(Model.)

C. A. CORWIN.

2 Sheets—Sheet 1.

ROWING GEAR FOR BOATS.

No. 263,025. Patented Aug. 22, 1882.

Fig. 1.

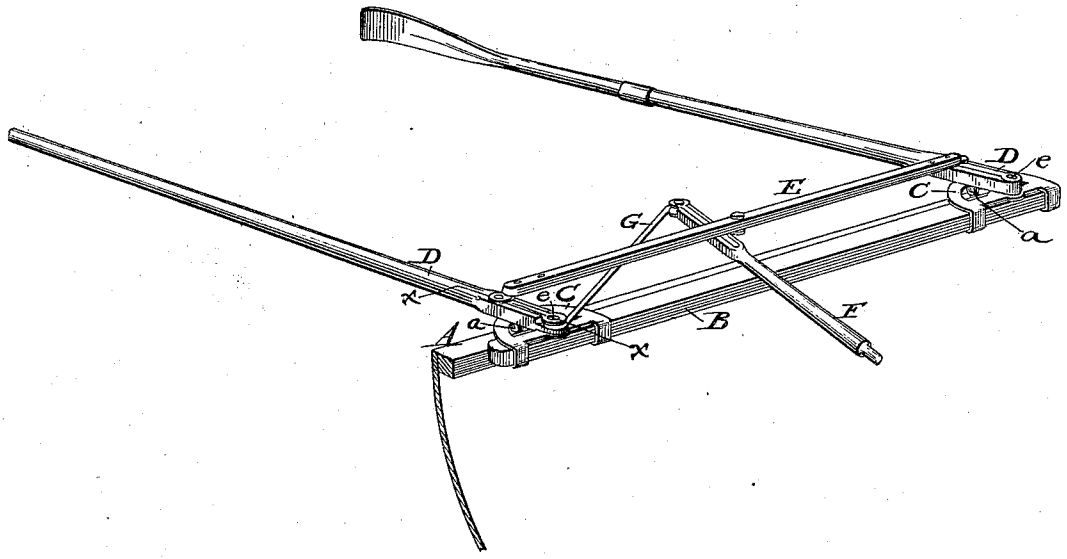


Fig. 2.

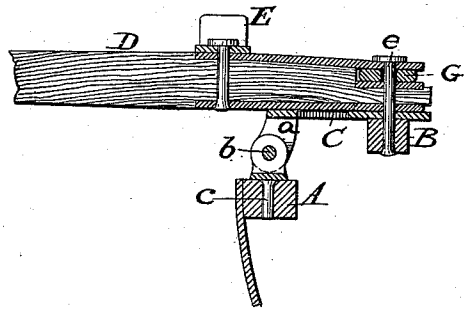


Fig. 4.

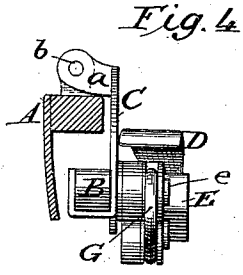
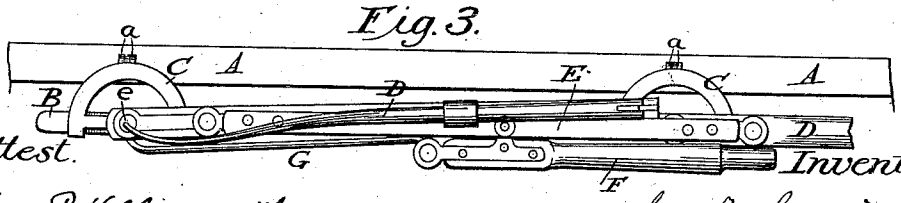


Fig. 3.



Attest.

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(Model.) C. A. CORWIN. 2 Sheets—Sheet 2.

ROWING GEAR FOR BOATS.

No. 263,025. Patented Aug. 22, 1882.

Fig. 5.

