

J. A. MILLER.

Devices for Discharging Bilge Water.

No. 135,656.

Patented Feb. 11, 1873.

Fig. 1.

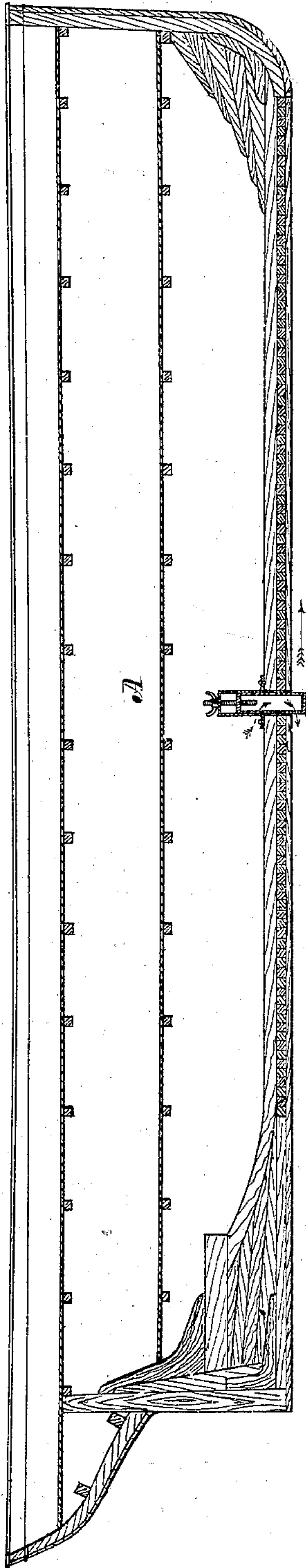


Fig. 4.



Fig. 3.

