

D. G. HUSSEY.
Submerged-Pump.

No. 130,642.

Patented Aug. 20, 1872.

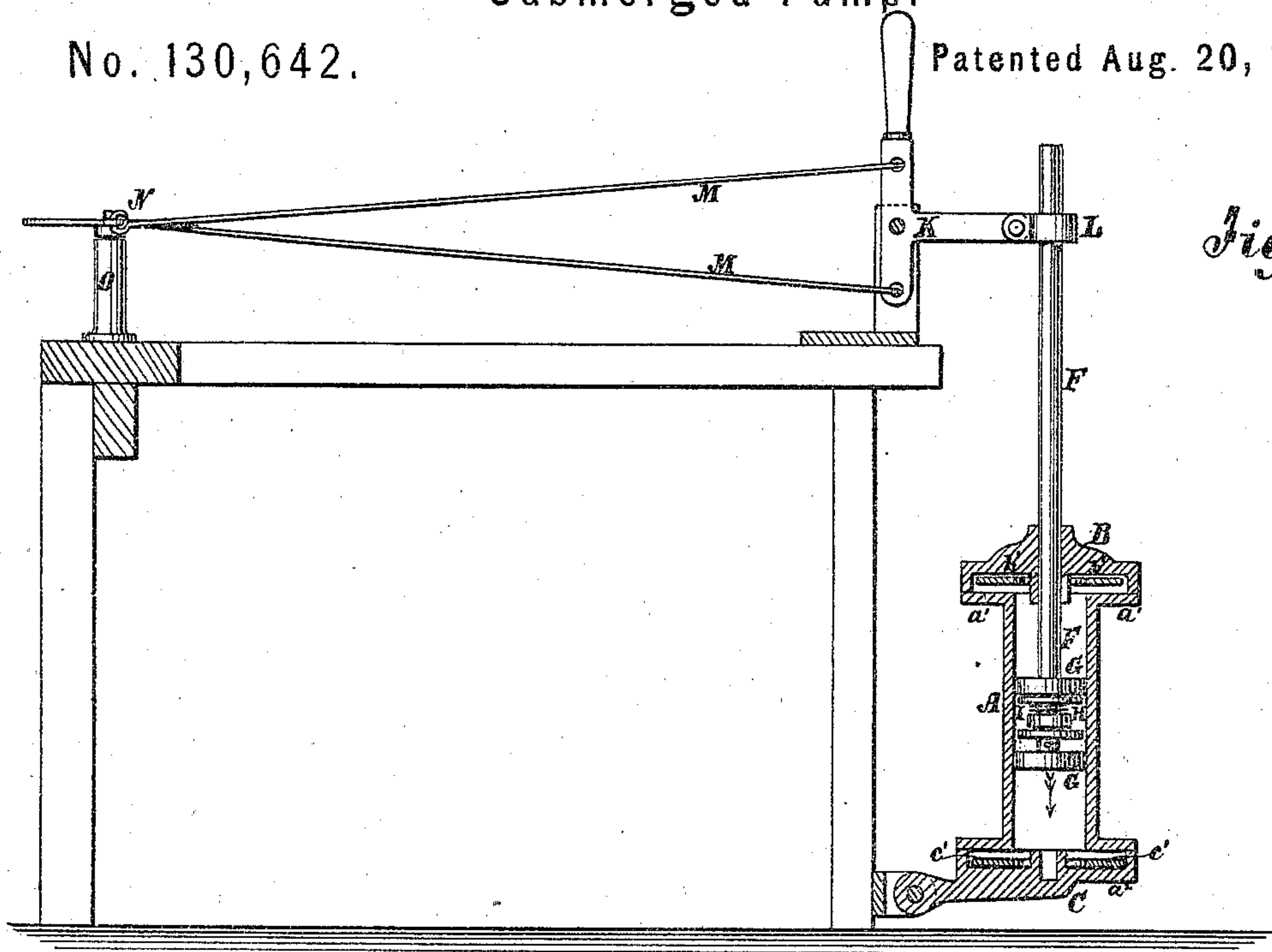


Fig. 1.

Fig. 2.