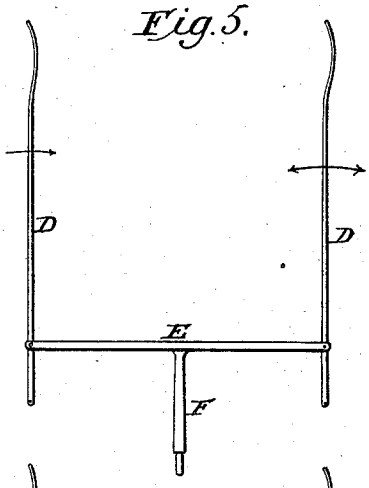


Fig. 6.

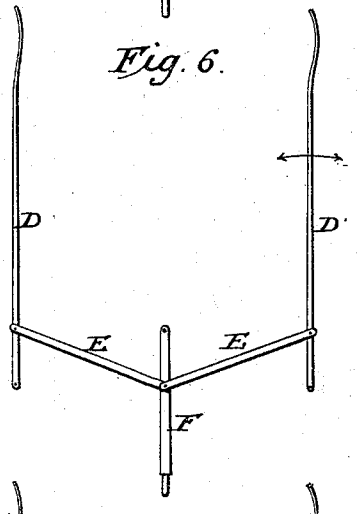
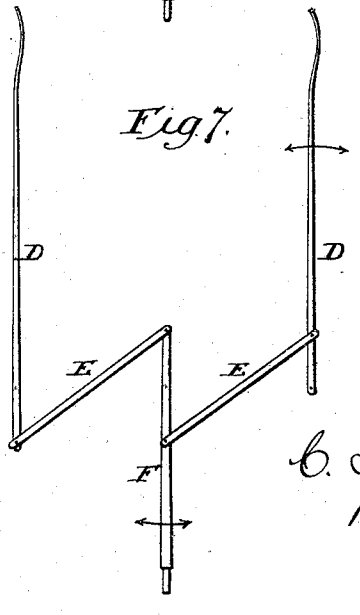


Fig. 7.



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UNITED STATES PATENT OFFICE.

CHARLES A. CORWIN, OF RACINE, WISCONSIN.

ROWING-GEAR FOR BOATS.

SPECIFICATION forming part of Letters Patent No. 263,025, dated August 22, 1882.

Application filed May 6, 1882. (No 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 for Boats, of which the following is a specification.

My invention relates to that class of rowing-gear in which the operator faces the bow of the boat.

The object of the invention is to enable the oarsman with one handle or lever to operate two or more blades or oars on one side of the boat, to render the apparatus light and simple, and to adapt it to be readily folded into a compact form.

To this end the invention consists in the combination of two pivoted oar-blades and a handle connected by intermediate devices therewith, and in various details hereinafter specified.

Figure 1 represents a perspective view of my device in an operative position. Fig. 2 is a section on the line *x x;* Fig. 3, a plan view, showing the device in its folded condition; Fig. 4, a cross-section, showing the device folded within the boat. Figs. 5, 6, and 7 are diagrams of modified connections between the two oars.

A represents the gunwale of a boat, and B a longitudinal bar located inside of the boat, with its ends secured rigidly to and sustained by two semicircular plates, C, each of which has its outer circular edge hinged or jointed to the gunwale to admit of the bar rocking or rolling up and down.

The hinge-connection, which may be of any suitable character, consists in the present instance of two ears or lugs, *a*, on the under side of each plate, united by a horizontal pivot, *b*, to the upper end of a pin, *c*, seated in a vertical hole or socket in the gunwale, so that it may be readily withdrawn when the apparatus is to be detached from the boat.

Upon each end of the rocking bar I connect, by a vertical pivot the inner end of an oar, D, the pivot-pin *e* being located at the axis of the semicircular plate, so that the oar will bear upon and be sustained in its vibrations upon the curved edge of the plate. The two oars D are arranged parallel with each other and connected by a bar, E, which has its ends pivoted to the oars at a suitable distance outward from their pivots, so that the two oars are compelled to swing forward and backward in unison.

To the connecting-bar E, at any suitable point between its ends, I pivot a handle or lever, F, one end of which extends inward into the boat in position to be readily grasped by the operator therein, while its opposite end is extended outward and pivoted to a rod or bar, G, which latter is extended backward and pivoted upon the pivot or fulcrum of the after oar, as shown.

