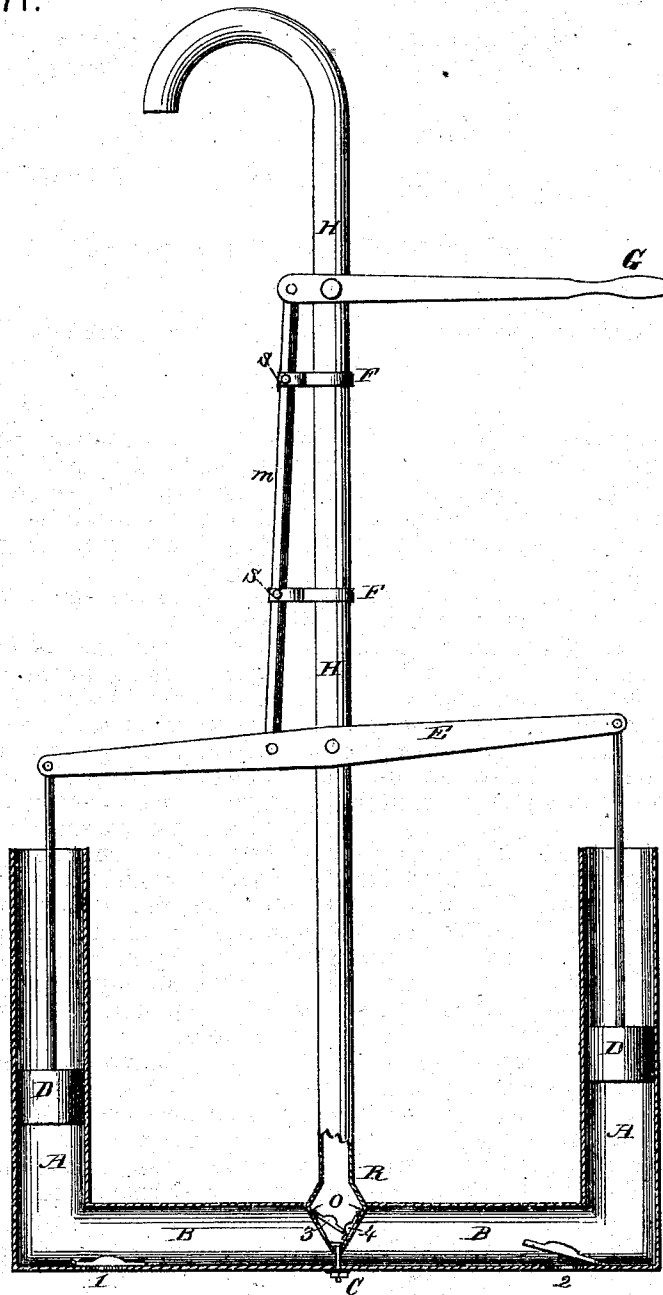


W. W. GREEN.
Force-Pumps.

No. 158,171.

Patented Dec. 29, 1874.



witnesses:

J. F. White
A. B. Richmond

Inventor:

William Wilson Green

UNITED STATES PATENT OFFICE.

WILLIAM WILSON GREEN, OF CAMBRIDGE, PENNSYLVANIA.

IMPROVEMENT IN FORCE-PUMPS.

Specification forming part of Letters Patent No. **158,171**, dated December 29, 1874; application filed July 28, 1874.

To all whom it may concern:

Be it known that I, WILLIAM WILSON GREEN, of Cambridge Borough, Crawford county, Pennsylvania, have invented certain Improvements in Force-Pumps, of which the following is a specification:

The object of my invention is to construct a double-acting force-pump cheaply, that it may be within the reach of persons of limited means; at the same time so simple in its construction that any one can construct it and keep it in repair; and to have it so constructed that it can be used as a garden-engine for washing windows, and all like purposes.

The drawing represents my pump in working order.

A A are two (2) pump-barrels of metal or wood. Connected by a tube, B B, these barrels are placed in the bottom of the well. 1 2 are valves opening into the barrels A A at the bottom, and through which the water from the well is admitted. D D are two (2) wooden plungers without any valves. These plungers are attached to the lever E. H H is a stand-pipe reaching the top of the well. The lever or handle G is pivoted to this pipe. F represents guides made so as to fit loosely around the pipe H, their ends clipped and bolted to the pump-rod *m*, so as to permit of the free movement of the rod up and down. The rod *m* is made of any required length, and the number of the guides F will be regulated by the depth of the well or height to which the pump-rod is extended. The stand-pipe H H is screwed on the pipe B B at R, where there is a T-shaped connection. The

pipe B B has a V-shaped valve-seat, O, immediately under the pipe H H. This valve-seat is constructed of a piece of leather bent like a letter V, and through the center there passes a bolt, C, which keeps the valve-seat in place securely.

The valves are shown at 3 and 4 in the drawing.

My pump operates as follows: When the plunger in the right-hand barrel of the pump is forced down, the valve 2 is closed and 4 opened and the water forced into H H. When the left-hand plunger is forced down, the valve 1 is closed and 3 opened.

It will be seen that this will keep a constant stream of water passing through the pipe H H.

The peculiar construction of the V-shaped valve-seat O, and its arrangement immediately under the eduction-pipe H, obviate the necessity of having independent eduction-valves in the pipe B; and my improved valve and seat is cheaply constructed and easily repaired or replaced by a new one should it get out of order.

What I claim as my invention is as follows, to wit:

The combination of the pipe H and levers G and E with the pump-rod *m* and guides F, the latter loosely fitting the pipe H, so as to move with the pump-rod, substantially as and for the purpose specified.

WILLIAM WILSON GREEN.

Witnesses:

J. T. WHITE,
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