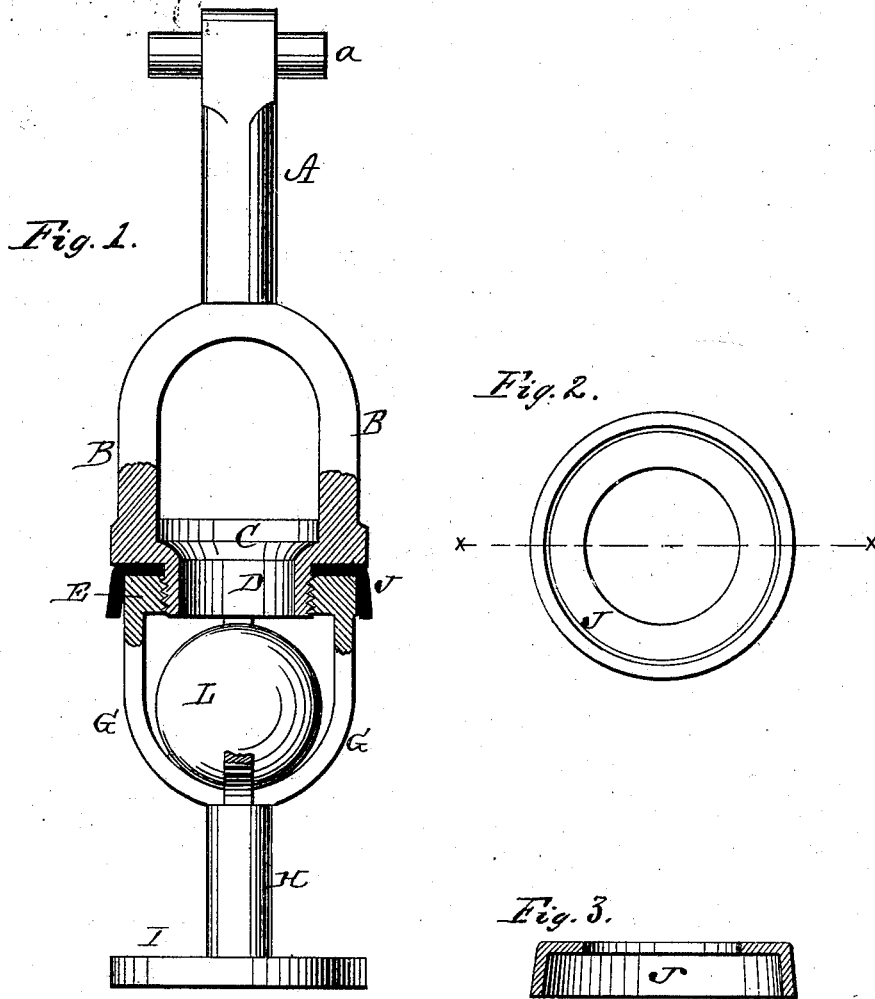


J. S. ENGLE.  
PUMP-PLUNGER.

No. 169,974.

Patented Nov. 16, 1875.



WITNESSES  
*Robert Everett*  
*George E. Upham.*

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# UNITED STATES PATENT OFFICE.

JACOB S. ENGLE, OF PALMYRA, PENNSYLVANIA.

## IMPROVEMENT IN PUMP-PLUNGERS.

Specification forming part of Letters Patent No. **169,974**, dated November 16, 1875; application filed July 24, 1875.

*To all whom it may concern:*

Be it known that I, JACOB S. ENGLE, of Palmyra, in the county of Lebanon and State of Pennsylvania, have invented a new and valuable Improvement in Pump-Plungers; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a side view, part sectional, of my pump-plunger. Fig. 2 is a plan view of the packing thereof, and Fig. 3 is a sectional view of the same.

My invention relates to force-pumps; and it consists in the construction and novel arrangement of the pump-plunger with a rubber ball-valve and a cup-shaped leather packing secured in position by screwing the two parts of the plunger together, and a guide-foot, as will be hereinafter more fully set forth.

In the annexed drawing the upper part of the plunger is shown formed of a stem, A, with a cross-pin, *a*, at its upper end, and the lower end formed with two curved arms, B B, which connect it with an annular ring, C, beveled on the inner edge, as shown. From the inner edge of the ring on the under side projects a collar, D, provided with exterior screw-threads. This part of the plunger is all cast in one piece. The lower part of the plunger is likewise cast in one piece, and consists of an annular ring, E, on top having interior or femal screw-threads, and from its under side curved arms G G connect it with a stem, H,

which has a circular foot, I, at its lower end. J represents a flat ring of leather to form the packing of the plunger, which ring fits around the screw-collar D, after which the two parts of the plunger are screwed tightly together, holding the packing-ring firmly in its place. This ring projects beyond the sides of the plunger, and is there bent downward around the ring E thereof, as shown, making a cup-shaped packing. Or the packing may be shaped by suitable formers into the desired shape before being placed on and fastened in the plunger. L represents a ball-valve made of rubber or other suitable material, and placed in the valve-seat to operate in the usual manner for ball-valves.

This plunger is cheap in construction, durable, and not liable to get out of order; and the packing being cup-shaped will effectually prevent any water from getting between the plunger and pump-cylinder.

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

The combination of the ring C with arms B, stem A, and screw-collar D, the annular ring E with female screw-threads, arms G, stem H, and guide-foot I, the cup-shaped packing J, and ball-valve L, all substantially as set forth.

In testimony that I claim the above, I have hereunto subscribed my name in the presence of two witnesses.

JACOB S. ENGLE.

Witnesses:

BASSLER BOYER,  
LEWIS REHR.