(No Model.)

E. S. BABCOCK.

PUMP.

No. 412,942. Patented Oct. 15, 1889.

Fig. 1.

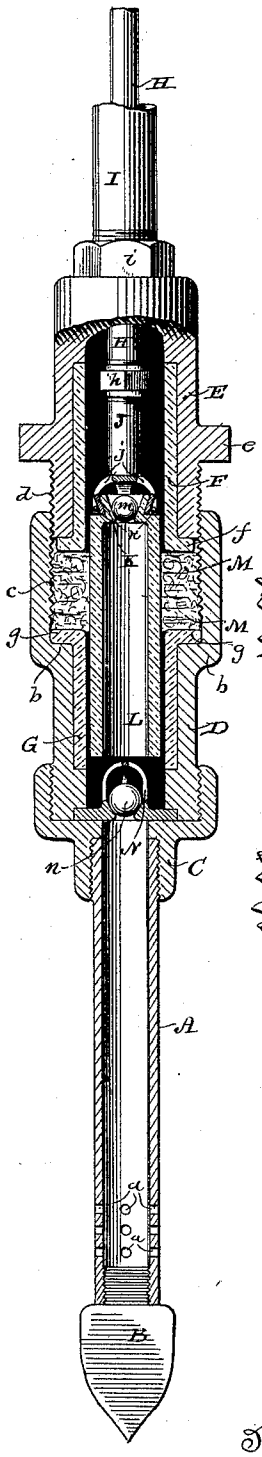


Fig. 3.

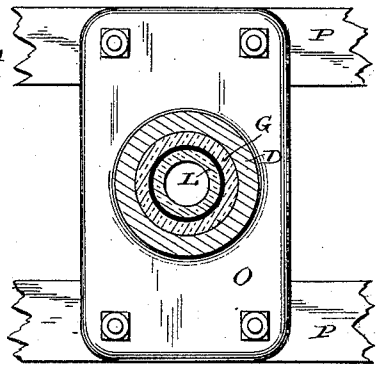
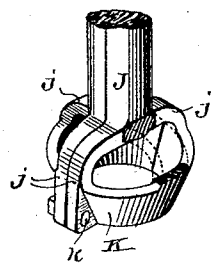


Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

EZRA S. BABCOCK, OF MILTON, WISCONSIN, ASSIGNOR OF ONE-HALF TO PAUL M. GREEN, OF SAME PLACE.

PUMP.

SPECIFICATION forming part of Letters Patent No. 412,942, dated October 15, 1889.

Application filed May 31, 1889. Serial No. 312,698. (No model.)

To all whom it may concern:

Be it known that I, EZRA S. BABCOCK, of Milton, in the county of Rock, and in the State of Wisconsin, have invented certain new and useful Improvements in Pumps; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to pumps; and it consists in certain peculiarities of construction, as will be fully set forth hereinafter, and subsequently claimed.

In the drawings, Figure 1 is a partial elevation and vertical longitudinal section of my device. Fig. 2 is a detail of the plunger-supporting mechanism, and Fig. 3 is a horizontal sectional view illustrating a modified form of support for the lower portion of my pump.

My pump is designed for use in connection with either drive or open wells, Figure 1 illustrating its use in connection with the former, wherein A is the pump suction-tube, which has an anchoring-plug B screwed into its lower end, above which it may be perforated, as shown at *a a*, to admit the passage of water into said tube.

C is a coupling having lower interior screw-threads, by which it is secured to the upper end of the suction-tube A, (which latter may of course be a string of pipes,) and upper interior screw-threads, by which it is secured to the lower end of the lower portion of the pump-cylinder D, which part D has an offset or shoulder *b*, and above this its bore is of an increased diameter and screw-threaded, as shown at *c*, to receive the correspondingly-screw-threaded lower part *d* of the upper portion E of the said pump-cylinder, which part E has an exterior collar or stop *e*, adapted to engage with the top of the part D and limit the downward movement of the said upper part E, which is partially bored out to receive a glass thimble or lining F, having a lower horizontal flange *f*, fitting just below the bottom of the part E, and the part D is similarly partially bored out to receive a similar glass thimble or lining G, having an upper horizontal flange *g* resting upon the offset or shoulder *b* of said part D.

