doubles forward and bends over the oar at the feather, bringing the body up to the handle, and not the handle up to the body.

"13. Strikes the water at an obtuse angle, or rows the first part in the air.

"14. Cuts short the end, prematurely slacking the arms.

"15. Shivers out the feather, commencing it too soon and bringing the blade into a plane with the water while work may yet be done: thus the oar may leave the water in perfect time, but stroke is not kept. This and No. 5 are the most subtle faults in rowing, and involve the science of shirking.

"16. Rolls backward, with an inclination towards the inside or outside of the boat.

"17. Turns his elbows at the feather instead of bringing them sharp past the flanks.

"18. Keeps the head depressed between the shoulders instead of erect.

"19. Looks out of the boat instead of straight before him. (This almost inevitably rolls the boat.)

"20. Throws up water instead of turning it well aft off the lower angle of the blade. A wave thus created is extremely annoying to the oar farther aft; there should be no wave traveling astern, but an eddy containing two small circling swirls."

Nos. 17 and 18 perhaps only affect the appearance, but all the other requisites and faults go to the essentials of rowing.

As soon as the pupil has become totally skillful in the management of his oar he will be put into a four or eight oar, and will have to practice what he has learnt, and we will venture to give him two hints:—1st. To pay particular attention to keeping time. 2d. To take particular care not to put his oar in the water before he has finished going forward; of the two it is better to make the first part of the stroke in the air, though that, of course, is not right; but putting the oar in the

water too soon will inevitably *splash* the men who are forward, and of all the faults which annoy the other men, splashing and not keeping time are the worst. One misfortune which will probably happen once or twice to every learner is *catching a crab*, by letting the oar turn in the water the wrong way before taking it out; the water then pens the oar down, and the handle bears the rower backwards off his seat. The moment he feels this likely to happen he must sharply *ship* his oar, and if he is quick he may escape the annoyance and danger of being knocked backwards. It will be at least a month before the beginner is able to handle his oar with ease and comfort to himself and satisfaction to others; and during this time, as at all times, he ought to pay attention to the instructions of the captain and coxswain, and take their scolding and remarks willingly and good-humoredly. Above all things let him not take it into his head that he is right and the others wrong; in the first place, it is very unlikely; and in the next place, however right he may be, until he is captain, and able to enforce his own ideas, he must row as the others row. Eight inferior oars rowing together, and in the same way, would inevitably beat the best eight oars in America if each of them persisted in rowing in his own way. Another most important thing to a beginner is, *never row a single stroke carelessly or badly*; if you are tired, row easily, but in good form and style. In fact, form and style must be taught and learnt in *paddling*—i. e. rowing easily—and that is the time for it; but there is never a time for rowing badly, and every stroke badly rowed is positively injurious.

Sculling is practiced on exactly the same principles as rowing with oars, except that, both sculls being managed by one man, he has but one hand for each. The sculler must, of course, sit exactly in the middle of the boat, and he must keep his back flatter and his shoulders lower, if possible, than when rowing; the strength which can be put into the last part of the stroke depending entirely upon the drop of the shoulders. The great difficulty in sculling, especially since the light outriggers have been introduced, is in the steering, as the sculler must look behind him at least every third stroke; and to turn the head without turning the body or rocking the boat requires long practice.

In *pair-oar rowing* the bow-oar steers and directs, whilst the stroke-oar merely pulls steadily and follows the directions of the bow-oar. The bow-oar, being forward, has of course most power over the boat; but it often happens that the best steerer is the strongest oar, and will therefore pull stroke and steer at the same time—of course, at a disadvantage. The great secret in ordinary pair-oar rowing is to let one man steer and direct, the other merely following the directions and not slacking or pulling harder without orders, or without saying what he is going to do. Nothing is more provoking to the steerer and more likely to lead to accidents, and at the same time there is nothing more common, than for his companion to pull harder or easier without orders, and exactly when the steerer wishes it not to be done. When there is a side-wind the bow of the boat tends to turn towards the direction from which the wind is blowing; this tendency must, of course, be counteracted by the rower whose oar is on that side, and he is then said to *have the labor*.

