T. J. McGOWAN.

PUMP.

No 36,844. Patented Nov. 4, 1862.

Fig. 1.

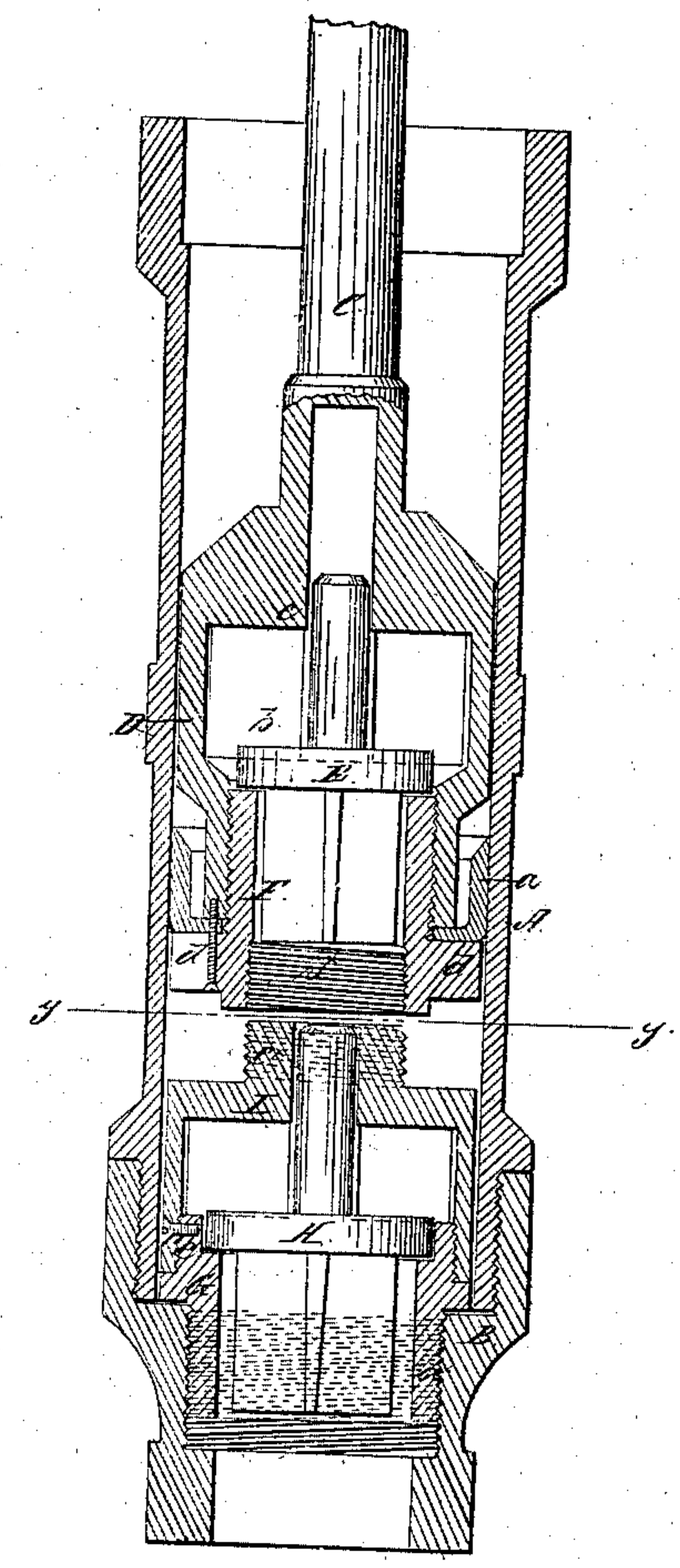
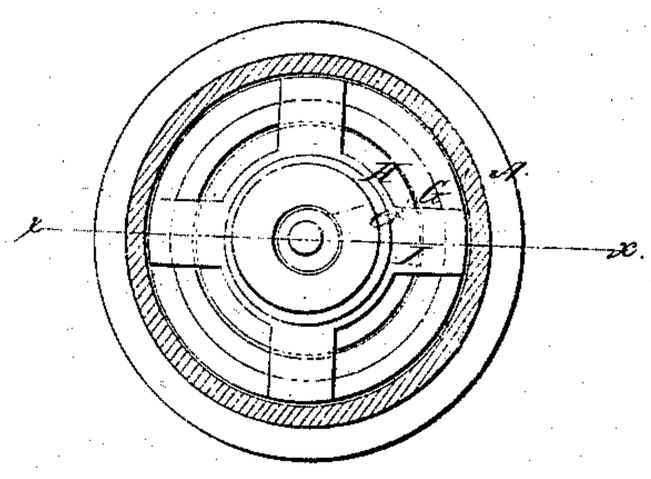


Fig. 2.



