D. O. HOLMAN.

PUMP.

No. 176,633. Patented April 25, 1876.

Fig. 1.

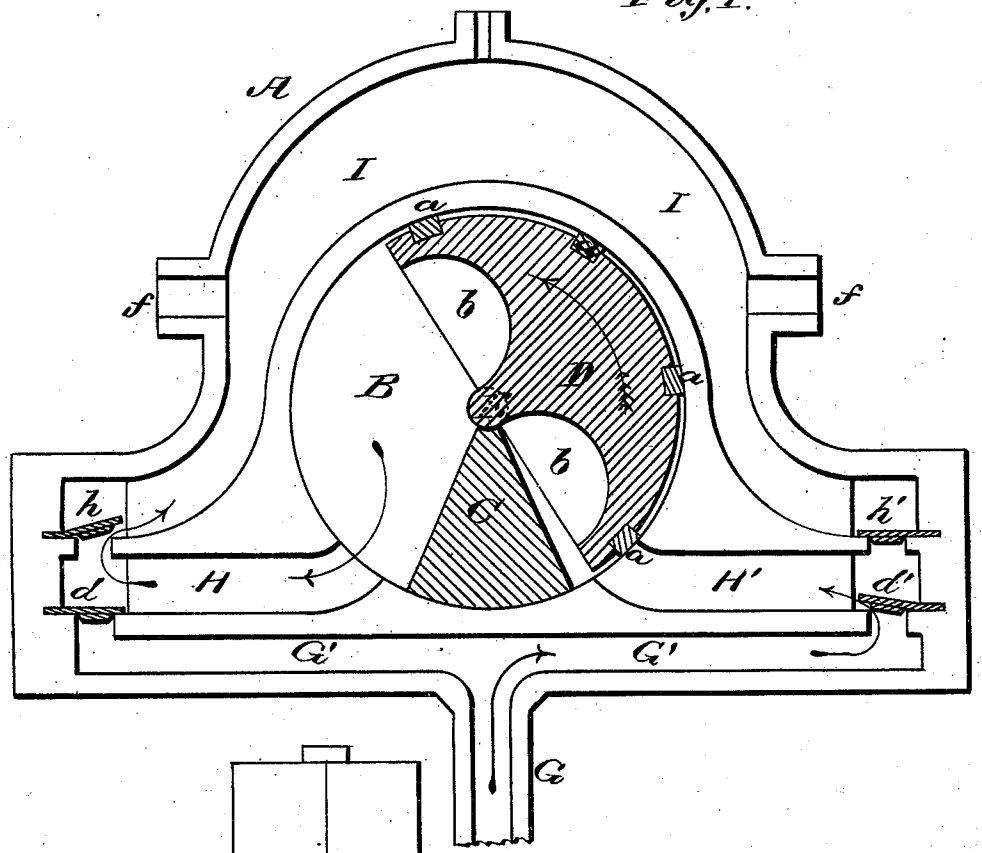
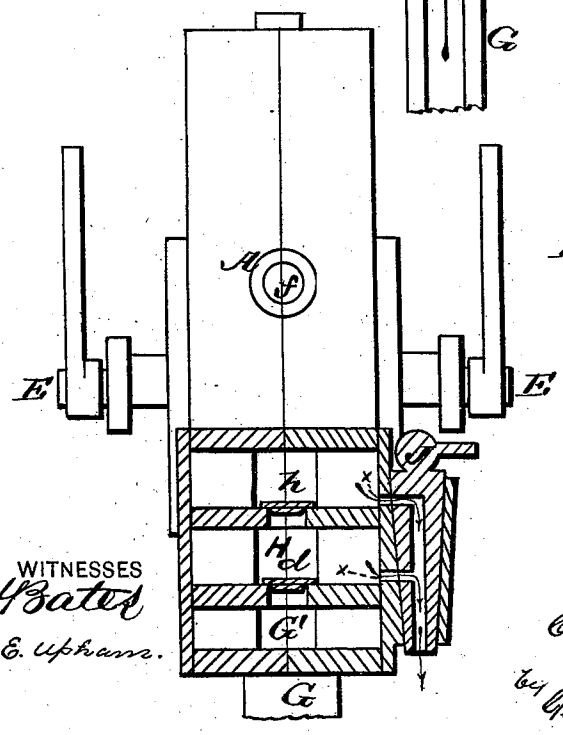


Fig. 2.



WITNESSES

E. H. Bates

Geo. E. Upham.

INVENTOR,

David O. Holman.

Chipman, Hosmer & Co.

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ATTORNEYS.

UNITED STATES PATENT OFFICE.

DAVID O. HOLMAN, OF ADAMS, NEW YORK, ASSIGNOR OF ONE-HALF HIS RIGHT TO T. P. SAUNDERS, OF SAME PLACE.

IMPROVEMENT IN PUMPS.

Specification forming part of Letters Patent No. **176,633**, dated April 25, 1876; application filed March 4, 1876.

To all whom it may concern:

Be it known that I, DAVID O. HOLMAN, of Adams, in the county of Jefferson and State of New York, have invented a new and valuable Improvement in Pumps; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a side view, part vertically sectional, of my pump, and Fig. 2 is a transverse vertical sectional view of the same.

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

In the annexed drawing, A represents the case of my pump, in which is a circular box or cylinder, B, having a stationary abutment, C, in its bottom, said abutment being in triangular form, and extending from the center downward to the bottom. Through the center of the cylinder B passes a shaft, E, upon which is secured a semicircular plunger, D, which fits the interior of the cylinder, and has suitable packing *a* inserted in it to make water-tight joints. The straight or inner side of the plunger is hollowed out, as shown at *b b*, to increase the size of the water-chamber. G is the inlet for the water passing into the passage G′. This passage has at its ends the valves *d d′*, which open into passages H H′, respectively, said passages opening into the cylinder B, one on each side of the abutment C. Above the valves *d d′*, at the outer ends of the passages H H′, are valves *h h′*, leading into a chamber, I, surrounding the top and sides of the cylinder B, between it and the interior of the case A, said chamber being provided with one or more outlets, *f*.

In the position shown in the drawing the plunger is supposed to be turning to the left, when the water in front of the plunger is forced thereby through the passage H, closing the valve *d*, and passing through the valve *h* into the chamber I, and out therefrom, this water in said chamber keeping the valve *h′*, on the other side, closed. At the same time the suction of the plunger draws the water through the valve *d′* and passage H′ into the cylinder B on that side of the abutment. As soon as the motion of the plunger D is reversed the valves *h* and *d′* close, and the valves *d* and *h′* open, so that the water is reversed, and keeps up a steady and continuous stream of water through the outlet.

At each end of the pump is a faucet, J, having two apertures, *x x*, communicating with the passages immediately above the valves, as shown in Fig. 2, to drain the pump and prevent freezing.

What I claim as new, and desire to secure by Letters Patent, is—

1. The rocking or vibrating plunger D, hollowed out at *b b* and provided with packing *a*, in combination with the cylinder B and stationary abutment C, substantially as shown and described.

2. The combination of the casing A, cylinder B with abutment C and rocking plunger D, inlet-passages G G′, valves *d h* and *d′ h′*, passages H H′, and chamber I, with one or more outlets, *f*, all as and for the purpose set forth.

3. The faucet J with double apertures *x*, in combination with the passages and valves, as and for the purpose set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

DAVID O. HOLMAN.

Witnesses:
G. B. R. WHIPPLE,
M. E. RICH.