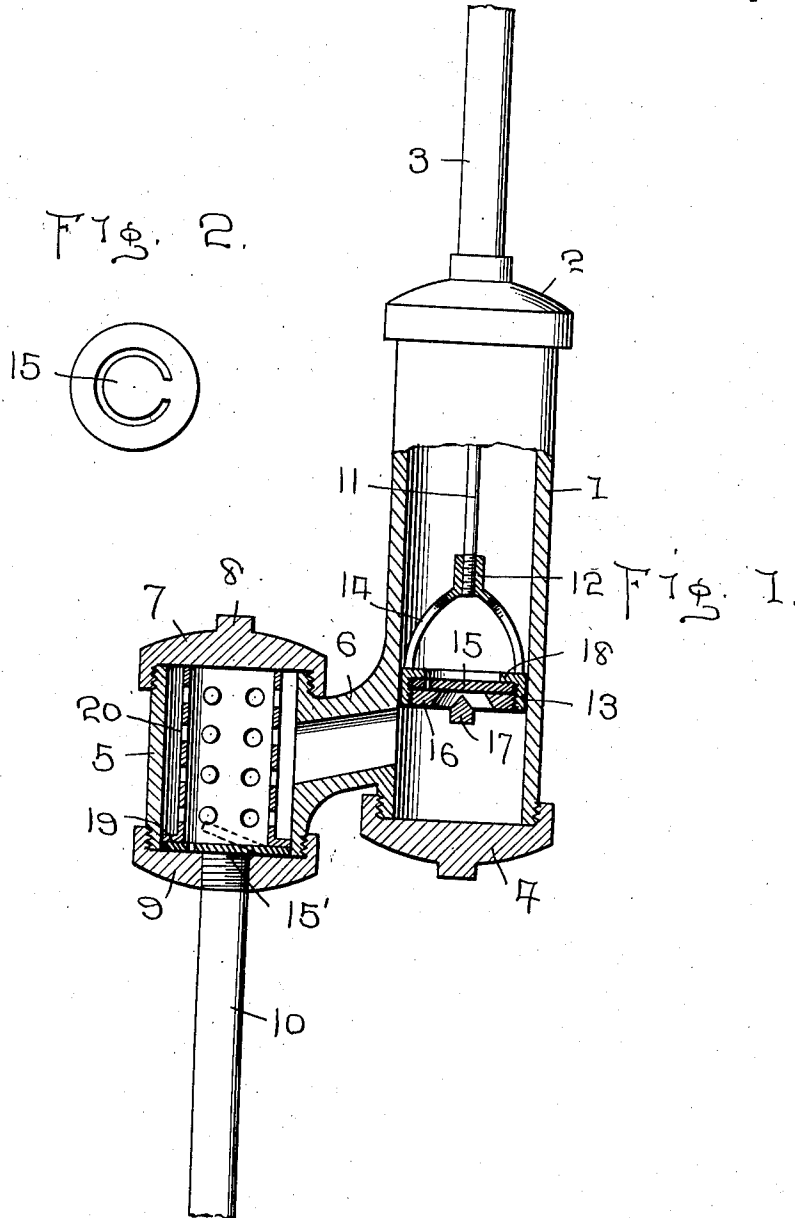


W. J. WILKINS.
PUMP.

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1,002,794.

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WITNESSES:

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PUMP.

1,002,794.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM J. WILKINS, a citizen of the United States, residing at Fulton, in the county of Whiteside and State of Illinois, have invented certain new and useful Improvements in Pumps; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to pumps and more particularly to the lower portion of the pump.

15 An object of the invention is to construct the piston cylinder in connection with an auxiliary cylinder in such manner that the piston and valves may be easily removed for inspection, repair and replacing.

20 Another object of the invention is to form these parts in such manner that the owner or operator of the pump may readily repair the latter without having to call in an expert in such matters, and, another object is to form integrally with the piston cylinder, an auxiliary small cylinder to one side of the main cylinder and connect the lower pipe with the auxiliary cylinder, suitable valves being placed in both cylinders and removable caps at either end of both cylinders, to allow ready access to the valves and the piston by unskilled persons.

30 Other objects and advantages will be hereinafter set forth and pointed out in the specification and claims.

35 In the accompanying drawings which are made a part of this application, Figure 1 is an elevational view, partly in section, of my improved construction, and Fig. 2 is a detail view of the washer positioned in the bottom of the auxiliary cylinder.

40 Referring to the drawings in which similar reference numerals designate corresponding parts throughout the several views, 1 is the main cylinder of the usual construction having the head 2 secured, by means of threads upon its upper end, with a suitable central passage within which is secured the conducting pipe 3 of the pump. The cylinder 1 is also provided with the solid cap 4 secured upon its lower threaded end.

50 Formed integral with the main cylinder 1, is the auxiliary cylinder 5, which is connected to the main cylinder 1 by the hollow neck 6 near the lower end of the cylinder 1. Secured upon the upper threaded end of the

auxiliary cylinder 5 is the screw cap 7, having the integral nut 8 upon its upper face to be engaged by a wrench or other suitable tool to remove and replace said cap. Removably secured upon the lower end of the auxiliary cylinder 5 is the cap 9, which is secured in position in a manner similar to that in which the previously described caps are secured. The cap 9 has a suitable central opening within which is secured the upper end of the lower pump pipe 10, which extends down to the water vein, as will be understood.

