

(No Model.)

C. M. BROWN.
SUBMERGED PUMP.

No. 345,271.

Patented July 13, 1886.

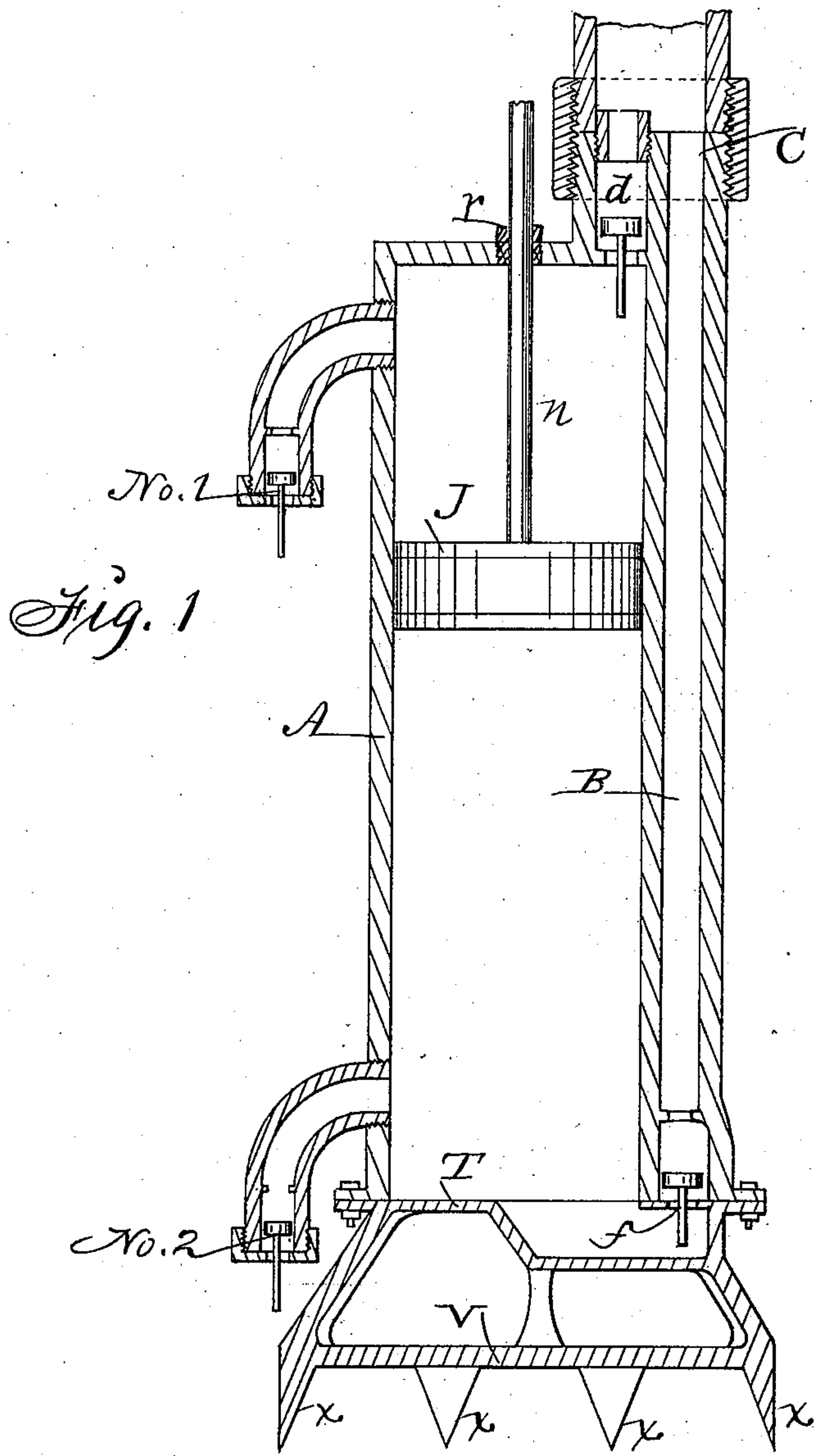
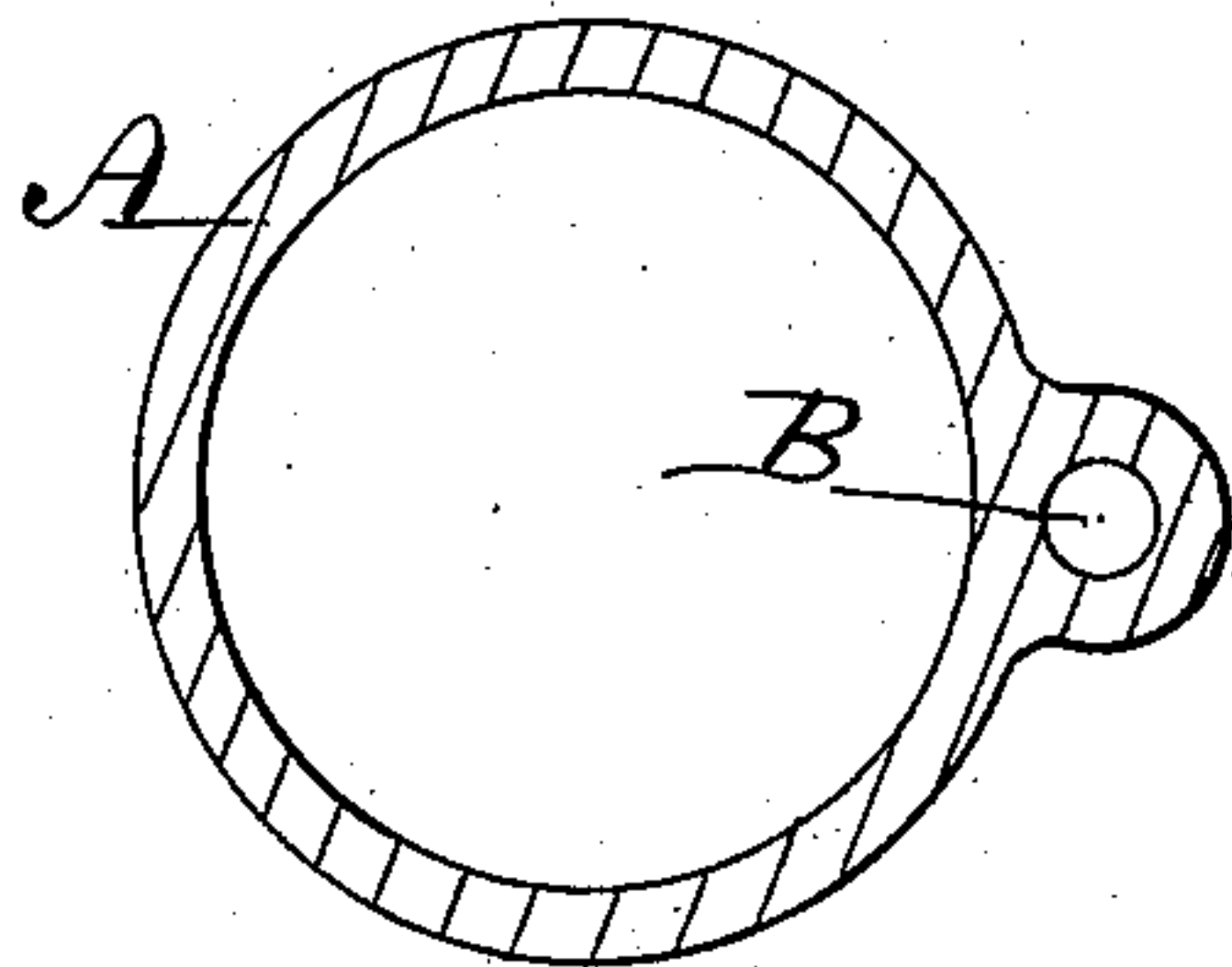


