

No. 704,905.

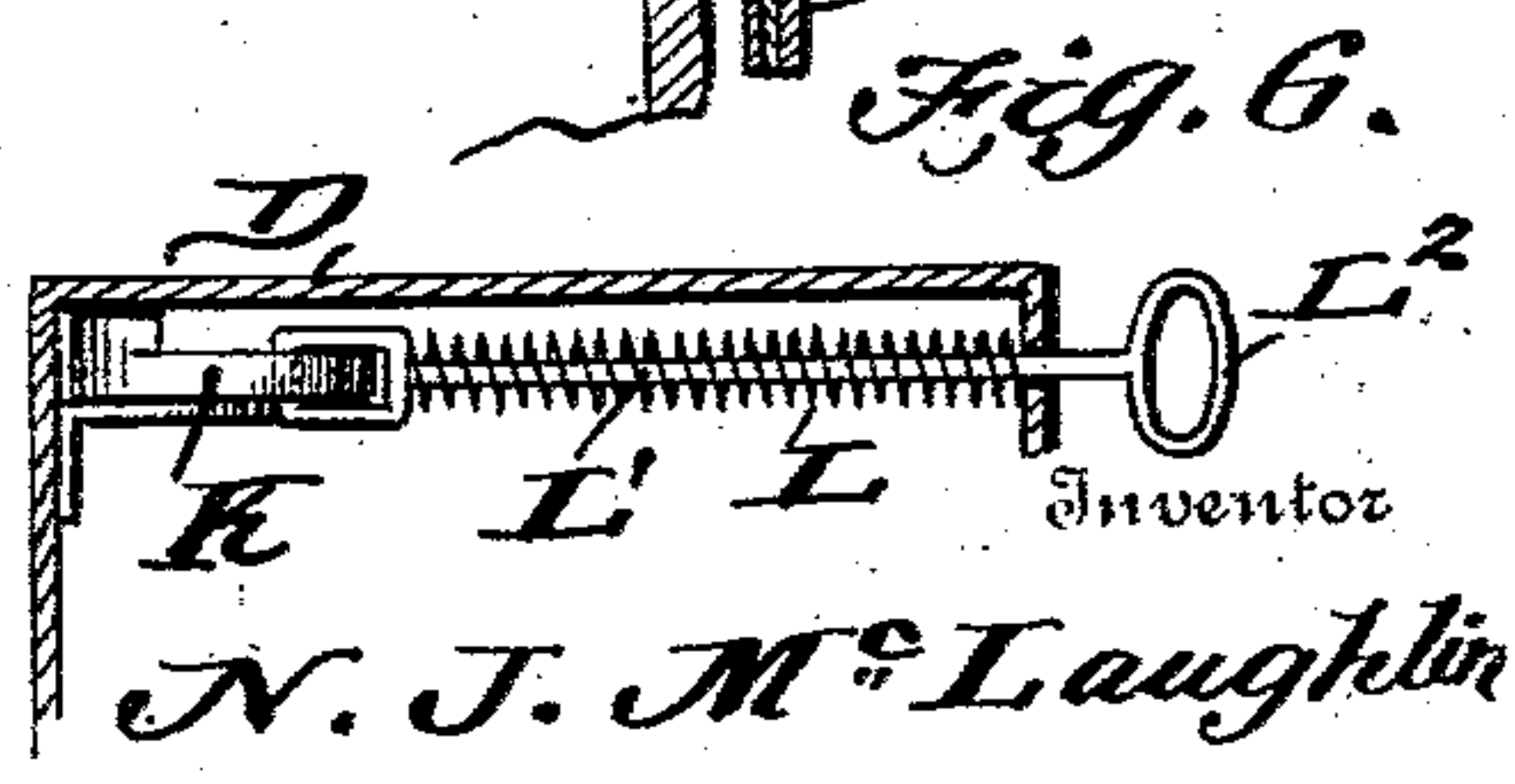
