W. S. DAVIS.
Pump.

No. 201,164. Patented March 12, 1878.

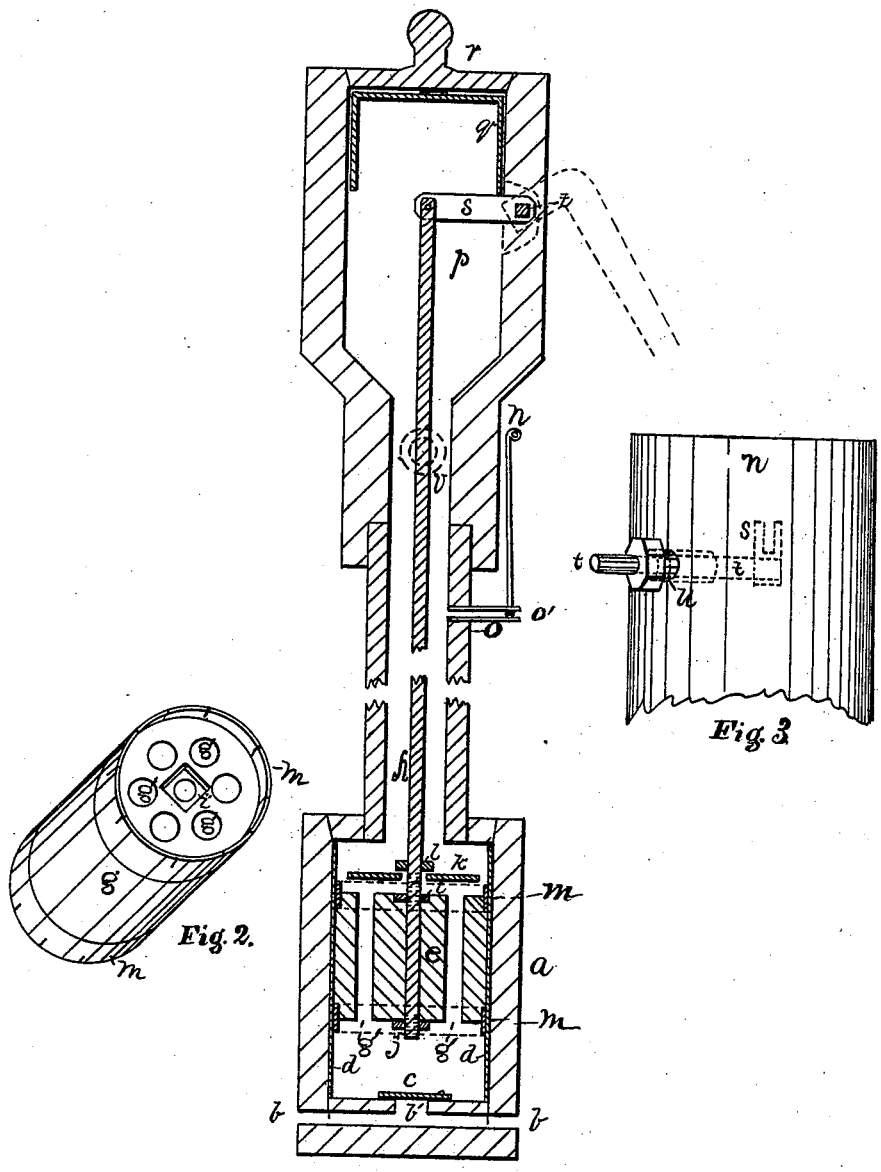

Fig. 1

Fig. 2.

Fig. 3

Witness
John R. Mason
John S. Jenness

Inventor
Wm S. Davis
Per Wm Franklin Seamy Atty.

UNITED STATES PATENT OFFICE.

WILLIAM S. DAVIS, OF PITTSFIELD, MAINE, ASSIGNOR OF ONE-HALF HIS RIGHT TO WARREN L. PARKS, OF SAME PLACE.

IMPROVEMENT IN PUMPS.

Specification forming part of Letters Patent No. **201,164**, dated March 12, 1878; application filed November 21, 1877.

To all whom it may concern:

Be it known that I, WILLIAM S. DAVIS, of Pittsfield, in the county of Somerset and State of Maine, 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, that will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 shows a vertical section; Fig. 2, view of plunger; and Fig. 3, detail of packing.

Same letters show like parts.

The object of my invention is to produce a force-pump which shall be simple and serviceable, and at the same time of moderate cost.

The principal parts of my pump are of wood, and its construction and arrangement will be best understood by reference to the accompanying drawings.

It is made in sections, *a* showing the lower one, in which the plunger and valves work, and which is provided with ports *b b b'*, closed by a valve, *c*, when the plunger is forced down. It has also a metal lining, *d*, serving to decrease the friction and wear. Within this lining the plunger *e* works, operated by a rod, *h*, attached to the pump-handle. This plunger is of peculiar construction, consisting of a cylindrical block, *g*, having vertical ports *g'* arranged around the rod *h*. This rod is secured to the plunger, through which it passes, by two nuts, the upper one, *i*, being embedded in a recess, *i'*, in the top of the plunger, having a flush surface, and the lower one, *j*, holding said plunger in place upon the rod. An annular valve, *k*, surrounds the rod, alternately opening and closing the ports *g'*, its motion being regulated by a nut or flange, *l*, upon the rod *h*.

A packing, *m*, expanding as the plunger works, surrounds both top and bottom. This section *a*, which is submerged to any desired depth, is connected with the upper section *n* by means of a tube, *o*, which may be either of wood or metal. This tube serves as a channel for the water, and through it works the rod *k*. Within it, at a proper distance below the well-curb to prevent freezing, is a scuttle-valve, *o'*, operated by a rod extending above the well-curb, by means of which the water in the pump above the valve *o'* may be drawn off at will.

The section *n* of the pump, the greater part of which is above the curb, is provided with an air-chamber in its upper end, formed by enlarging its bore. Within this air-chamber *p*, I prefer to place a well-fitting metallic box, *q*, open at its lower end, closing the whole by a cover or plug, *r*. The box *q* insures the tightness of the chamber.

The pump is operated by a short lever, *s*, to which the rod *h* is attached, said lever being located entirely within the chamber, and connected to the handle by a rod, *t*, passing out through the side of the pump. In order to prevent access of air to the chamber, this rod is packed at *u*.

It will be observed that by this arrangement the handle of the pump is entirely out of the way when not in use, extending vertically downward by the side of the pump. At *v* is the pump-nose, to which a hose may be attached, if desired.

By removing the plug or cover *r* and the box *q*, so as to open the air-chamber, my pump can be used as an ordinary lifting-pump.

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

1. A pump formed of sections *n a* and connecting-tube *o*, and provided with the air-chamber *p* and internal operating-lever *s*, connected to the handle by a packed rod, *t*, substantially as set forth and shown.

2. The plunger *g*, having vertical ports *g'* and packing *m*, in combination with the rod *h*, nut *j*, and nut *i*, recessed in said plunger and annular valve *k*, as set forth.

3. The plunger *g*, formed of a cylindrical block, having vertical ports *g'* arranged around the central rod *h*, as shown, provided with an annular valve, *k*, moving vertically on said rod, and annular packing *m* at top and bot-

tom, in combination with the metal lining *d*, within which it works, substantially as set forth.

4. In combination with the section *n*, the imperforate metal box *q*, open at the lower end only, and extending around and over the top of the piston-rod, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 14th day of November, 1877.

WILLIAM S. DAVIS.

Witnesses:
WARREN L. PARKS,
JOSEPH B. PEAKS.