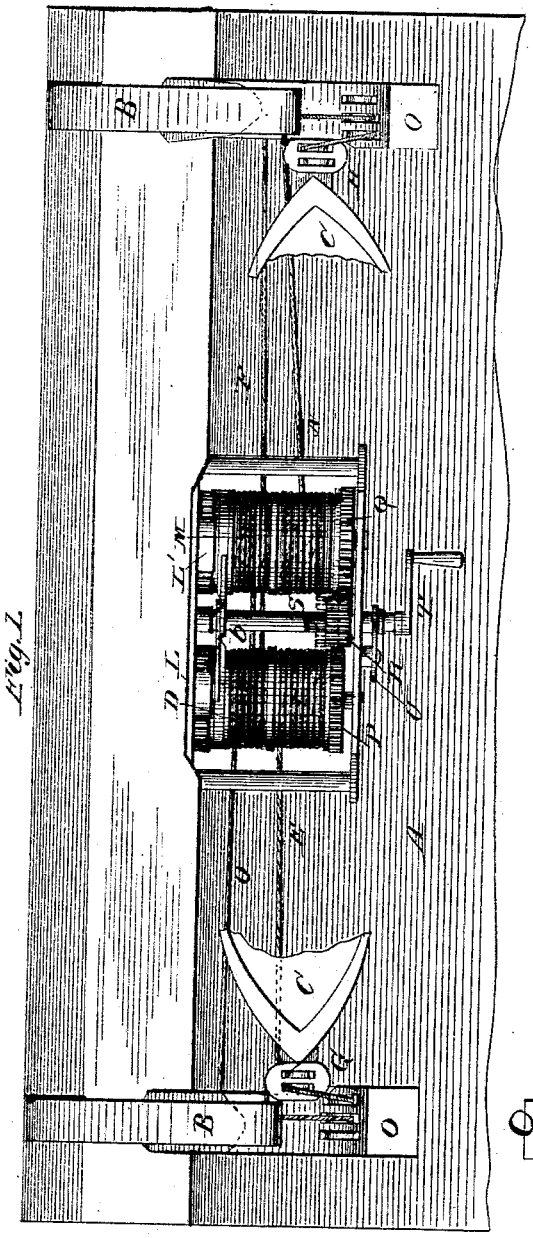
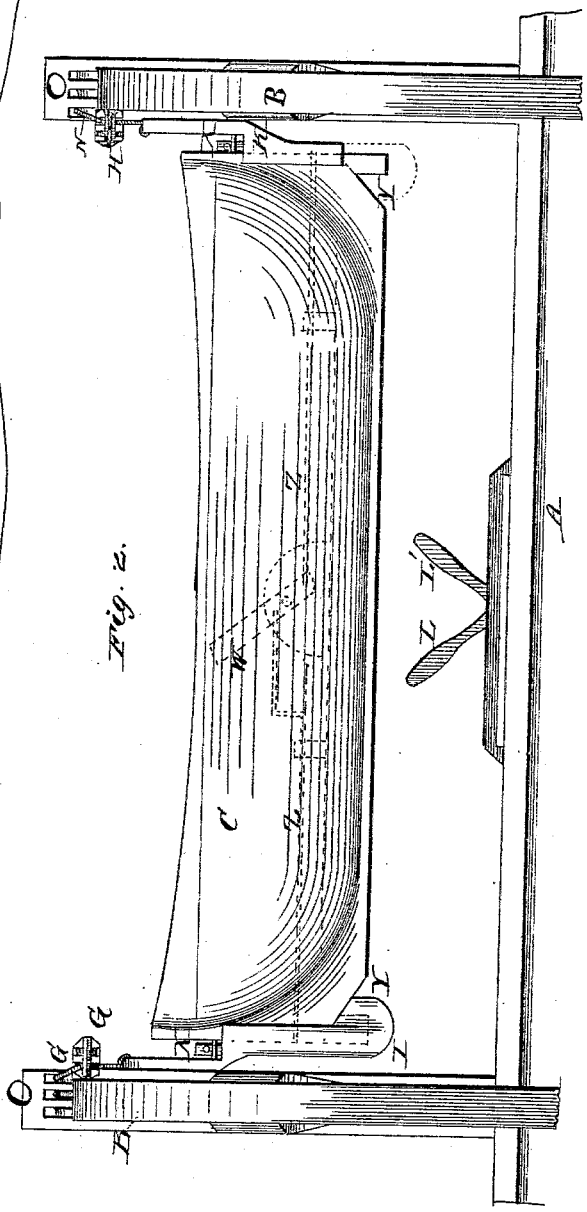
3 Sheets—Sheet 1.