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UNITED STATES PATENT OFFICE.

THEODORE J. McGOWAN, OF CINCINNATI, OHIO.

IMPROVEMENT IN PUMPS.

Specification forming part of Letters Patent No. **36,844,** dated November 4, 1862.

To all whom it may concern:

Be it known that I, THEODORE J. McGOWAN, of Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and useful Improvement in Pumps; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a vertical central section of my invention, taken in the line *x x*, Fig. 2; Fig. 2, a horizontal section of the same, taken in the line *y y*, Fig. 1.

Similar letters of reference indicate corresponding parts in the two figures.

This invention relates to an improvement in the ordinary reciprocating pump; and it consists in constructing and arranging the working parts thereof—to wit, the bucket-valves and lower valve-seat—in such a manner that they may all, when necessary, be readily withdrawn from the pump-cylinder at one operation or simultaneously without disturbing or moving the pump-cylinder, thereby rendering the labor of repairing comparatively light and inexpensive.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents a pump-cylinder, and B a coupling at its lower end, which is used to connect a pipe to the cylinder, in order to extend it the proper depth in the well, &c.

C is a portion of the pump-rod which is attached to the bucket D, the latter being provided with a suitable packing, *a*, and having a valve, E, fitted in it, with a valve-guard, *c*, above the valve. An ordinary puppet or rising and falling valve may be used.

F is a valve-seat, which is screwed into the lower end of the bucket D, and is provided with a shoulder, *d*, which abuts against the bottom of the packing *a*, clamping it between the shoulder and the lower edge of the bucket, as shown in Fig. 1.

G is the seat of the lower valve, commonly termed a "check-valve." This seat is screwed by a left-hand screw, $a^{\times}$, into the coupling B.

The check-valve (designated by H) may be of the same kind or construction as the bucket-valve E. I is the guard of this valve, which is screwed on the upper part of the seat G. The valve-guard I may be secured to the seat G by one or more small screws, *c*, to prevent the casual detachment of said parts. The valve-guard I and bucket D are provided with suitable passages to admit of the fluid being pumped up through them. The seat F of the bucket-valve E has an internal right-hand screw, $b^{\times}$, in its lower part, and the guard I of the check-valve H has a screw, $c^{\times}$, at its upper part, of such dimensions that it may fit or work into the internal screw, $b^{\times}$.

The operation of the pump, so far as the raising of water or fluid is concerned, is the same as the ordinary lifting-pump. The lifting of the working parts from the pump-cylinder A is effected by first disconnecting the pump-rod C from the brake, crank, or other driving part at the top of the well. The valve-seat F is then lowered until it comes in contact with the screw $c^{\times}$ at the upper part of the guard I of the check-valve H, and the seat F is then turned from left to right, which causes the screw $c^{\times}$ to work up into the female or internal screw, $b^{\times}$, of the seat F, and the pump-bucket D, with its valve E and seat F, will be connected with the guard I and seat G of the check-valve H, and when the guard I and seat F are screwed together in close contact a further turning of the rod C and seat F will, in consequence of the seat G of the lower or check valve, H, being screwed into the coupling B by a left-hand screw, be unscrewed from the coupling, and all of the said parts may consequently be simultaneously withdrawn from the pump-cylinder A by simply raising the rod C. Thus it will be seen that the working parts, when repairs are necessary, may be removed or withdrawn from the cylinder without removing or disturbing the latter, and the parts may be inserted in the pump-cylinder A and secured in proper position by simply reversing the manipulation just described for withdrawing them therefrom. A great deal of labor and expense is consequently saved by the invention.

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

Providing the pump-bucket D or any suitable part connected therewith, and the lower valve-guard, I, or any part attached to it, with screws or their equivalents arranged in such a manner that all the working parts of the pump may, by a simple manipulation, be connected together and simultaneously withdrawn from the pump-cylinder A, and also adjusted therein, substantially as and for the purpose herein specified.

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