

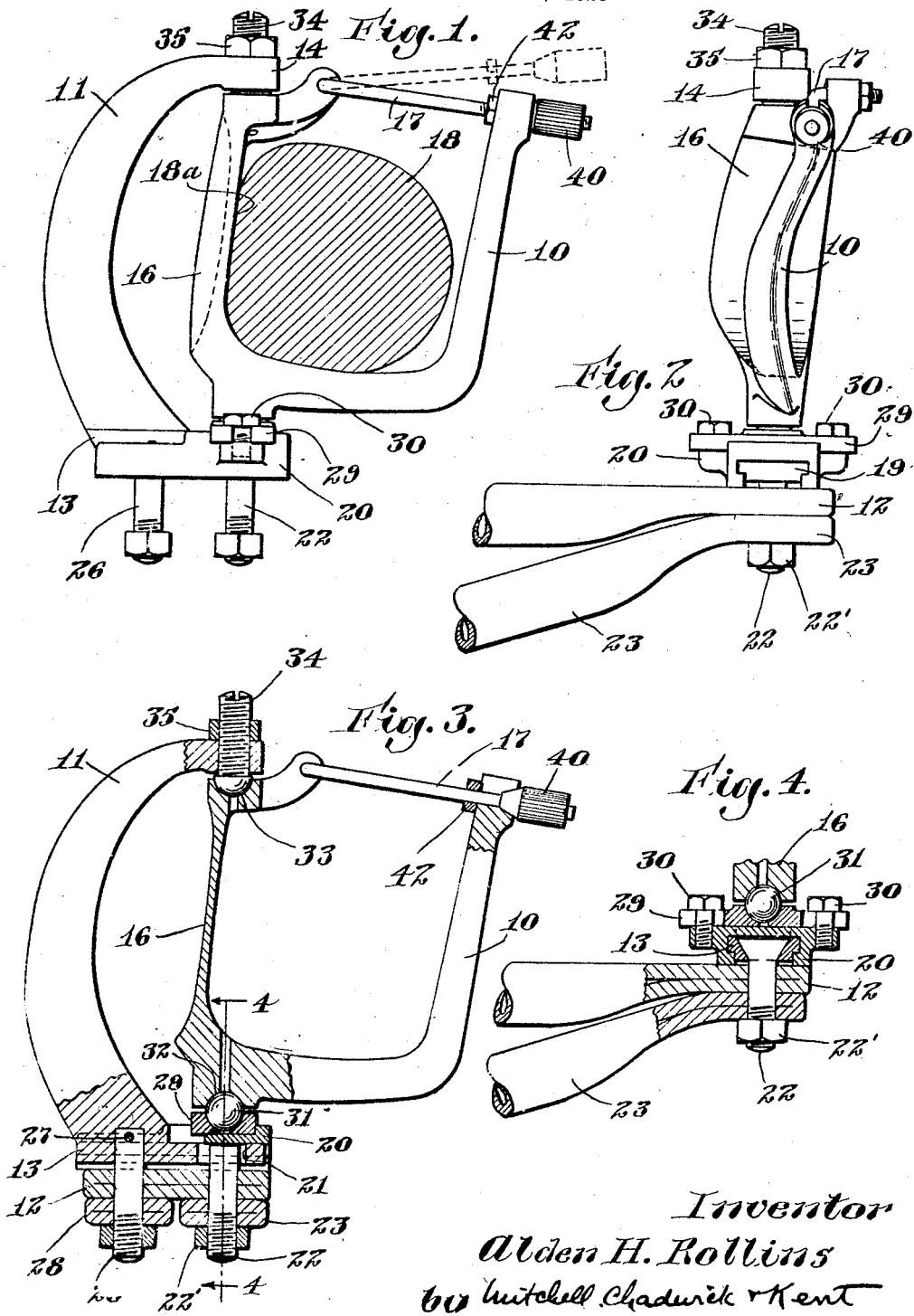
Jan. 17, 1928.

A. H. ROLLINS

1,656,534

ROWLOCK

Filed Feb. 26, 1925



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UNITED STATES PATENT OFFICE.

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ROWLOCK.

Application filed February 26, 1925. Serial No. 11,725.

This invention relates to improvements in adjustable rowlocks. More particularly it relates to mounting means which permit adjustment of the lock so that it aids the oarsman in keeping his oar in position to get the proper dip and maximum propulsion. Although the invention is applicable to any kind of row boat, it is particularly adapted for those racing boats known as shells.

