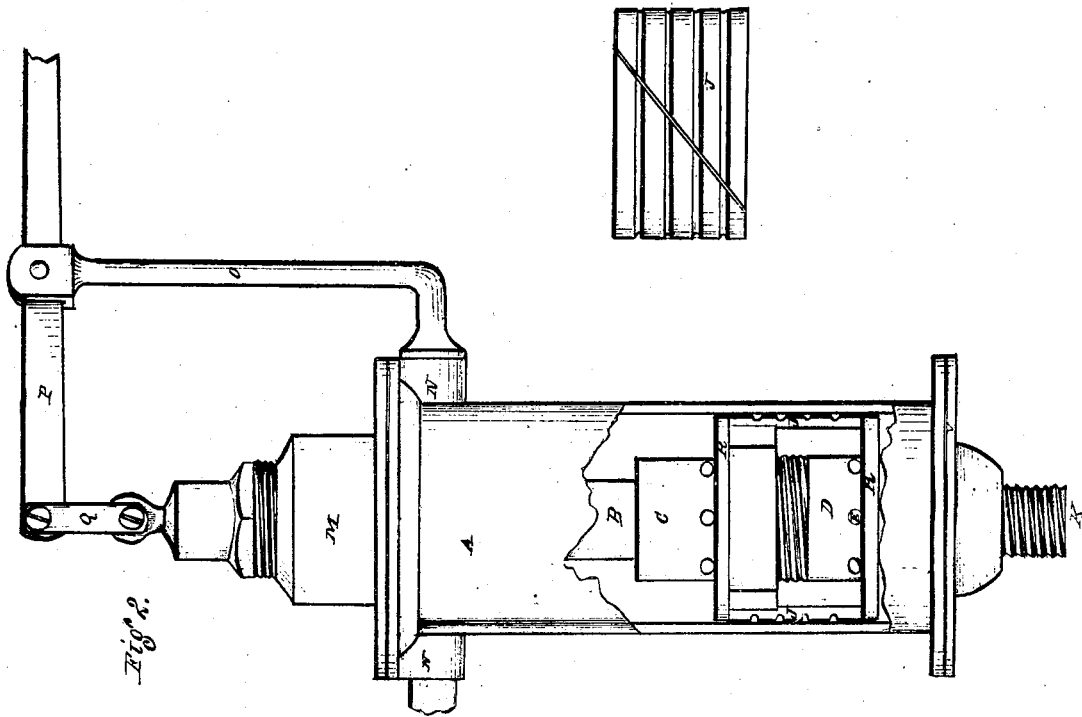


*T. J. Lapsley,*

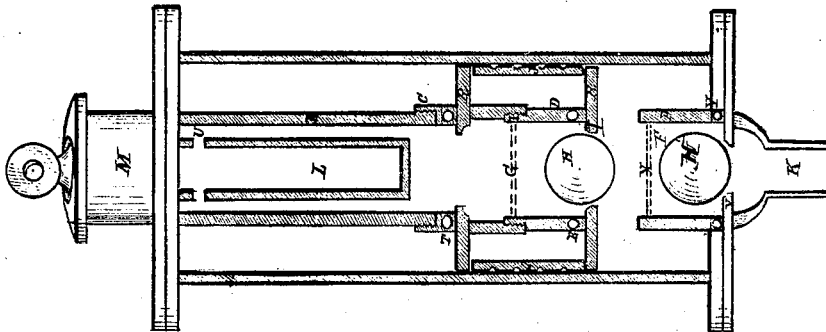
*Pump.*

*No. 111,354.*

*Patented Jan. 31. 1871.*



*Fig. 2.*



*Fig. 1.*

*Witness;*  
*E. F. Knapp*  
*C. Herbert*

*Inventor*  
*Thomas J. Lapsley*

# United States Patent Office.

THOMAS J. LAPSLEY, OF NASHVILLE, TENNESSEE.

Letters Patent No. 111,354, dated January 31, 1871.

## IMPROVEMENT IN PUMPS.

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

I, THOMAS J. LAPSLEY, of the city of Nashville, county of Davidson and State of Tennessee, have invented a certain new and useful Improvement in a Pump for Raising Water, of which the following is a specification.

The nature of my invention consists in a pump made of metal, the chamber of which is made similar to those now in common use, with a packing-box on the top in order to pack the plunger, which plunger is made hollow, and consists of two distinct air-chambers which act as air-vessels, relieving the surge in pumping. To the lower end of this plunger a small flange is screwed with a hollow sleeve on the top and also on the underside, that on the top being perforated with holes near the flange, and made of a size to correspond with the end of the plunger, to which it is screwed, but that on the under side being slightly larger, and becomes the female to the sleeve of another similar flange which is screwed into it, and when so arranged forms a hollow piston-head or valve-chamber to the upper valve, which valve, both above and below, consists in a perfectly round India-rubber ball, one of which works on a seat in the flange at the bottom of the plunger the sleeve or chamber around which is perforated with holes for the water to pass through, and in order to pack the piston-head it is provided with a metallic ring fitted between the flanges of the head similar to that of the steam-engine, but with grooves in the side, and cut in two diagonally across the side in order to permit it to expand.

Between this packing-ring and the piston-head is a water-space, into which the water is forced by its operation, and thereby keeps the packing-ring always pressed out against the chamber, and thereby prevents it from leaking when in operation. The lower valve of this pump is situated in the flange at the bottom of the chamber, and has a chamber or sleeve raised around it perforated with holes, and a pin through it to prevent the valve from getting out of place.

This pump is also provided with an air-vessel on the discharge-pipe, which pipe can be changed from one side to the other when required, for convenience in its operation, which may be done either by hand or by other power, its operation being simply that of the ordinary pump, which raises the water above the lower valve, and as the plunger returns the water is forced up through the holes in the piston-head against the packing, and afterward through the holes in the

plunger above the head into the chamber, and out at the discharge-pipe above.

Having thus fully described the nature of my invention, a more perfect understanding of which may be had by reference to the drawing—

Figure 1 is a sectional view, showing the internal arrangement of the pump complete.

Figure 2 is a side elevation, with one side left out in order to show the piston-head and the discharge-holes in the valve-chambers.

And in order that they may be more fully understood, I will proceed to describe them by reference to the letters marked thereon, in which—

A is the pump-chamber.

B is the plunger.

C is the flange-sleeve on the end.

T are the holes in this sleeve.

R R are the flanges of the piston-head.

D is the valve-chamber in the head.

E are the discharge-holes against the packing.

J is the packing.

H and H' are the rubber valves.

I and V are the seats.

L is the air-chamber in the plunger.

K is the receiving-pipe.

N N are the discharge-pipes.

M is the packing-box.

O is the lever-stand.

P is the lever.

Q are the links, connecting it with the plunger.

Having thus fully described the drawing,

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

1. The combination of the plunger B with its air-chamber L and holes U, the sleeve C with its discharge-holes T, the piston flanges R R with the packing J, the valve-chamber D with its discharge-holes E, the valve H and pin G, by which it is held in place, substantially as and for the purpose hereinbefore set forth.

2. The combination of the lower valve-chamber F with its discharge-holes y, the valve H', the seat V, and receiving-pipe K, the chamber A with its discharge-pipes N N, and stand O, the lever P, and link Q, which connects it with the plunger, substantially as and for the purpose hereinbefore set forth.

Witnesses: THOMAS J. LAPSLEY.

E. F. HUYCK,

C. HEWITT.