60 Extending through the pipe 3 and into the cylinder 1 is the usual pump rod 11, which has its lower end secured by threaded engagement with the upper threaded end 12 of the piston 13, the piston 13 and its upper end 12 being connected by curved arms 14, as will be understood. The piston 13 is preferably provided with the threaded inner surface, which receives the flap valve 15, held in position by the exteriorly threaded nut 16, having the downwardly extending lug or projection 17 to be engaged by a suitable tool to remove or replace said nut, said passages being formed in the sides of the nut to allow the water to pass between the projection 17 and the circular portion of the nut 16, to which the projection is secured when the piston is reciprocated. It will be understood that the flap valve 15 is positioned between the nut 16 and the inwardly extending circular shoulder 18 of the piston 13. As the flap valve 15 is of the same construction as the flap valve 15' positioned in the bottom of the auxiliary cylinder 5, it will be readily understood that the same can only be opened by pressure from the under side, the valve 15 within the main cylinder 1 and carried by the piston 13 resting, when in closed position, upon the upper face of the nut 16, as will be readily seen.

90 The flap valve 15' within the auxiliary cylinder 5 and resting upon the bottom thereof, is positioned directly above the pipe 10 and will only open when water is drawn, by suction, upwardly through the pipe 10 and into the auxiliary cylinder 5, compelling the valve 15' to open. The moment that the suction ceases, however, the water within the auxiliary cylinder 5 will press against the upper side of the flap valve 15' within the cylinder 5 and cause said valve to close, thereby preventing backward flow of the water. Resting upon the

upper side of the flap 15' near its edge, is the right angled lower portion 19 of the perforated ring 20, which extends to the top of the auxiliary cylinder 5, the upper edge of said ring being flush with the upper edge of the cylinder 5. The right angled lower portion 19 of the ring 20 fits snugly against the inner surface of the cylinder 5, while the upper edge of the ring is engaged by the under face of the solid cap 7. Thus, it will be seen, that all liability of rattling or casual displacement of the ring is limited.

Should it be necessary to repair or replace the washer or ring within the auxiliary cylinder 5, it will only be necessary to unscrew the solid cap 7 from the upper end of the cylinder and remove the ring 20 and, if necessary the flap valve 15' may then be removed from the auxiliary cylinder 5. These parts may be readily assembled by unskilled persons. To repair or replace any of the parts within the main cylinder, it will only be necessary to remove, by a wrench or other suitable implement, the solid cap 4 from the lower end of said cylinder and disconnect the pump rod 11 from the handle of the pump, as will be readily understood. This will allow the rod 11 to descend and force the parts connected to the lower end thereof out of the lower end of the cylinder 1, when they may be readily repaired or replaced by new parts. They may then be forced into the cylinder 1 and the rod 11 connected in the proper manner to the parts from which it was disconnected. The cap 4 may then be replaced upon the lower end of the cylinder 1. It will be apparent that this operation may be performed by the average person.

It will thus be seen that I have provided a pump construction for the lower end of a pump which will make it possible for these parts to be readily repaired or replaced, by the owner or operator of the pump with very little trouble and practically no expense, eliminating all necessity of employing the services of a pump expert. This construction will not increase the cost of manufacturing and installing pumps, but will tend to decrease these expenses and lengthen the life of pumps, as they may be readily repaired or the small parts replaced

at practically no expense whatever to the owner or operator and an expenditure of only a few minutes of his time.

What I claim is:

1. A pump construction comprising a main cylinder, caps for the ends of said cylinder, a piston having a valve adapted to reciprocate within said cylinder, an auxiliary cylinder, an integral hollow neck connecting said cylinders, removable caps upon the ends of said auxiliary cylinder, a flap valve resting upon the bottom of said auxiliary cylinder, a lower pump pipe connected with the cap upon the lower end of said auxiliary cylinder through which the water is drawn upwardly and into said auxiliary cylinder compelling said flap valve to operate, a perforated ring within said auxiliary cylinder, said ring having a right angled flange upon its lower end, said flange being directed outwardly and resting upon the outer surface of the flap valve outwardly of the flap portion, said flange engaging against the side of said auxiliary cylinder, the upper edge of said ring being flush with the upper edge of said auxiliary cylinder, and projections upon certain of said caps by means of which they may be easily removed or replaced.

2. A pump construction comprising the combination of an auxiliary cylinder, removable caps for the ends of the cylinder, a flap valve within said cylinder and resting upon the bottom thereof, a perforate ring within the cylinder, said ring having a circular flange around its lower edge, said flange being directed outwardly at right angles to the ring and resting upon the outer edge of the upper surface of the flap valve outwardly of the flap portion thereof, the upper edge of the ring resting against the removable cap upon the upper end of the cylinder, a main cylinder, hollow integral connection between said cylinders, removable caps for the ends of said main cylinder and a valve piston adapted for movement within the main cylinder.

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

WILLIAM J. WILKINS.

Witnesses:

LOUIS RENKES,
JOHN RENKES, Jr.