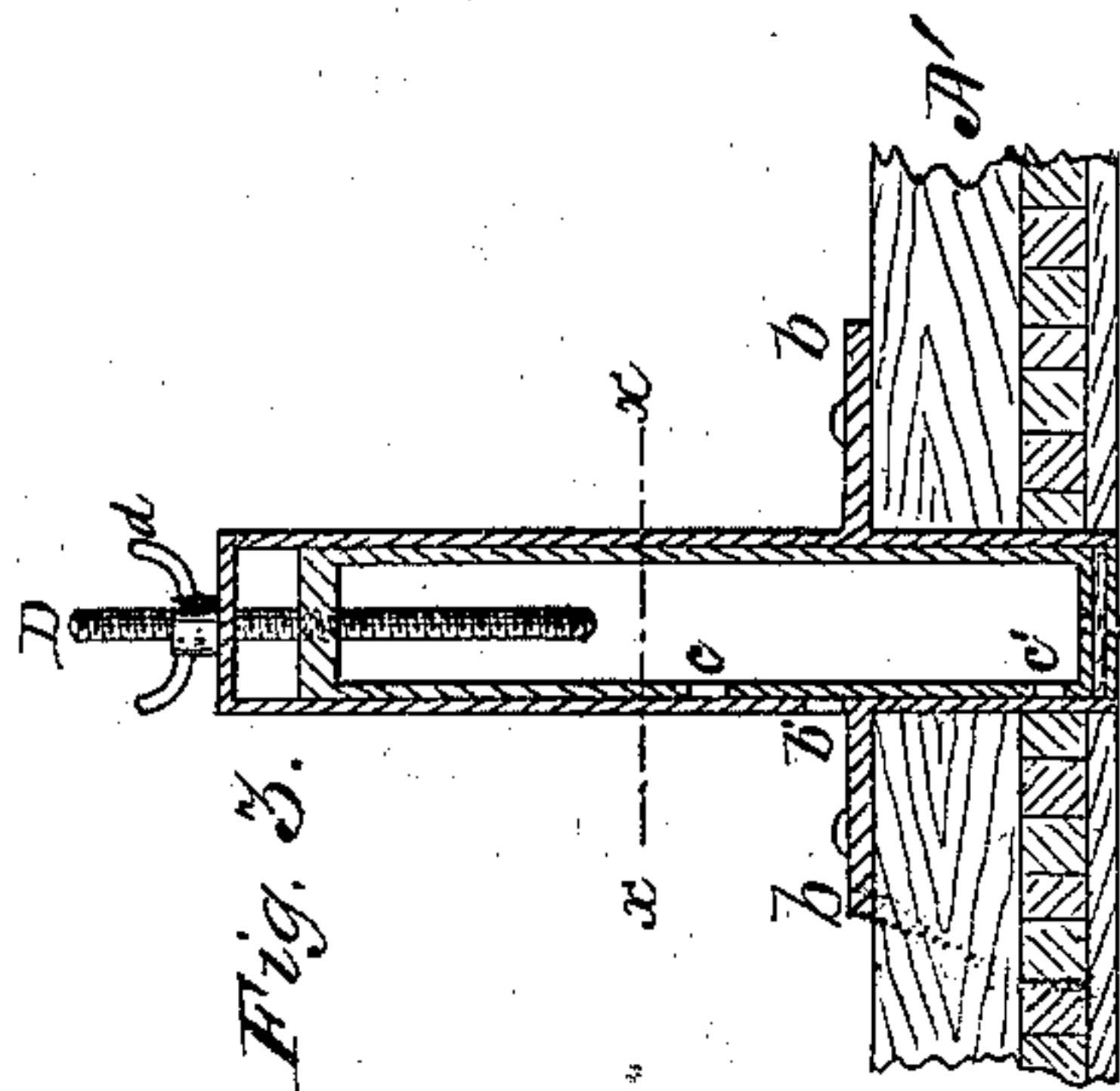
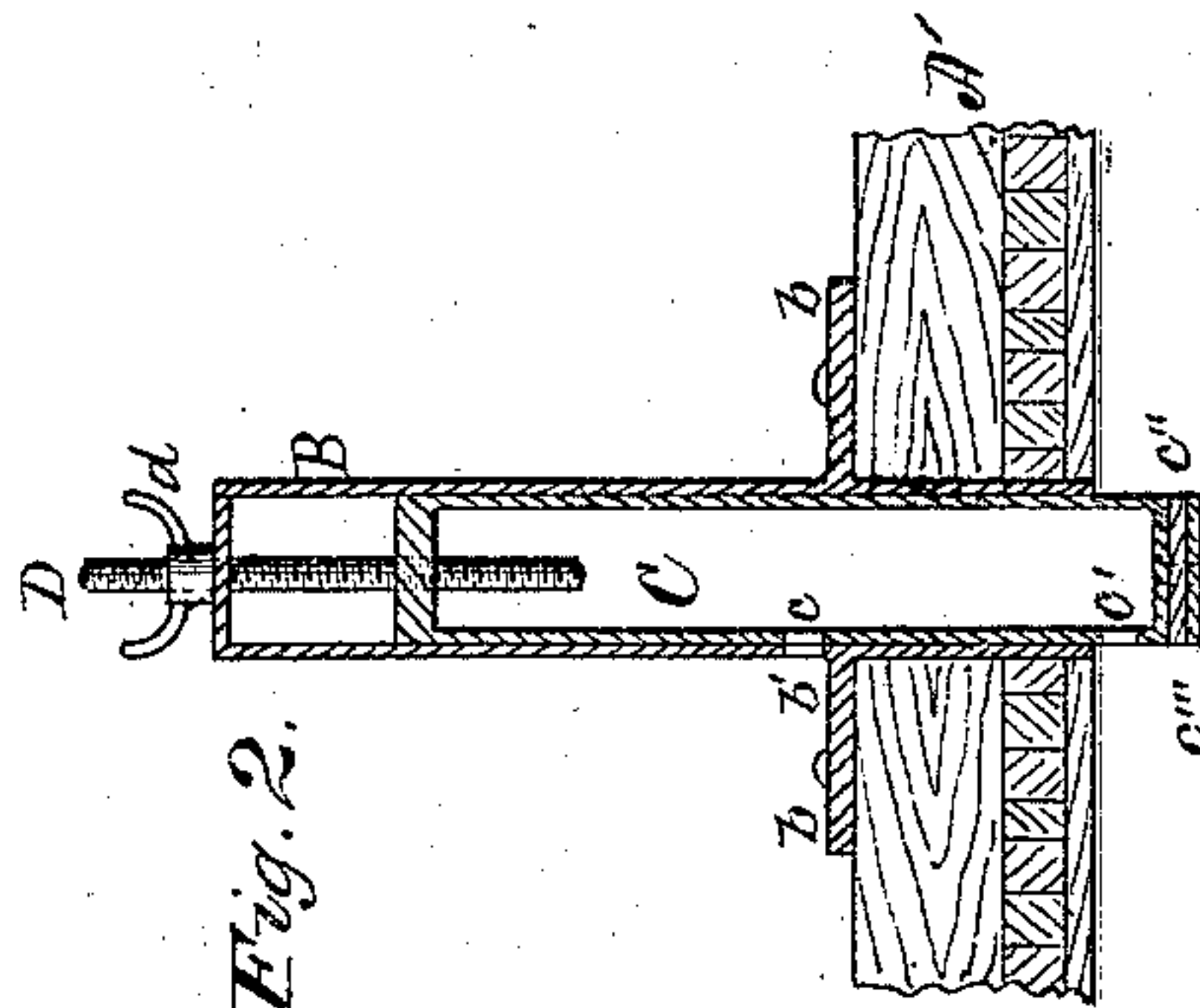


Fig. 2.



