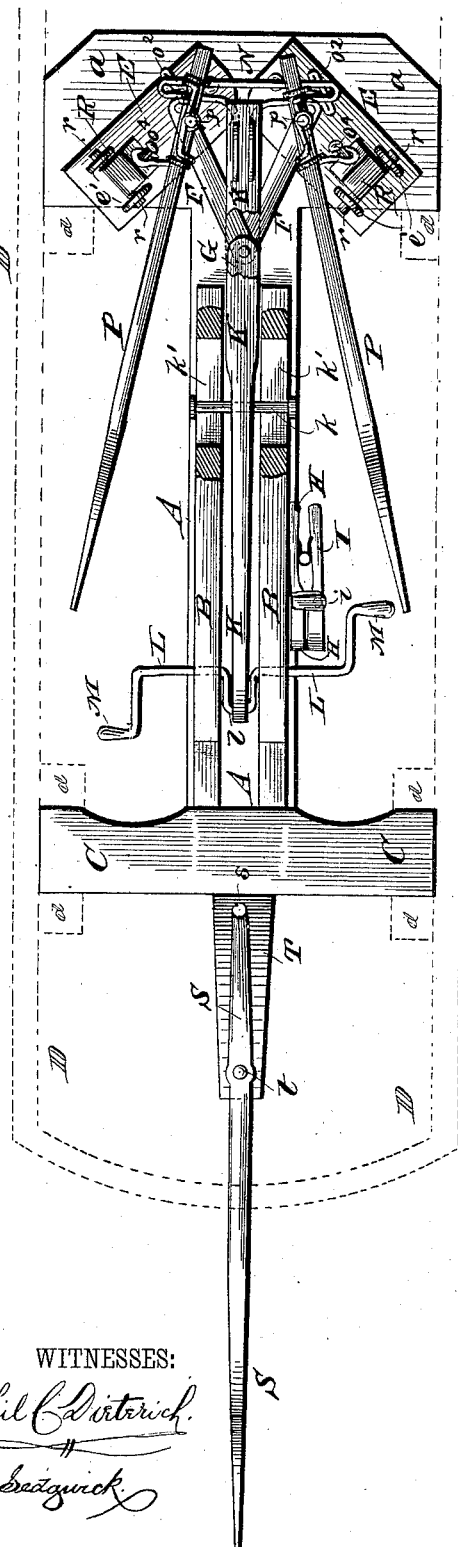


R. MASAY.
ROWING APPARATUS.

No. 385,465.

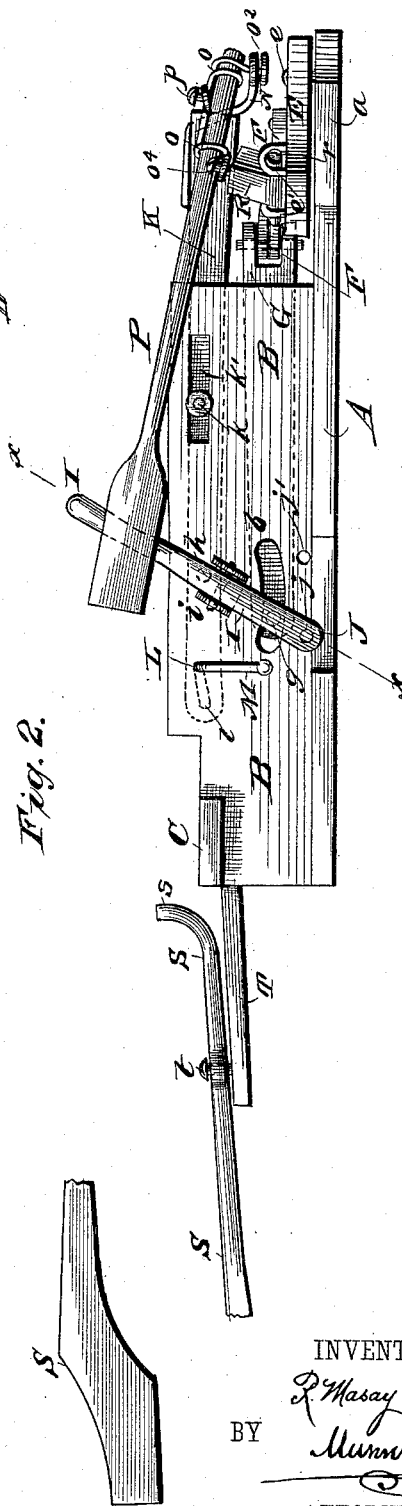
Patented July 3, 1888.

