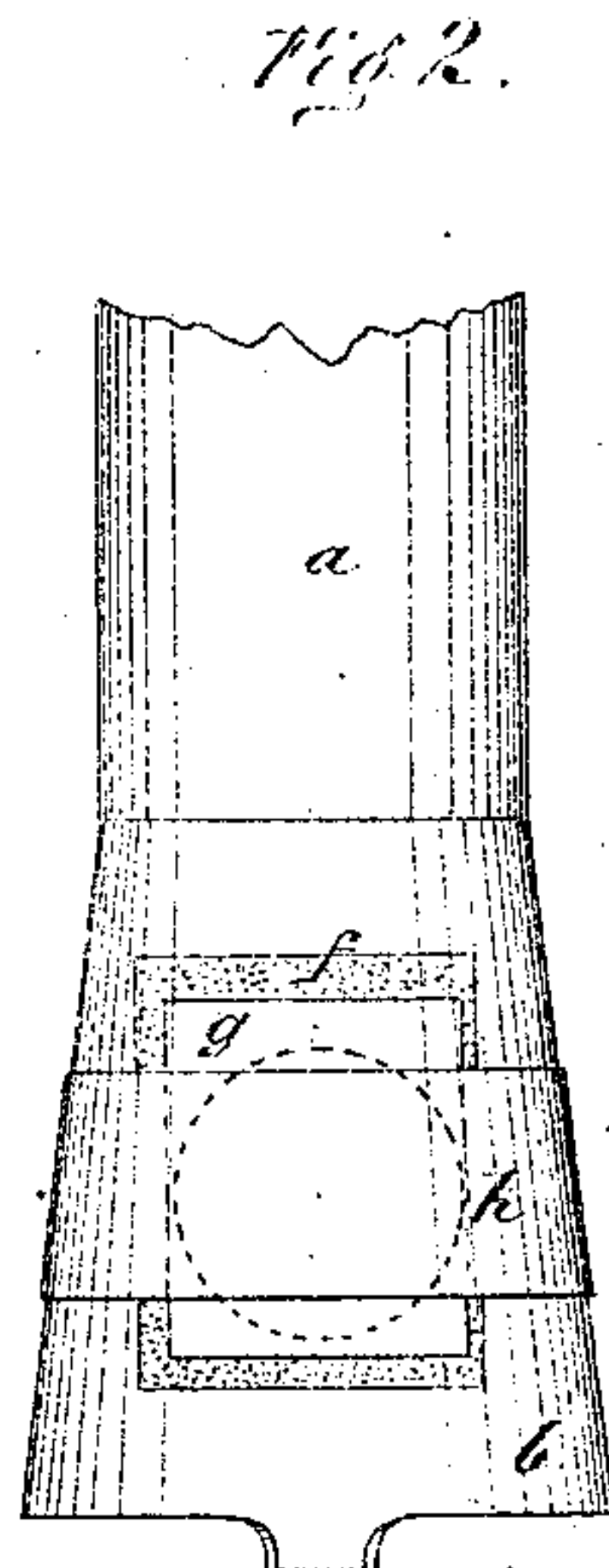
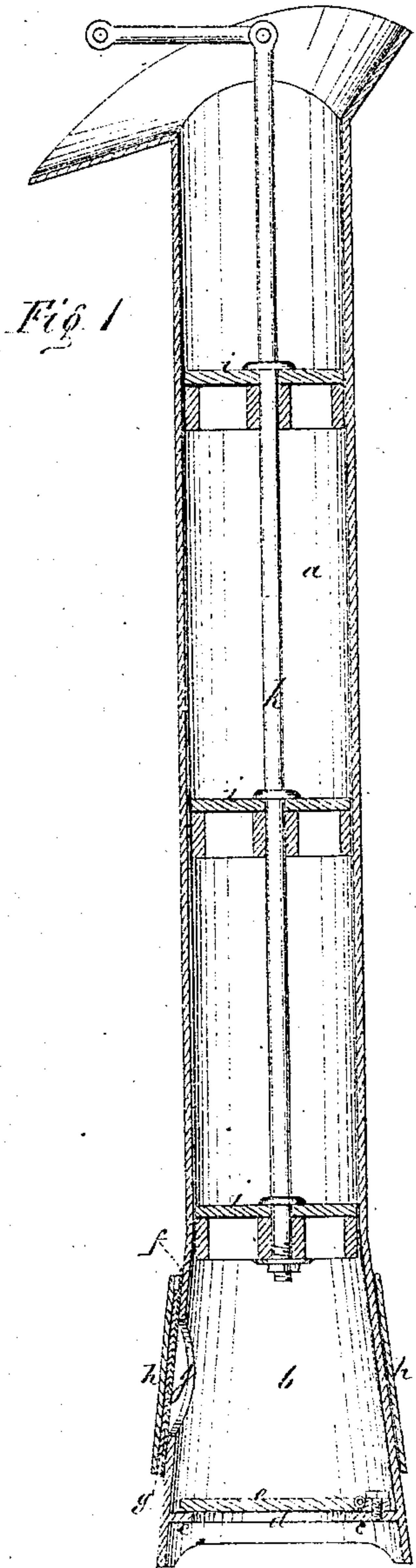