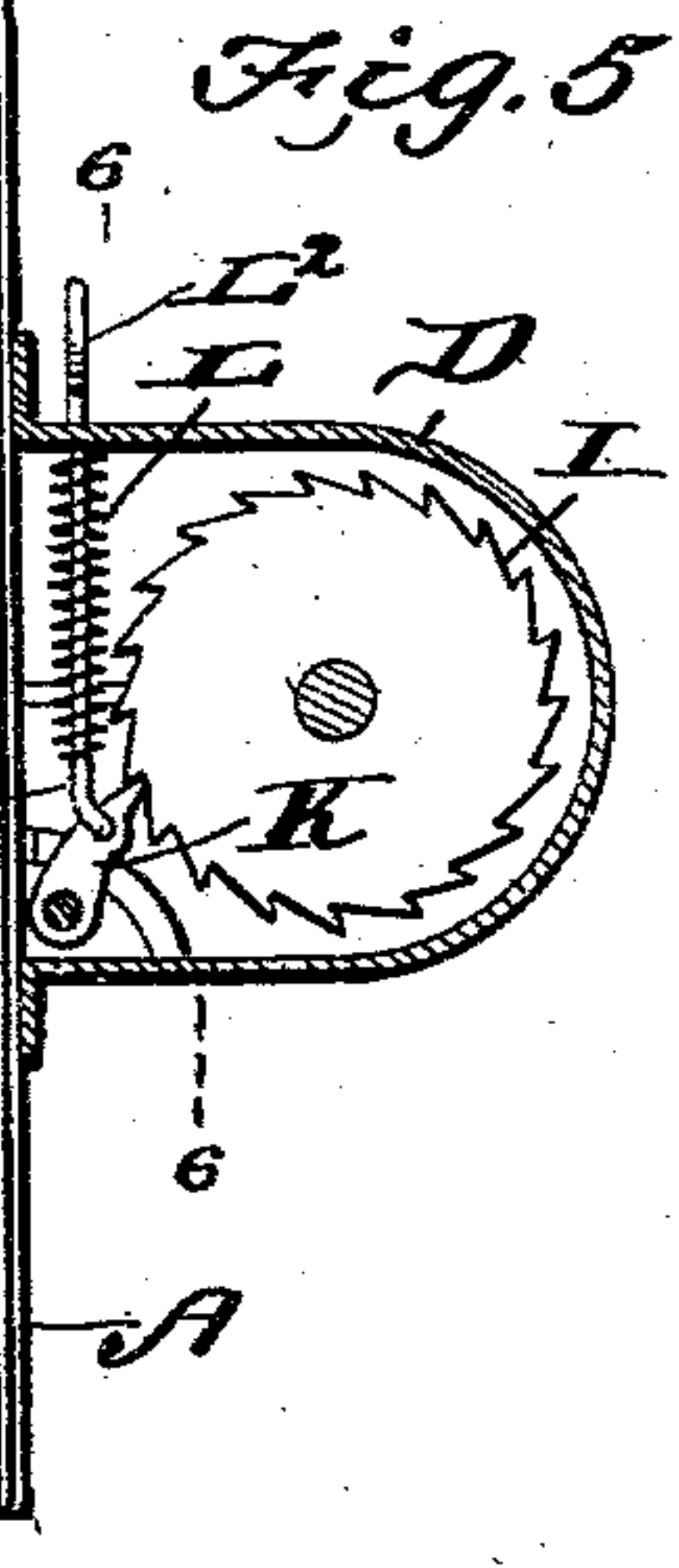