It will be perceived that under the above arrangement the forward and backward movements of the inner end of the lever or handle G will impart like motions to both oars, and that an operator will thus be enabled with one hand to operate two blades while facing forward in the boat. By raising and lowering the handle he is also enabled to dip the blades into and raise them from the water, as in ordinary rowing, the entire device rocking for this purpose on the gunwale.

The hanging of the bar and plates inside of the boat is advantageous, in that they serve to counterbalance the outboard-weight of the oars, thus enabling the operator to raise and lower the blades without excessive exertion.

In order to prevent the parts from wearing loose or cramping in the joints, metal bearing-plates are applied at the various points, as shown.

For the purpose of allowing the device to be closed in compact form, the oars may be divided at the middle, the two parts connected by a link inserted therein, and a sliding sleeve provided to keep the parts extended in line, as shown. When the sleeve is moved back from the joint the oar may be doubled or folded.

While it is preferred, for the reason given, to locate the sustaining-hinges under the outer edges of the plates, they may be located beneath the inner edges of the plates, directly under the journals of the oars.

The bar B serves mainly to insure a uniform rocking motion of the plates and to prevent the plates C from swinging forward and backward, and if other means be provided to keep the plates from swinging horizontally the bar may be omitted. The rod or link may be extended forward instead of backward, and may

be attached, if desired, to any fixed bearing other than the pivot of the oar. The arrangement shown is preferred, for the reason that the parts change their relations when in action in such manner that the power applied to the lever or handle is applied with practically uniform effect throughout the entire stroke of the oars.

While in most cases it is advantageous to permit the oars to rest upon and receive support from the plates, they may be sustained wholly by their pivots without touching the outer edges of the plates.

When the device is not in use its members may be closed together into the exceedingly-compact form represented in Fig. 3.

The drawings represent the device for one side of the boat only. It will of course be understood that like devices will be used on both sides.

It will be seen that if either oar be omitted the remaining members will form a complete rowing-gear with a single oar.

The use of two oars is advantageous, in that it permits a given propelling-surface to be provided without employing long and unwieldy oars, and in that it enables the operator to propel and control his craft with less exertion than under the ordinary system.

The essential feature of the invention consists in the combination of two blades or oars and suitable connecting devices with a single operating-handle, and it will be apparent to the skilled mechanic that the details may be modified in many respects.

I am aware that in a vibrating propeller a series of propelling-blades have been arranged in a vertical line one above another, the entire series being mounted in a vibratory head operated by a single handle or lever. This I do not claim; but I believe myself to be the first to combine two independent oars separated in a horizontal direction from each other with a single lever, whereby they are operated simultaneously.

Having thus described my invention, what I claim is—

1. The two parallel pivoted oars, separated horizontally, having their blades extended in one and the same direction, in combination with the single operating lever or handle and devices, substantially as shown, connecting said handle with the two oars and adapted to give them a simultaneous action.

2. The combination of the two pivoted oars, the connecting-bar, the hand-lever, and the link or rod to which the lever is pivoted.

3. The combination of the two pivoted oars D D, the connecting rod or bar E, pivoted thereto, and the lever F, centrally pivoted to said rod, and a bearing or fulcrum, substantially as shown, at the outer end of said lever.

4. In combination with the plates sustained upon hinge-joints, the rocking bar secured rigidly to the plates, the two oars, the connecting bar or rod between the oars, the hand-lever, and the link or rod extending from said lever to a fulcrum on the rocking bar.

5. A rowing-gear consisting of one or more oars, an operating-lever, and connecting devices, substantially as shown, between said lever and oar or oars, said parts being attached to the side of the boat by a hinged connection and arranged to fold downward within the same, substantially as shown.

6. The combination of the boat, the rowing-gear, substantially as shown, and horizontal hinged connections, substantially as described, uniting the boat and rowing-gear to permit the entire rowing-gear to be folded downward within the boat at will.

7. In combination with a boat and a rowing-gear, sustaining-plate for the gear, provided with offset-hinges, as shown, whereby the device is permitted to fold within and hang against the side of the boat.

CHARLES A. CORWIN.

Witnesses:
L. S. PORTER,
F. H. MCADOW.