

J. S. Burden.

Pump Lift.

N^o 99,521.

Patented Feb 8, 1870.

Fig: 1.

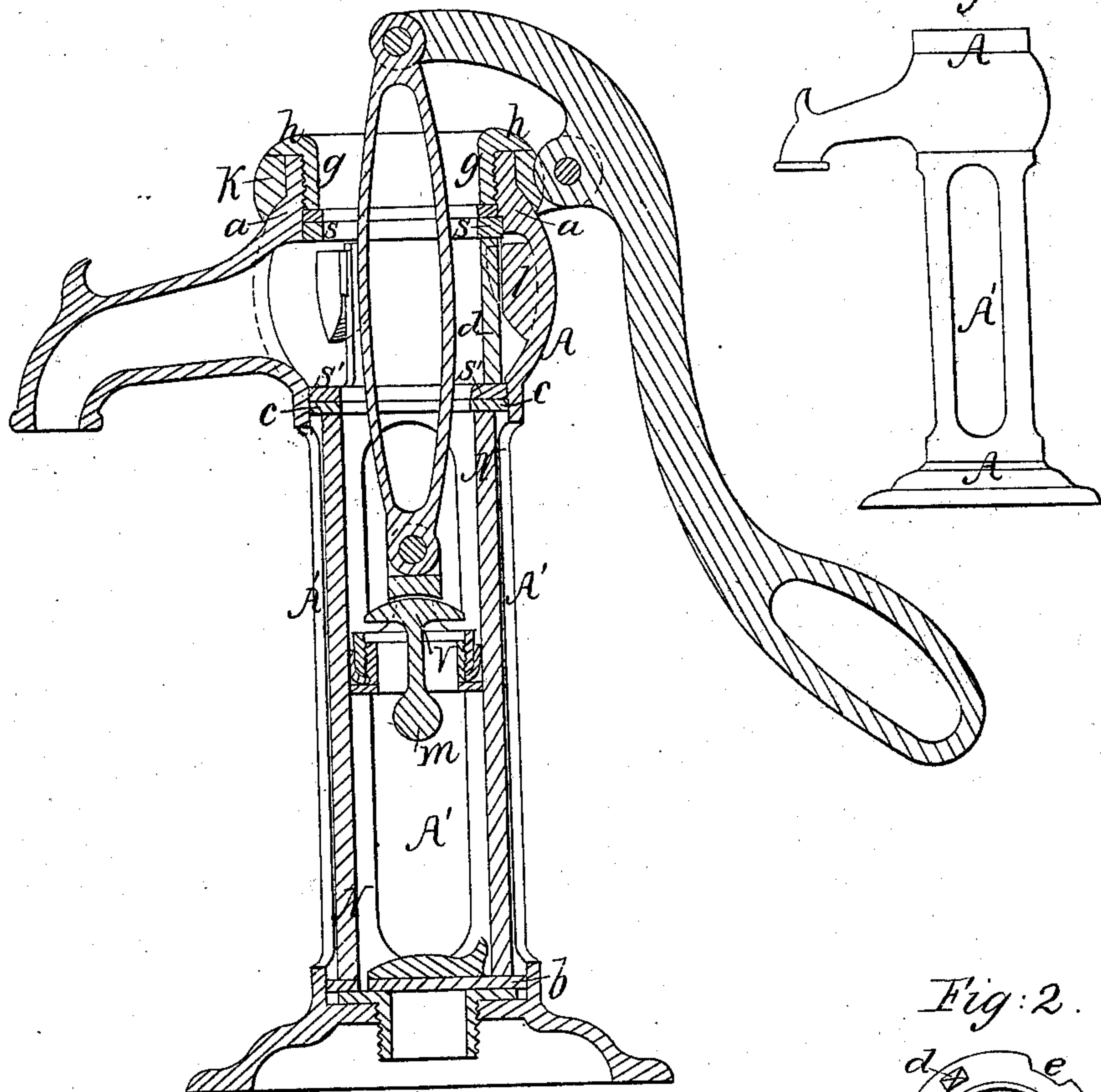


Fig: 3.

