

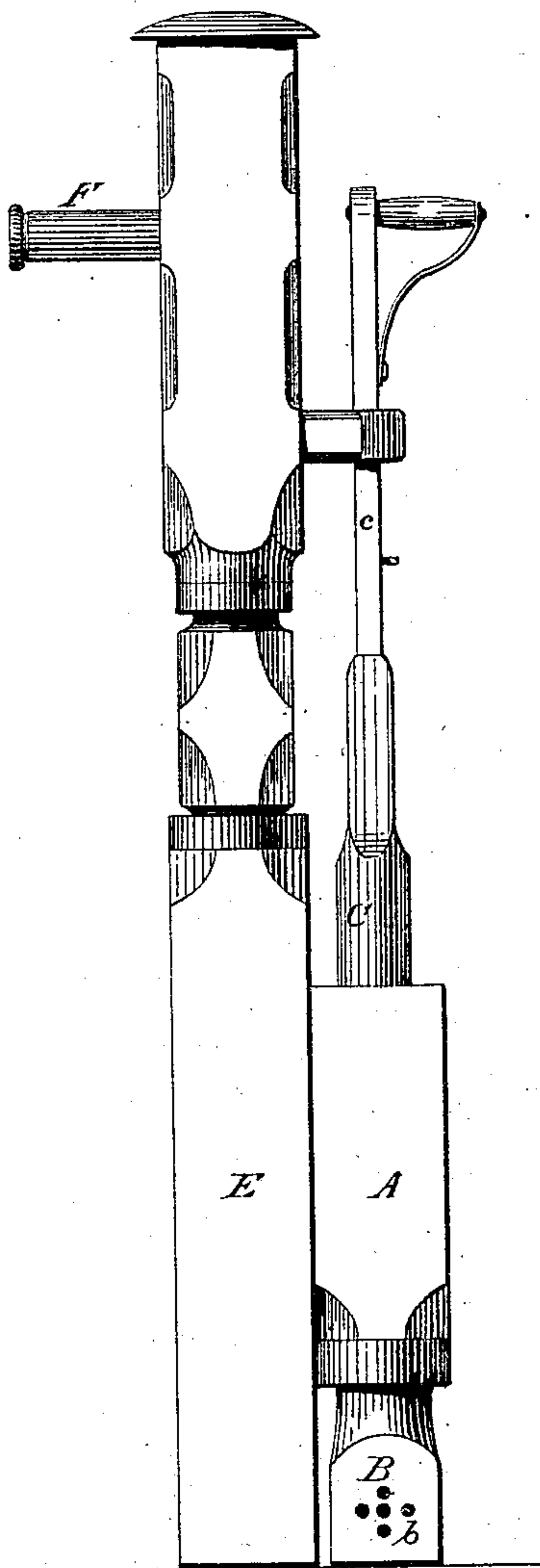
J. OLSEN & K. N. THUESEN.

PUMP.

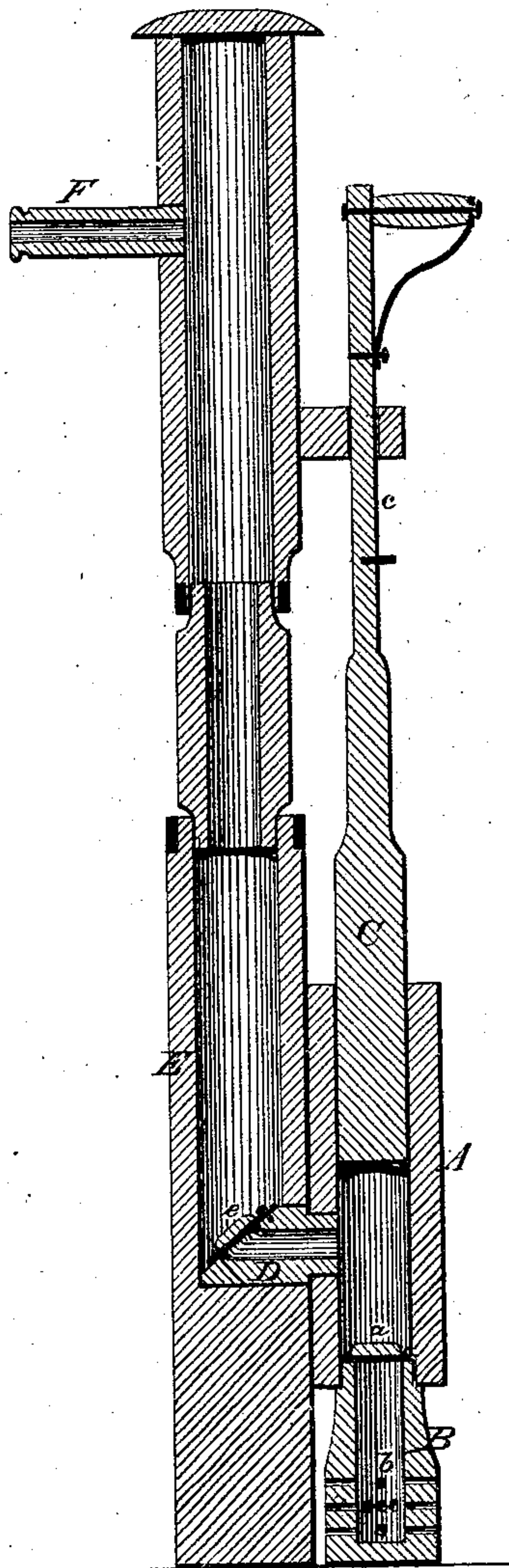
No. 188,534.