M. BOURKE.

Apparatus for Raising and Lowering Boats.

No. 210,908. **Patented Dec. 17, 1878.**





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3 Sheets—Sheet 2.

M. BOURKE.

Apparatus for Raising and Lowering Boats.

No. 210,908. **Patented Dec. 17, 1878.**

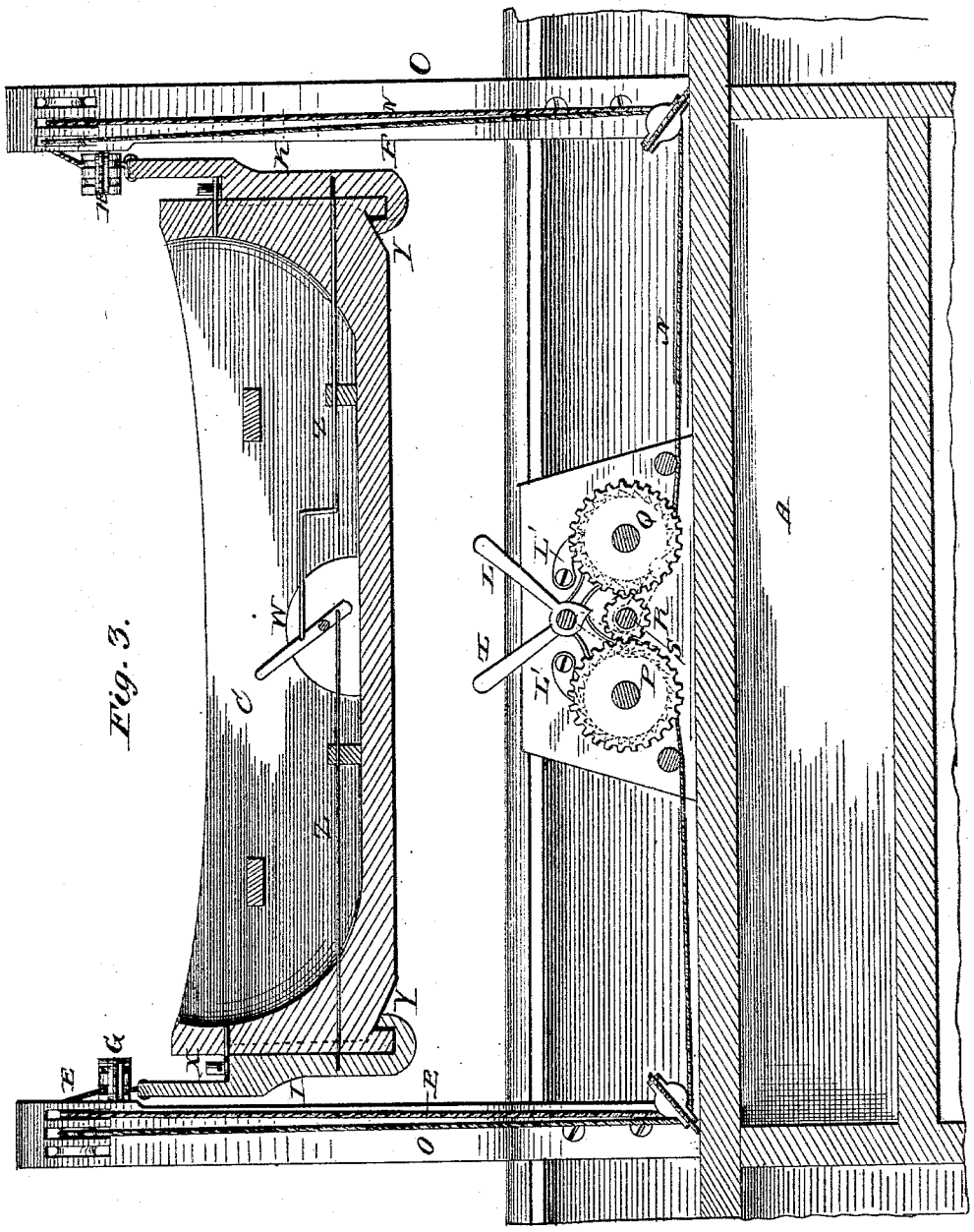

Fig. 3.