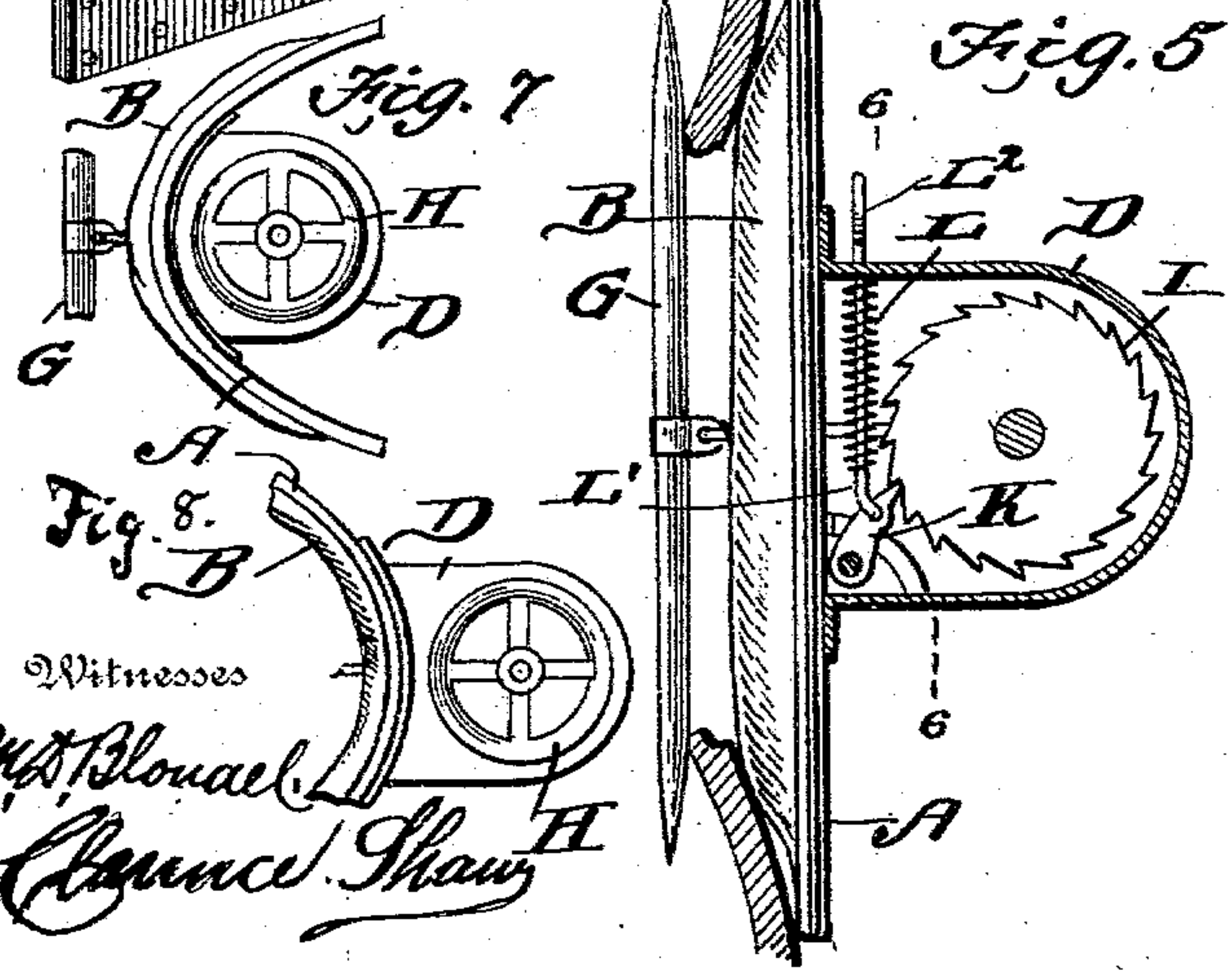
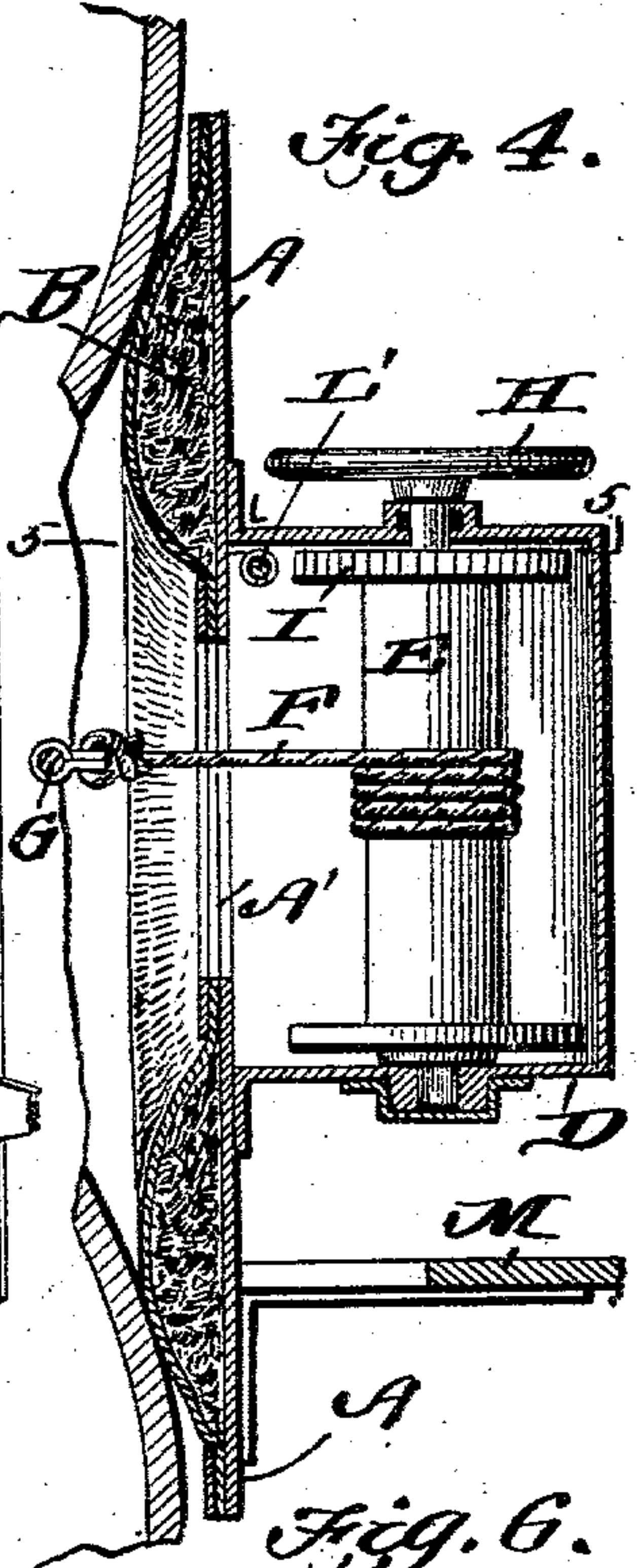
