

H. Wadsworth,

Pump Brake.

No. 102,452.

Patented Apr. 26. 1870.

Fig. 1.

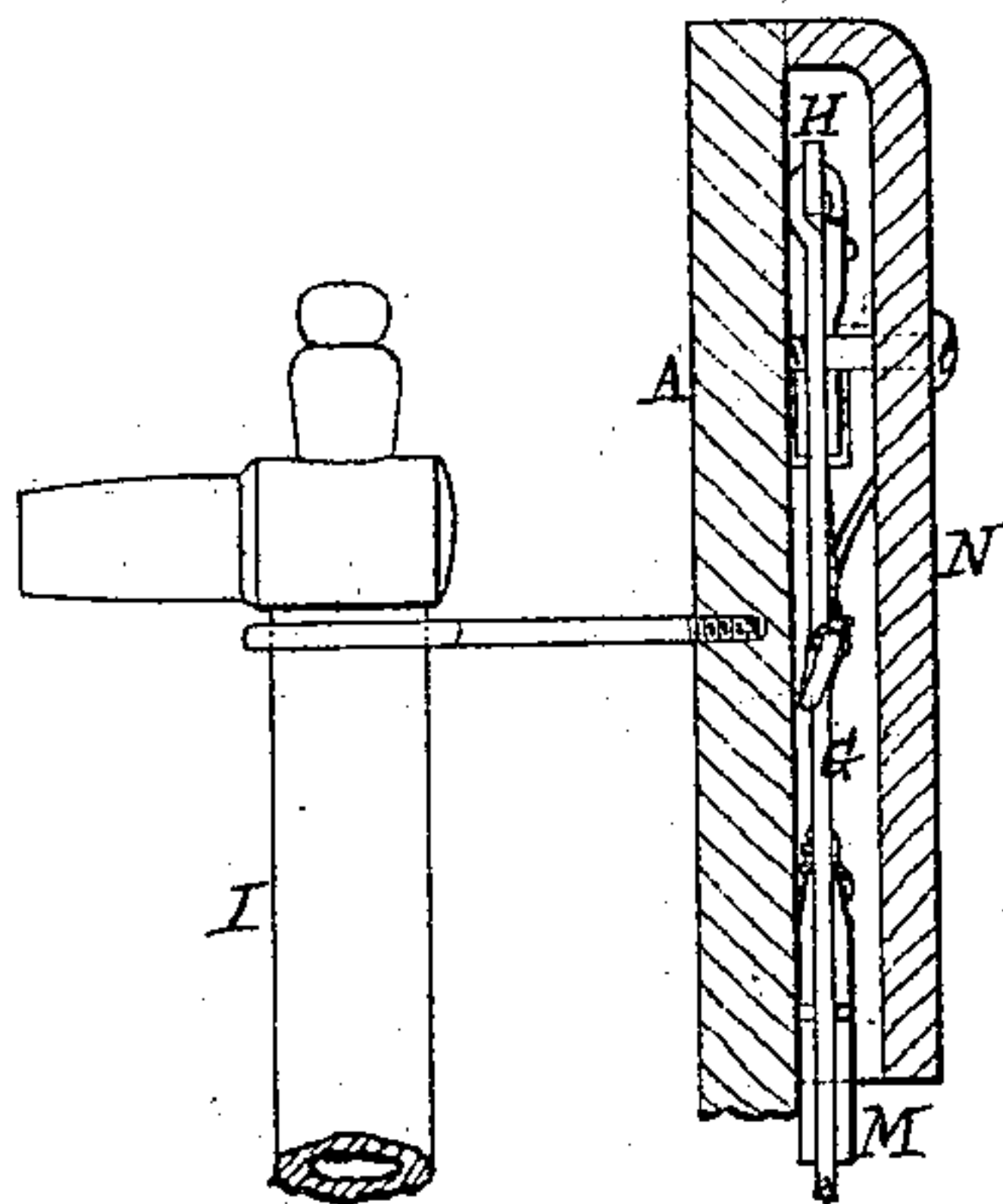
