J. E. SMITH.

PUMP.

No. 188,309. Patented March 13, 1877.

Fig. 1

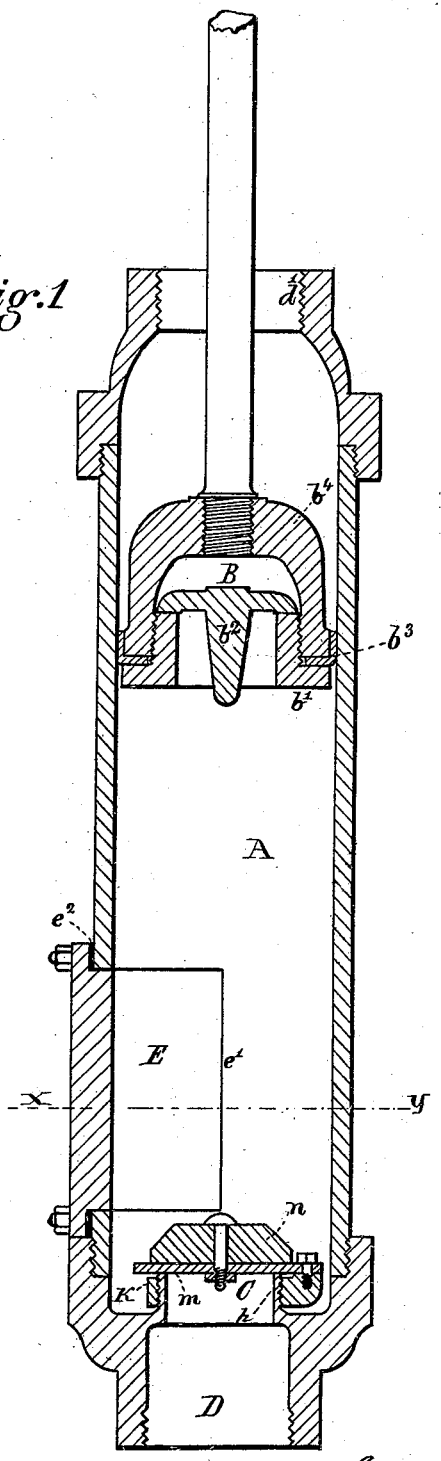
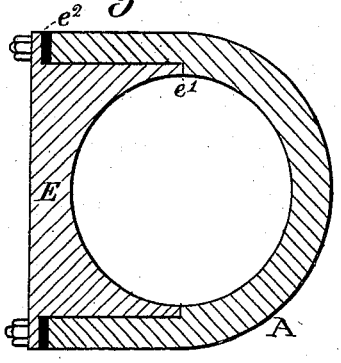


Fig. 2



Witnesses

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UNITED STATES PATENT OFFICE.

JAMES E. SMITH, OF GLOUCESTER CITY, NEW JERSEY.

IMPROVEMENT IN PUMPS.

Specification forming part of Letters Patent No. **188,309**, dated March 13, 1877; application filed February 10, 1877.

To all whom it may concern:

Be it known that I, JAMES E. SMITH, of Gloucester City, Camden county, New Jersey, have invented a new and useful Improvement in Pumps, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a vertical section. Fig. 2 is a horizontal section on the line *x y*.

My improvement is applicable chiefly to well-pumps or house-pumps; and the object of my invention is to construct a pump so that the bucket and foot-valve may be easily removed for repairs without removing the pump-barrel from its position in the well.

In the drawings, A is the cylinder; B, the bucket; C, the foot-valve; D, the socket connecting the cylinder to the pipe leading from the well; *d'*, the socket connecting the cylinder to the spout or outlet. The bucket is made with a seat, b^1, valve b^2, leather packing b^3, held down by a cap, b^4. The cylinder A has an opening on one side near the bottom, which is closed by a cover or cap, E, similar in shape to the covering of a journal. (See Fig. 2.) This cap is fitted into the barrel, and bored out with the barrel, so that the bucket can descend close to the foot-valve C. The cap is fitted hard against the cylinder at e^1, so as to be always in line with the bore, and a water-tight packing is inserted at e^2.

The socket D has a projecting valve-seat, *h*, screwed to receive a ring, *k*, to which is hinged the leather valve *m*, and upon this valve is riveted a brass button, *n*. By this construction the valve can be easily and firmly secured in its place, and removed by unscrewing without difficulty. When either valve is out of order the cap E is taken off, and the foot-valve C or bucket B removed and repaired while the pump is in its place in the well.

I claim—

1. The foot-valve C, formed by the socket D, the screwed seat *h*, the ring *k*, and valve *m*, as herein set forth.

2. The pump-cylinder A, having a removable cap, E, close to the foot-valve, which cap is bored out to form a part of the working barrel, as herein set forth.

JAMES E. SMITH.

Witnesses:

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