Follansbee & Doolittle,

Pump Piston.

No. 112,438. Patented Mar. 7, 1871.

fig. 1.

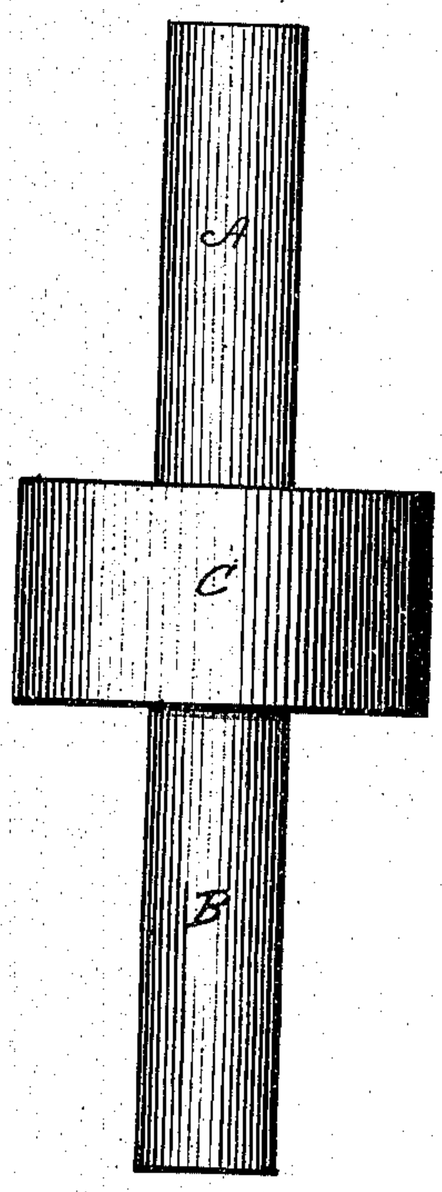


fig. 2.

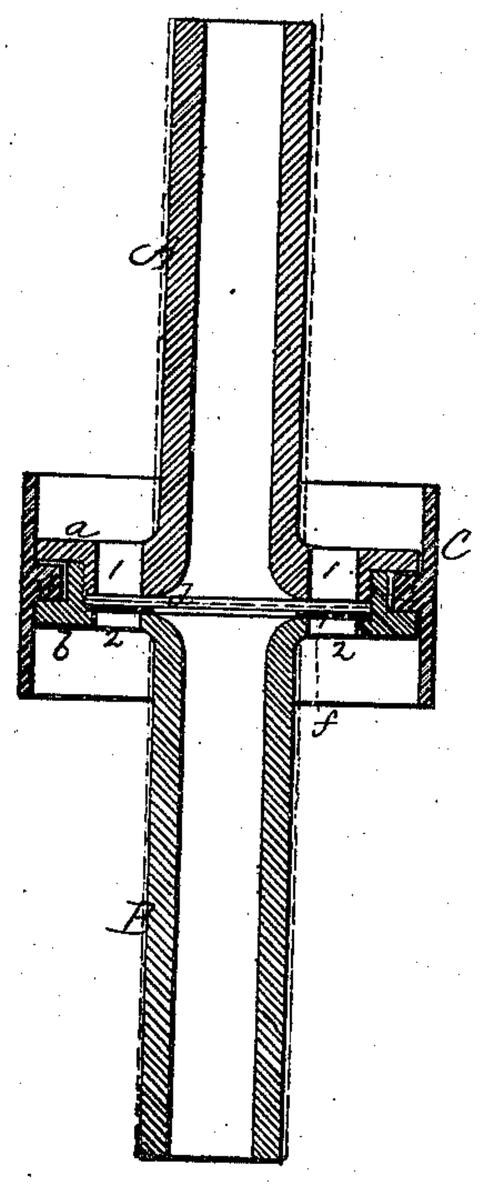


fig. 3.