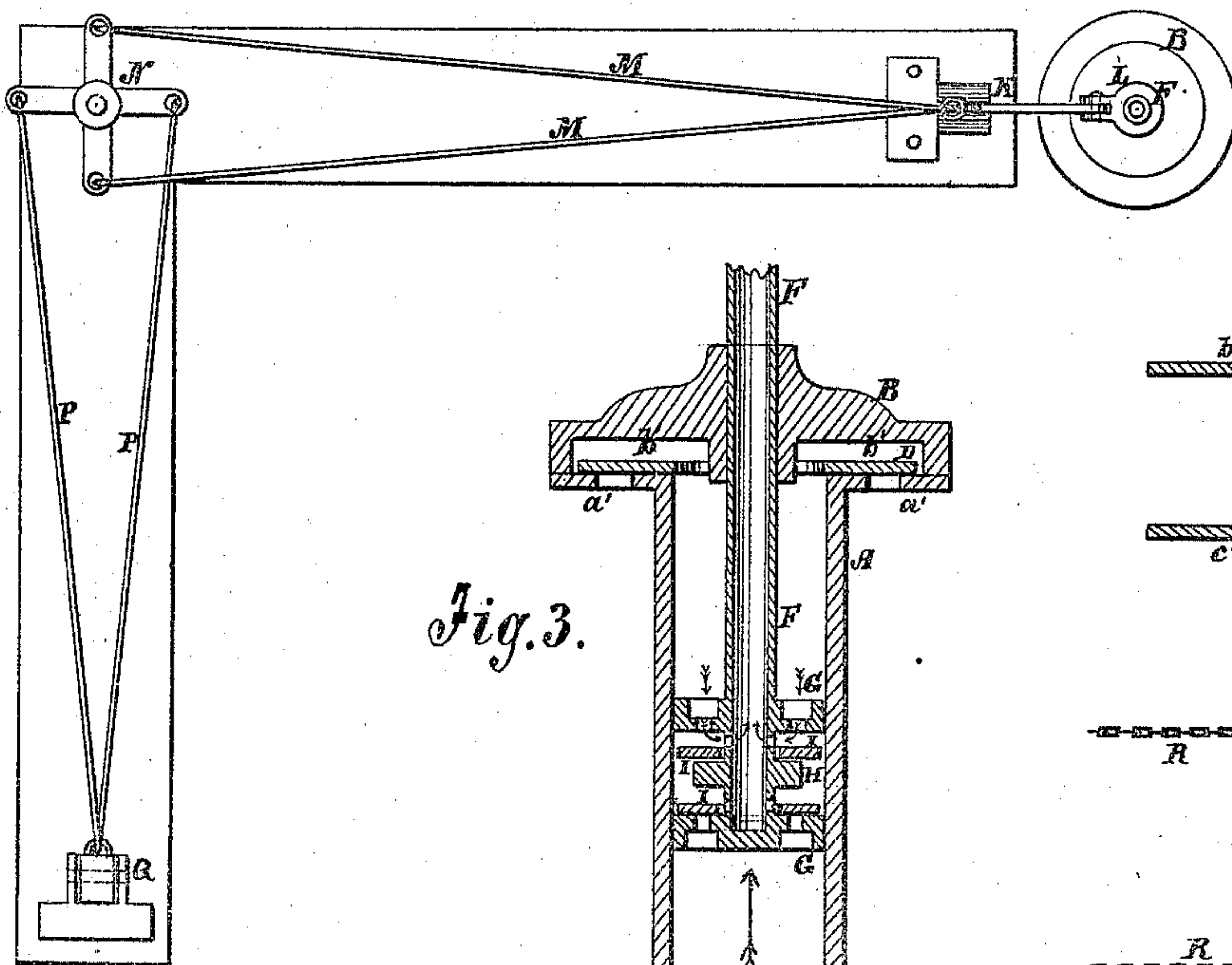


Fig. 3.