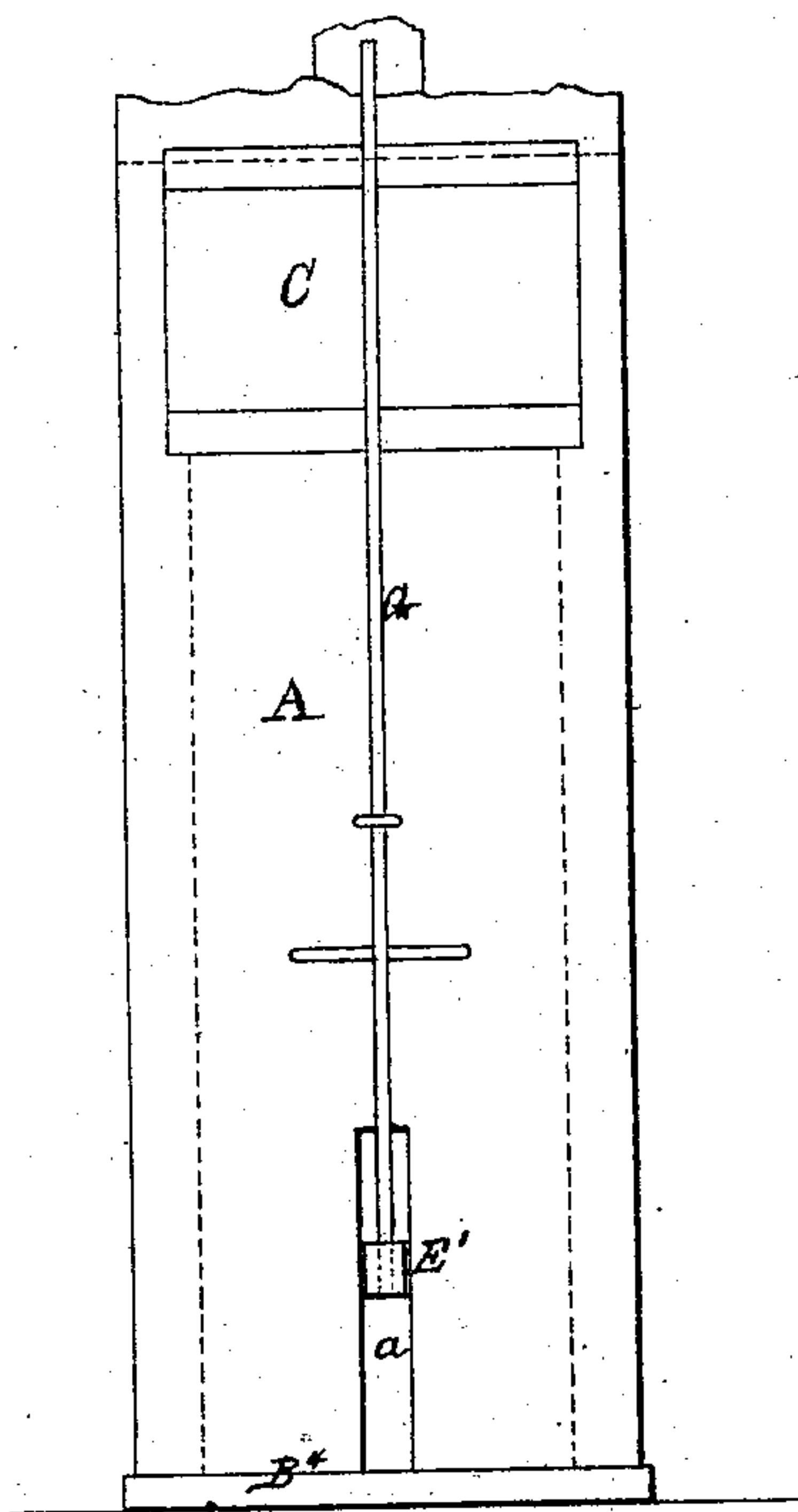
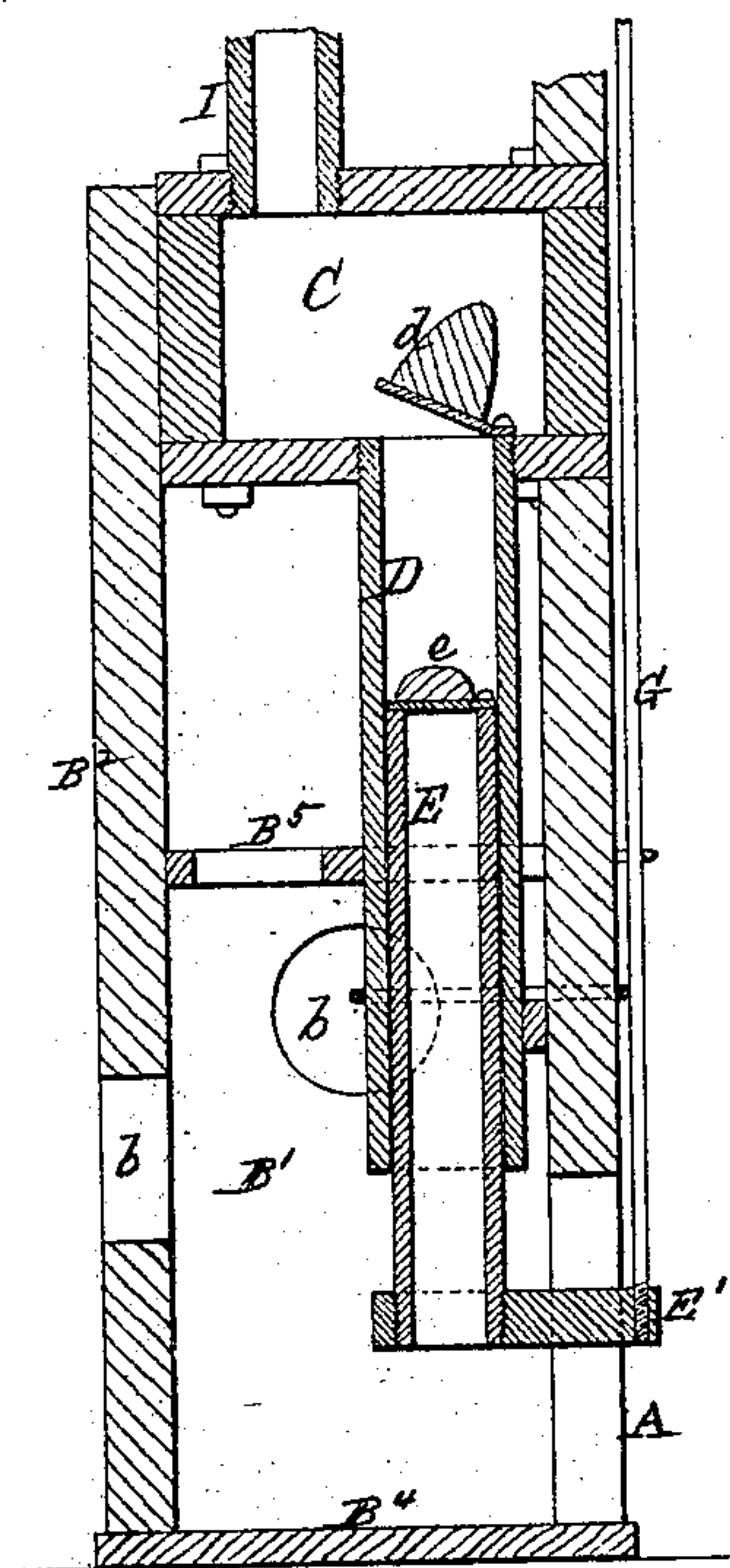