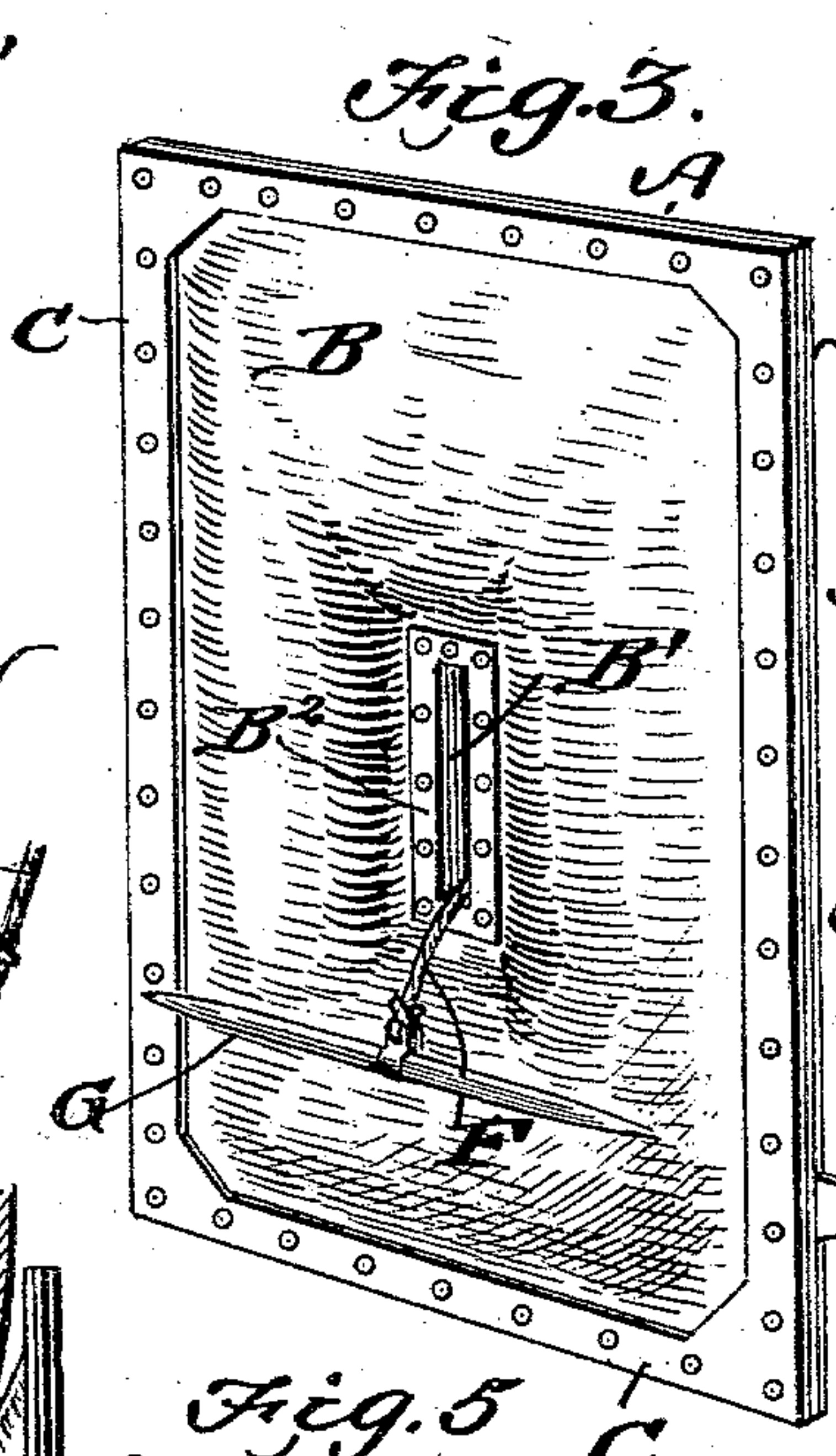
