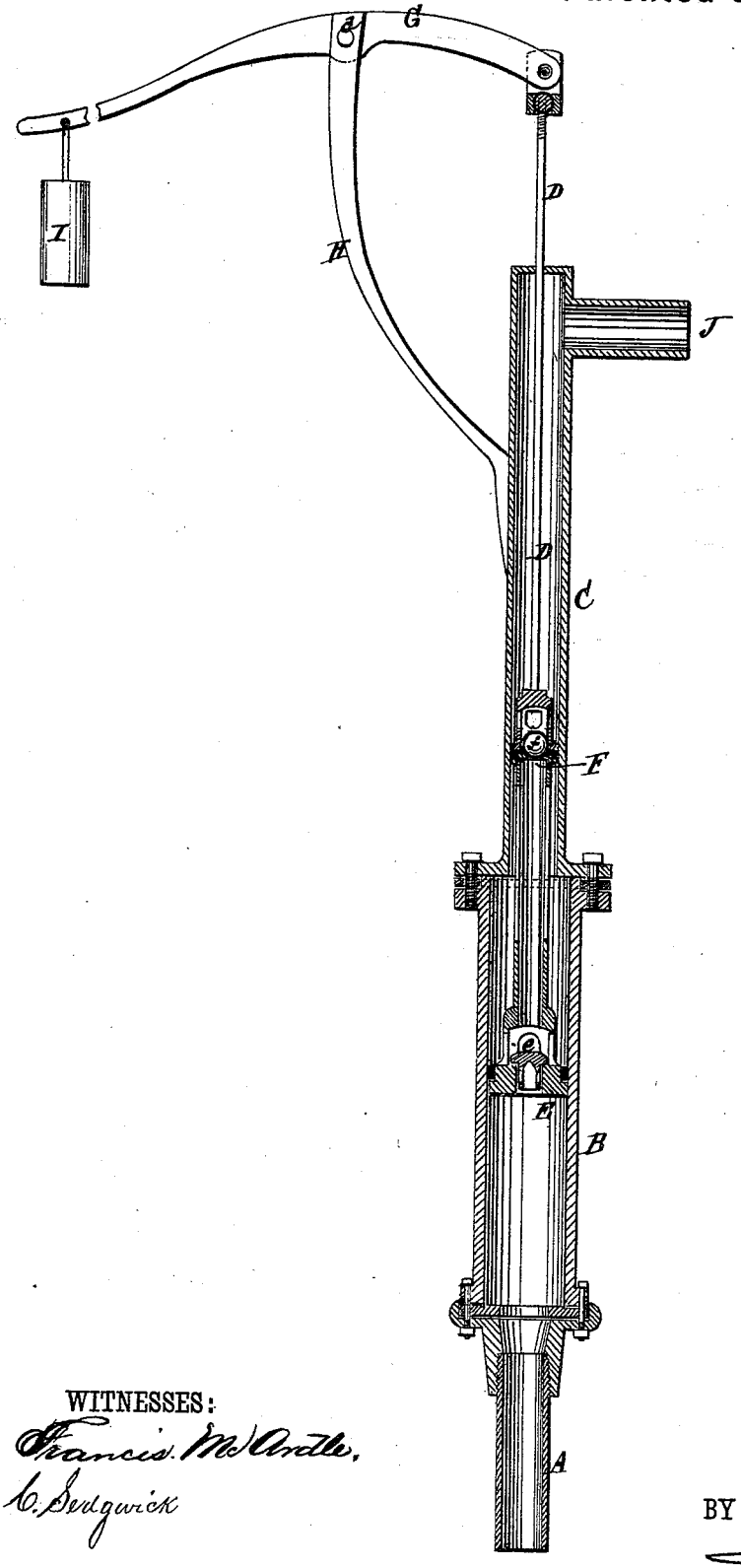
G. A. BEEMAN & J. T. MASON.

Pump.

No. 208,285. Patented Sept. 24, 1878.



WITNESSES:

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UNITED STATES PATENT OFFICE.

GERALDO A. BEEMAN AND JOHN T. MASON, OF COMANCHE, TEXAS.

IMPROVEMENT IN PUMPS.

Specification forming part of Letters Patent No. **208,285**, dated September 24, 1878; application filed July 18, 1878.

To all whom it may concern:

Be it known that we, GERALDO ALONZO BEEMAN and JOHN THOMAS MASON, of Comanche, in the county of Comanche and State of Texas, have invented a new and useful Improvement in Pumps, of which the following is a specification:

The object of our invention is to provide a new and improved pump so constructed as to produce a greater effect with the application of less power than can be done in pumps as heretofore constructed.

The invention consists in a pump having two barrels of different diameters, the larger being subjacent to the smaller, and each provided with a valved piston, said pistons being both secured to the same piston-rod, in combination with a weight, arranged to counterbalance the added weights of the water-columns above the smaller and below the larger piston, as will be hereinafter described.

The accompanying drawing represents a vertical section of our improved pump.

A is the suction-pipe, at the upper end of which is secured the lower end of the large pump-barrel, B. To the upper end of the latter, and in axial line with it, is secured the small pump-barrel C.

D is the piston-rod, to which are secured the two pistons E F of the barrels B and C, respectively, each piston being provided with an upward-opening valve, *e f*. G is a lever for operating the pump, being pivoted at one end to the upper end of the piston-rod D, and fulcrumed at *d* to the stationary bracket H. I is a weight suspended to the free end of the lever G, and made heavy enough to counterbalance the weight of the water-column between the upper valve, *f*, and the overflow surface of the spout J, and, in addition thereto, the weight of the column of water from the water-level in the well (or other supply) to the lower valve, *e*. The pistons being attached to the same rod D, and thus moving together with the same velocity, the water contained above the piston E in the large barrel, B, will be forced on the upward stroke into the small barrel, C, and a portion of it, proportional to the difference in size between the two barrels, will be forced through and rise above the valve *f* of the upper piston, F, causing the discharge of an equal volume through the spout J.

The power not supplied by the weight I, and necessary to be applied extra on the upward stroke, is thus equal only to the power required to displace the said volume of water from the larger cylinder, B, to the smaller, C, and to overcome the friction between the moving and the stationary surfaces. On the downward stroke the valve *f* closes with the weight of water above it, and the lower water-column, being kept up constantly by the atmospheric pressure to fill the vacuum caused by the upward stroke of the piston E, raises the valve *e*, and refills the barrel B above the piston E until the next upward stroke begins.

We do not limit ourselves to the exact form or arrangement of the weight I, or any of the other parts here shown, as they may be varied without departing from our invention.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

A pump having two barrels, B C, of different diameters, the larger, B, being subjacent to the smaller, C, and both provided with their respective valved pistons E F, secured upon the same piston-rod D, in combination with the weight I, arranged to counterbalance the added weights of the water-columns above the piston F and below the piston E, to obviate the necessity of lifting them, substantially as shown and described.

GERALDO ALONZO BEEMAN.
JOHN THOMAS MASON.

Witnesses:
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C. B. MASON.