It is one of the incidents of rowing that the oarsman is liable to put his blade into the water at a wrong angle, so that his pulling on the oar throws it deeply into the water or throws it up out of the water, causing in either event a serious disturbance to the smoothness of the stroke and sometimes throwing the oarsman out of the boat.

The invention provides mechanical means which, when properly adjusted, automatically sets the oar in correct position at the beginning of each stroke. It does this by providing means to compensate for variances in the individual oar and outrigger from a predetermined normal, so that the bringing of the flat loom of the oar to bear against the upright of the oarlock, which happens at the beginning of each stroke, will automatically set that particular blade at the correct angle to the water. It has already been recognized that the angle of the oar blade is in general fixed by the cooperation of the flat side of the loom with the back of the oarlock, and indeed, the flat side of the loom is provided for this purpose; but in spite of that oarsmen will occasionally "catch a crab," especially in periods of exhaustion and stress, as in a race. This is always occasioned by a wrong handling of the oar and is commonly ascribed to the oarsman's lack of skill or diminished strength to set the oar properly.

The rowlocks are supported on outriggers at some distance from the gunwales; and in a perfect oar the flat spoon blade thereof is parallel to the flat side of the loom thereof which bears against the rear upright of the oarlock. I have found that in some oars there is a perceptible twist between the blade and the place of contact of its loom with the oarlock. Either for this cause, or because the back side of the oarlock may happen to be slightly inclined from its proper position of verticality, it may be exceptionally difficult for the oarsman to enter his blade into the water at a proper angle; and he has to

hold it correct by sheer strength, in order to maintain a proper stroke in harmony with the others in the boat, instead of being able to apply all of his strength to the propulsion. Although this difficulty has been recognized I am not aware that anyone has hitherto found a remedy.

It is an object of the invention to provide an adjustable mounting for the swivelled oarlock whereby its upright rear side may be set as exactly vertical as may be proper, and it is a feature of the invention that this adjustment is accomplished, within limits, by changing the position of only one of its bearings, although when a considerable shifting becomes necessary both bearings may be changed to accommodate the abnormal setting. It is a further feature that the bearings themselves are such that when the back of the oarlock is set askew the surface contact of the bearing is the same as when the lock is vertical.

The objects of the invention and the features which characterize it are attained by providing a support and one or more sliding members which together form one of the bearings of the oarlock. One member is preferably movable in fore and aft direction, and another, which may rest upon the first, is movable in an outboard and inboard direction. These are under the oarlock, and the upper of them has a socket to receive a bearing ball on which the oarlock is seated and swivelled, there being a similar socket in the under side of the oarlock to receive the ball. The other bearing of the swivel, at the top of the support, has an adjustable stud with a hemi-spherical end, which seats in a socket on the top of the oarlock, and this stud can be locked in position by a suitable nut.

The drawing illustrates mounting which permits adjustment of the bottom bearing of the swivel in any horizontal direction. It is intended that the patent shall cover, by suitable expression in the appended claims, whatever features of patentable novelty exist in the invention disclosed.

In the accompanying drawings:

Figure 1 is a side elevation of a rowlock embodying the present invention;

Figure 2 is a rear end elevation of the same, mounted on the outrigger;

Figure 3 is a view like Figure 1, but with portions of the rowlock shown in section; and

Figure 4 is a section on line 4—4 of Figure 3.

Referring to the drawings the rowlock as a whole comprises the swivelled stirrup or oarlock 10 and a yoke 11 holding the two ends of the swivel and hereinafter called the back standard, which rises from the sill 12 of an outrigger on which it is mounted with its base 13 parallel to the side of the boat and with its yoke toward the bow. The oarlock is swivelled between the base 13 and the top 14 of the back standard, with its rear side 16 having spherical socket bearings at top and bottom. The bottom and other side of the oarlock together with a hinged gate 17 at its top, complete the enclosure around the loom 18 of an oar. One side 18^a of this loom is flat for bearing against the rear side 16 of the oarlock, and when these two are flat together the blade of the oar should be in position to enter the water at a proper angle. If, however, there is a twist in the oar between the blade and the oarlock or if the outrigger is somewhat out of position, then the oarsman has to try to hold the oar so as to make its angle right. The present invention relieves him of this difficulty and makes his oar automatically come right.

