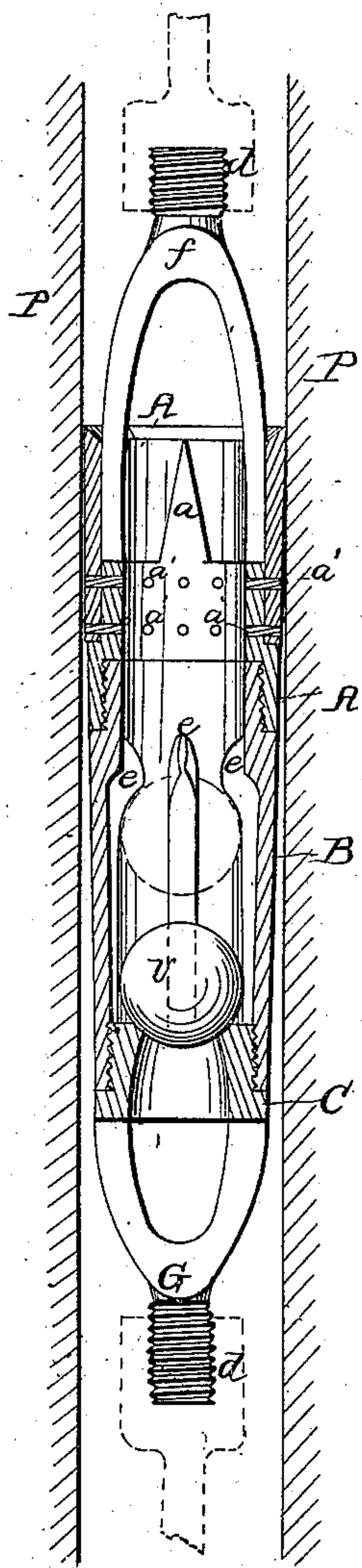


J. Wood,
Pump Piston,
No 81,451, Patented Aug. 25, 1868.



Witnesses;
Thos. Trosche
Wm. Brown

Inventor;
John Wood
Per Munnell
Attorney

United States Patent Office.

JOHN WOOD, OF FRANKLIN, PENNSYLVANIA.

Letters Patent No. 81,451, dated August 25, 1868

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 I, JOHN WOOD, of Franklin, in the county of Venango, and State of Pennsylvania, have invented a new and improved Pump-Piston; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to a new and improved method of constructing pump-pistons or valve-boxes, whereby the same are self-expanding, and are thus rendered more durable. It consists of a valve-seat and ball or globe-valve, secured to the piston by a screw-thread, the upper part of the piston being provided with an expanding packing, which, when the piston is raised, is pressed out against the pump-cylinder, so that it fits perfectly tight within the same.

The drawing represents a central vertical section of my piston and valve, the red lines showing the pump-barrel or cylinder.

A is the upper section of the piston; B is the middle section of the piston; C is the lower section of the same; *a* are projections or fingers in the section A, by means of which the packing P is kept in position.

a' are pegs, by means of which the packing P is secured to the piston. *b* is the valve; *e* are ribs in the section B, by means of which the valve *b* is guided in such a way as to allow the passage of liquids when the piston is moving down.

P is the packing; *d* are screw-threads, by means of which the piston is attached to the piston-rod.

The piston or valve-box is constructed in the sections A B C, which said sections are secured together by screw-threads, the object of which is that thereby the piston may be easily taken apart when the valve V or the packing P is fouled or in want of repair.

The upper section A is a hollow cylinder, having on its under side a screw-thread, by means of which it is fastened to the section C. Said section A has on its upper side a stirrup, F, in the ordinary form, terminating in a screw-thread, *d*, by means of which it is attached to the piston-rod.

Upon the upper side of said section A are projections or fingers *a*, either attached to the same or being a part thereof, which, with the stirrup F, serve to prevent the packing P from being pressed inward or away from the pump-cylinder by the force of the liquid above the packing, and to keep said packing in position.

To said upper section A of the piston is secured, by the pegs *a'*, a hollow cylindrical packing of leather or other suitable material, extending above said section A, in the shape of a cup, and kept in position, as above described, by the fingers *a* and the stirrup F, so then when the piston is filled with any liquid, said packing P is expanded outwards against the pump-barrel or cylinder, fitting the same tightly, so that no fluid can escape by said packing when said piston is raised.

Said section B is also a hollow cylinder, secured, as above described, to the sections A and C, by screw-threads, as shown in the drawings.

To the inside of said section B, are either attached or made part of the same, the ribs *e*, serving as a guide for the ball-valve *v* in its upward and downward motion, and allowing a space around the ball-valve *v*, through which the liquid can pass when the piston is moving down.

The section C is also a hollow cylinder, secured to the section B by a screw-thread, as shown in the drawing, having on its under side a stirrup, G, terminating in a screw-thread, *d*, by means of which it is attached to a guide or rod.

Upon the upper edge of said section C is the valve-seat, in which the valve *b* rests.

The operation is such that the pressure of the water or other liquid, inside of the packing P, always keeps the same perfectly tight.

When constructed as above described, it constitutes a reliable and durable pump-piston, for the raising of water or other liquids, and which may be easily taken apart for purposes of cleaning or repair.

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

The movable sections A B C, the packing P, the ball-valve V, and ribs *e*, arranged as herein described, for the purpose specified.

JOHN WOOD.

Witnesses:

A. PLUMER,

A. P. WHITAKER.