Johnson & Singer,

Pump Lift,

No. 53,007. Patented Mar. 6, 1866.

Fig. 1.

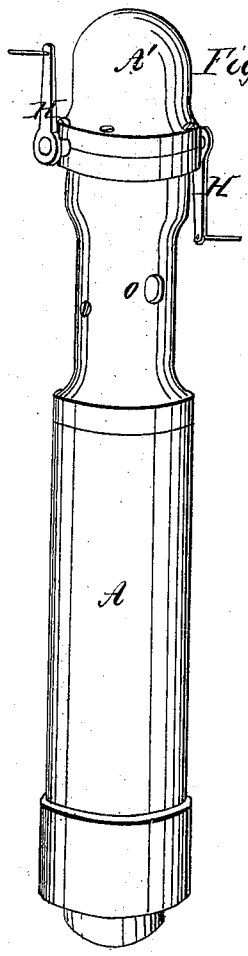


Fig. 2.

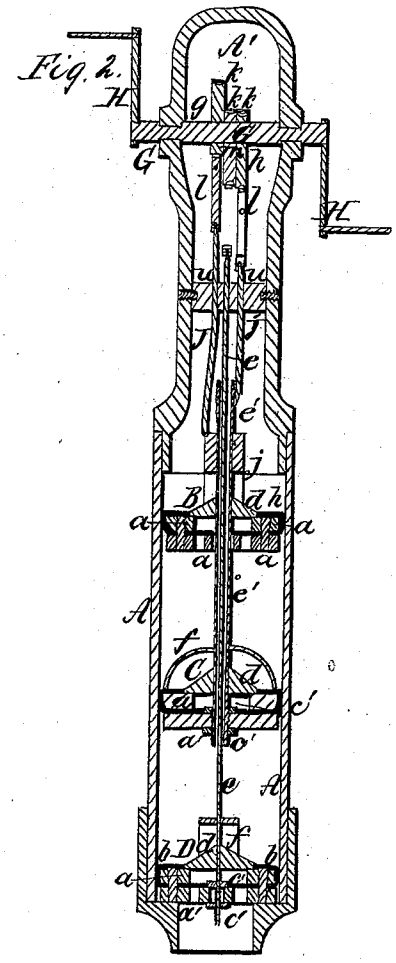
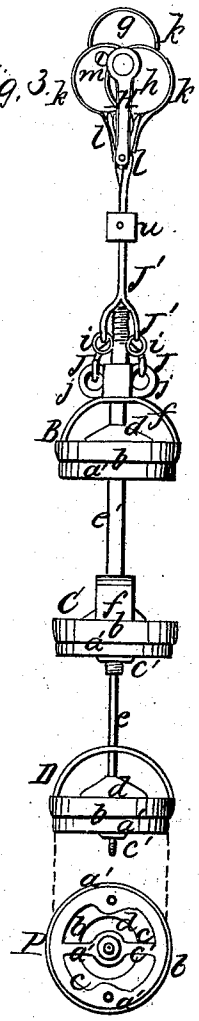


Fig. 3.



Witnesses,

W. H. Burridge.

A. W. McClelland.

Inventors,

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UNITED STATES PATENT OFFICE.

J. JOHNSON, OF SAGINAW, MICHIGAN, AND C. W. SINGER, OF ANDERSON STORE, VIRGINIA, ASSIGNORS TO THEMSELVES AND ABEL LAND, OF BURWELL, CANADA WEST.

IMPROVEMENT IN PUMPS.

Specification forming part of Letters Patent No. **53,007**, dated March 6, 1866.

To all whom it may concern:

Be it known that we, J. JOHNSON, of Saginaw, in the county of Saginaw and State of Michigan, and C. W. SINGER, of Anderson Store, county of Lewis, Virginia, have invented certain new and useful Improvements in Pumps; and we do hereby declare that the following is a full and complete description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view of the pump. Fig. 2 is a vertical section. Fig. 3 represents the valves, with their connections detached.

Like letters of reference refer to like parts in the several views.

My improvement relates to pumps, as hereinafter described.

A is the cylinder or barrel of the pump, which can be of any required length, having a cap, A′, secured on the top. The entire pump is made of metal.

B, C, and D are plungers that fit close inside of the cylinder, as represented in Fig. 2. Each plunger consists of a valve-seat, *a*, and follower, *a′*, secured together, between which packing *b* is placed, as shown, that is turned up round on the outside of the valve-seat.

d is the valve that rests on the valve-seat *a*, which has a circular opening through the center, and in the follower there is a cross-bar, *a″*, as shown at P in Fig. 3, which is a view of the under side of the plungers. The valves, valve-seats, and followers are all constructed alike.

e is a valve-rod connected to the lower plunger, D, by passing through the cross-bar *a″* of the follower, and fastened by nuts *c′* above and below, as shown in Fig. 2, and by means of which the plunger can be adjusted up or down on the rod. There are openings *c* on each side of the cross-bar *a″* in the followers for water to pass up through, raising the valves.

The valve-rod *e* extends up through a tube, *e′*, in the center of the pump, and to the lower part of this tube, that passes through the plungers B and C, the plunger C is secured, by nuts *c′*, above and below the follower, as in the plunger D.

There are bails *f* extending up round from the plungers or valve-seats, through which the valve-rod *e* and tube *e′* pass. These bails render the plungers more firm and steady in their position.

At the upper part of the bail *f* of the plunger B are eyes *j*, into which a connecting or valve rod, J, hooks, being forked at the lower end for this purpose.

J′ is another valve-rod, forked at the lower end to hook into eyes *i* on the tube *e′*, whereby the tube is moved up and down on the valve-rod *e*, raising and lowering the plunger C.

The valve-rods J, J′, and *e* are all pivoted or hung at the upper end to pieces *l*, to which straps *k* are attached, that pass up round eccentrics or cranks *g h m*, secured on a crank-shaft, G, by which the plungers are operated, the crank-shaft being turned by handles H.

The connecting-rods pass up through a guide, *u*, secured to the sides of the pump to keep them in place as they move vertically.

The eccentrics are on the shaft in such a position, as shown in Fig. 3, that as they are turned all three of the plungers are moved differently. When one is ascending another is descending, so that one plunger is always elevating water, keeping a constant current running out through the water-spout inserted in the opening *o* in the pump-barrel.

There can be any desired number of plungers in the pump, operated in the same manner.

What we claim as our improvement, and desire to secure by Letters Patent, is—

The arrangement of the plungers B C D, consisting of the followers *a′*, valves *b*, and valve-seats *a*, in combination with the rod *e*, tube *e′*, rods J J′, and eccentrics, when operating conjointly, as and for the purpose set forth.

J. JOHNSON.
C. W. SINGER.

Witnesses:
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