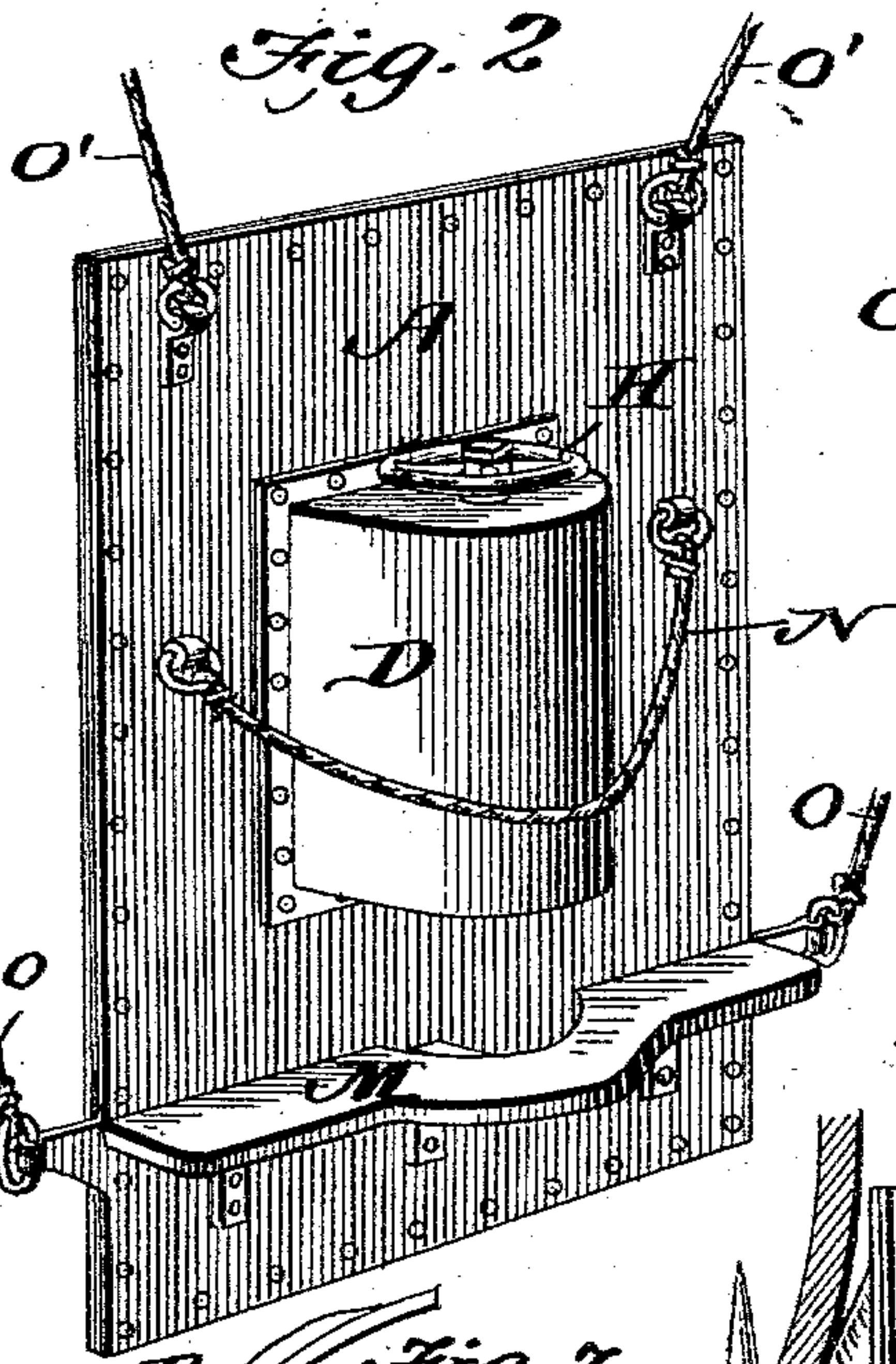
