A. M. Putnam,

Pump Lever.

No. 94,338. Patented Aug. 31. 1869.

Fig 1

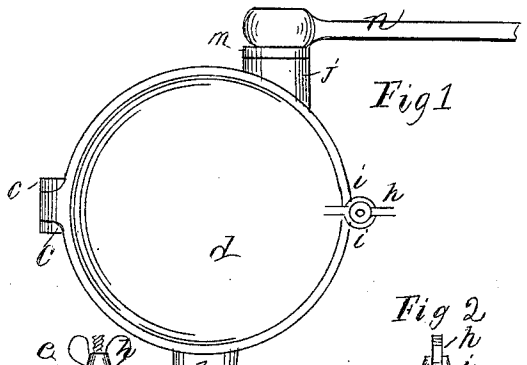


Fig. 3.

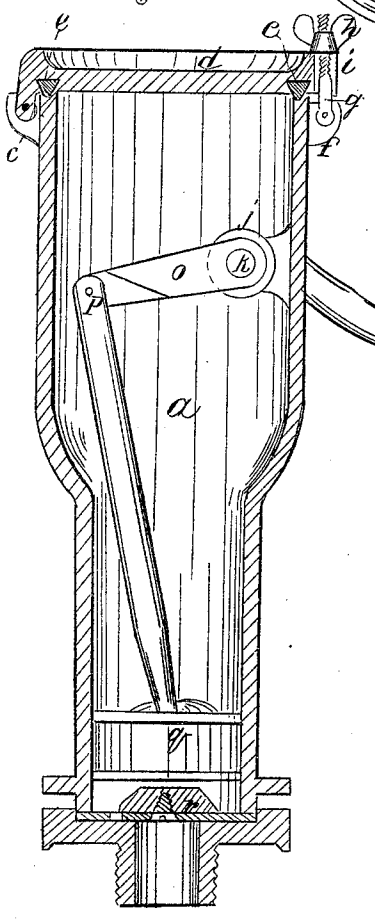
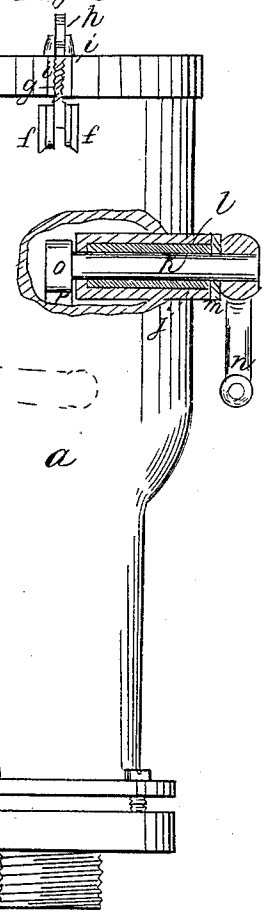


Fig 2



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ALBERT M. PUTNAM, OF ANTRIM, NEW HAMPSHIRE.

Letters Patent No. 94,338, *dated August* 31, 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, ALBERT M. PUTNAM, of Antrim, in the county of Hillsborougg, and State of New Hampshire, have invented new and useful Improvements in Pumps; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in the effective and simple manner of converting a common house-pump easily and readily into a force-pump.

It also relates to the arrangement and combination of devices, with the pump, whereby the same can be furnished at a moderate cost, being simple and reliable, and not liable to get out of order.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

Figure 1 represents a plan of a pump, with my improvements attached.

Figure 2 represents a side elevation of the same, with parts broken out, showing its construction and operation.

Figure 3 represents a vertical section of fig. 1, showing the operation of the different devices.

Similar letters in the different figures indicate corresponding parts.

In the construction of the pump, with my improvements attached, the body *a* is made of one casting.

From the outlet or spout *b* to the top of the same, it bulges out, being considerably larger in diameter than that part of the body *a* below the spout *b*.

The inside of this body *a* is finished smooth and true, its top being grooved.

Near the top and back part, the body *a* is provided with ears *c c*, to which is hinged the cover *d*, the under side of which is finished off true, and provided with a suitable recess, which is supplied with elastic packing *e*, as shown in fig. 3 of the drawings.

At the front part of the body *a*, near its top, are the ears *f f*, formed on the same, to which is pivoted the screw *g*, which is provided with a thumb-screw, *h*; this screw *g* operating between the ears *i i*, which are formed on and to the front part of the cover *d*, when it is required to be closed, which forms the air-chamber in the top of the same, thus constituting the force-pump.

Also, formed on the inside and outside of the body *a*, between the top and spout *b*, is the projection *j*, through which the shaft *k* passes. This projection *j* being so formed and finished out, leaves a chamber, which is supplied with elastic packing *l* from the outside of the same, thus making a perfect air-tight joint.

The collar *m* is then placed on the shaft *k*, which prevents the packing *l* from coming out.

The brake, or handle *n* is firmly secured to the shaft *k*, thus keeping the collar *m* in position.

Secured to the shaft *k*, in the inside of the body *a*, or air-chamber, is the arm *o*, which connects with the top of the piston P by means of a hinged joint.

Attached to the bottom of the piston P, by a hinged joint, is a common valve, or bucket *q*; located underneath the bucket *q*, and secured to the pump-body *a* is a similar valve, or bucket, *r*.

The pump being thus constructed, and its several devices adjusted in position, is then ready for use.

When to be used as a common house-pump, the pressure is removed from the cover *d* by aid of the thumb-screw *h*, which allows the air to circulate in and out of the chamber.

When to be used as a force-pump, the cover *d* is secured firmly down to the top of the pump by means of the thumb-screw *h*, which, by aid of the packing *e* and the groove in the top of the body *a*, a perfect air-chamber is formed in the top of the pump, which gives to the pump the requisite properties required to constitute a force-pump, the suction being retained in both cases.

Hose being attached to the spout *b*, by aid of the brake *n* and the devices, consisting of the shaft *k*, suitably supplied with elastic packing *l* and arm *o*, water can be raised and forced from the same effectually and easily, which, in case of fire, in many instances completely subdues the same.

Thus it will be seen, by the construction and arrangement of my improved pump, the body *a* being cast-iron, and made at one casting, the top being provided with a suitable cover, *d*, and easily and conveniently packed, the working-parts being simple and encased within the body *a*, the brake *n* being the only part exposed, the pump is less liable to get out of order, and when out of order easily repaired, more durable, and at the same time the properties consisting in a house and force-pump being combined in one, enables me to furnish the same at a moderate cost—at a less rate than the common copper house-pumps now in use.

And, again, when it is to be used as a house-pump, the water being drawn off, "to prevent freezing," by aid of the cover *d*, it being closed and secured firmly to the top, the water can be raised easily and readily in the same, without resorting to the usual method, as with common pumps.

Furthermore, by the arrangement and combination of the brake *n*, shaft *k*, and arm *o*, the friction being reduced, distributing the power to the dead points, where it is most required.

When the same is used either as a house or force-pump, the same can be operated easier and with less

inconvenience to the user, which, on the whole, being devoid in its material of construction of any poisonous metals, is far more conducive to the health of the public.

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

The combination and arrangement of the arm *o*, shaft *k*, with packing *l*, and brake *n*, when used in connection with the pump-body *a*, as herein described and set forth.

ALBERT M. PUTNAM.

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