F. A. GOWER.

ROW-LOCK.

No. 173,220. Patented Feb. 8, 1876.

Fig: 1.

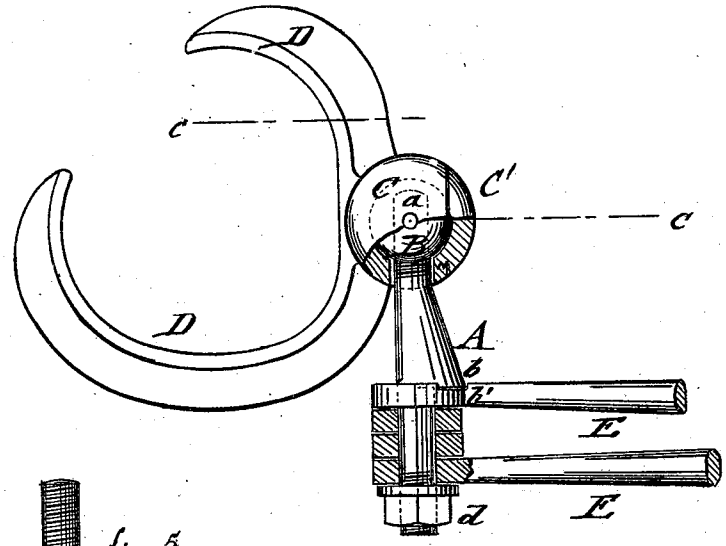


Fig: 5.

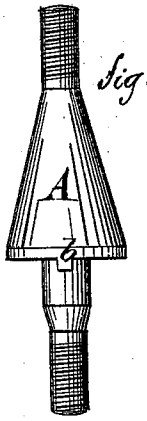


Fig: 3.

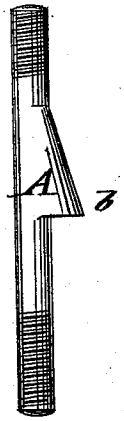


Fig: 2

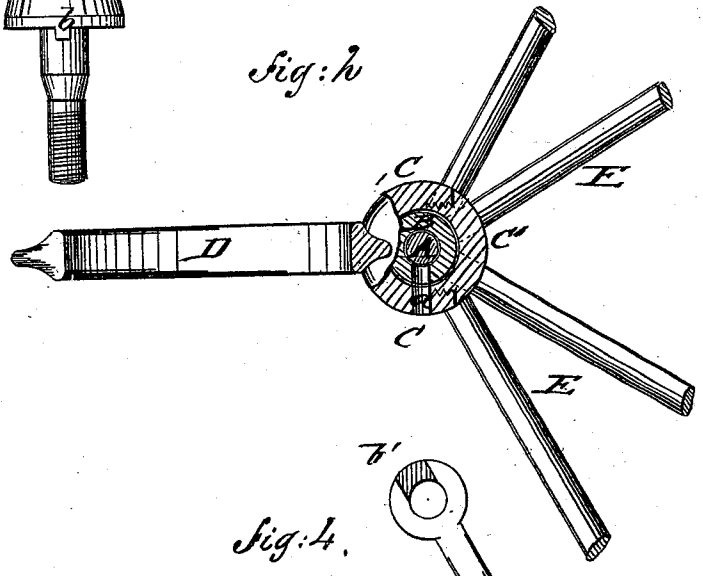
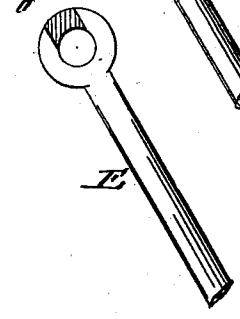


Fig: 4.



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UNITED STATES PATENT OFFICE.

FREDERIC A. GOWER, OF PROVIDENCE, RHODE ISLAND.

IMPROVEMENT IN ROWLOCKS.

Specification forming part of Letters Patent No. **173,220**, dated February 8, 1876; application filed January 22, 1876.

To all whom it may concern:

Be it known that I, FREDERIC A. GOWER, of Providence, in the county of Providence and State of Rhode Island, have invented a new and Improved Rowlock, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a sectional side elevation of my improved rowlock; Fig. 2, a horizontal section of the same on line *c c*, Fig. 1. Figs. 3 and 5 are detail side views of the shaft or standard, and Fig. 4 a detail top view of the upper rod of the outrigger.

Similar letters of reference indicate corresponding parts.