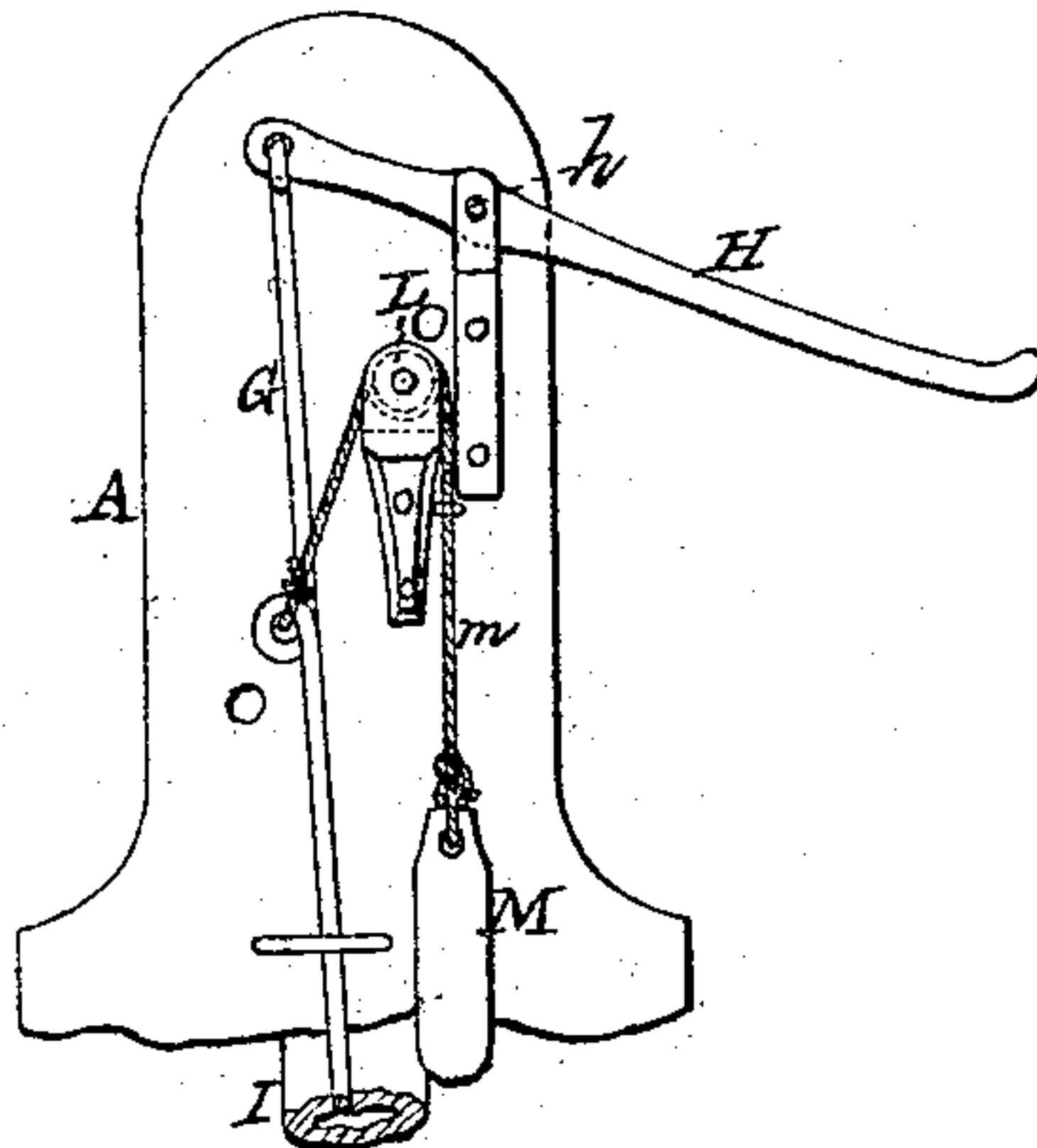


