(No Model.)

# A. A. HINDS.

## PUMP.

No. 265,080. Patented Sept. 26, 1882.

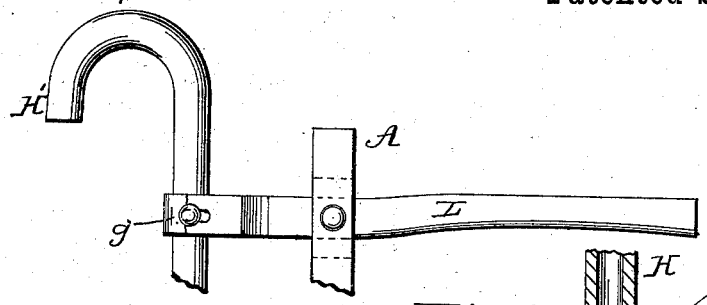



Fig. 1.

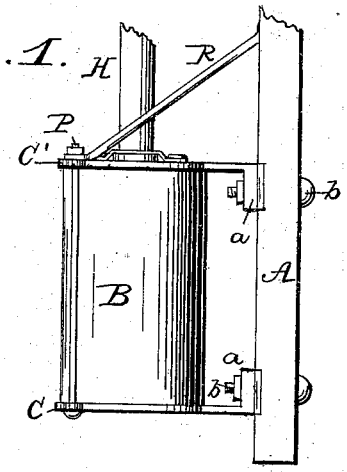



Fig. 2.

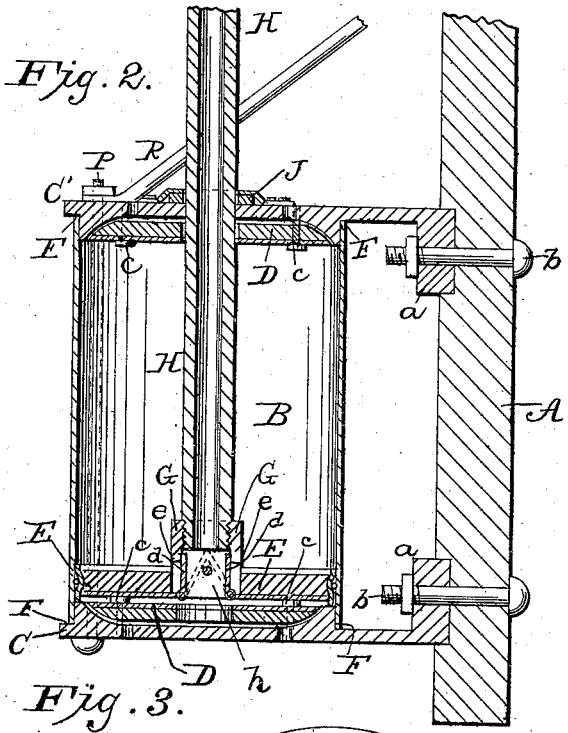
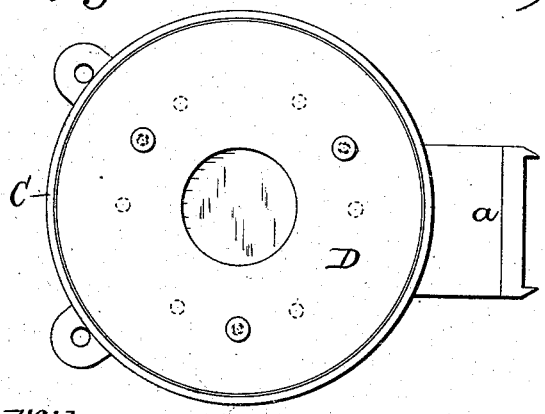
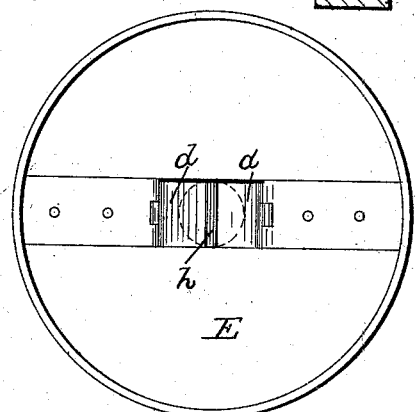



Fig. 3.

