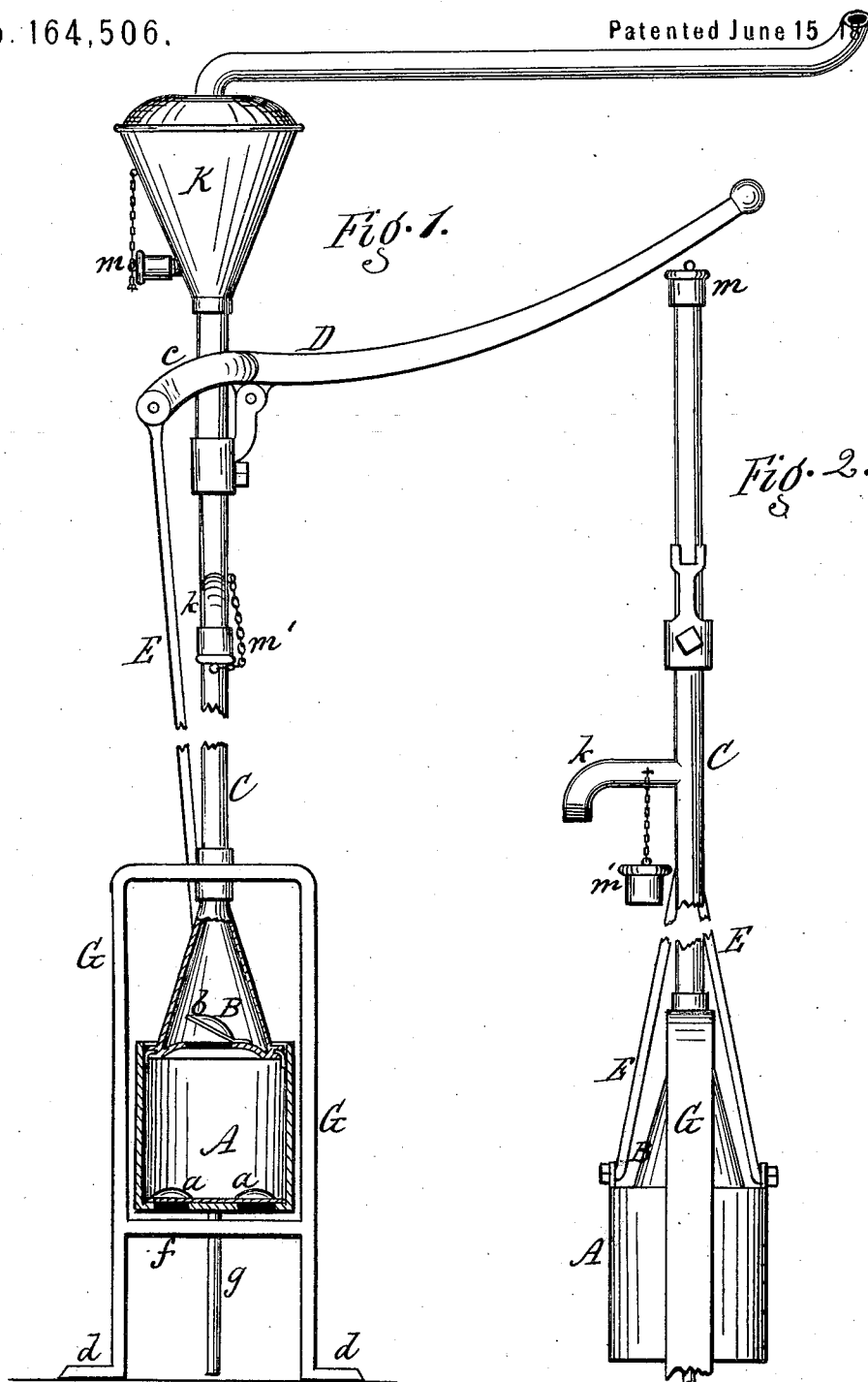


E. F. ADSITT.
Pump.

No. 164,506.

Patented June 15 1875.



Witnesses.
Edwin B. Scott.
Louis S. Spahn.

Inventor.
Eugene F. Aditt,
per R. H. Cogood,
Atty.

UNITED STATES PATENT OFFICE.

EUGENE F. ADSITT, OF WATERLOO, NEW YORK, ASSIGNOR OF TWO-THIRDS HIS RIGHT TO ALONZO H. TERWILLIGER AND SANDFORD R. TEN EYCK, OF SAME PLACE.