Patented March 20, 1877.

*Fig. 1.*



*Fig. 2.*



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Attys.



# UNITED STATES PATENT OFFICE.

JENS OLSEN AND KNUD N. THUESEN, OF EMMITSBURG, IOWA.

## IMPROVEMENT IN PUMPS.

Specification forming part of Letters Patent No. 188,534, dated March 20, 1877; application filed June 24, 1876.

*To all whom it may concern:*

Be it known that we, JENS OLSEN and KNUD N. THUESEN, of Emmitsburg, in the county of Palo Alto and State of Iowa, have invented certain new and useful Improvements in Pumps; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view, and Fig. 2 is a longitudinal vertical section.

Similar letters of reference indicate corresponding parts in both figures.

The object of this invention is to construct a simple and easily-operated pump for wells or cisterns, in such a manner that the parts of which it is formed may be readily detached, thus simplifying its construction and affording facilities for cleansing, &c.; and it consists in the construction and combination of parts hereinafter more fully shown and described.

In the drawing, A is the cylinder of the pump, in which works the piston or plunger C. The cylinder A has a downward continuation, B, forming a detachable reservoir, into which the water enters through perforations b. The connection between the cylinder A and the reservoir B is formed by a valve, a, opening into cylinder A from the reservoir, on top of which it is secured. D is a short cylindrical tube, by means of which cylinder A is connected with a secondary cylinder, E, the connection being formed by a valve, e, opening into cylinder E. This latter is closed at the bottom or immediately below tube D, while it has an upward continuation sufficiently long to reach above the ground, where it is furnished with a spout, F. This upward continuation may be made of wooden or metallic tubing, or any other suitable material, through which the water may be conducted from the well to the surface.

It will be observed that the cylinders A and E, as well as the connecting-tube D, are made separately and independently of each other, the cylinders being secured together by the tube D. The advantages of this method of construction will easily be perceived. In

this class of pumps, if made in one piece, it is often found very difficult to adjust the valve e (or its equivalent) properly. Even if the cylinders are made separate, it is difficult to adjust the valve upon the inside of one of them. Again, in case of breakage, or if the pump should become stuffed or choked, our improved pump may be repaired easier, and with less expense, than any of those of the ordinary construction.

The manner in which our improved pump operates is as follows: When the plunger C is raised, the water enters the reservoir B through the perforations b, and passes from thence through the valve a into cylinder A. The valve e, which connects cylinders A and E, is meanwhile kept closed by the suction produced by raising the plunger. When the reservoir formed by cylinder A is thus filled with water, this is, by the downstroke of the plunger, discharged through tube D and valve e into cylinder E, from which it passes out through spout F, the valve a being, during the downstroke of the plunger C, kept closed by the pressure thus produced. By a steady repetition of this operation a constant flow of water is produced, the cylinder E being constantly kept full, and valve e preventing the water from returning into cylinder A.

The plunger C may be operated by any suitable mechanism, its handle c extending above the ground any suitable distance, where it may be connected with levers, or worked in any other suitable manner.

Having thus described our invention, we claim and desire to secure by Letters Patent of the United States—

The improved pump herein described, consisting of cylinders A E, secured together detachably by the connecting-tube D, having valve e, perforated reservoir B, having valve a, and plunger C, all combined and arranged to operate substantially as and for the purpose herein shown and specified.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in presence of two witnesses.

JENS OLSEN.

KNUD N. THUESEN.

Witnesses:

T. J. PROUTY,

J. E. KING.