(Model.)

C. A. CORWIN.

ROWING GEAR FOR BOATS.

No. 263,024. Patented Aug. 22, 1882.

Fig. 1.

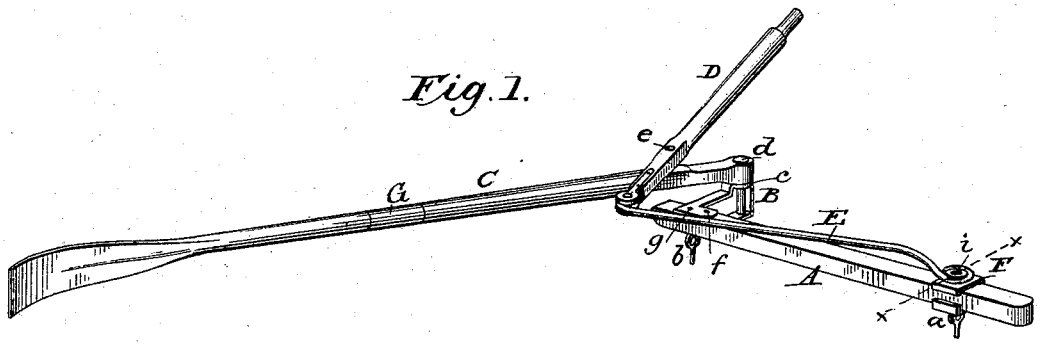


Fig. 2.

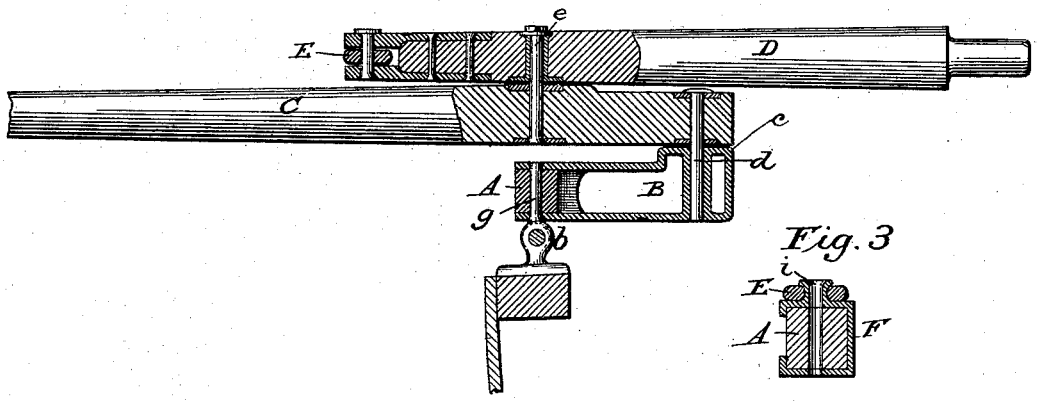
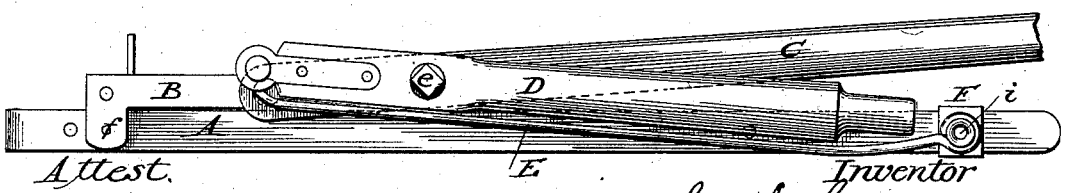


Fig. 3

Fig. 4.



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CHARLES A. CORWIN, OF RACINE, WISCONSIN.

ROWING-GEAR FOR BOATS.

SPECIFICATION forming part of Letters Patent No. 263,024, dated August 22, 1882.

Application filed May 5, 1882. (Model.)

To all whom it may concern:

Be it known that I, CHARLES A. CORWIN, of Racine, in the county of Racine and State of Wisconsin, have invented certain Improvements in Rowing-Gear, of which the following is a specification.

My invention relates to that class of rowing-gear which admits of the oarsman facing the bow of the boat; and the invention consists in an improved manner of sustaining a swinging oar and the pivoted connections for operating the same, whereby the mechanism is rendered exceedingly simple, the friction reduced to a minimum, and the parts permitted to fold into an exceedingly compact form when not in use.

Referring to the accompanying drawings, Figure 1 represents a perspective view of my device. Fig. 2 is a section of the same longitudinally through the oar. Fig. 3 is a cross-section on the line *x x*. Fig. 4 is a top plan view, showing the device in its folded condition.