IMPROVEMENT IN PUMPS.

Specification forming part of Letters Patent No. 164,506, dated June 15, 1875; application filed April 2, 1875.

To all whom it may concern:

Be it known that I, EUGENE F. ADSITT, of Waterloo, in the county of Seneca and State of New York, have invented a certain new and useful Improvement in Pumps; 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 accompanying drawings, in which—

Figure 1 is a sectional elevation. Fig. 2 is an elevation at right angles to Fig. 1, and looking in the rear.

My improvement belongs to that class of pumps in which a bucket or cylinder slides over a stationary piston attached to the lower end of the fixed pipe, said bucket being operated by an ordinary lever.

The invention consists in the combination with the bucket and piston of a supporting-frame having a cross-bar, through which runs a guide-rod of the bucket to keep it in place.

A represents the bucket or cylinder and B the piston, the latter fitting in the open upper end of the bucket and being attached to the fixed elevating-pipe C. The bucket is worked up and down over the piston-head by means of a lever, D, and connecting-rod E, and the water, which enters the bucket through the induction-valves *a a a* at the bottom, is forced upward through the eduction-valve *b* into the pipe. I prefer to make three of the induction-valves *a a a* in order to balance the bucket in admitting the water, and also to prevent the entrance of chips and other obstructions. The rod E is forked or branched at the lower end, so as to be attached to opposite sides of the bucket, and the lever is formed with a loop, *c*, which embraces the pipe to produce equal action. The body of the piston B above the bucket is conical to concentrate the water to the pipe and present an equal flow. Thus far the pump is similar to others now known—the principle of working the bucket over a fixed piston attached to the pipe being old. In deep wells it has been found difficult to keep the bucket perfectly centered and in proper position to work without binding.

Anchors have been used, but they are liable to become displaced. To obviate this difficulty I combine with the bucket and piston a frame, G, of rectangular form, which has feet *d d* that are screwed to a platform or cross-piece. A short section of tubing is preferably cast into the upper end of the frame into which the piston-head and lower end of the main tube are screwed. This frame incloses the bucket and piston, being made of proper length to allow the strokes of the bucket, and it has a cross-bar, *f*, through which runs a guide-rod, *g*, attached fast to the bottom of the bucket. This guide-rod serves to keep the bottom of the bucket centered in its up and down movements, and since the upper end of the bucket runs upon the piston-head it has two bearings, one above and the other below, which causes it to run true, thereby preventing any binding even in the deepest well. The platform or cross-piece to which the frame is attached is of such length as to extend nearly across the diameter of the well, thereby keeping the frame and the parts which it incloses in a central position in the well at all times. By the use of this frame I secure a simple and effective guide to the lower end of the bucket, the rod *g* serving the purpose of a more complicated and expensive arrangement, presenting but little friction and not interfering with the location or working of the valves. The pipe C has the usual discharge-spout *k*. The pipe extends some distance above the spout, and its upper end is left open. In ordinary use the top of the pipe is closed by a screw-cap, *m*, as shown in Fig. 2, in which case the water flows only through the discharge-spout *k*. By closing the spout *k* by a similar screw-cap, *m'*, and opening the cap *m* water may be forced through the top of the pipe, or through a hose attached direct to the top of the pipe or to an air-chamber, K, screwed on top of the pipe, as indicated in Fig. 1. The air-chamber has two nozzles, one above and the other below, as shown. By shifting the hose from one nozzle to the other the stream may be carried in any direction. The air-chamber might be

located at the side instead of at the top with similar effect. It will be understood that the bucket and piston are submerged in the well. No packing will be required for the piston for this reason, as the water forms its own packing. The check-valve in the piston sustains the column of water, so that no weight comes on the bucket in the down-stroke. A force-pump is thus produced without the necessity of a stuffing-box.

Having thus described my invention, I do not claim broadly a bucket or cylinder working over a fixed piston attached to the elevating-pipe; but

I claim—

In combination with the bucket A, and piston B, the inclosing-frame G, sustaining the said parts, and provided with the cross-bar *f*, through which runs the guide-rod *g*, attached to the bottom of the bucket, as shown and described, and for the purpose specified.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

E. F. ADSITT.

Witnesses:

D. P. TULE,

WM. BROWNELL.