3 Sheets—Sheet 1.

M. BOURKE.

BOAT-LAUNCHING APPARATUS.

No. 194,123. Patented Aug. 14, 1877.

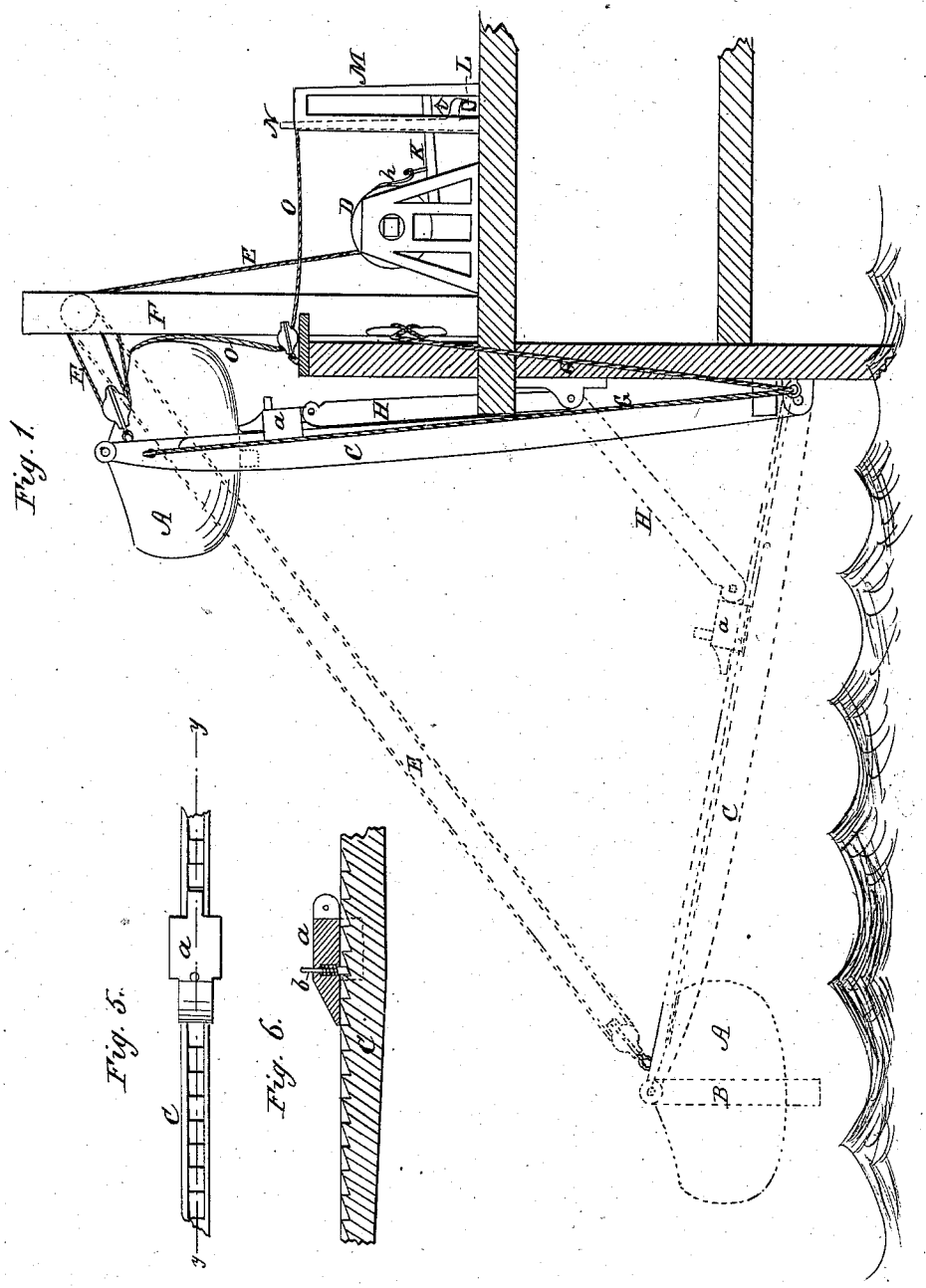


Fig. 1.

Fig. 5.

Fig. 6.

WITNESSES:

W. W. Hollingsworth

Solon C. Kemon

INVENTOR:

M. Bourke

BY

Munn & Co.

ATTORNEYS.

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

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Fig 2.