Fig. 1.



WITNESSES:
Phil C. Dierwisch
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Fig. 2.



INVENTOR:
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ATTORNEYS.

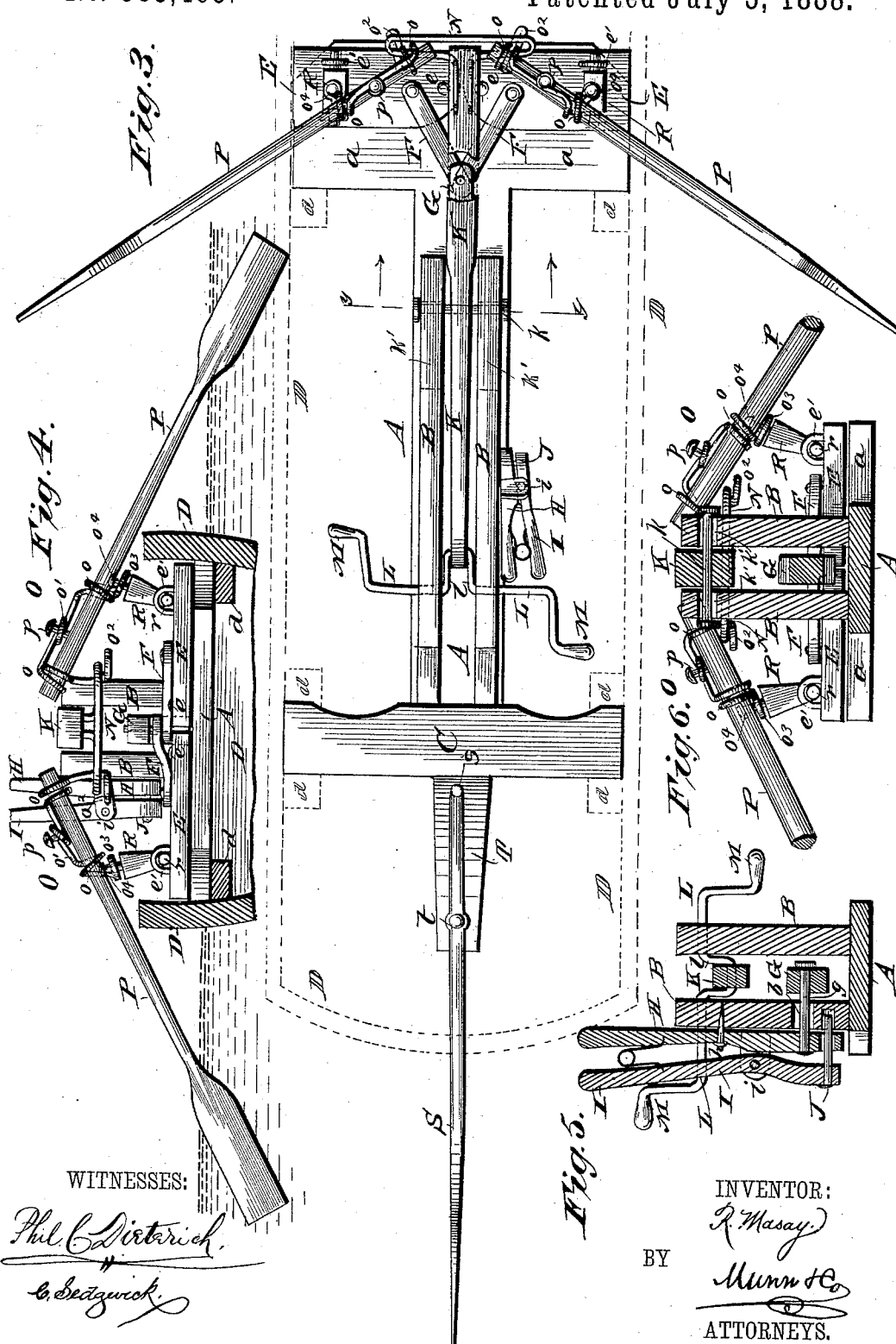
(No Model.)

