(No Model.)

G. R. MERRELL.

BOW FACING OAR.

No. 457,655. Patented Aug. 11, 1891.

Fig. 1.

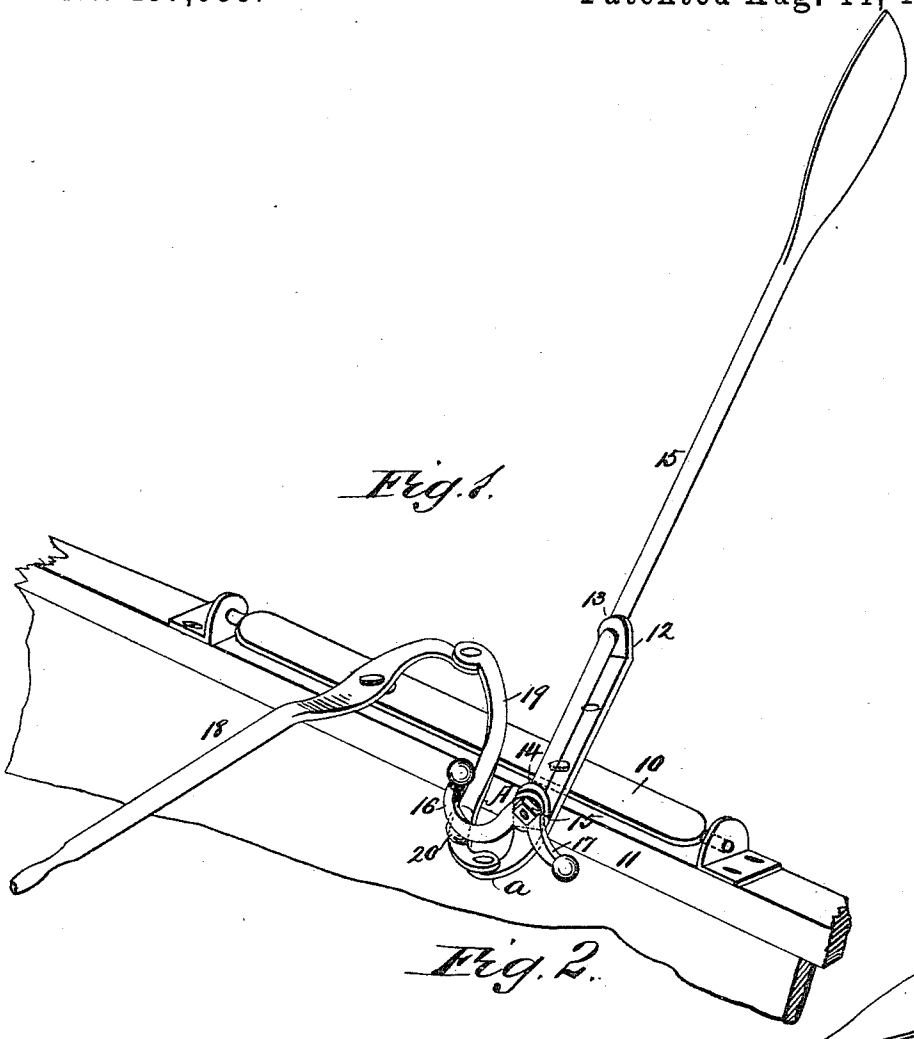
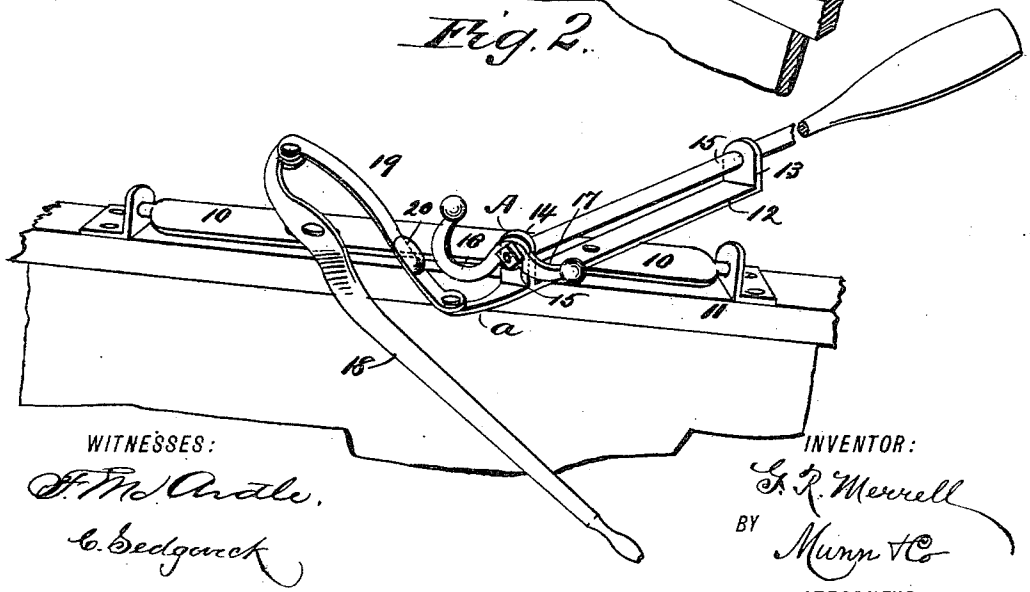


Fig. 2.



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UNITED STATES PATENT OFFICE.

GEORGE R. MERRELL, OF NEW BOSTON, ILLINOIS.

BOW-FACING OAR.

SPECIFICATION forming part of Letters Patent No. 457,655, dated August 11, 1891.

Application filed September 4, 1890. Serial No. 363,912. (No model.)