Witnesses:

T. C. Brecht.
Thos. Jewell

Inventor:

John A. Miller
By N. Cranford
att'y.

UNITED STATES PATENT OFFICE.

JOHN A. MILLER, OF PADUCAH, KENTUCKY, ASSIGNOR OF ONE-HALF HIS
RIGHT TO HEZEKIAH P. MILLER, OF SAME PLACE.

IMPROVEMENT IN DEVICES FOR DISCHARGING BILGE-WATER.

Specification forming part of Letters Patent No. 135,656, dated February 11, 1873.

To all whom it may concern:

Be it known that I, JOHN A. MILLER, of Paducah, in the county McCracken, in the State of Kentucky, have invented certain Improvements in Bilge-Pumps, or means for draining off the water in the hold of a vessel, of which the following is a specification:

This invention consists in the construction of the pump or drain, when inserted in the bottom of a vessel, as will more fully hereinafter be described.

In the drawing, Figure 1 represents a longitudinal section of a vessel, and the improvement inserted through the bottom. Fig. 2 represents the pump in position for draining off the water in the vessel. Fig. 3 represents the pump when it is closed, or the water prevented from draining off; and Fig. 4 is a transverse section of the pump on line *xx* of Fig. 3.

A represents the sides, and A' the bottom, of a vessel. B represents a triangular cylinder, open at its lower end, with a head in the upper end and a projecting flange, *b*, around it at the proper point to secure the pump to the bottom of the vessel, and have the lower end even, or about even, with the bottom of the sheathing. *b'* is a hole through cylinder B on its stern side and just above the flange *b*. C is an inside cylinder, fitting snugly into the inner diameter of cylinder B, and so as to freely slide therein, has a heavy head at its top end and packing at the lower end between the bottom, and a plate to secure the packing in place. This inner sliding cylinder has two holes, *c* and *c'*, in its stern side. *c''* is the packing, and *c'''* is the bottom plate attached to the bottom of the inner sliding cylinder C by a screw or any other secure means. This packing, so attached to the sliding cylinder C, will, when said cylinder is drawn up in the position seen in Fig. 3, effectually close the outer cylinder, and neither water or sand can be admitted into either cylinder or the hold of the vessel through the cylinders, thus keeping them free from back-water or sand when the vessel is not in motion, as would be the case if no packing were used. D is a screw-rod

sliding through the head on the outer cylinder B, and screw-tapped into the head of the inner cylinder C, and so that by turning screw-nut *d* in one direction it will raise the inner cylinder, and by reversing the direction it will force the inner cylinder down.

Fig. 4 shows the form of the cylinders in cross-section, with the broad and curved side toward the stern and the sharp point toward the bow of the vessel, the pump being thus constructed and firmly secured to the bottom of the vessel and passing through it.

The pump to drain off the water is then put in position seen in Figs. 1 and 2, and so as to bring hole *c* in cylinder C coincident with hole *b'* in cylinder B, and hole *c'* below cylinder B and the bottom of the vessel, and the vessel, being in motion, with the inner cylinder C forced below the bottom, causes a vacuum to be formed in the water at the stern side of it, when the water will freely pass out of the vessel, as is indicated by the arrows in Fig. 1; and when the vessel is about to cease moving forward, or comes into shallow water, the pump is put in the position seen in Fig. 3, when no water can pass through it in either direction.

I am aware that a projecting shield or pin, with a valve in a hole through the bottom of the vessel at the stern side of said projecting shield, has been used, but such shield was liable to be broken off if the vessel was run into shallow water, so that the bottom would strike the ground. Such construction I do not claim; but

What I do claim, and desire to secure by Letters Patent, is--

The drain-off pump, composed of the fixed cylinder B having inlet-hole *b'*, inner sliding cylinder C with inlet-hole *c*, discharge-hole *c'*, and packing *c''*, when constructed to operate in the manner and for the purpose substantially as described.

JNO. A. MILLER.

Witnesses:

H. P. MILLER,
ROBT. NOLEN.