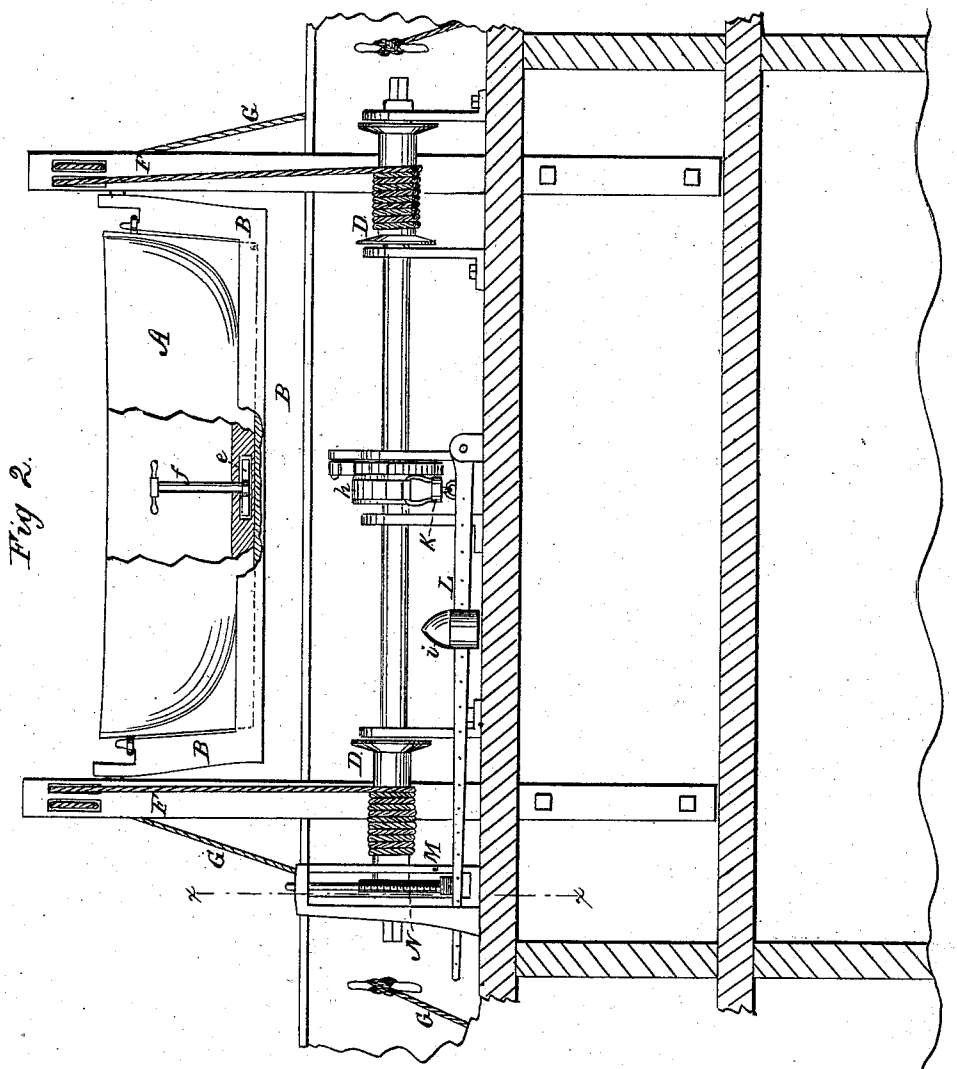
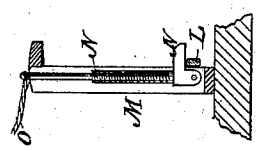


Fig. 7.



WITNESSES:

W. W. Hollingsworth

Solon C. Kemon

INVENTOR:

M. Bourke

BY

Munn & Co.

ATTORNEYS.

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

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M. BOURKE.

