

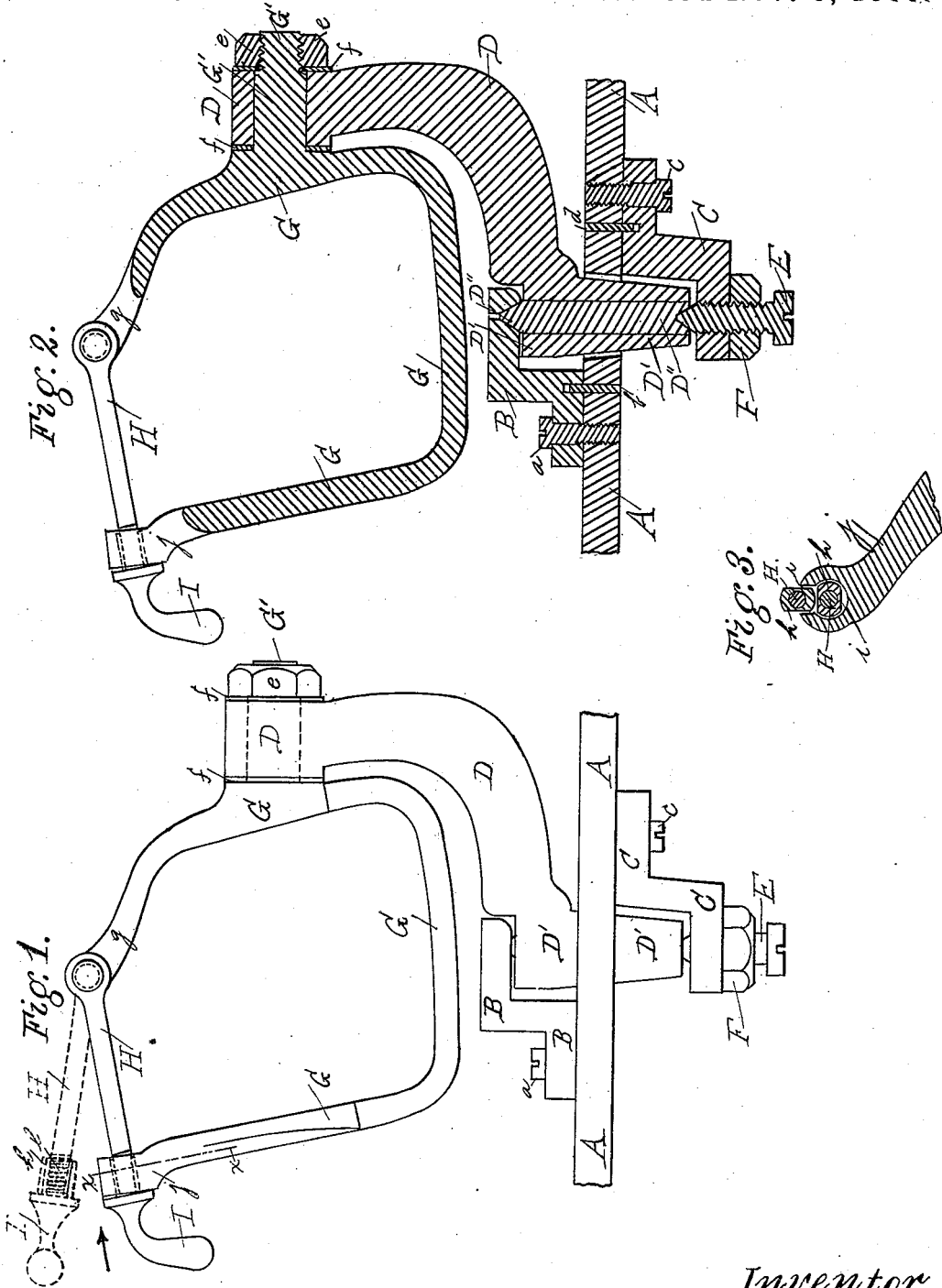
(No Model.)

E. J. KERNS.

ROWLOCK.

No. 352,329.

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ROWLOCK.

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To all whom it may concern:

Be it known I, EDWARD J. KERNS, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Rowlocks; and I do hereby declare that the following is a full, clear, and exact description thereof, which, in connection with the drawings, forming a part of this specification, will enable others skilled in the art to which my invention belongs to make and use the same.

My invention relates to rowlocks for boats; and it consists in certain novel features of construction of the same, as will be hereinafter fully described.

In my improved rowlock I obtain a double motion, or two motions, on a universal center, to wit, the swinging motion of the oar and also the dipping motion. In this way I am enabled to greatly diminish the friction between the oar and the oar-lock, thereby increasing the power and getting a better return for the amount of strength expended.

Referring to the drawings, Figure 1 represents a side elevation of a right-hand rowlock, the catch attachment being shown closed and opened. Fig. 2 is a central vertical section of the rowlock shown in Fig. 1; and Fig. 3 is a cross vertical section of a detached part of the oar-lock on line *x*, Fig. 1, looking in the direction of the arrow, same figure, showing the catch attachment in two positions.