Thomas J. Trapp.

117019

Deep-Well-Pump.

PATENTED JUL 11 1871



Witnesses:

J. H. Tracy
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Inventor:

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PER

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UNITED STATES PATENT OFFICE.

THOMAS JEFFERSON TRAPP, OF WILLIAMSPORT, PENNSYLVANIA.

IMPROVEMENT IN DEEP-WELL PUMPS.

Specification forming part of Letters Patent No. 117,019, dated July 11, 1871.

To all whom it may concern:

Be it known that I, THOMAS JEFFERSON TRAPP, of Williamsport, in the county of Lycoming and State of Pennsylvania, have invented a new and Improved Deep-Well Pump; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a sectional elevation, and Fig. 2 is a side elevation of the lower part of the pump.

This invention consists in a funnel-shaped bottom for the cylinder of a deep-well pump, the same being provided with an orifice formed in one side, and closed by means of a cover which is secured in place by a sliding band. The object of the orifice is to permit repair, or removal, when necessary, of the boxes or pistons, and also the lower valve of the pump. The funnel-shape of the cylinder enables the sliding band to be moved upward with facility, or to be clamped tightly upon the cover. The enlarged area thus secured at the bottom of the funnel enables me to make the orifice therein for entrance of the water as large or larger than the boxes or pistons, whereby the force necessary to operate pumps, as ordinarily constructed, is materially lessened by reason of the readier inflow of water.

I do not, however, claim to be the first to use a pump-cylinder funnel-shaped at its lower end, but to have combined, for the first time, certain elements of which such funnel is one, and in such a way as to attain a new advantageous result.

Referring to the drawing, *a* is the pump-barrel, and *b* the funnel-shaped or outwardly-flaring bottom secured to the barrel. *c* is the diaphragm across the lower end of the bottom *b*, said diaphragm having an orifice, *d*, in it for the ingress of water, and a valve, *e*, hinged to it for the clos-

ing of the orifice. By reason of the enlarged bottom the orifice *d* can be made of sufficient size to admit such a column of water as will fill the pump, thus preventing the admission of a mixed column of air and water and insuring the working of the pump to its full capacity. A hole, *j*, is made in one side of the conical bottom *b*, which hole is closed by a packing, *f*, placed over it, a cover, *g*, placed over the packing, and a ring, *h*, encircling the bottom *b*, and holding the cover in place. On slipping the ring *h* above the cover *g* the latter may be removed, and the hole *e* will then allow the workman to get at the boxes *i*, if they need repair, without removing the pump from the well. Instead of one box, *i*, placed at the lower end of the rod *k*, as has been customary heretofore, I make use of a number of boxes secured to the rod, one above another, and at intervals of any desired extent. The strain of the whole column of water, which, when there is but one box, comes wholly upon that, is by this arrangement distributed among all the boxes, thus reducing the amount that falls upon each one to a small quantity.

I am aware, however, that such a multiplication of boxes, though unquestionably an improvement, is not patentable.

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

In combination with the funnel-shaped bottom *b* of the pump-cylinder, the sliding band *h* and the cover *g*, for closing the orifice *j*, as shown and described.

THOMAS J. TRAPP.

Witnesses:

SOLON C. KEMON,
THOS. D. D. OURAND.