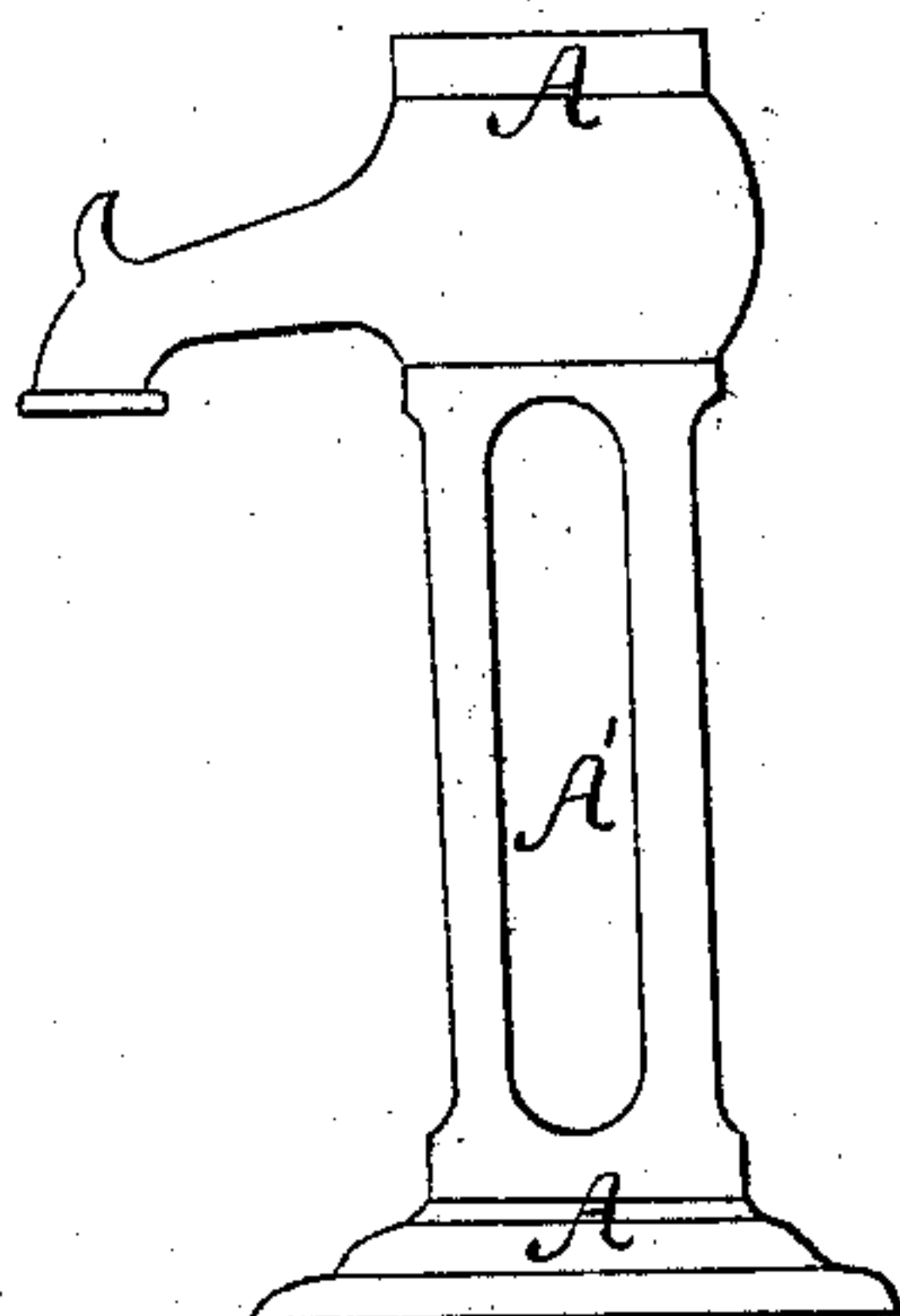
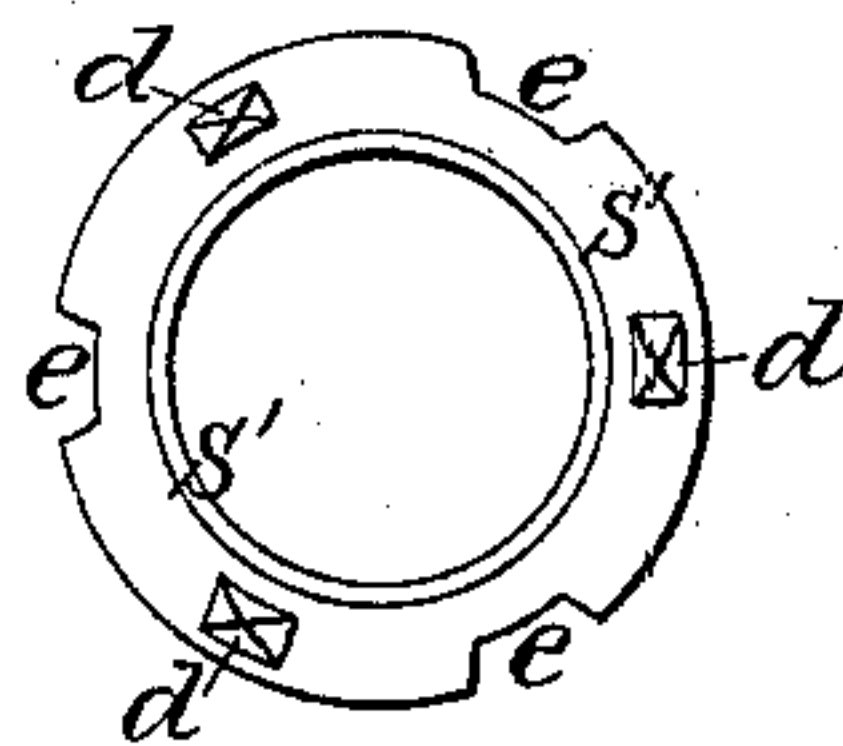