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3 Sheets—Sheet 3.

M. BOURKE.

Apparatus for Raising and Lowering Boats.

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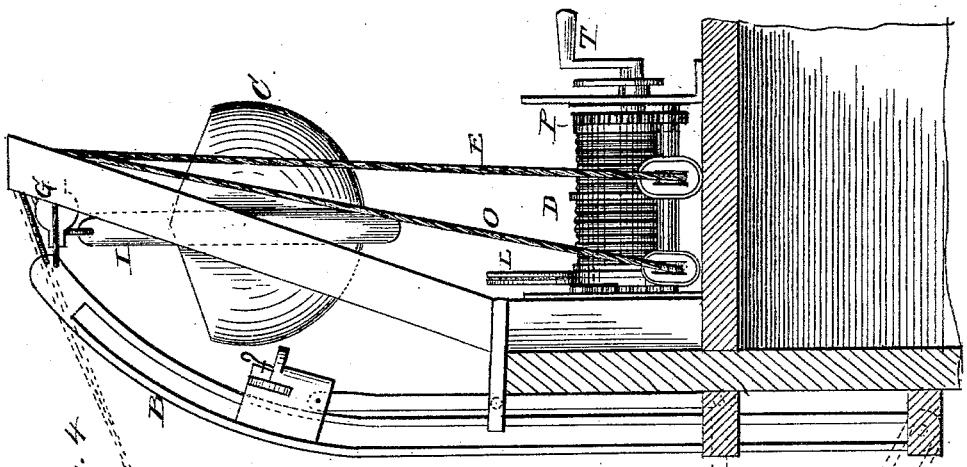

Fig. 4.

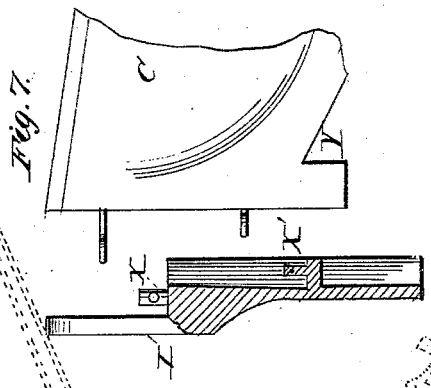

Fig. 7.

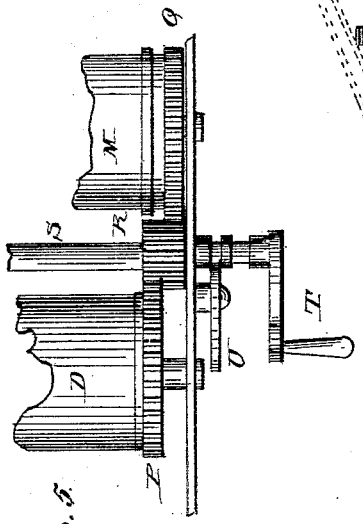

Fig. 5.

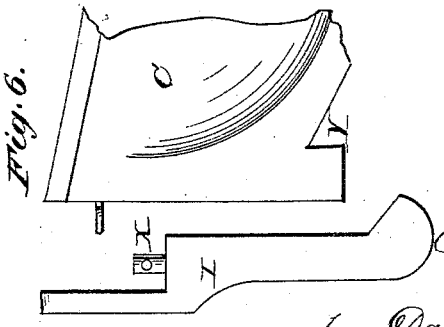

Fig. 6.

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UNITED STATES PATENT OFFICE.

MARTIN BOURKE, OF YOUNGSTOWN, OHIO.

IMPROVEMENT IN APPARATUS FOR RAISING AND LOWERING BOATS.

Specification forming part of Letters Patent No. **210,908**, dated December 17, 1878; application filed August 2, 1878.