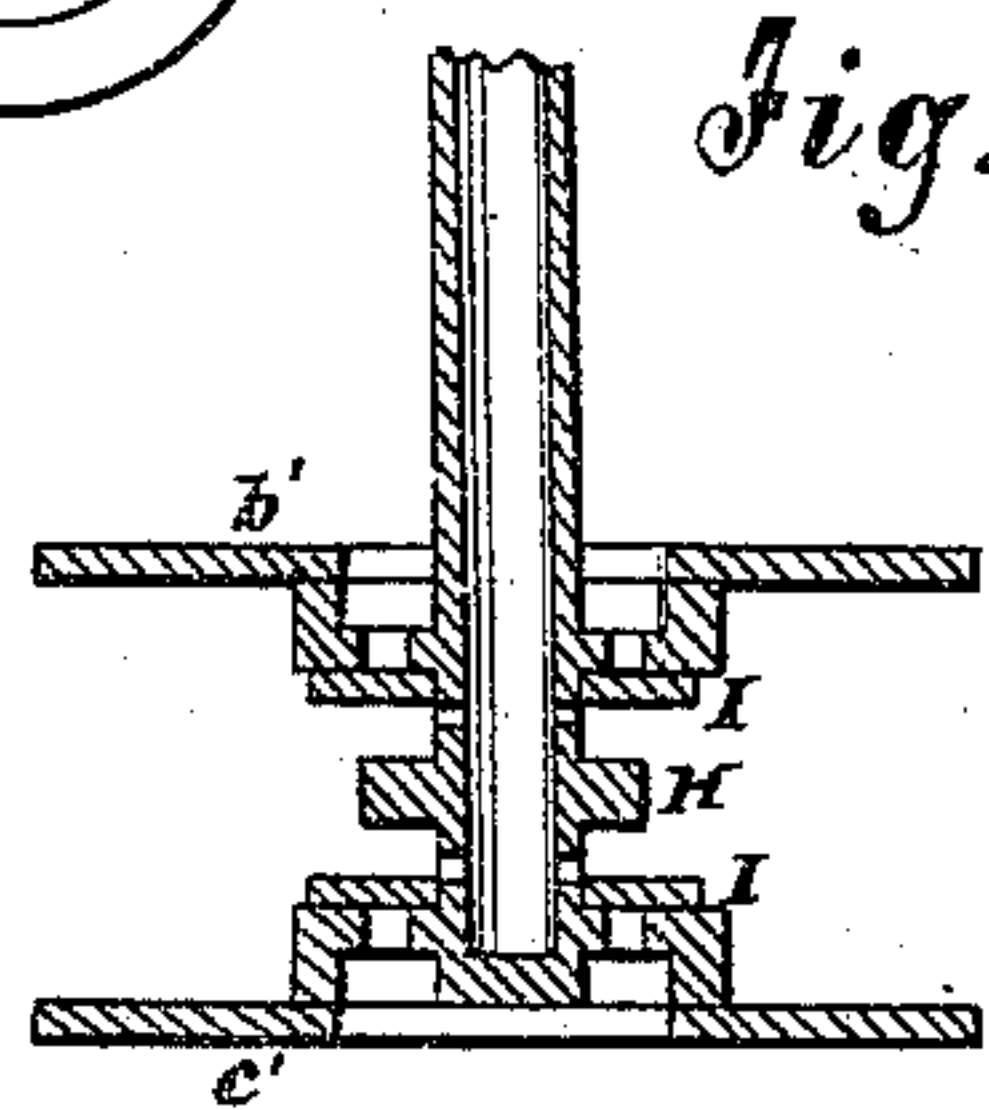
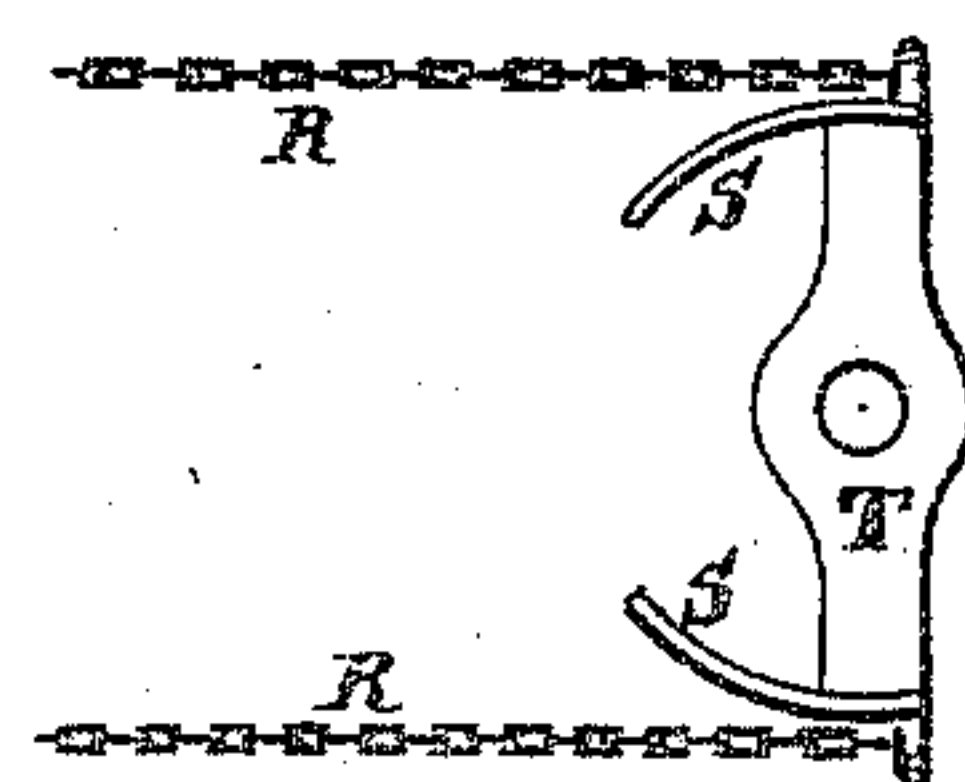


Fig. 4.

