

J. A. Morrell,

Pump.

No. 91,151.

Patented June 8, 1869.

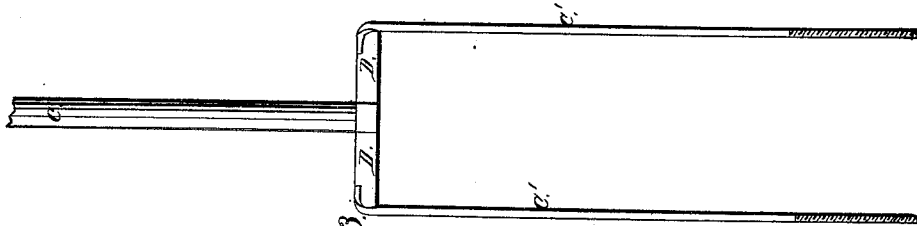


Fig. 3.

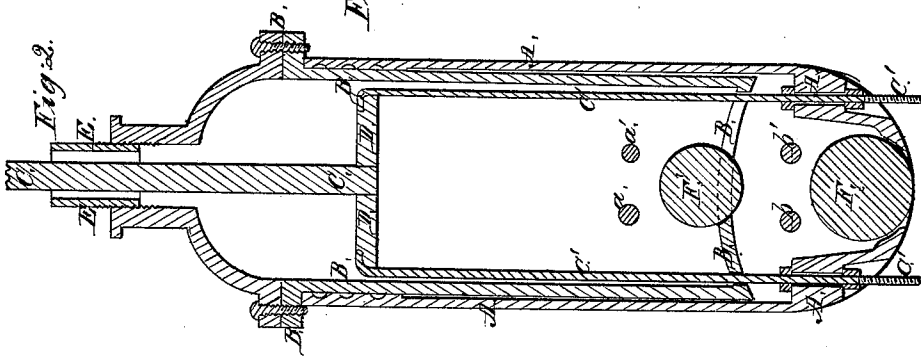


Fig. 2.

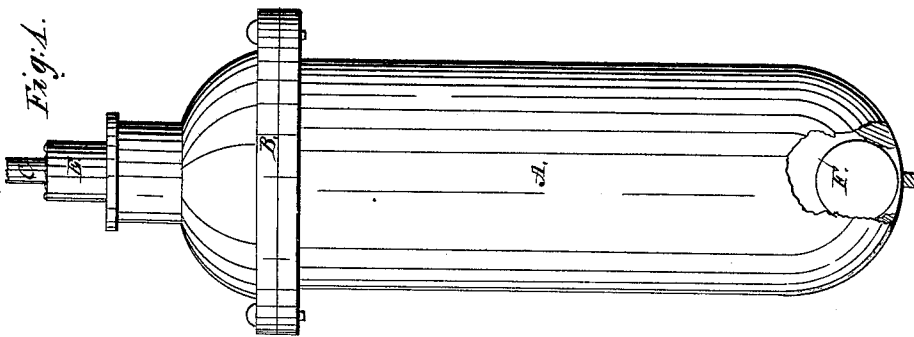


Fig. 1.

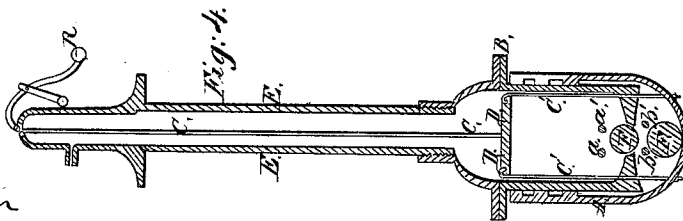


Fig. 4.

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JAMES A. MORRELL, OF NEW YORK, N. Y.

Letters Patent No. 91,151, dated June 8, 1869.

IMPROVEMENT IN PUMPS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JAMES A. MORRELL, of New York, in the county and State of New York, have invented a new and useful Improvement in Pumps; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawing, making part of this specification, in which—

Figure 1 is an elevation of my improved pump, showing the globe-valve in the shell thereof;

Figure 2 is a vertical central section thereof; and

Figure 3 is a detached view of the rods and cross-head for working the outer shell of the pump.

Figure 4 is a sectional elevation of the pump, showing the pump in position, and how the same may be suspended in the well or reservoir.

Corresponding letters in the several figures refer to corresponding parts.

This invention relates to an improved pump, and it consists in the construction, combination, and arrangement of its parts, as will be more fully described hereinafter.

A, in the drawings, represents the casing, or outer vibrating shell of the pump, which may consist of a cylinder of metal, open at its upper end, while its lower end may be closed with a concavo-convex head, except the aperture at the bottom for the admission of water thereto.

This case or shell has a valve-seat, formed upon its interior surface, and at its lower end, for the reception of the globe-valve F, or it may be for any other form of valve, although I prefer the kind shown, as being the most simple, and perhaps the most effective.

By referring to fig. 2 of the drawings, it will be seen that there is formed upon the interior surface of this case, or cylinder, and near its upper end, a series of grooves extending entirely around the same, and arranged one above or outside of the other, which may be used to pack this cylinder tight, upon the surface of the interior, or stationary one, in the event of its being found necessary. It is believed, however, that in practice, these grooves will become filled with water, and that that will prevent the necessity of using any other form of packing.

It will also be seen, upon reference to the above-named figure, that the lower end of this outer cylinder is so formed as to receive two bolts or rods, which pass through its lower end, and are secured therein by means of nuts placed upon the inner and outer sides of its closed end, which rods are for the purpose of transmitting motion to said cylinder, as will be described hereafter.

B represents a cylinder, which is interior to the one above described, with the exception of its upper end, which terminates in a flange for the reception of a cap, which is secured thereto, which cap extends upward

and terminates in a neck, which receives the discharge or suspending-pipe E, the connecting-rod C working through the aperture in the centre of this neck of the cap.

The lower end of this cylinder is closed by a head, similar in form to that described as closing the lower end of cylinder A, and is provided with a valve-seat upon its interior surface, in a similar manner, which is for the reception of valve F'. In operation, this interior cylinder is suspended, as shown in fig. 4, by the discharge-pipe E.

C represents a connecting-rod, which is attached, at its upper end, to the handle of the pump, as shown in fig. 4, where it is joined to a cross-head, D, which extends nearly across the bore of said cylinder, and receives into holes formed in its outer ends, the connecting-rods C' C', the lower ends of which pass through the lower head of cylinder A.

E represents a pipe, which serves both as a discharge-pipe for the water, and as a means of suspending the pump in the well or reservoir, for which latter purpose there is secured to, or formed upon it, a flange, which is to rest upon the platform that covers the well, or upon any suitable support for that purpose.

F represents a valve, which is to be placed in the seat formed in the bottom of cylinder A, and which may be prevented from rising out of its proper place, by means of two rods *b b'*, or by any suitable cage, secured to the bottom of said cylinder.

F' represents a similar valve, secured in a similar manner, within the interior cylinder B, in a manner similar to that already described for cylinder A. It will be seen, that as a consequence of this arrangement of valves, water will be admitted to the lower portion of the outer cylinder, when such cylinder is lowered by raising the handle of the pump, and that, so soon as the motion of said handle is reversed, and it begins to be depressed, the cylinder will begin to rise, and the valve F will be seated, and the one, F', will rise from its seat, which will cause the water to be discharged through cylinder B and escape-pipe E.

Having thus fully described my invention,

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

The combination of the piston-rod C, cross-head D, rods C' C', and cylinder A, all arranged substantially as and for the purpose specified.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

JAS. A. MORRELL.

Witnesses:

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O. W. CHILD.