H is the pump-rod, which extends down through the pump-tube I above the cylinder and through the top of the upper part E of the pump-cylinder, and is there screw-threaded and united by a coupling *h* to the screw-threaded upper ends of a split rod J, the lower ends of whose halves each terminate in a spider *j j j*, cast solidly with the halves of a beveled or inclined clamping-ring K, as best shown in Fig. 2, adapted to clasp the contracted and similarly-inclined neck of a glass plunger L, which receives a ball-valve *m*, the halves of the spider being held together, when the parts are all adjusted, by screws or bolts *k k*, and said spider forming a cage for said ball-valve. Surrounding said plunger, and located in the greater diameter of the part D of the cylinder between the flanges *f g* of the thimbles F G, are rings or layers of packing M M. Below the plunger is another cage N, having a ball-valve *n* to control the passage of water into the cylinder from the pump-rod A below.

In the modification, Fig. 3, the interior construction is the same as that just described; but the coupling to which the lower part of the cylinder is connected is extended into a plate or frame O, which rests upon and is secured to suitable beams or supports, as P P, arranged above the open well referred to, and the pump-tube merely extends down into said well, and would not, of course, in this instance have an anchoring-plug, like the form shown in Fig. 1.

The top of the upper part E of the pump-cylinder is cast solidly with, or otherwise made rigid to a nut *i*, (having polygonal-faced sides for the reception of a suitable wrench,) into which the lower end of the section I of the pump-tube is screwed, as shown.

The great advantage of the glass plunger and glass thimbles or linings of the cylinder is that they do not rust or corrode and roughen, and by the described construction it will be seen that as fast as the packing M wears away the upper part E of the cylinder can be screwed down within the lower part D of the same without detaching any of the parts, and thus keep the pump tight and in good working order as long as a film of the packing remains.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a pump, the combination of a cylinder formed in two parts only, one screwing into the other, with packing interposed between their opposing interior faces, a pump-rod passing down through the upper part and carrying a valved plunger passing through the packing and in contact therewith, and a wrench-bearing formed on top of and integral with the upper part of the cylinder, which screws directly within the lower part of said cylinder, whereby the same may be screwed down as the packing wears away and the cylinder thereby tightened without detaching any of the parts of the pump, substantially as set forth.

2. In a pump, the combination of a two-part cylinder, one part screwing into the other and each part partially bored out, with glass thimbles fitting into said bored-out portions and having horizontal flanges and rings or layers of packing interposed between the opposing faces of the said thimble-flanges, substantially as set forth.

3. In a pump, the combination, with a cylinder having a centrally-arranged packing, of a pump-rod and a split rod united to said pump-rod by a coupling and terminating in a spider-cage, and an inclined clamping-ring, a hollow plunger having an inclined contracted neck held by said clamping-ring, and a ball-valve within said spider-cage and another valve below said plunger at the bottom of the cylinder, substantially as set forth.

4. In a pump, the combination of a two-part cylinder, one part screwing into the other and each provided with glass thimbles having opposing horizontal flanges, rings or layers of packing interposed between said flanges, pump-tubes above and below said cylinder, a pump-rod passing down through the upper part of the cylinder, a split rod coupled to said pump-rod and carrying a ball-valve cage and inclined clamping-ring, a glass plunger with inclined contracted neck held by said inclined ring, and provided with a ball-valve, and passing through and in contact with said packing, a wrench-bearing formed on the upper part of the cylinder, and a ball-and-cage valve located at the bottom of the cylinder below the plunger, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand, at Milton, in the county of Rock and State of Wisconsin, in the presence of two witnesses.

EZRA S. BABCOCK.

Witnesses:
E. P. CLARKE,
JAMES C. ANDERSON.