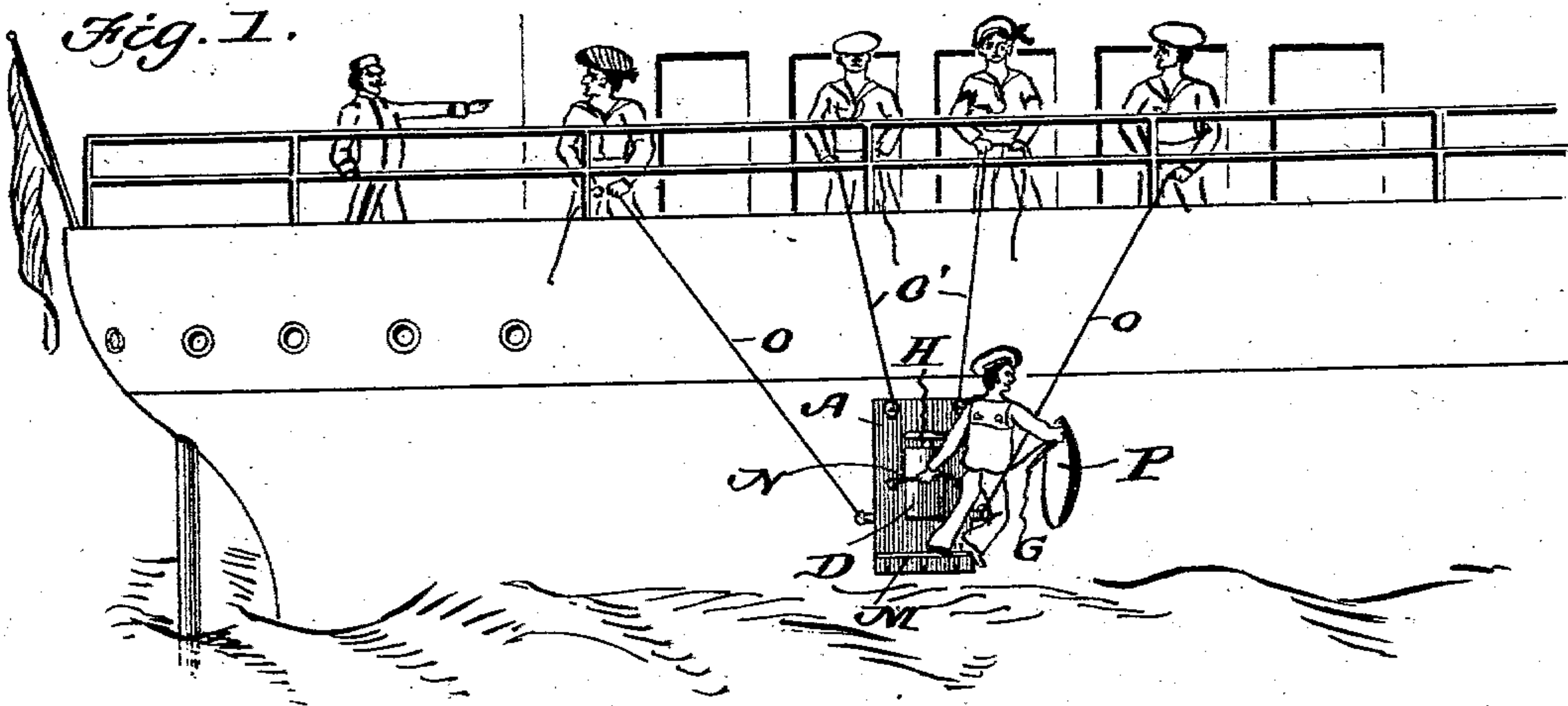
Patented July 15, 1902.