In the accompanying drawings, the part marked A is a section of the gunwale or outrigger of a boat to which my rowlock is secured, in this instance by means of the angle-braces B and C, the brace B being upon the upper side of the gunwale A, secured thereto in this instance by a screw, *a*, and prevented from turning by a dowel, *b*, the brace C being secured in a similar manner to the under side of the gunwale A by a screw, *c*, and dowel *d*. A swivel-arm, D, of substantially the shape shown in the drawings, is supported and swivels horizontally upon two tapering centers. Said swivel-arm D has a spindle, D', formed upon its lower part, which extends in a vertical direction through a hole in the gunwale A, and is supported in this instance between the two angle-braces B and C, a tapering cen-

ter being formed upon the upper end of the spindle D', which extends into and turns in a tapering countersink formed in the lower side of the brace B, and a tapering countersink being formed in the lower end of the spindle D', into which extends the conical point of a bolt or screw, E, which is turned in or out through a threaded hole in the brace C, to adjust the same, and is secured in place by a nut, F.

I have shown in the drawings a hardened-steel center, D'', driven into the spindle D', and upon which the center and countersink above described are formed; but I do not wish to limit myself to the use of a center or spindle, D'', combined with the spindle D' in the manner above described, for, if preferred, the use of a separate center or spindle, D'', may be dispensed with and the tapering center and countersink formed directly on the spindle D' or lower end of the swivel-arm D.

The arm D, as above stated, has a swiveling horizontal motion, to correspond with the swinging movement of the oar, upon two tapering or conical centers, thus turning very easily and overcoming all tendency of friction to interfere with the free and easy movement of the rowlock, even under the most severe strain upon the same.

By means of the adjusting bolt or screw E, I am enabled to regulate the swiveling motion and the degree of ease with which the swivel-arm D turns in its bearing, and also to provide for any wear of the spindle D'.

In the upper end of the swivel-arm D is supported the oar-lock G, which has a journal, G', extending out therefrom, which passes through and works in a hole in the upper end of the arm D; as shown in Fig. 2. A nut, *e*, holds said journal G' in place, and washers *f* are interposed on each side of the arm D, allowing the journal G' to turn freely in its bearing, and the oar-lock G to have a vertical oscillating motion independent of the swivel-arm D, in which it is supported, and with which it has also a swiveling horizontal motion to correspond with the swinging motion of the oar.

The oar-lock G may be of any usual and well-known shape. I have shown in the drawings an oar-lock of the shape generally used in racing-boats, having an opening in its upper

part to admit of the introduction of the blade of the oar.

I have shown in the drawings a locking device or attachment for holding the oar in the oar-lock G; but the use of the same may be dispensed with, if desired.

The locking device shown consists of a rod H, hinged at one end to the upper end of the arm *g* of the oar-lock G, and movable at the other end, and having a thread, *l*, cut upon the movable end, adapted to fit into the hub *h* of the handle I, said hub being made of substantially the shape shown in cross-section in Fig. 3, so as to allow the hub to enter into the slot *i* in the end of the arm *j* of the oar-lock G, and then, by turning the handle I up or down, to lock said hub *h* or rod H in said slot, and prevent the same from being disconnected as long as the handle I remains in its downward position, as shown in Fig. 1, or in a corresponding upward position.

It will be readily understood by those skilled in the art that the oar-lock G moves with the swivel-arm D as the oar is swung back and forth, and it also has an independent vertical oscillating motion of its own to correspond with the dipping motion of the oar as it is raised out of or enters into the water. This double motion of the oar-lock G (the swiveling horizontal and vertical oscillating motion) is on one center—that is, my rowlock is so constructed that the center of the oar corresponds with the center of the oar-lock in whatever position it may be. In this manner I am able to diminish very much the friction between the oar and the lock, and to get a perfect leverage of the oar during the full stroke of the same from the time it enters the water until it emerges, and which is not obtained by the rowlocks now in general use.

By means of the braces B and C, or equivalent devices, my improved rowlock can be readily attached to any boat; and, as before stated, the shape of the lock proper may be

varied as desired, and may be used either with or without a locking attachment.

Having described my improvements in rowlocks, what I claim as new, and desire to secure by Letters Patent, is—

1. In a rowlock, the combination, with the swivel-arm D, supported at its lower end and swiveling horizontally upon two tapering centers, of the oar-lock G, provided with a journal, G', extending out from one side thereof and having its bearing in the upper end of the arm D, so that said oar-lock will have a vertical oscillating motion independent of the motion of the arm D, in the manner substantially as shown and described.

2. In a rowlock, the combination, with the swivel-arm D, having a swiveling horizontal motion upon two tapering centers, of an adjusting-screw, E, and means for supporting said arm and screw, substantially as set forth.

3. The combination, with the oar-lock G, open at the top and provided with a slot, *i*, in the upper end of one of its arms, of the rod H, hinged at one end to the upper end of the other arm of the oar-lock G, and provided with a movable hub, *h*, at its other end, adapted to engage with the slot *i* and lock the oar in the oar-lock, in the manner substantially as shown and described.

4. In a rowlock, the curved supporting swivel-arm D, swiveling horizontally upon two tapering centers formed at its lower end, and means for supporting said arm, in combination with the oar-lock G, supported in the upper end of the swivel-arm D, in the manner substantially as described, and having a vertical oscillating motion independent of the motion of the arm D, so that both motions will be upon one universal center, substantially as set forth.

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Witnesses:

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