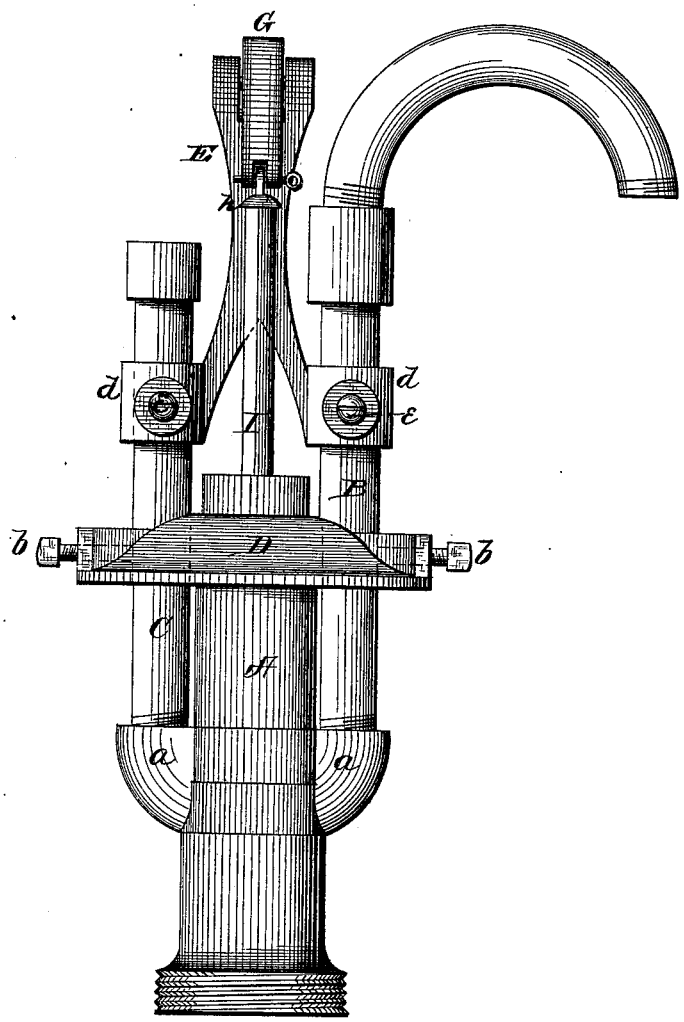
2 Sheets—Sheet 1.

R. BEAN.

Double-Acting Pump.

No. 197,082. **Patented Nov. 13, 1877.**

Fig. 1.



WITNESSES

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2 Sheets—Sheet 2.

R. BEAN.

Double-Acting Pump.

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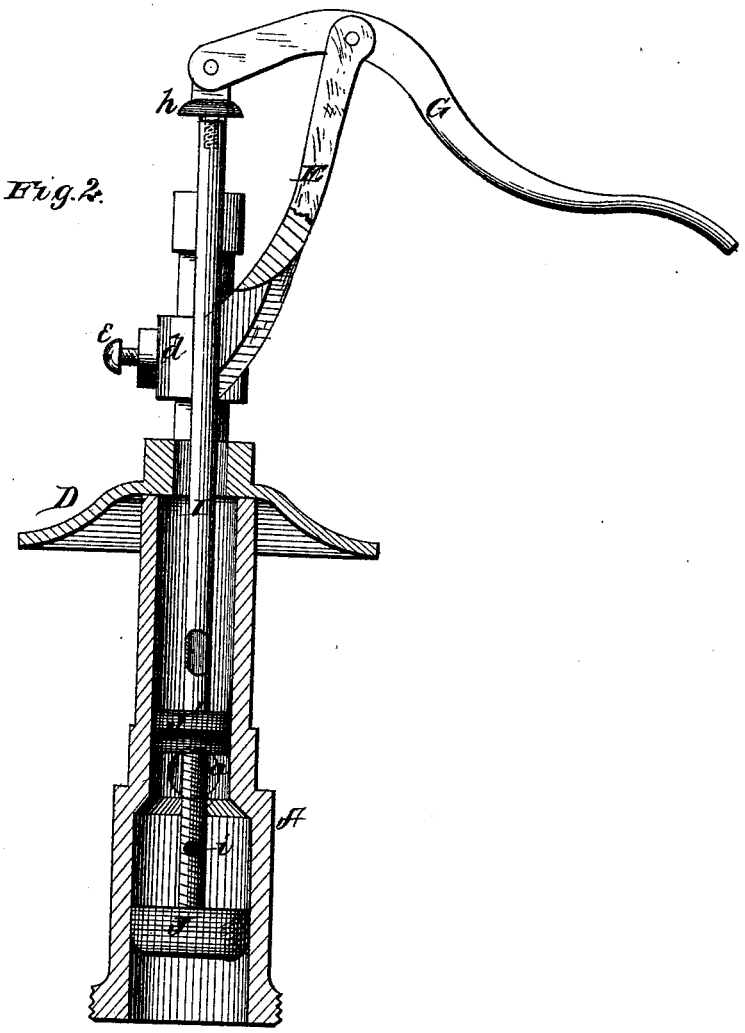
Fig. 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