N. J. McLAUGHLIN.

APPARATUS FOR REPAIRING VESSELS AT SEA.

(Application filed Feb. 20, 1902.)

(No Model.)



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UNITED STATES PATENT OFFICE.

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APPARATUS FOR REPAIRING VESSELS AT SEA.

SPECIFICATION forming part of Letters Patent No. 704,905, dated July 15, 1902.

Application filed February 20, 1902. Serial No. 94,969. (No model.)

To all whom it may concern:

Be it known that I, NEIL JAMES McLAUGHLIN, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Apparatus for Repairing Vessels at Sea, of which the following is a specification.

This invention is an improved apparatus for repairing vessels at sea, the object being to provide a cheap and simple appliance which can be quickly and easily applied upon the exterior of a vessel for the purpose of covering a puncture or rent in the side of the vessel, thereby preventing the ingress of water through said hole or rent.

Another object of the invention is to provide a device which can be applied from the exterior and secured by means of a fastening-bar arranged upon the interior, said fastening-bar being connected to a rope or cable, which is wound upon a shaft or drum arranged upon the exterior of the protector.

The invention consists also in certain details of construction and novelties of combination, all of which will be fully described hereinafter and pointed out in the claims.

In the drawings forming part of this specification, Figure 1 is a view showing the application of the invention, the fastening-bar being introduced into the rent or opening produced in the side of the vessel. Fig. 2 is a perspective view illustrating the exterior of the device. Fig. 3 is a perspective view illustrating the inner faces of the plate and pad. Fig. 4 is a vertical sectional view illustrating the operation of the invention, the winding-drum being shown in elevation. Fig. 5 is a sectional view on the line 5 5 of Fig. 4. Fig. 6 is a sectional view on the line 6 6 of Fig. 5. Figs. 7 and 8 are detail top plan views illustrating slightly-modified forms of construction.