In fours and eights there is always a steersman or coxswain, and his art is at least as difficult to learn as the art of rowing. He should sit upright on his thwart, but well forward on it, putting his knees forward and his shins tucked under his thighs, with his feet as far beneath him as they can be brought, so as to be able to throw all his strength and weight upon the lines when required. He should take a turn with each line round the palm of the hand, and let the end come out between his forefinger and thumb, where it must be tightly nipped. His hands are to be well in front and against the ribs, the little fingers resting on the thighs; the lines are always to be kept on the stretch, so that any necessary pull may be instantly given. The steerer will find himself obliged to bend forward at each stroke; but let him only yield to the motion and not *bob* violently, a process which cannot do any good, disturbs his own view, and tends to shake the boat. If any man believes in the efficacy of bobbing, let him get into a boat by himself and try to make her advance by bobbing. As soon as the steerer has had a little practice, and knows how much effect a pull on the yoke-lines produces, he ought to turn all his attention to *steering straight*, an art which is of immense importance, but which is usually neglected or left to chance. Let any one place himself where he can see an ordinary eight-oar coming towards him, and he will then see the zigzag devious course that in nine cases out of ten she will take. To prevent this, the steerer should early learn always to steer for some object right in the course, the farther off it is the better; and let him then keep, or try to keep, the boat's stem steadily pointed at that object. He will find this not so easy, but will attain the art by dint of practice, but not if he learns to lounge about and steer carelessly. When that object is no longer in the course, let him take another, and so on, recollecting that every touch of either yoke-line stops the boat, and that a zigzag is longer than a straight line. One thing which puzzles young steerers much is steering in a strong side-wind; the boat is then constantly being driven bodily to leeward, and, in order to keep a straight line, the stem must not point at any object in the course, but must constantly point to *windward* of the course, and the boat must take a kind of crab-like motion, the proper angle for which must be found by trial.

The steerer has also to instruct the crew; and to learn how to do that, he should carefully observe good rowing whenever he sees it, and read a good work on the subject. In instructing, he should not bully individuals: many faults are incurable, and many men will not try to alter. If a man has been told three times of a fault, and shows no symptoms of amendment, it is useless to annoy him further, and he must either be turned out of the boat, or allowed to go on in his own way. When a man has improved or corrected a fault, let him be immediately praised and complimented. All general unmeaning exclamations in which steerers are wont to indulge, probably from not knowing what really ought to be said, are totally useless. In training a crew, it is an excellent plan for the stroke or best oar in the boat himself to take the yoke-lines occasionally, and see what the men are doing. If the river is narrow, the men can best be seen by running along the bank.

A fast sculler will make about thirty-six strokes a minute; with oars, forty strokes a minute may be taken.

We now come to the two painful subjects connected with rowing, the mere mention of which causes a shudder in every old oarsman: *blisters* on the hands, and *raws* on the stern:—

Every man suffers at first from blisters, and the harder he pulls, the worse they are; but after a time his hands get hard and horny, and no ordinary exertion will leave a mark. The blisters are often burst during the rowing: they are then usually painful, and all that can be done is to grin and bear it, avoiding the contact of water, which smarts at the time and retards the cure. If they get too bad, two or three days' rest will usually set matters right; if not, you are in bad health, and should go to the doctor. If the blister does not burst, let it remain as a protection for two days; at the end of that time the new skin will be formed underneath, and the blister should be pricked to let out the water which keeps the new skin soft and incomplete. *Raws* will come at all times, but wriggling on the seat is a very frequent cause; the steadier a man sits, the less likely are raws. Of course any folds in the cushion or trowsers are to be carefully avoided, as very likely to raise a raw. If the skin is fairly rubbed off, the place should be covered with goldbeater's-skin, and a day's rest will then almost invariably effect a cure.

We will add a few words as to *sea-going boats*. The sides of

the rowlocks are in them formed by two movable pegs called *tholes*; there is no button or stop on the oars; the oars are often of ash; there is no difference between oars and sculls, and the term *sculling* is applied to propelling a boat by working an oar through a notch in the stern of the boat.

Small rowing-boats in the sea, from nine to thirteen feet long, are called *punts*; the oars, instead of rowlocks, often work on a single pin or *thole*, which passes through a block of hard wood called a *cleat*, nailed to the oar. Cleat-oars, of course, cannot be feathered, but are convenient for going alongside a vessel, and in other ways, as they may be let go without being lost. Those who use cleat-oars for the first time should recollect to put the oar on or *abaft* the thole so as to pull upon the thole, not from it, which would soon tear off the cleat. The fittings of sea-going boats are usually very bad; the thwarts are too high and too near the rowlocks, the oars are badly balanced, and there is no stretcher. If there is much sea, it is not possible to pull a long stroke or to feather quickly. This, and the general defects in the fittings, render the rowing of sailors almost always very bad, and utterly unfit for imitation; but the good oarsman should always row as well as the boat will admit: the back may always be kept flat, the shoulders down, and the stroke pulled through.