2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

ROBERT MASAY, OF NASHVILLE, TENNESSEE.

ROWING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 385,465, dated July 3, 1888.

Application filed November 10, 1887. Serial No. 354,758. (No model.)

To all whom it may concern:

Be it known that I, ROBERT MASAY, of Nashville, in the county of Davidson and State of Tennessee, have invented a new and Improved Rowing Apparatus, of which the following is a full, clear, and exact description.

My invention relates to an apparatus for propelling boats, and has for its object to provide a simple, inexpensive, and efficient apparatus of this character, which may be operated easily without directly handling the oars, and allowing the boat to be readily moved forward or backward or stopped quickly. A simple steering device is also provided for holding the boat to any desired course.

The invention consists in certain novel features of construction and combinations of parts of the apparatus, all as hereinafter described and claimed.

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

Figure 1 is a plan view of my improved rowing apparatus, with parts broken away and in section and a boat shown in part in dotted lines, and represents the oars inboard, as when out of use. Fig. 2 is a side elevation of the rowing apparatus, with the steering-oar broken away and the oars held in positions shown in Fig. 1. Fig. 3 is a plan view showing the oars outboard or in position for use. Fig. 4 is a front view of the rowing apparatus with the oars outboard, and shows the boat partly in transverse section. Fig. 5 is a detail transverse section taken on the line *x x*, Fig. 2, and Fig. 6 is a transverse section taken on the line *y y*, Fig. 3.

The main frame of the rowing apparatus consists of a bottom plate or bed, A, having a broadened forward end or head, *a*, and two side plates, B B, which are fixed to the bed-plate A, and are tied or braced to each other at their rear upper parts by a cross-piece or plank, C, which forms a seat, which, like the forward end, *a*, of the bed-plate, is fitted into a boat, D, (indicated in part by dotted lines in Figs. 1 and 3,) and upon any suitable supports, *d*, fixed to the boat and shown in Fig. 4 of the drawings.

To the end *a* of the bed-plate A are pivoted

at *e e* the inner ends of two oar bearers or plates, E E, which are connected pivotally by links F F with the forward end of a bar, G, which is fitted to slide on the bed-plate A between the side plates, B B. A pin, *g*, which is fixed in the rear end of the bar G, projects through a curved slot, *b*, in one of the plates B, and is fixed to the lower end of a lever, H, which is fulcrumed at or by a pin, *h*, to the plate B, above the slot. A spring-pressed latch-bar, I, which is pivotally connected at *i* with the lever H, carries a pin, J, which passes through the lever H, and may be pressed by the spring into either one of two holes, *j j'*, made in the plate B below the slot *b*. By pressing the bar I toward the lever H at the top the locking-pin J will be lifted from either hole with which it had been engaged, and the lever with the latch may be swung fore and aft.

When the pin J is in the hole *j*, the bar G will be locked in its rearward position and the bearer-plates E E will be folded toward each other to hold the connected oars inboard, as shown in Figs. 1 and 2 of the drawings, and when the pin J is in the hole *j'* the bar G will be locked in its forward position and the bearer-plates E E will be swung outward or from each other to hold the connected oars outboard, as shown in Figs. 3, 4, and 6 of the drawings. The connections of the oars with the bearer-plates E E will be hereinafter explained.

A lever, K, which is fulcrumed by a pin, *k*, resting in slots *k' k'* of the side plates, B B, of the frame, is connected at its rear end to a crank, *l*, on a shaft, L, journaled in the plates B, and provided with cranks M, which may be turned by persons on the seat C to impart an endwise reciprocation to the lever K and at the same time raise and lower its forward end, to which is connected an elongated link or eye, N, which ranges transversely and is connected loosely at opposite ends with wire or rod clamps O O, fitted to the two oars P P. These oar-clamps each consist preferably of one piece of elastic wire, provided at each end with bends forming eyes *o o*, in which the oar-handle is firmly held. Between these eyes *o o* an eye or loop, *o'*, is formed, through which a pin, *p*, is passed into the oar to prevent it