The invention is intended to increase the speed and improve the convenience of racing-boats with outriggers, by providing them with rowlocks that prevent "wabbling," "crabs," and other interruptions, and are supported in simple and rigid manner on the outrigger-rods.

The invention consists of a rowlock of novel shape, that is mounted by ball-and-socket joint on the supporting-shaft, which connects and binds directly the four rods of the outrigging, in connection with one screw-nut.

In the drawing, D represents the rowlock proper, which is mounted horizontally by a ball-and-socket joint on the shaft or standard A, supported jointly by the four rods E of the outrigger.

The rowlock D is cast in one piece with the socket C, and provided with a strengthening-rib. The lower part or base of the lock, on which the oar rests, is larger than the upper part, they leaving between their ends a space of such width that the oar may be introduced at the thinnest point, near the blade, to fit, when pushed forward toward the thicker end, nearly the interior width of the rowlock.

The rowlock and socket is cast of bronze metal, malleable iron, or other suitable material, and applied to the ball B of the shaft A by a plug, C′, that screws into a thread of the socket and completes the same.

The ball is cast solid, and is inserted into the socket before the plug is screwed on.

A circular hole, *a*, is drilled through the socket and half-way through the ball, and serves to screw ball and socket together on the shaft by inserting a small tool into the hole *a*. The screwing home of the plug C′ is effected by a "stub" cast upon it, which is removed after the plug is in position.

The ball is made of the same material as the rowlock, while the shaft may be made of steel, to resist any strain to which it may be exposed in rowing. The shaft has a shoulder, *b*, that increases its strength, and which is sunk into a recess, *b′*, of the upper rod E of the outrigger.

The hole of the socket serves for oiling, it being preferably so arranged that when the boat is lying bottom up in the boat-house the oil-can may be used with advantage.

The shaft A passes through eyes of the four rods E of the outrigger, and is firmly held by a bottom nut, *d*, screwing on the threaded end of the shaft, and pressing the rods E firmly against the round base and shoulder of the shaft A.

The rowlock is hung so that its base or lower part is slightly below the horizontal and the back thrown out of the perpendicular, being prevented, however, from going too far by the striking the base of the socket against the shaft. The object of this deflection is to cause the blade of the oar to enter the water at an angle less than a right angle, which experience shows to be the best position for it on beginning the stroke.

At the beginning of the stroke the handle of the oar is thrown aft to the oarsman's feet, causing the rowlock to turn on the ball until it is stopped by a shoulder at the outside of the oar. The blade is then dropped into the water at the angle formed by the base and back of the rowlock; but as soon as it fairly takes hold of the water at that angle it is no longer desirable to maintain that angle, but the oar is allowed to return to a right angle. This change in the position of the oar is not provided for in the common rowlock, but is accomplished by allowing the back of this rowlock to come in perpendicular position. The stroke is then continued to its close, the rowlock revolving with the play of the oar, and keeping always at right angles to it.

The distance from the base to the top part of the oar-lock is a little greater than the vertical diameter of the "oar-loom," in order to admit the free vertical play of the blade for "feathering high" in rough water.

The rowlock avoids the jamming of the oar in the lock, so as to produce crabs; and even if a crab should be caught it cannot strain the rowlock, which forms a very objectionable feature of the commonly-used rowlock. The blade of the oar is allowed to fall back parallel to the boat, avoiding thereby not only strain, but enabling the oar to be recovered by the oarsman without stopping the boat—a point of great value in a race.

The connection of the four outrigger-rods at a single point renders it impossible for any of them to be bent without applying a strain exceeding the whole resisting force of the outrigger. The rods may, therefore, be made lighter, saving weight without loss of strength. The unscrewing of the fastening-nut of the outriggers allows the detaching and folding together of the rods, which forms a great convenience in transportation, as their shape is preserved. No wiring of outrigger is necessary, and only one screw-nut, in place of two, necessary, which simplifies the attaching of the rowlock.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A rowlock made of a ribbed base part, back and top, with space for introducing oar and retaining the same, substantially in the manner and for the purpose set forth.

2. The combination of a rowlock, by ball-and-socket joint, with the supporting standard or shaft, substantially as set forth.

3. The ball-and-socket joint, having small holes for admitting, oiling, and screwing to shaft, substantially as described.

4. The combination of the rowlock-carrying shaft, having strengthening base or shoulder, with the outrigger-rods and fastening bottom screw, to secure the entire rowlock at one single point, substantially as specified.

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