Fig: 2.



Witnesses;
Austin S. Howarth
M. S. G. Wilde

Inventor;
John S. Burden
Per C. D. Mynlt

United States Patent Office.

JOHN S. BARDEN, OF PROVIDENCE, RHODE ISLAND.

Letters Patent No. 99,521, dated February 8, 1870.

IMPROVEMENT IN PUMPS.

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 S. BARDEN, of Providence, county of Providence, and State of Rhode Island, have invented certain Improvements in House-Pumps; and do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which—

Figure 1 is a vertical section of my improved pump.

Figure 2 is a detailed view of ring for holding removable cylinder in place.

Figure 3 shows open or slotted barrel, cast in one piece.

The object of my invention is an improvement on pump patented by myself, March 3, 1868.

The invention consists in a number of improvements, all tending to increase the efficiency of the mechanism, as will hereinafter more fully appear.

In the drawings—

A is the barrel of the pump, having open places A' in its straight part below the nose.

N is a removable cylinder. Any metal may be used, but I prefer glass, as offering the least amount of friction.

This cylinder rests upon packing *b* at the lower end of the barrel.

At the top of the cylinder is placed packing *c*, upon which ring S' rests.

S' has three arms, *d d*. (Two or more may be used, but three are convenient.)

After the ring S' is put in upon the packing *c*, by passing the lugs *l*, for which purpose notches E E are cut in ring S', the ring, with its arms, is turned so that the arms hold snugly against the lugs *l*, but the arms are a little above the lugs.

The ring S is then placed upon the arms *d d*, and

packing *a* upon ring S. Upon this packing is screwed the ring *g*'.

The ring *g* then holds the cylinder in place. It also, by means of lip *h*, keeps the band *k* upon the barrel of the pump, and allows it to turn freely.

The handle of the pump attaches to band *k*, and it is desirable to have the handle movable from one side to the other. This is not new, however.

The piston-valve V has weight *m*. The object of this is to preserve a perpendicular position, at all times, of the valve V, and to keep it at the right angle, relative to the cylinder of the valve.

A great advantage is secured by casting the barrel A in one piece, as regards expense in casting and fitting up, and I claim casting a pump-barrel in one piece, to be new.

I am aware that removable cylinders, especially glass, have been employed in various ways—in the steam-gauge, for instance; but I am not aware that a removable cylinder has been combined with an open or slotted pump, cast in one piece.

What I claim, therefore, as my invention, and desire to secure by Letters Patent, is—

1. The barrel A, cylinder N, lugs *l*, rings *g* S', and supports *d*, all constructed, combined, and arranged substantially as described.

2. The barrel A, cylinder N, upper and lower packing-rings, supports *d*, and rings *g* S', all constructed and arranged substantially as set forth.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

JOHN S. BARDEN.

Witnesses:

CARROLL D. WRIGHT,
AUSTIN S. HOWARTH.