Fig. 5.



Witnesses:

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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN SUBMERGED PUMPS.

Specification forming part of Letters Patent No. 130,642, dated August 20, 1872.

Specification describing a new and useful Improvement in Double-Acting Submerged Pump, invented by DAVID G. HUSSEY, of Nantucket, in the county of Nantucket and State of Massachusetts.

Figure 1 is a detailed vertical section of my improved pump and its operating apparatus. Fig. 2 is a top view of the same. Fig. 3 is a detailed section of the pump, enlarged. Fig. 4 is a detailed view of the piston and valves illustrating the manner in which they are cast. Fig. 5 is a detail view of a modified form of one of the levers.

Similar letters of reference indicate corresponding parts.

My invention has for its object to furnish an improved submerged double-acting pump, which shall be simple in construction, conveniently manufactured, and effective in operation, and which can be worked at any angle or number of angles, and at any distance from the well or cistern; and it consists in the construction and combination of the various parts of the machine, as hereinafter more fully described.

A represents the pump-barrel, which is made with a flange, a^1 , at its upper end, and a flange, a^2 , at its lower end. To the upper end of the barrel A is attached a cover or head, B, and to its lower end is attached a cover or head, C. The inner faces of the heads B C are recessed to form seats $b' c'$ for the valves D, and which serve as passage-ways for the water. The water enters at the upper end of the pump through holes in the flange a , and at the lower end through holes in the head C, as shown in Fig. 3. The lower head C may be hinged to the support with which the pump is connected, so that it may be turned back to allow the barrel to be slipped from or upon the piston when required. The heads B C are secured to the ends of the barrel A by bolts or stay-rods. F is the piston-rod, which is made hollow, and which passes in through the center of the upper head B, and to its lower end is attached, or upon it is formed, the piston G H I. The piston-heads G are at a little distance apart, and midway between them is a fixed flange, H. I are valves which are placed between the piston-heads G and the flange H, so as to

close the ingress-openings for the water through the piston-heads G, which water passes into the interior of the piston-rod F through holes in its sides between the piston-heads G and the flange H. The upper valve I may be held up against the upper piston-head G by a small spring, J, if desired or found necessary. The upper part of the piston-rod F is pivoted to an arm of the three-armed lever K by the clamp L. The three-armed lever K is pivoted to any suitable support at the mouth of the well or cistern in which the pump is placed, and its upper arm is extended to enable the pump to be worked from this point when desired. To the upper and lower arms of the lever K, at equal distances from its pivoting point, are attached the ends of two rods or chains, M. The other ends of the rods or chains M are pivoted to the ends of the opposite arms of a four-armed lever, N, which is pivoted to some suitable support O at any desired distance from the well or cistern, and at the point where an angle is to be formed in the connection rods or chains. To the ends of the other pair of opposite arms of the four-armed lever N are attached the ends of the connecting rods or chains P, the other ends of which are attached to the operating lever Q, at equal distances from the pivoting point of said lever Q. In this way any desired number of angles may be formed in the connection rods or chains, so that the pump may be operated from any desired point. The connection may be made along the walls of buildings by means of posts or in a box or casing under ground, according to the circumstances of each case.

When desired the piston-rod F may be connected with the first lever by means of the device shown in Fig. 5—that is to say, by means of short chains R, which pass over curved guides S, so that the piston-rod may move up and down in a vertical line. The curved guides S are attached to the ends of the equal arms of the lever T, which is pivoted to a support, and to which the hand-lever is bolted, several holes being formed in said lever T to receive the said bolt, so that the angle of the hand-lever may be adjusted as may be required for conveniently working it.

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

1. The combination of the pump-barrel A, recessed heads B C, hollow piston-rod F, and piston G H I with each other, substantially as herein shown and described, and for the purpose set forth.

2. The piston formed by the combination of the two heads G, flange H, and two valves I with each other, substantially as herein shown and described.

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Witnesses:

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