

C. L. Merrill,

Pump.

No. 111,961.

Patented Feb. 21. 1871.

Fig. 1.

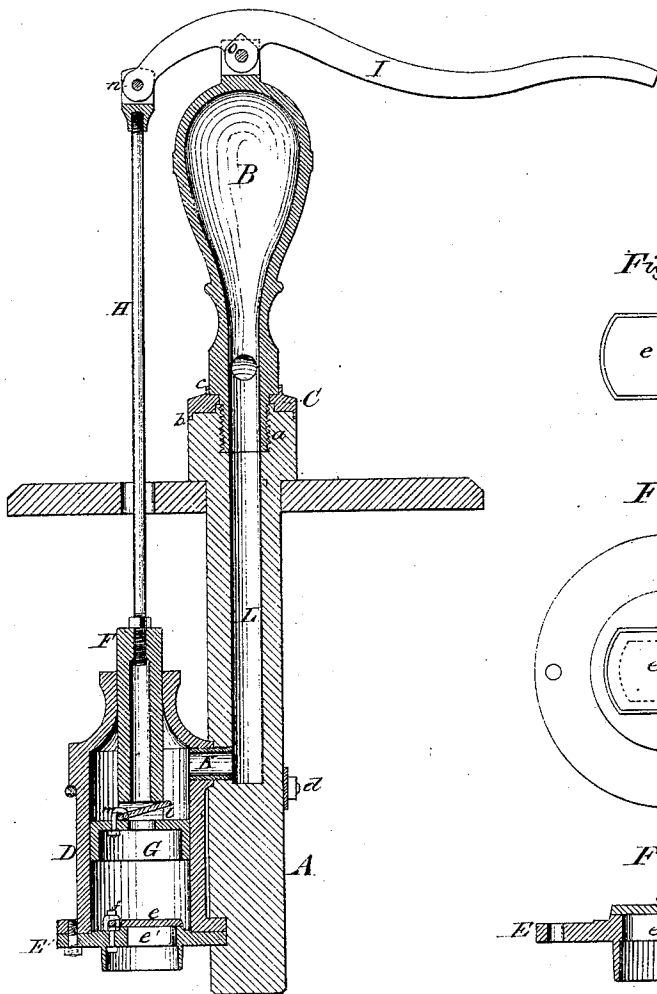


Fig. 4.

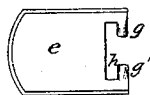


Fig. 2.

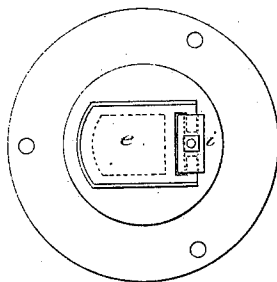
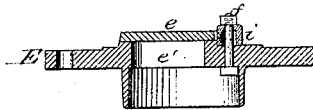


Fig. 3.



Witnesses:

J. S. Stewart
T. H. Kearbin

Inventor:

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United States Patent Office.

CHARLES L. MERRILL, OF WATERTOWN, NEW YORK.

Letters Patent No. 111,961, dated February 21, 1871.

IMPROVEMENT IN PUMPS.

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

I, CHARLES L. MERRILL, of Watertown, in the county of Jefferson, and State of New York, have invented certain Improvements in Pumps, of which the following is a specification.

The nature of my invention consists in the construction and arrangement of certain devices so as to form an improved pump, all of which will be more fully described hereafter.

The object is to provide a pump of great simplicity, durability, not liable to get out of order, and can be manufactured very cheaply for general household purposes.

Description of the Drawing.

- Figure 1 represents a vertical cross-section.
- Figure 2 is a plan view of the foot-valve and seat.
- Figure 3 is a cross-section through the same.
- Figure 4 is the foot-valve, detached.

General Description.

In the drawing—

A represents the stock of a pump, into the upper end of which I screw the air-vessel B, as shown at *a*, and over the end of said stock I arrange the cap C, provided with a flange, *b*, and having a suitable hole in its center, through which the lower end of the air-vessel passes, and on the upper side of cap C is another flange, *c*, snugly fitting the air-vessel. The object of this cap is to prevent the stock from splitting or cracking.

To the lower end of the pump-stock I clamp the chamber D by a staple-bolt, *d*.

The lower head, E, of this chamber forms the seat of the foot-valve *e*, which is secured by the bolt *f*, plainly shown in fig. 3.

Through the head E is cast a hole *e'*, serving for the suction.

On the upper side of the head is cast a narrow face, (or chipping strip,) which obviates the necessity of finishing the whole face, and also prevents sand from accumulating on the seat of the valve, thereby clogging it.

The foot-valve *e* is of a peculiar construction, being

provided with the two hooks *g g'*, fig. 4, and a slot, *h*, into which the staple-shaped plate *i* fits, passing over the hooks *g g'* and resting upon the seat.

Through the center of the plate *i* the bolt *f* passes, as plainly seen in fig. 3, securing it to the seat; by it the lift of the valve is also regulated.

The upper part of the plunger F is of an increased diameter, being one-half of the area of the chamber, which makes it self-packing.

The lower part forms the piston G, having the valve *l* in the center, which is held in place by a hook-bolt, *m*.

Tapped into the upper end of the plunger is the rod H, which is connected to the pump-handle I, as shown at *n*, and the pump-handle is pivoted to the air-vessel at *o*.

In the side of the upper end of the pump-chamber I arrange the hole K, which passes through the side of the stock and into the delivery-pipe L, connecting with the spout and air-chamber.

Having thus fully described my invention,

What I claim, and desire to secure by Letters Patent of the United States, is—

1. The combination of the pump-stock A with the flanged cap C and air-vessel B, when so arranged that the downward pressure of the air-vessel will cause the cap to grasp the periphery of the stock, so as to prevent it from splitting, substantially as shown and described.

2. The foot-valve *e*, with hooks *g g'*, plate *i*, and bolt *f*, in combination with the head E, having the raised narrow face, constructed and arranged substantially as shown and described.

3. The combination and arrangement of the pump-chamber D, foot-valve *e*, plunger F, piston G, and valve *l*, with the stock A, cap C, and air-vessel B, when all constructed and operated as shown, for the purpose set forth.

CHARLES L. MERRILL.

Witnesses:

I. S. STEWART,
T. H. HARBIN.