Fig. 2.



Witnesses.

R. C. Livings
Wm. C. Day

Inventor.

H. Wadsworth
by his attorney J. S. Stetson

United States Patent Office.

HENRY WADSWORTH, OF DUXBURY, MASSACHUSETTS.

Letters Patent No. 102,452, dated April 26, 1870.

IMPROVEMENT IN PUMPS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, HENRY WADSWORTH, of Duxbury, in the county of Plymouth and State of Massachusetts, have invented certain new and useful Improvements in Pumps; and I do hereby declare that the following is a full and exact description thereof.

My improved pump is well adapted to be constructed either in wood or metal, and with very ordinary tools and skill. It requires no stuffing-boxes, transmits the water upward with a very direct motion, with little regurgitation or friction, and is always ready to perform immediately in any weather, and after being neglected for a long period.

I will first describe what I consider the best means of carrying out my invention, and will afterward designate the points which I believe to be new.

The accompanying drawings form a part of this specification.

Figure 1 is a central vertical section, representing the parts at the top and bottom of the well, the intermediate part not represented being a plane plank with a standing tube on one side, and the working-rod moving up and down with a slight and sweeping motion on the other side.

Figure 2 is a corresponding side view, with the casing at the top removed to show the provision for balancing.

Similar letters of reference indicate like parts in both the figures.

A is a stout plank extending up and down the well.

B¹ B² are the sides, and B³ the bottom of a rectangular casing larger than the body of the pump.

Perforations *b* are provided, which admit the water freely.

I will, when necessary, designate the entire perforated casing by the single letter B.

C is a strong rectangular chamber which occupies the upper part of the perforated casing B.

A large tube, D, extending down from the interior of this chamber, open at each end, forms what I call the body of the pump.

A smaller tube, E, fits and is adapted to play easily up and down within it.

The inner tube E has a rigid arm, E', extending out from its base through a slot, *a*, in the side of the casing B.

A rod, G, leads up from the arm E' to the working lever H, turning on the pivot *h* at the top of the well.

A tube, I, extends up from the top of the chamber C, and is crooked, or otherwise provided with a proper delivery at the top.

There is a valve, *e*, opening upward at the top of

the movable pipe E, and another, *d*, at the top of the fixed pipe D.

The upper side is conical, as represented.

The large tube D is steadied and supported laterally by a perforated horizontal partition, B⁵, in the interior of the casing B.

A weight, M, nearly equal to the weight of the rod G and its connections, is hung within another casing, N, which protects the work at the top of the well.

It is connected to the rod G by the cord *m*, which runs over a pulley, L, arranged, as represented, within the casing N.

The plank A, with the pump-work attached, as represented, may be lifted out and again lowered into the well, with little trouble or delay, at any time, for repairs or the like.

To operate the pump, it is necessary simply to lower the plank A and its connections until they rest on the bottom of the well; then, by working the handle H, and thus raising and lowering the inner tube E, it is insured a clear space to descend and ascend within the case B, and, at each descent, the water is received up through the valve *e*.

At each elevation of the inner pipe E the water is driven up through the upper valve *d*, and compels a corresponding delivery of water previously elevated by similar means into the delivery-pipe I.

The casing B protects the pump from contact with the sides or bottom of the well, insures a clear space for the descent of the inner pipe E, and avoids any liability of choking the pump with leaves or analogous objects in the water.

Both the valves may be of hard wood and leather, cheaply made, and secured in the form to give the least resistance, and to best bear the pressure. The pressure, and, consequently, the height to which it may be forced, may, with my pump, be carried to any extent desired.

The pipes may be connected by screws, to be easily united and separated. Rubber, or other flexible hose, can be connected instead of the pipe I, if desired.

The chamber C gives ample space for the water to pass around the delivery-valve *d*, forms a strong support alike for the casing B and for the pipes connected, and is ready to serve as an air-chamber, thus tending to greatly equalize the delivery by simply extending the pipe I down into its interior, which will, in practice, generally be done.

All the approved modes of construction of the several valves, and details, such as vitreous or other coatings for the surface, may be employed with my pump with the same facility as with others, but I esteem it more especially adapted to work with very ordinary materials and bad workmanship. It requires a depth

of about one foot of water to operate with certainty, but it may then be worked successfully, even if very leaky.

I claim—

The within-described pump, having the plank A, or equivalent frame-work extending from the pump-cylinder to the fulcrum of the operating-lever, the pulley L, weight M, and flexible connection *m*, arranged as represented, in combination with the casing

N, operating means H, rod G, moving tube E, fixed tube D, and their necessary valves, and the chamber C, as herein specified.

In testimony whereof I have hereunto set my name in presence of two subscribing witnesses.

H. WADSWORTH.

Witnesses:

H. L. SAMPSON,
JOSIAH PETERSON.