Fig. 4.




Witnesses:
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# UNITED STATES PATENT OFFICE.

ALFRED A. HINDS, OF LEXINGTON, INDIANA.

## PUMP.

SPECIFICATION forming part of Letters Patent No. 265,080, dated September 26, 1882.

Application filed July 24, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, ALFRED A. HINDS, of Lexington, in the county of Scott and State of Indiana, have invented certain new and useful Improvements in Pumps; and I 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, which form part of this specification.

This invention relates to double-acting force-pumps wherein a tubular piston-rod is used and the water is discharged through such rod.

The nature of my invention and improvement consists in a novel manner of constructing and arranging the valves of the pump, as will be understood from the following description, taken in connection with the annexed drawings, in which—

Figure 1 is a side elevation of the pump complete. Fig. 2 is a diametrical section through the pump, part of the discharge-pipe being broken off. Fig. 3 is a view of one end of the plunger or piston. Fig. 4 is an inside view of one of the cylinder-heads.

The letter A designates the pump staff or post; B, the cylinder, and C C′ the cylinder-heads, which latter are constructed substantially alike. These heads are formed with angular lugs *a*, the vertical portions of which are adapted to embrace the staff or post A and to receive through them the bolts *b b*, which rigidly secure the heads to said post. Each one of the cylinder-heads is provided inside with a flat ring-valve, D, which is faced with leather or other suitable material, and which is adapted to close a number of inflow-passages through the head. Each valve is guided by studs *c*, which allow it free play and prevent any liability of binding. When the piston E is moving away from one of the valves it will allow water to rush into the cylinder. At the same time the opposite valve D will close the passages through its head. The ring-valves D are seated in annular recesses formed in the cylinder-heads, which recesses are surrounded by flanges that receive the ends of the cylinder F water-tight, as shown in Fig. 2.

The piston E has a rectangular opening centrally through it, in which are applied two hinged valves, *d d*, which are arranged to close the said central opening, and also two lateral openings, *e e*, which are made through a hollow rectangular hub, G, formed on the top of the piston, as shown in Fig. 2. Into the hub G is suitably secured a tubular piston-rod, H, which passes through the cylinder-head C′, and also through a stuffing-box, J, on this head, and terminates in a discharge-nozzle, H′.

Near the discharge-nozzle H′ a collar, *g*, is secured on the tubular piston-rod H, to which is pivoted the actuating hand-lever L, the fulcrum of which is on the post A. By vibrating this lever the piston-rod H and the piston will receive vertical reciprocating motion. When the piston is raised valves *d d* will close against a horizontal bar, *h*, and water will be drawn into the cylinder through the bottom head, C, and if there is water above the piston it will be forced up the pipe H, the valve D of the upper cylinder-head closing tightly. When the piston is being moved downward the bottom valve, D, will shut, and the top valve will open and allow water to enter the cylinder through its upper head. During this descending stroke of the piston the two valves *d d* will close the lateral openings through the hub G and water in the cylinder beneath the piston will be forced up the pipe H. It will thus be seen that the pump is double acting, water being forced up the pipe H at each stroke.

The cylinder-heads are secured by bolts P and braced against vertical strain by rods R, secured to said bolts and to the staff or post A.

Having described my invention, I claim—

1. The combination, in a double-acting force-pump, of the cylinder, the cylinder-heads, the angular lugs formed thereon, the valves D D, the piston provided with vertical and lateral passages, the valves *d d*, and the tubular piston-rod, all constructed and arranged to operate substantially in the manner and for the purposes described.

2. In a double-acting forcing-pump, the combination of the cylinder-heads, the lugs formed thereon and bolted to the staff A, the cylinder, the bolts P, and the braces R, all constructed and adapted to operate substantially in the manner and for the purposes described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

ALFRED A. HINDS.

Witnesses:

ROBERT HENNING,

COLIN F. LUNHUN.