from turning axially, and thereby hold the oar-blade squarely to its work. At its inner end the oar-clamp O is provided with a cross bar or head, o^2 , which lies under the lever-link N, while the wire or rod of the clamp passes through the link, and whereby the oar is connected to the link, and at its other end the clamp is provided with an eye, o^3 , through which a pin, o^4 , is passed into the top of a block, R, which is provided with pins or gudgeons $r\ r$, which are held by staples $e' e'$ to the oar bearer-plate E, and whereby the block has a pivotal connection to the bearer-plate allowing it to rock on the plate, as is required by the movements of the lever K, its link N, and the connection of the oar-clamp to the block. The arrangement of the oar-clamp and rocking-block and their connections with the lever-link N and bearer-plate E is alike for each oar, and as clearly shown in the drawings.

It is obvious that when the oars P are held outboard in working position and the cranked shaft L M is turned to operate the lever K, as above described, the pair of oars P P will be dipped and moved through the water and then lifted from the water to make successive strokes for propelling the boat, which may be moved forward or backward according to the way the crank-shaft is turned, the whole movement being very simple and effective, and by operating the lever H both oars may be simultaneously thrown inboard or outboard, as may be required.

For steering the boat I have provided a rudder-oar, S, which is fulcrumed on or by a vertical pin, t , in the rear end of a plank, T, fixed to the frame side plates, B B, or to the seat C, or to both, and having an upturned end, s , in easy reach of a person on the seat, as will be clearly understood from the drawings. It is obvious that by manipulating the rudder-oar S at the same time the rowing-oars P are operated the boat may be guided in any desired course.

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

1. In a rowing apparatus, the combination, with a frame or support, of bearer-plates E E, pivoted thereto, oar-supports held to said plates, a sliding bar, G, fitted to the frame, links F F, connecting said parts E G, and means for locking the bar G in position, substantially as described, for the purposes set forth.

2. In a rowing apparatus, the combination,

with a frame or support, of bearer-plates E E, pivoted thereto, oar-supports held to said plates, a sliding bar, G, fitted to the frame, links F and F, connecting said parts E G, a lever, H, fulcrumed on the frame, a pin, g , connecting the parts G H, and a latch-bar, I, held to the lever H and provided with a pin, J, adapted to lock into the frame, substantially as shown and described.

3. In a rowing apparatus, the combination, with a frame or support, of bearer-plates E E, pivoted thereto, oar-supports held to said plates, a sliding bar, G, fitted to the frame, links F, connecting said parts E G, a lever, K, fulcrumed in slots in the frame, means for reciprocating and rocking the lever, and connections from the lever to the oars, substantially as described, for the purposes set forth.

4. In a rowing apparatus, the combination, with a frame or support, of bearer-plates E E, pivoted thereto, oar-supports held to said plates, a sliding bar, G, fitted to the frame, links F, connecting said parts E G, a lever, K, fulcrumed in slots in the frame, a cranked shaft journaled in the frame and connected to the lever for operating it, and connections from the lever to the oars, substantially as shown and described.

5. In a rowing apparatus, the combination, with a frame or support, of bearer-plates E E, pivoted thereto, a sliding bar, G, fitted to the frame, links F F, connecting said parts E G, a lever, K, fulcrumed in slots in the frame, means for reciprocating and rocking the lever, a link, N, held to the lever, rocking blocks R, held to the plates E, and clamps holding the oars P and connected to the link N, and blocks R, substantially as described, for the purposes set forth.

6. In a rowing apparatus, the oar clamps O, made with end eyes, $o\ o$, adapted to encircle the oar, an eye, o' , adapted to receive a pin entering the oar to lock it against axial movement, an eye, o^3 , adapted to receive a pin entering a support for the oar, and an end or head, o^2 , adapted to hold the oar to an operating-lever, substantially as herein set forth.

7. The combination, with the rowing-apparatus frame having an extension, T, held thereto provided with a pin, t , of a rudder-oar, S, held to said pin, substantially as shown and described.

ROBERT MASAY.

Witnesses:

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A. MENEFEY.