In carrying out my invention I employ a metallic plate A, having a pad B, of any suitable material, arranged upon the inner face thereof, said pad being held in place by a metallic binding-plate C, riveted to the metallic plate A around the edges of the pad B. The plate A is slotted vertically, as shown at A', and the pad B is also provided with a registering slit B', the edges of which are reinforced

by a metallic binding B². A casing D is securely fixed upon the exterior of the plate A and covering the slot A', and journaled within the said casing is a drum E, to which is connected one end of the rope F, the opposite end of said rope having a cross-bar G connected thereto, the rope passing through the slot A' and slit B', so that the bar G can be inserted through an opening in the side of the ship and turned crosswise, as indicated in Fig. 5. The rope is then wound upon the drum by means of the hand-wheel H, which is arranged above the upper end of the casing D, and within the casing, at the upper end of the drum, is arranged a ratchet-wheel I, which is adapted for engagement with the pawl K, fixed at one side of the casing, said pawl being normally held in engagement with the ratchet-wheel by means of a spring L, which surrounds a handle L', the outer end of which extends through the opposite side of the casing and is provided with a suitable handle L². By pulling upon this rod the pawl can be disengaged from the ratchet-wheel for the purpose of unwinding the rope from the drum. A horizontal shelf M is securely fastened upon the outer face of the plate, adjacent to the lower end and upon which the operator can stand, and N indicates a flexible bail or rope handle attached to the plate for the purpose of affording a suitable handhold for the operator.

O and O' indicate the supporting-ropes, connected to the lower and upper ends of the device, respectively.

For the purpose of explaining the operation of the device we will assume that a hole P has been produced in the side of the vessel and that it is desired to close said opening from the exterior for the purpose of preventing the ingress of water. The plate bearing the pad and rope-winding mechanism is lowered and steadied by means of the ropes O and O' and the sailor or other operator, standing upon the shelf M and holding onto the bail or handle N, inserts the bar G through the opening P and turns it crosswise. The hand-wheel H is then turned, winding the rope or cable upon the drum and tightly binding the pad-plate against the exterior of the vessel, and inasmuch as the said pad is com-

pressible to a limited extent it will be partially forced into the opening and thereby completely block the ingress of water.

5 In Figs. 7 and 8 I have shown the plate made convex and concave for the purpose of fitting concave or convex portions of the hull of the vessel.

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

1. A device of the kind described, comprising a pad, a rope or cable passing through said pad provided with a locking-bar at one end, and a winding mechanism at the opposite end, said winding mechanism being arranged at the exterior of the pad, as set forth.

2. A device of the kind described, comprising a plate provided with a pad, a rope or cable passing through said plate and pad, a
20 locking-bar attached to one end of said rope or cable, and a winding mechanism arranged upon the metallic plate for the purpose of winding the said rope or cable, substantially as described.

25 3. A device of the kind described, comprising a metallic plate, a pad arranged upon the inner side of said plate, a rope passing through the pad and plate, a bar attached to the inner end of said rope, a casing arranged upon
30 the exterior of the plate, a drum arranged

within the casing, the opposite end of the rope being connected to said drum, a hand-wheel connected with the said drum and arranged upon the top of the casing, a ratchet-wheel arranged within the casing and connected to the drum, and a spring-actuated
35 pawl adapted to engage said ratchet and provided with means for disengaging it from the said ratchet, substantially as specified.

4. In a device of the kind described, the
40 combination with the plate slotted vertically and having a casing arranged upon the exterior thereof, the interior face of said plate being padded, of a winding-drum arranged within the casing, and having a rope attached
45 thereto, and a hand-wheel arranged upon the exterior of the casing, a ratchet-wheel arranged upon the interior of the casing and connected with the drum, a spring-actuated
50 pawl and means for releasing the same, the horizontal shelf arranged upon the exterior of the plate and adjacent to its lower end, the flexible bail or handle and the suspending and guy ropes, all arranged and adapted to operate, substantially as described.

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