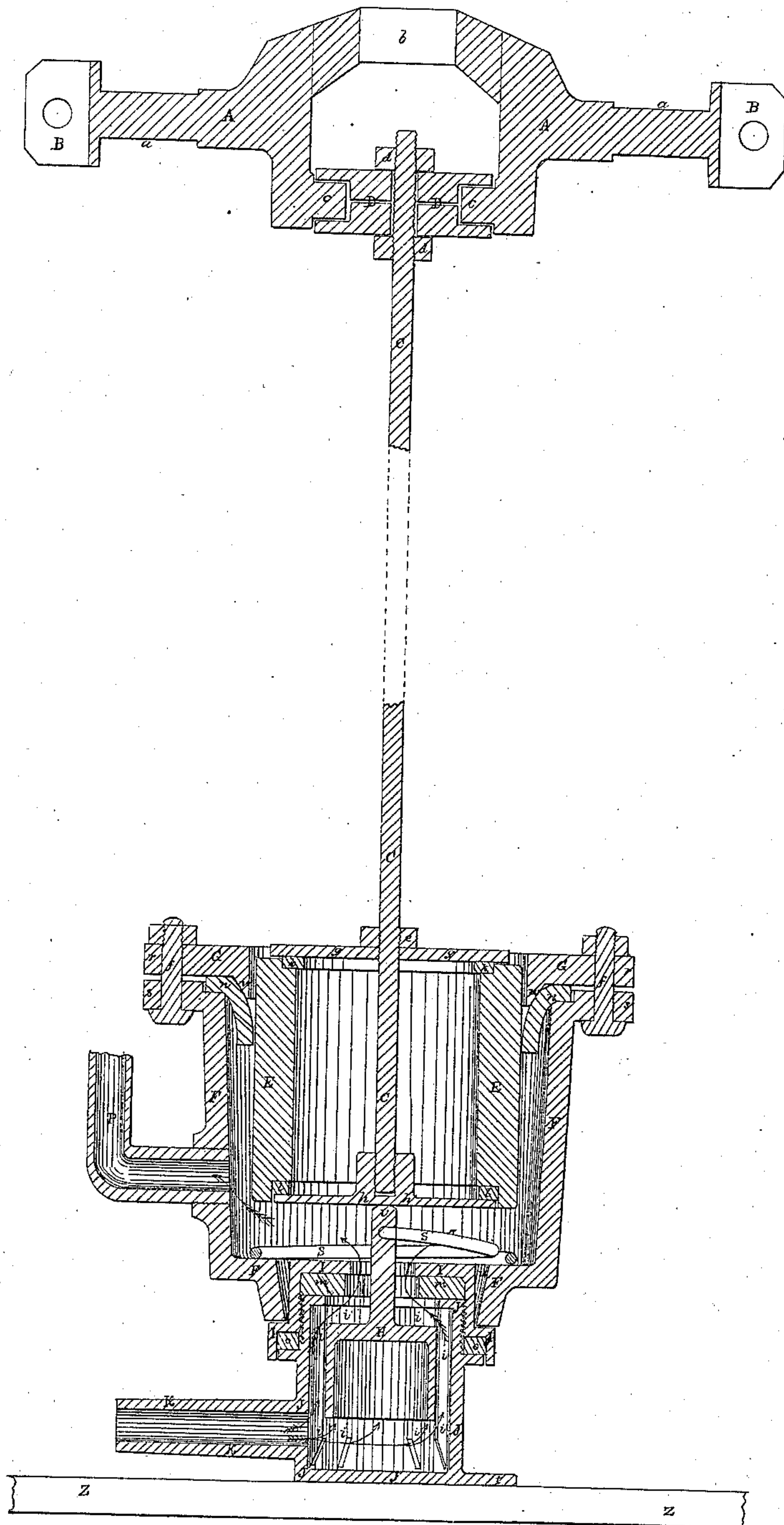


*L. P. Clark,*

*Hydrant,*

*N<sup>o</sup> 33,185.*

*Patented Sep. 3, 1861.*



*Witnesses*  
*Chas. F. Janstury*  
*J. W. Howards*

*Inventor*

*L. P. Clark*



# UNITED STATES PATENT OFFICE.

LEVIN P. CLARK, OF BALTIMORE, MARYLAND.

## IMPROVEMENT IN HYDRANTS.

Specification forming part of Letters Patent No. 33,185, dated September 3, 1861.

*To all whom it may concern:*

Be it known that I, LEVIN P. CLARK, of Baltimore, in the State of Maryland, have invented certain Improvements in Pumps and Hydrants; and I do hereby declare the following to be a correct description of the same, reference being had to the accompanying drawing, which is a central vertical section of a hydrant with my improvements applied.

The nature of my improvement consists in the combination of a plunger or piston of glazed earthenware with an annular packing of india-rubber or other similar substance prepared and arranged, as hereinafter described, for the purpose of obviating the effects of grit and reducing friction, thus reducing the wear and facilitating the working of the parts, while at the same time the taste of the water is unaffected by the contact of the materials employed.

In the drawing, A B mark the lever by which the piston-rod is operated, C the piston-rod, and D the head by which it is connected with lever A B. The rod C is attached to the piston or plunger E by means of the heads *g h*, packed by the rubber rings *k l*. The plunger E, I make of glazed earthenware.

F marks the cylinder, and G the cylinder-head, attached in the usual way by bolts *f* passing through the flanges *s r* and secured by nuts. Between the cylinder F and its head G is inserted an annular packing *n*, which is inclined downward and inward by the lip *w* on the inner rim of head G. This packing, which is covered with powdered soapstone applied to it by means of warm gum, comes in contact with the outer surface of the earthenware plunger E and closely embraces it, forming a water-tight joint.

H marks the valve of the shape shown and having a stem *v* projecting up through the lower cylinder-head I and coming in contact with the bottom of plunger-head *h*. Attached to the valve-stem *v* is spiral spring S, which operates to keep the valve H up in contact with its seat J.

*m* and *o* mark annular rubber packings between attached parts.

K marks the inlet-pipe, P the exit or de-

livery pipe, and the arrows *i* indicate the course of the water.

The operation is as follows: When it is desired to draw water, the plunger E is forced downward. Its lower head *h* presses down the valve-stem *v* and lowers the valve H from contact with its seat. This opens a passage for the water, which flows upward into the cylinder F and out through delivery-pipe P. When the flow of water is to be stopped, the force applied to the piston-rod C is removed, when the spring S draws up the valve H into contact with its seat and closes the waterway. The action of the spring S is assisted by the upward pressure of the water acting against the cup-shaped bottom of valve H. The pressure of the water against the packing *n* increases the force with which it presses against the plunger E. The plunger moves easily in the packing, and any sand or grit that may be in the water so far from acting as an obstruction increases the facility with which the plunger moves in the ring and acts like a lubricator.

Experiment has shown that the soapstone on the surface of the ring does not wash or wear off, but attracts to itself other gritty substances from the water, forming with them a permanent and perfect lubricator.

I am aware that glass and rubber have been long used in pumps and syringes, and I wish it to be understood that I do not claim either of them or their combination, broadly, but,

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

The combination, in a hydrant or pump, of an earthenware plunger having a vitreous surface with an india-rubber or other similar packing, prepared and arranged substantially in the manner and for the purpose hereinbefore described.

The above specification signed and witnessed this 28th day of December, A. D. 1860.

L. P. CLARK.

Witnesses:

CHAS. F. STANSBURY,  
F. W. HOWARD.