The base 13 of the back standard is provided with edge guides 19 along which can move a slide 20, whose lower edges extend a little below the base 13 of the back standard and rest on the sill 12. In the base 13 is an oblong slot 21 having inclined side walls which serve as seats for the tapered square head of a bolt 22 that passes down from this slot 21 through holes in the sill 12 and through a brace 23 outstanding from the side of the boat. When its nut 22' is tightened the bolt clamps firmly together the slide 20, the back standard 11, the sill 12, and the brace 23. Another bolt 26 at the forward end of the standard is keyed thereto as at 27, and passes through another hole in the sill and through another brace 28, to form a second clamp. The slot 21 permits the bolt 22 to be so positioned as to accommodate variations in the locations of the holes found in the sills. In the top of the slide 20 is another guideway, extending crosswise, in which there is a second sliding member 29 whose movement is inward or outward away from the side of the boat. This top slide is normally clamped to the bottom slide by screws 30.

On this second slide is provided a spherical seat or socket in which rests a bearing ball 31 and on this rests the lower spherical socket 32 of the oarlock. Its upper spherical socket 33, receives the head of a stud 34 which passes down through the top 14 of the back standard and is locked in position by a suitable lock nut 35.

By loosening the bolts 22 and 26 the sliding member 20 on the back standard can be

moved forward or aft as desired to vary the position of the lower end of the back of the oarlock, the top stud 34 and spherical socket 33 serving as a universal joint about which the oarlock is tilted and about which it can afterward swivel in the rowing action, notwithstanding that it has been tilted. If the slide is moved sufficiently far to make undue play in the bearings the stud can be turned downward enough to take up this looseness. Thus the top stud constitutes a ball bearing adjustable in position. The other slide member 29 can be moved inward or outward on the first member, to alter the position of the bottom end of the back side of the oarlock toward or from the side of the boat; and because of the spherical top and bottom engagements it nevertheless can swivel easily. Thus by suitable movement of both side members the position of the oarlock back can be arranged exactly vertical or at such angle as will make the blade of the oar enter the water properly even though the back standard is not plumb, or if the shaft of the oar is twisted. When the oarlock has thus been properly positioned the small screws 30 and the bolts 22 and 26 are tightened to clamp the two slides; the back standard and the sill tightly together. When the oar is placed within the oarlock, the top gate 17, pivotally hinged at the top of rear side of the oarlock, is swung over into a slot in the upper end of the front side of the oarlock. Two nuts 40, 42 on the gate, one of which, 40, is knurled for hand turning, and the other of which constitutes a movable firm support on the gate, against which the nut 40 can firmly clamp the top of the front of the oarlock, constitute jaws for clamping the gate to this front side.

I claim as my invention:

1. A rowlock comprising a back standard; an oarlock, having a socket; a stud mounted movably on the back standard to shift the axis of the stud relative to the standard and having a spherically surfaced end engaging in said socket; and means to lock said stud in position on said standard.

2. A rowlock adapted to be attached to a sill on a boat, having a back standard and a member movable with respect thereto; a swivelled oarlock mounted between the standard and said movable member, and means for clamping the said member, standard and sill together.

3. A rowlock comprising a back standard, a swivelled oarlock, a bearing member between them movable both in fore and aft direction and in outboard and inboard direction; and means securing the member and back standard together.

4. A rowlock adapted to rest on a sill on a boat, comprising a back standard secured to said sill; a bearing slide movable on said sill for adjustment with respect to the stand-

ard; a swivelled oarlock mounted between said slide and the standard; and means to clamp the slide and sill together.

5 5. A rowlock adapted to be attached to a sill on a boat, comprising a back standard fixed on the sill, and a swivelled oarlock having one end fixed rotatably on the standard and its other end movable to and fixable rotatably in various positions on the sill.

10 6. A rowlock adapted to be attached to a sill on a boat comprising a back standard, and means for fastening said standard to said sill including a clamping member movable with respect to said standard.

15 7. A rowlock adapted to be attached to a

sill on a boat comprising a back standard, and means for fastening said standard to said sill including a clamping member fixed on said standard and another clamping member movable to and fixable in various positions with respect to said standard.

8. A rowlock adapted to be attached to a sill on a boat comprising a back standard having a slot in its base, and means extending through said slot and movable there- 25 along in various positions, adapted to clamp said standard and sill together.

Signed at Boston, Massachusetts, this twenty-fourth day of February, 1925.

ALDEN H. ROLLINS.

CERTIFICATE OF CORRECTION.

Patent No. 1,656,534.

Granted January 17, 1928, to

ALDEN H. ROLLINS.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 2, line 118, claim 2, before the word "means" insert the words "unit fastening"; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 21st day of February, A. D. 1928.

Seal.

M. J. Moore,
Acting Commissioner of Patents.