Referring to the drawings, A represents a bar designed to be sustained lengthwise upon the gunwale of the boat by means of the pivoted hinges or arms *a* and *b*, with which it is provided, so that it may rock inward and outward to a limited extent. Near its forward end the bar A is provided with a horizontal arm, B, pivoted and secured firmly thereto, as hereinafter described, and extending inward at right angles thereto. The arm is made, as shown, of a skeleton form, with its inner end slightly elevated, as shown at *c*.

C represents the oar, journaled at its inner end to the arm B, and extending thence outward over or above the bar A. The vertical journal *d*, by which the inner end of the oar is sustained, is secured rigidly thereto and extended downward into the arm B, as shown, having bearings in both the upper and lower sides of the arm. This arrangement of the journal serves to sustain the oar in its proper position and prevent its outer end from falling without additional support therefor. The oar, being thus sustained at its inner end only by means of the journal, may be moved with great ease and freedom, and is entirely free from the objections incident to those arrangements which require the oar to be sustained by means of a sliding support.

D represents the hand-lever by which the oar is operated. It is mounted upon the inner end of the oar, and connected at or near its middle, by a pivot, *e*, to the oar, at a suitable distance outward from the latter. The outer end of the lever D is pivoted to one end of a rod or sway-bar, E, which is extended thence backward and journaled to a plate, F, mounted on the rear end of the bar A, as shown in the drawings. The forward end of the rod E serves as a fulcrum upon which the lever D swings, as shown, so that as the inner end of the lever is moved forward and backward by hand it imparts a proper motion to the oar, the backward motion of the lever imparting a corresponding backward motion to the blade of the oar for propelling the boat in a forward direction.

It will be observed as a peculiarity of my arrangement that no sliding connections or supports are used, but that all of the members of the device move upon pivots, whereby its action is rendered exceedingly easy and noiseless.

The oar-sustaining arm B is preferably made of a skeleton form, (represented in the drawings,) with upper and lower arms or plates separated vertically, at such distances apart as to give the journal *b* a firm support and prevent it from swaying or tipping sidewise or cramping. The inner end of the arm is bent at a right angle, and pivoted to the bar A at the point *f*, being held in position, when in use, by means of a pin, *g*, inserted as shown in Fig. 1. The plate F, through which the rod E is connected, is arranged to encircle the bar A, and is secured thereon by means of a vertical pin, *i*.

When it is desired to fold the device into a compact form the pins *g* and *i* are removed, leaving the arm D free to swing upon its pivot, and the plate F free to slide backward upon the bar, whereupon the oar and lever may be swung compactly against the said bar, in the manner clearly represented in Fig. 4, the whole device being closed into a small compact form, so that it may be readily placed beneath the thwarts of the boat or elsewhere.

In order to admit of the device being stored in a contracted space, I prefer to divide the oar at a point at or near its center, and to con-

nect its two parts by means of a metallic sleeve, G, or otherwise, so that the outer end may be readily detached when desired.

The plate F, upon which the rear end of the rod E is mounted, is preferably provided with a hole or journal therefor, as shown in Fig. 3, to permit the passage of the fastening-pin through the center, as shown.

If desired, the bar A may be omitted and the arm B and plate F attached directly to the gunwale of the boat; but in such case the journal *d* should be permitted a sufficient play in the arm B, or the arm allowed a sufficient play on the gunwale to admit of the oar-blade being thrown into and out of the water. In the sense that they both serve as supports for the oar and rod, the gunwale and the bar A are equivalents of each other.

Having thus described my invention, what I claim is—

1. The oar pivoted at its inner end, in combination with the hand-lever centrally pivoted to the oar, and the rod or link extending from the outer end of the hand-lever backward to the bearing F, as described and shown, whereby a tensional strain is applied to the rod.

2. The combination of the rocking bar having the side arm attached rigidly thereto, the hand-lever, the oar pivoted at its inner end to said arm, and the rod extended from the hand-lever directly to the rear end of the arm, as described and shown.

3. In combination with the supporting-bar or gunwale A, having the arm B thereon, the oar pivoted at its inner end to said arm, and the oar-operating lever pivoted centrally to the oar, and connected with the bar or gunwale by the folding arm B and the sliding bearing F, said arm and bearing being provided with means for securing them rigidly in place when in action.

4. The combination of an arm or support, B, an oar sustained thereon wholly by a vertical journal at its inner end, a hand-lever centrally pivoted on and carried by the oar, and a rod or bearing for the outer end of said lever, substantially as described and shown.

5. In combination with the bar or gunwale A, a horizontally-swinging oar-sustaining arm, B, and means, substantially as described, for locking said arm rigidly against horizontal movement when in action.

6. The rocking bar and its oar-sustaining arm, the oar, the hand-lever, the fulcrum-rod for said lever, and the sliding bearing F for said rod, in combination with the hinge-pins *a* and *b*, serving the twofold purpose of connecting the bar to the boat and of holding the arm B and bearing F in position.

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Witnesses:
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