

A. PERRY & M. C. HAWKINS.
PUMP.

No. 63,937.

Patented Apr. 16, 1867.

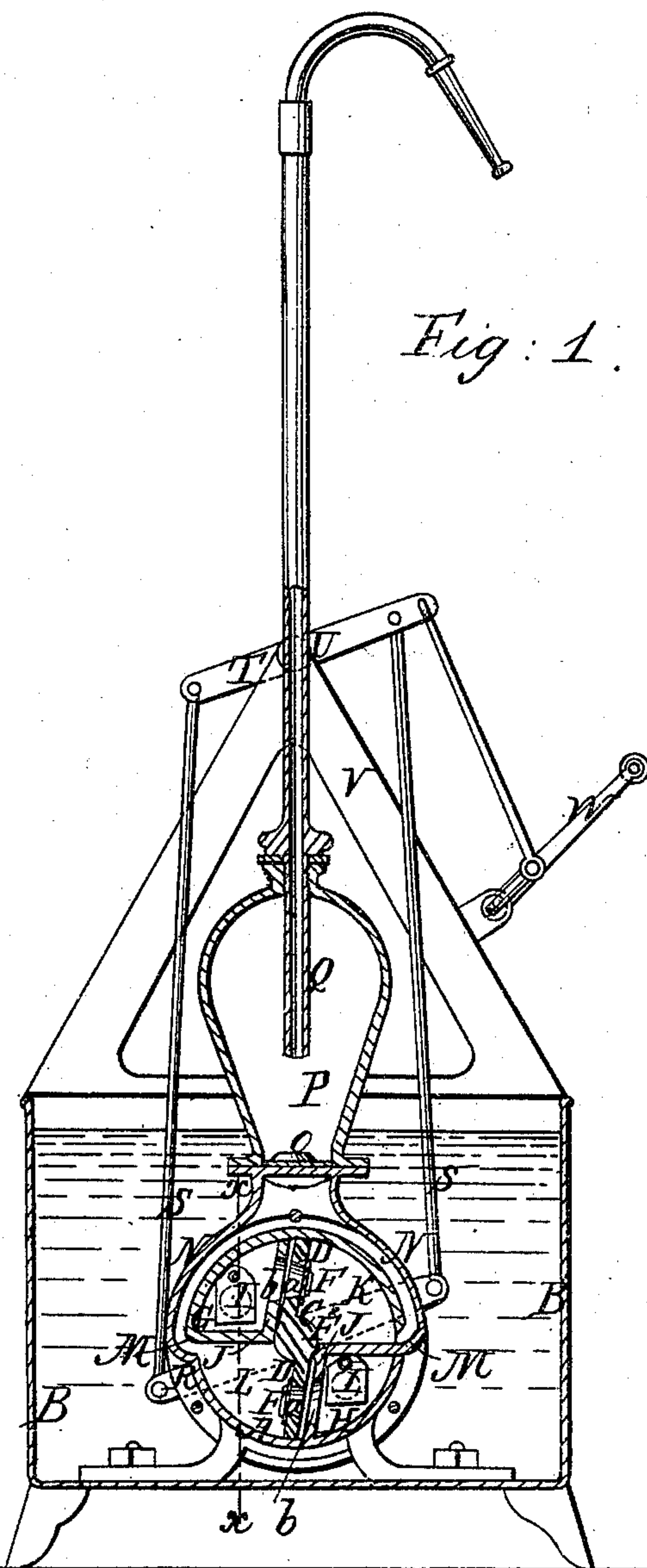


Fig: 1.