To all whom it may concern:

Be it known that I, GEORGE R. MERRELL, of New Boston, in the county of Mercer and State of Illinois, have invented a new and Improved Bow-Facing Oar, of which the following is a full, clear, and exact description.

My invention relates to an improvement in bow-facing oars, and has especial reference to means for automatically feathering the oar upon its return stroke; and the invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in both the views.

Figure 1 is a perspective view of the oar, illustrating the blade as just about making the working stroke; and Fig. 2 is a perspective view of the oar, the blade being shown at the limit of its working stroke and as about to make the return stroke.

The ore illustrated in the drawings is a right-hand oar. A face-plate 10, which is a rocking plate, is secured in any suitable or approved manner to the gunwale of the boat. The attachment illustrated consists in projecting axial pins from the ends of the plate and pivoting said pins in sockets secured to the gunwale.

Upon the face-plate, near the stern end thereof, a bracket 12 is fulcrumed. The bracket extends some distance inboard, and its inner extremity is slightly forwardly curved, as illustrated at *a*. From the outer end of the bracket a stud or post 13 is upwardly projected, and a similar post 14 is located at or near its inner end. In the posts the inner end of the oar is held to revolve, the bearings of said oar being preferably conical. The inner extremity of the oar is threaded and provided with a nut 15. Thus by proper manipulation of the said nut any wear of the oar at its journals may be taken up.

Upon the inner end of the oar an arm A is secured, which arm comprises two members 16 and 17, the member 16 being curved downward and upward in the direction of the bow of the boat and the member 17 downwardly and slightly upward in the direction of the stern, the member 16 having a much greater and more decided curve than the opposite member 17. Both members are made to terminate, preferably, in a ball or equivalent weight, as illustrated, and the bow member 16 is of sufficient weight to normally remain lower than the stern member, as its weight is farthest from the point of attachment of the arm with the oar.

Near the bow end of the face-plate 10 a handle 18 is pivoted, the pivotal point of the handle being between its center and outer end. The handle extends but a short distance outboard, and at its outer extremity it is curved in the direction of the stern. The outer end of the handle and the inner end of the bracket 12 are pivotally connected by a link or connecting-bar 19, the extremities of which bar or link are curved in opposite directions, as illustrated. Upon the link, near its pivotal connection with the bracket, a projection or lug 20 is produced, the sides of which projection or lug are preferably beveled or cylindrical and are adapted for engagement with the forward member 16 of the gravity-arm A.

In operation when the handle is located at a lesser angle to the face-plate and nearer the bow than is illustrated in Fig. 1, by pulling the handle toward the stern, the operator facing the bow of the boat, the oar makes the same stroke as the working stroke of a common oar, and the feathering is produced upon the return stroke, which commences when the parts are in the position shown in Fig. 2, and is effected by carrying the handle in the direction of the bow, as when the handle is carried in the direction of the bow the link 19 is carried toward the inner end of the bracket 12 and the member 16 of the gravity-arm rides up upon the lug or projection 20, and thereby partially revolves the oar and imparts a feathering position to the blade. The balls upon the ends of the members of the gravity-arm are calculated to balance the oar either to feather or right itself, and to serve in a measure to reduce the friction of the outer bearing of the oar. Either one or both of the balls may be dispensed with, as the balance of the oar may demand. If upon the

back-stroke it is desired to work the boat, the member 16 of the arm A is thrown upward, so as not to engage with the link projection, and is held in such position by its weight being carried over the center of the point of attachment of the arm, together with the weight upon the extremity of the opposed member 17.

The bracket 12 is provided with two apertures, through the medium of either of which it may be fulcrumed upon the face-plate. When pivoted at the outboard aperture, the inboard leverage is double over that occurring when the fulcrum is at the inboard aperture, and a maximum of power may then be exerted upon the oar.

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

1. In a rowing device, the combination, with a horizontally-swinging arm or bracket having a support adapted to be secured on the gunwale of a boat, of an automatically-feathering oar mounted longitudinally on said arm or bracket and having a rocking movement thereon in a plane at right angles to the plane of movement of the said arm or bracket, substantially as set forth.

2. In a rowing device, the combination, with a horizontally-swinging arm or bracket having a support adapted to be secured on the gunwale of a boat, of an automatically-feathering oar mounted longitudinally thereon and having a rocking movement thereon in a plane at right angles to the plane of movement of the arm or bracket, and a counterbalancing-weight on the oar to balance it either to feather or right itself, substantially as set forth.

3. The combination, with the longitudinally-extending face-plate having end pivots to permit it to rock in a vertical plane, bearings for said pivots adapted to be secured to the gunwale of a boat, and a horizontally-swinging bracket or arm crossing the face-plate and pivoted thereto at its point of crossing, of an automatically-feathering oar mounted longitudinally on said bracket or arm and having a rocking movement thereon in a plane at right angles to the plane of movement of the said arm or bracket, substantially as set forth.

4. In a bow-facing oar, the combination, with a pivoted bracket and an oar capable of a rocking movement in the bracket, of a handle, a link connection between the handle and the bracket, a gravity-arm rigidly attached to the inner end of the oar, and a projection formed upon the upper face of the link connection, adapted for engagement with the gravity-arm, as and for the purpose set forth.

5. In a bow-facing oar, the combination, with a face-plate adapted for attachment to the gunwale of a boat, a bracket pivoted between its center and inner end upon the face-plate, and an oar held to turn in the bracket and provided at its inner end with a curved gravity-arm, of a handle also fulcrumed upon the face-plate in front of the bracket, a link having its extremities curved in opposite directions, connecting the handle with the bracket, and a lug formed upon the link, adapted to be engaged by the gravity-arm, as and for the purpose specified.

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Witnesses:
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