Fig. 2



Witnesses:
R. H. Orwig.
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UNITED STATES PATENT OFFICE.

CHARLES M. BROWN, OF MELBOURNE, IOWA.

SUBMERGED PUMP.

SPECIFICATION forming part of Letters Patent No. 345,271, dated July 13, 1886.

Application filed April 10, 1886. Serial No. 198,501. (No model.)

To all whom it may concern:

Be it known that I, CHARLES M. BROWN, a citizen of the United States of America, and a resident of Melbourne, in the county of Marshall and State of Iowa, have invented new and useful Improvements in Submerged Pumps, of which the following is a specification.

My object is to facilitate the operation of a double-acting force-pump as required to elevate water in a continuous stream by means of a reciprocating plunger in a straight cylinder at the bottom of a well and operating mechanism at the top of the well.

My invention consists in the construction and combination of a cylinder having a tube or bore extending parallel with its wall, chambers at its top and bottom to receive valve-operating devices, a detachable cylinder-bottom having an anchoring device formed integral therewith, and a plunger, as hereinafter set forth, pointed out in my claim, and illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal sectional view, and Fig. 2 a transverse section, of my complete invention.

A represents a metal cylinder, that may vary in diameter and length as desired. It has a solid closed top and a flange at its open bottom.

B is a tube formed integral with the wall of the cylinder A.

C is a vertical extension and duplex-valve seat at the side and top of the cylinder, through which the bore of the tube B extends.

d is a bore or eduction-port and valve-seat in the extension C, which extension is screw-threaded at its top and adapted to form a joint with a section of a well-tube, as clearly shown in Fig. 1.

f is an eduction-port at the bottom of the cylinder, that opens into the tube B. An enlargement in the lower end of the tube B and a cavity in the bottom of the cylinder facilitates the flow of water from the cylinder into the tube.

No. 1 is an induction-port at the top and side of the cylinder, and No. 2 a corresponding port at the bottom of the cylinder. Check-valves *g* in curved inlet-pipe are screwed in the ports Nos. 1 and 2 in such a manner that they will be alternately opened and closed by

the operation of the plunger and the pressure of the water outside of the cylinder.

J represents a plunger fixed to a rod, *n*, that extends up through an angular bore or stuffing-box, *r*, at the center of the closed top of the cylinder, that will allow vertical motion to the rod of corresponding angular shape, but prevent rotary motion, as required to retain the valve-operating devices *s*, carried at the top and bottom of the plunger, from getting out of line with the ports Nos. 1 and 2 and the chambers *h*, which they alternately enter as the plunger is reciprocated in the cylinder.

T is a detachable bottom fixed to the flange of the open end of the cylinder A. A rim or disk, V, and pointed pegs *x* are formed on or fixed to the rim or disk, to project downward to engage the bottom of a well, for the purpose of anchoring the complete pump, as required, to prevent the cylinder from slipping about in the bottom of the well.

In the practical use of my invention I combine a well-tube with the extension C at the top of the cylinder A, and then let the bottom of the complete device down into a well, and allow the pegs *x* to sink into the ground, to serve as an anchor in holding the cylinder stationary. The plunger-rod, that extends to the top of the well, I connect with mechanism adapted to be operated by hand to impart a reciprocating motion to the rod and the plunger on its end and within the cylinder in such a manner that each downward stroke of the plunger will close the valve in the port No. 2, and force the water in the lower half of the cylinder through the eduction-port *f* and up through the tube B into the well-tube, and as quick as the downward stroke is completed the valve in the top of the tube B will close and prevent the water from falling back, and each upward stroke of the plunger will close the valve No. 1 and force the water in the upper half of the cylinder through the port *d* into the same well-tube. Successive strokes of the plunger thus made will maintain a column of water in the well-tube and a constant upward pressure, as required to discharge a continuous stream at the top of the well-tube.

I claim as my invention—

An improved pump, consisting of the cylinder having a closed top and flanged open

bottom, an integral and parallel tube, B, a
vertical extension, C, having a port or bore,
d, curved inlet-pipes having valves *g* in their
ends, a detachable bottom, T, having a rim or
5 disk, V, and pegs *x*, and a concave in the disk to
produce an open port to establish communi-
cation between the lower end of the cylinder

and the lower end of the tube, substantially as
shown and described.

CHARLES M. BROWN.

Witnesses:

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