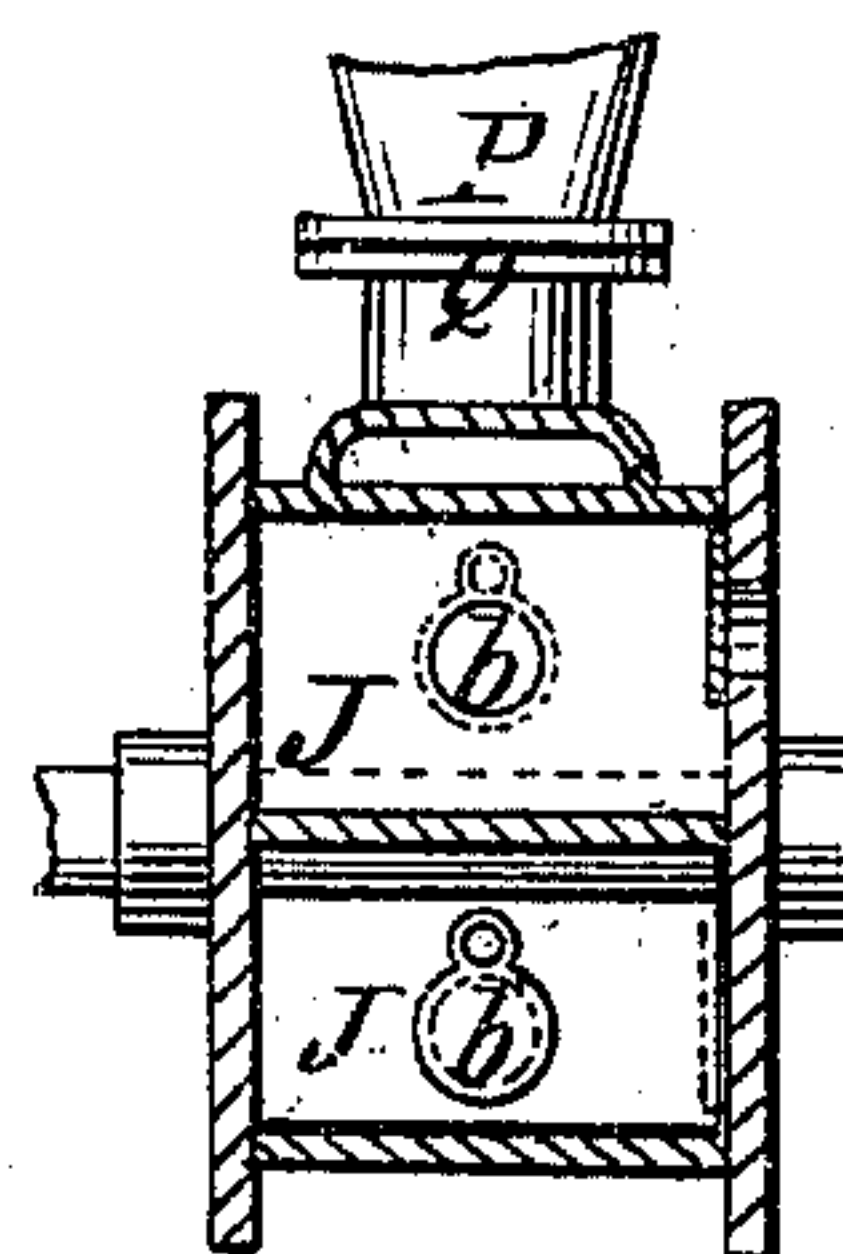


Fig: 2.

Witnesses
Theo Tusch.
Wm. Tuwn.

Inventors
A. Perry.
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Per J. W. C. Atkins.

United States Patent Office

ALONZO PERRY AND MOSES C. HAWKINS, OF EDENBORO, PENNSYLVANIA.

Letters Patent No. 63,937, dated April 16, 1867.

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 we, A. PERRY and M. C. HAWKINS, of Edenboro, in the county of Erie, and State of Pennsylvania, have invented new and useful improvements in "Force-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 make and use the same, reference being had to the accompanying drawings, forming part of this specification.

The present invention consists principally in a novel construction of a force-pump, intended for deep wells; whereby the pump can be submerged, thus dispensing with a feed pipe, and many other important advantages secured, as will be obvious from the following detail description of my improvements, reference being had to the accompanying plate of drawings, in which—

Figure 1 is a central vertical section through the pump; and

Figure 2, a transverse vertical section taken in the plane of the line *x x*, fig. 1.

Similar letters of reference indicate like parts.

A, in the drawings, represents the piston-cylinder or drum of the pump, which, in the present instance, is shown as attached to the bottom of a tank or receptacle, B; this tank being employed to more fully illustrate the adaptation of my pump to a deep well or other reservoir, from which it is desired to remove the water by pumping. C, a piston hung and packed in cylinder A so as to turn air-tight therein. This piston consists of two radial arms, D, attached to or forming a part of a common centre hub, E, in each of which an opening, *a*, is made, closed by a suitable valve-plate, F. The piston-cylinder A is divided into chambers, F², G, and H, in the one, F², of which the two arms of the piston move or play, the other two chambers, G and H, both having communication with the tank, through valves or feed ports I in the sides of the cylinder, and with the chamber for the piston, through openings, *b*, in one of the partition-plates J, by which the division of the piston-cylinder is made. The hub of the piston is made to run air-tight at and between the angles of the chamber-partitions J so as to cut off the upper section or portion K of chamber F² from its lower section, L. M are discharge-ports, one to each section of piston-chamber F², from which ports passages or tubes, N, extend, over the upper portion of piston-cylinder, meeting and uniting at the centre of the same, where a valve, O, opening upward is arranged, which valve is surmounted by a drum or air-reservoir, P. Q, a pipe inserted in upper end of reservoir P, communicating with its interior. R, a beam, or radial arms, secured to one end of the piston-hub outside of the casing or cylinder, and S connecting-rods, hung one to each end of beam R, from which, passing upward, they are hung at their upper ends to a tilting-beam or arm T, hung by its centre shaft U in suitable bearings of the uprights V; this beam R being operated by a crank or winch-handle, W, properly connected with it therefor.

From the above description of the construction and arrangement of the various parts composing my pump, it is plain to be seen that, by the turning of the crank or winch-handle W, a reciprocating rotary movement will be imparted to the piston-arms within their chamber F of the piston-cylinder, by means of which their valves will be alternately opened and closed, as well as those of the piston-cylinder communicating with the reservoir or tank B, and in such a manner with regard to each other as to cause a continuous flow of water to the air-reservoir or drum, and from it out through the discharge pipe Q, connected with such reservoir.

We claim as new, and desire to secure by Letters Patent—

The construction and arrangement of the double-armed reciprocating piston C, having valves F, its hub E working air-tight between the angles of the perforated partition-plates J, thereby forming the chambers F² in the cylinder A, valves I in the chambers G H, discharge ports M in the sections of the chamber F, uniting and forming the tube N upon the upper half of the cylinder A, as hereir shown and described.

ALONZO PERRY,
MOSES C. HAWKINS.

Witnesses:

GEORGE PROUD,
PRENTICE GROSS.