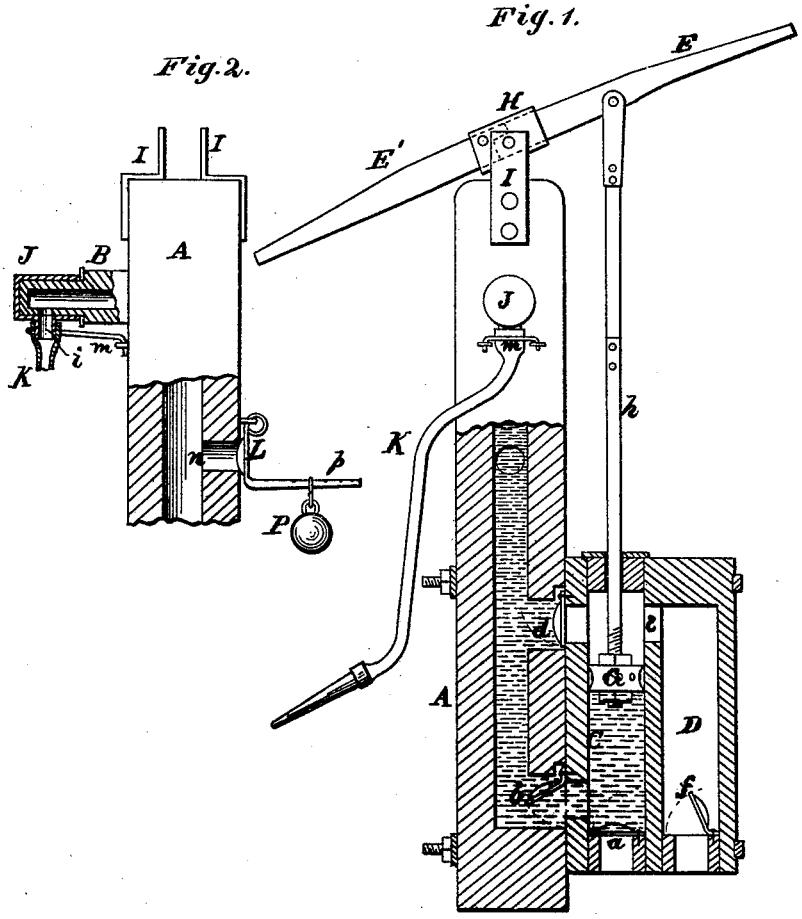
W. WING.

PUMP.

No. 183,737. Patented Oct. 24, 1876.

Fig. 1.

Fig. 2.



WITNESSES

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WARREN WING, OF WINN, MICHIGAN.

IMPROVEMENT IN PUMPS.

Specification forming part of Letters Patent No. **183,737**, dated October 24, 1876; application filed July 12, 1876.

To all whom it may concern:

Be it known that I, WARREN WING, of Winn, in the county of Isabella, and in the State of Michigan, have invented certain new and useful Improvements in Pumps; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction and arrangement of a double-acting force-pump, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a vertical section of the pump-stock and cylinders. Fig. 2 is a section of a part thereof.

A represents the pump-stock, closed at both ends, and provided with an outlet-spout B, as shown. To one side of the pump-stock A are attached two cylinders, C and D. The cylinder C has a valve, *a*, in the bottom, and communicates near its ends with the interior of the pump-stock by means of the valves *b d*. The cylinder D has a valve, *f*, in the bottom, and communicates with the cylinder *c* through an aperture, *e*, near the top. In the cylinder C is a piston or plunger, G, provided with a leather packing-ring, surrounding the same, said ring being flaring both at top and bottom, so as to form suction either way. *h* is the piston-rod, passing up through the top of the cylinder C, and connecting with the handle E. This handle is inserted in a clamp or socket, H, pivoted between two irons, I I, secured on top of the pump-stock, said clamp or socket being so arranged that another handle, E′, can be inserted in the other end, when it is desired for two persons to use the pump. When the plunger G moves downward, the valves *a* and *d* are closed, and the valves *b* and *f* open. The water below the plunger is forced through the valve *b*, into and up through the pump-stock and out at the spont, while at the same time the water is drawn through the valve *f* into the cylinder D, and passes through the passage *e* into the cylinder C on top of the plunger, so that on the return stroke, when the piston ascends, this water will be forced through the valve *d* into the pump-stock, while the lower end of the cylinder is then filling with water. On the end of the spout B is placed a cap, J, having a nozzle, *i*, on its under side. On this nozzle is placed a rubber tube, K, held by means of a hooked bail, *m*, as shown. On one side of the pump-stock A is an opening, *n*, covered by a valve, L, from which projects an arm, *p*, and on this arm is hung an adjustable weight, P. The valve can, by means of this weight, be set for any pressure desired, so that there is no danger of the pump-stock bursting when two men are working the pump rapidly, as for any excess of pressure the valve L rises and allows the same to pass out.

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

1. The combination of the pump-spout B, cap J, with nozzle *i*, hose K, and staple *m*, all substantially as and for the purposes herein set forth.

2. The combination, with the pump-stock A, having opening *n*, of the hinged valve L, with projecting arm *p*, and the adjustable weight P, substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 6th day of May, 1876.

WARREN WING.

Witnesses:
THOS. G. WILLIAMSON,
CHAS. DELO.