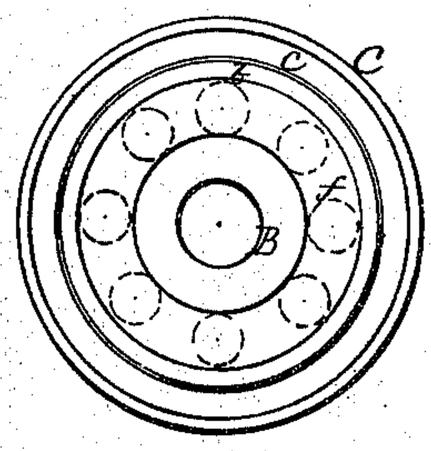
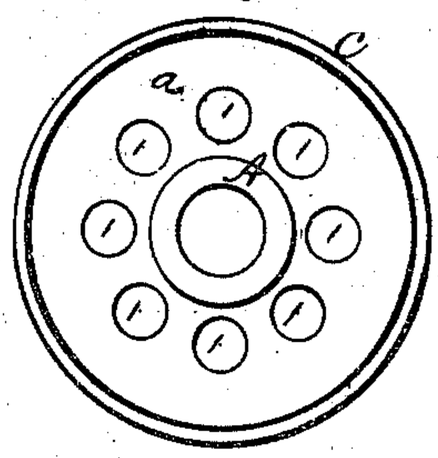


fig. 4.



Witnesses.
C. H. Shumway
A. J. Lobdell

John L. Follansbee & Geo. Doolittle
Inventors
By their Attorney
John E. Earle

United States Patent Office.

JOHN S. FOLLANSBEE AND GEORGE DOOLITTLE, OF BRIDGEPORT, CONNECTICUT, ASSIGNORS TO THE FORRESTER MANUFACTURING COMPANY, OF SAME PLACE.

Letters Patent No. 112,438, dated March 7, 1871.

IMPROVEMENT IN PUMP-PISTONS.

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

To all whom it may concern:

Be it known that we, JOHN S. FOLLANSBEE and GEORGE DOOLITTLE, of Bridgeport, in the county of Fairfield and State of Connecticut, have invented a new Improvement in Pump-Piston; and we do hereby declare the following, when taken in connection with the accompanying drawing and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawing constitutes part of this specification, and represents in—

Figure 1, a side view;

Figure 2, a vertical central section;

Figure 3, a top view with the part *a* of the piston removed; and in

Figure 4, a top view.

This invention relates to an improvement in the construction of pump-pistons, especially that class of pumps in which the cylinder is reciprocated, while the piston-rod, which is made tubular, remains stationary, and serves as a conductor for the water, the piston forming the valve for raising the water, the object of the invention being to simplify the packing of the piston within the pump-cylinder.

A is the upper tube, upon which is formed one part *a* of the piston. B, the lower tube, upon which is formed the other or corresponding part of the piston. These two parts are perforated, respectively, 1, 1, 2, 2, and when fitted together form a valve-space or chamber *d*, within which is placed a plate or ring, *f*, which covers the perforations, and is free in the said chamber to play up and down from one surface to the other of the parts *a b*.

To pack the piston, we form a cylinder C of any suitable metal, with an annular flange *c* upon its inside, as seen in fig. 2. The parts *a b* are constructed with a corresponding annular groove, so that one part *a* sits upon one side of the flange *c*, and the other part *b* sits upon the opposite side, thus supporting the cylinder C.

The diameter of the parts *a b* we make slightly less than the internal diameter of the cylinder C, and the external diameter of the cylinder C, corresponding to the internal diameter of the pump-cylinder, which works freely thereon.

The tube and piston being fixed, the cylinder is passed up and down on the piston in the usual manner for this class of pumps, the cylinder C forming the packing of the piston. The piston *a b*, being of less diameter than the cylinder C, allows a slight play of the cylinder C on the piston and tube. As the tube extends through both ends of the cylinder, it is found in practice difficult to prevent slight irregularities in the movement of the cylinder, by the springing of the rod or otherwise, and this play, which is denoted by the broken lines, fig. 2, prevents the cylinder from binding or rubbing on the piston, while at all times the cylinder C fits firmly in the pump-cylinder.

We claim as our invention—

In combination with the tube or piston-rod A B, and piston *a b* constructed with an annular groove, the cylinder C with its annular flange *c* corresponding to the said groove in the piston, in the manner substantially as herein set forth.

J. S. FOLLANSBEE,
GEORGE DOOLITTLE.

Witnesses:
G. E. BETTS,
N. M. BEACH.