ROSCOE BEAN, OF HUDSON, MICHIGAN.

IMPROVEMENT IN DOUBLE-ACTING PUMPS.

Specification forming part of Letters Patent No. **197,082**, dated November 13, 1877; application filed October 11, 1877.

To all whom it may concern:

Be it known that I, ROSCOE BEAN, of Hudson, in the county of Lenawee, 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 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 drawings, in which—

Figure 1 is a side elevation of my improved pump, and Fig. 2 is a central vertical section of the same.

A represents the cylinder of my pump, formed with two projections, *a a*, with openings in the top communicating with the interior of the cylinder. In one of these openings is screwed the discharge-pipe B, and in the other a pipe or rod, C. If this latter is a tube, its upper end should be closed.

D represents the platform-flange, having suitable apertures for the passage of the pipes B and C, and also for the pump-rod I; and said platform-flange is fastened to the pipes B C by means of set-screws *b b*, or, more properly speaking, the pump is suspended below the platform-flange by the set-screws *b b*, holding the pipes B C therein.

By this means the pump can be easily raised or lowered, as may be required, without loosening the platform-flange from the curb or other support.

E represents the handle-standard, having its lower end forked, and formed with two sleeves or sockets, *d d*, through which the pipes B C are passed, and the standard then fastened by means of set-screws *e e*.

This standard can thus be adjusted to any height desired, and easily fastened in position.

G is the pump-handle, pivoted in the top of the standard E, and connected to the pump-rod I. This rod is a tube closed at both ends, and provided with two pistons or buckets, J J′. The upper end of the tube I has an eye-screw, *h*, screwed into it to form a connection with the pump-handle. Between the two buckets an opening, *i*, is made into the tube I.

This hollow rod or tube I is used as an air-chamber and force and suction rod, the upper bucket, J′, being the force-bucket, and the lower one, J, the suction-bucket.

The cylinder A is constructed, as shown, of unequal diameter, the lower or suction bucket J working in the large bore, and the upper or force bucket in the smaller bore.

The relative dimensions of the parts are such that the upper or force bucket J′ is of half the capacity of the lower or suction bucket J.

The object of this arrangement is, that while the lower bucket is drawing water from the bottom, at the same time it is forcing one-half of the water into the upper part of the cylinder, and the other half out at the spout. In returning, the balance of the water is discharged, making, in connection with the air-chamber in the force-rod I, an even stream or flow of water.

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

1. The combination of a pump-cylinder, A, discharge-pipe B, tube or rod C, and the stationary platform-flange D, the entire pump proper being adjustably suspended below said platform, substantially as and for the purposes herein set forth.

2. The adjustable handle-standard, forked at its lower end, and formed with sleeves or sockets having set-screws, as described, in combination with a pump having upwardly-projecting tubes, or one tube and one rod, substantially as herein set forth.

3. In a pump, a force and suction rod, I, used as an air-chamber, in combination with two buckets attached to it, the upper or force bucket being made about one-half the capacity of the lower or suction bucket, and the air-discharge between the two buckets, as herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 4th day of October, 1876.

ROSCOE BEAN.

Witnesses:

JAMES B. THORN,

T. W. TOLCHARD.