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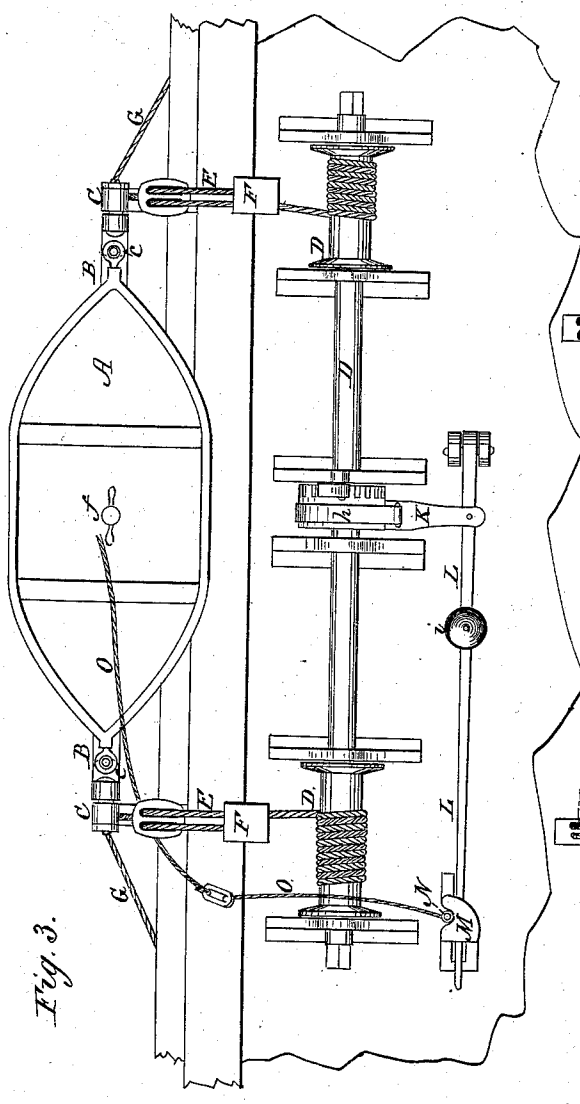


Fig. 3.

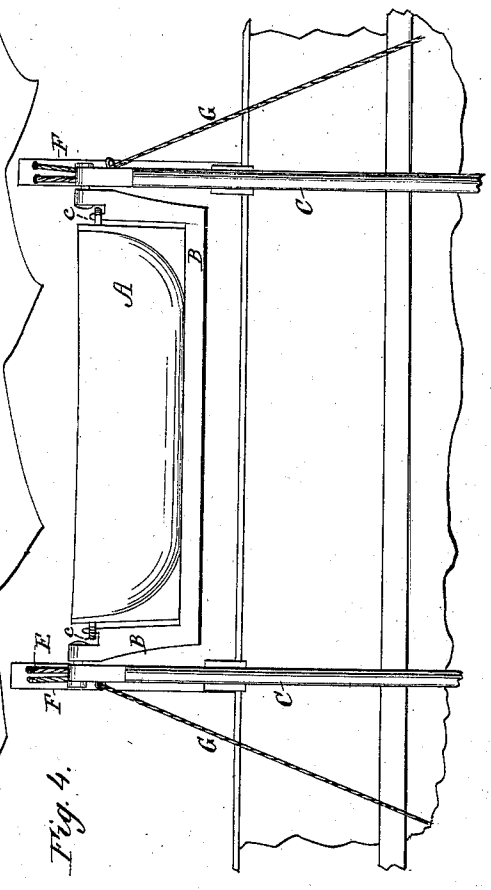


Fig. 4.

WITNESSES:

W. W. Hollingsworth

Solon C. Kemon

INVENTOR:

M. Bourke

BY

Munn & Co

ATTORNEYS.

N. PETERS PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

MARTIN BOURKE, OF YOUNGSTOWN, OHIO, ASSIGNOR TO BOURKE, WISE & CO.

IMPROVEMENT IN BOAT-LAUNCHING APPARATUS.

Specification forming part of Letters Patent No. **194,123**, dated August 14, 1877; application filed July 20, 1877.

To all whom it may concern:

Be it known that I, MARTIN BOURKE, of Youngstown, in the county of Mahoning and State of Ohio, have invented a new and Improved Boat-Launching Apparatus; and I do hereby declare that the following is a full, clear, and exact description of the same.

The danger incurred by launching life and other boats, more especially during storms or high seas, by lowering them directly alongside the ship is obvious and well known. It is the object of my present invention to avoid such danger by providing an improved apparatus for launching boats at a distance from the ship's side.

The construction and arrangement of the parts composing the apparatus will be understood upon reference to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a cross-section of a fragment of the hull of a vessel, showing my improved launching apparatus in end view. (The dotted lines show the boat being lowered or launched.) Fig. 2 is an inner side elevation of the apparatus. Fig. 3 is a plan view. Fig. 4 is an exterior side elevation. Figs. 5, 6, and 7 are details.