To all whom it may concern:

Be it known that I, MARTIN BOURKE, of Youngstown, Mahoning county, Ohio, have invented an Improvement in Apparatus for Raising and Lowering Boats; and I do hereby declare the following to be a full and correct description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a top view of my improved machinery for launching life-boats. Fig. 2 is a side view of the boat swung out from the ship and ready to fall or be let down into the water. Fig. 3 is a lateral view, partly in section. Fig. 4 is an end view. Figs. 5, 6, and 7 are detached views.

My invention consists of a new arrangement of double windlass for lowering or launching boats off the ship, and in improved clutches for seizing the boat, and other improvements, all of which will be fully understood by the following description and claims.

In the drawings, A represents part of the side of a ship, with the swinging arms B hinged or pivoted to the ship, so as to lower or raise the boat C, as is fully described in my patent of the United States dated August 14, 1877.

On the inside of the guards, and on the deck of the ship, is arranged a double windlass, the two drums being so geared as to be operated either separately or together, as will be soon fully explained.

The drum D, Fig. 1, is provided with two ropes, E and F, passing through the tackle-blocks G and H, and over pulleys in the top of posts O, and finally attached to the clutches I and K, so that this combination of devices may be used for raising and lowering the boat C; and the drum M is also provided with two ropes, N and O, intended for raising and lowering the swinging arms B, already mentioned. Both of these drums have gear-wheels, as seen at P and Q, to be operated by means of the pinion R, shaft S, and crank T. This pinion and shaft are adjustable, and may be locked in place by means of the clutch-lever U, Fig. 5. When this pinion is moved to the right it gears into both wheels P and Q, so that crank T operates both drums at the same time; and when the pinion and shaft are pushed to the left the wheel Q is released, and then the drum M is operated separately, as in raising or lowering the boat; also, the drums are provided with pawls L L′, for the purpose of locking the drums at any point, as desired; and the drums have a double friction-brake, *b*, both of which may be worked separately or together, as required.

Now, if the boat is to be lowered the drums are to be geared together, and the first movement of the crank T lowers the swinging arms B, and also lowers the boat, which goes down with the arms. After the arms are swung off so that the boat is well clear from the ship, then the arms stop and the boat is lowered separately until it reaches the water. In a similar manner the boat is first separately raised to the arms B, and then both the boat and the arms are raised together and swung over the deck of the ship.

As an improvement over my patent of 1877, I here employ two clutches, I and K, for seizing the ends of the boat, as shown in Fig. 2. These clutches have a pin or lug, X, at the top, to seize the ring on the end of the boat, while the lower end of the clutch has a socket, which embraces the end of the boat, and also seizes a notch, Y, in the keel, thus holding the boat securely in the clutch. This lug may have a pin above the ring to hold it in place; and instead of the socket at the lower end of the clutch, another lug and ring may be used like those at the top of the clutch. These clutches are made of iron, and when the boat strikes the water and begins to float, the clutches sink in the water, and thus release themselves from the boat by their own weight.

For the purpose of locking the clutches to the ends of the boat, two bolts or rods, Z, are connected with a lever, W, and passed through packing-boxes in the ends of the boat, so that they pass into holes in the clutches, and securely fasten the latter to the boat. These bolts are operated by lever *a*, Fig. 3, and are released the moment the boat strikes the water.

Having described my invention, what I claim is—

1. The double windlass or the two drums D and M, arranged on the deck of the vessel so

as to be operated separately or together by means of the pinion R and shaft S, in combination with the swinging arms B, tackle-blocks G and H, and posts O, substantially as set forth.

2. The two clutches I and K, freely and separately suspended, and floating on ropes of the two tackle-blocks G and H, for the purpose of separately seizing the two ends of the boat, substantially as set forth.

3. In combination with the clutches for seizing and supporting the ends of the boat, the sliding bolts or rods passing through the ends of the boat, for the purpose of locking or fastening the clutches to the boat, substantially as set forth.

The above specification of my said invention signed and witnessed, at Washington, this 1st day of August, A. D. 1878.

MARTIN BOURKE.

Witnesses:
DANIEL BREED,
A. MOORE.