The boat A is supported in, and detachably connected to, a frame, B, which is pendent from pivots at the upper end of long bars C, that are in turn pivoted, at their lower ends, to the side of the ship or other vessel above the water-mark. The bars C may be lowered and raised by means of a windlass, D, and ropes E, the latter passing over pulleys in the vertical posts F, which are fixed in the bulwarks, and extend above the same, as shown. The bars C are stayed against any movement in the direction of the ship's length by ropes, wires, or rods G, and while being lowered they are prevented from being thrown back against the ship's side, thereby endangering the boat and her crew, by means of locking-bars H, which are pivoted directly behind bars C, Fig. 1, and are connected therewith by a hinged sliding block, *a*, having flanges, which enter lengthwise grooves in bars C, and spring-dogs or pawls *b*, Fig. 6, that engage notches or teeth formed on the upper side of said bars. The teeth are so shaped that the dogs slide over them when the bars C are being lowered, but instantly bite and lock the bars when they begin to move in the opposite direction, as they might sometimes tend to do when the ship rolls or lurches. The dogs may be caused to release their bite when it is desired to raise the bars C after launching the boat, by any suitable means. For instance, cords may be attached to them and extended to the deck of the vessel, and there attached to a lever.

The keel of the boat A enters a slot or groove in the swinging frame B, and loops or eyes *c* are attached to the ends of the boat, to receive pins or studs fixed in the end pieces of the swinging frame. The boat is locked to the frame by means of a cross-bar, *e*, Fig. 2, attached to shaft *f*, which projects through the bottom of the boat, and may, hence, be turned by the occupants of the boat, to bring the cross-bar *e* in line with the slot in frame B, which being done, the boat will detach itself from its fastenings and float clear of the frame B.

The windlass is located close alongside the bulwarks, and may be rotated by a crank for raising the bars C. To lower the bars, and thus launch the boat, I employ a friction-brake operated by a weighted lever. The brake consists of a band, *h*, applied to a smooth-faced pulley on the windlass-shaft, and attached to a lever, K, whose free end is connected with the weighted lever L. The free end of the latter works in a vertical guide, M, and may be locked by a trip-catch, N, to which a cord, O, is attached. The arm of the catch is made adjustable vertically by screwing it up or down on the shank of the catch, for the purpose of adjusting the pressure of the friction-band on the pulley. This pressure requires to be graduated according to the weight the boat is to carry; for it is obvious that if the pressure were too slight the windlass would rotate, the ropes unwind, the bars C descend, and the boat be launched prematurely. A weight, *i*, is applied to the lever L, and made adjustable thereon, for the purpose of

graduating the friction of the brake while the boat is descending into the water, thereby preventing too sudden descent.

To operate the apparatus the occupants of the boat, or any one stationed on the deck of the vessel, as the case may be, pulls the rope O, thereby trips the catch N, releases the lever L, and relieves the friction of the brake sufficiently to allow the windlass to rotate slowly, thus unwinding ropes E and lowering the arms C, with their attached boat-supporting frame. The occupants of the boat may turn the shaft *f* before or during the descent of the boat, and thus leave the latter free to detach itself the instant it strikes the water.

By my improved apparatus a boat may be safely launched at times when it would be impracticable with the ordinary apparatus. I propose to employ a covered boat, since it cannot be overloaded, and is, for other reasons, much safer than an open one; but either kind may be used on my apparatus with equal facility. I propose, in practice, to protect the bars C from injury by contact of the vessel with wharves or other structures by means of cleats or a box open on the outer side.

What I claim is—

1. In a boat-launching apparatus, the frame pivoted to the supporting-bars, and provided with a slot or groove and pins, for the purpose of adapting it for securing the boat until such time as it is desired to release the same, as specified.

2. In a boat-launching apparatus, the combination of the pivoted bars and jointed blocks and spring-dogs with the pivoted notched boat-supporting bars C, for the purpose of preventing the latter falling back toward the side of the vessel, as specified.

3. In a boat-launching apparatus, the windlass, ropes, friction-brake, and weighted lever, in combination with the boat-supporting bars pivoted to the side of the ship, as specified.

4. In a boat-launching apparatus, the combination of a trip-catch, N, cord O, and lever L with the friction-brake *h*, windlass D, and boat-lowering bars C, substantially as shown and described.

5. In a boat-launching apparatus, the combination of the adjustable arm of the trip-catch N with the screw-threaded shank thereof and the weighted brake-lever L, as and for the purpose specified.

The above specification of my invention signed by me this 28th day of June, 1877.

MARTIN BOURKE.

Witnesses:
AMOS W. HART,
SOLON C. KEMON.