H. M. Stoker,

Pump Lift,

No. 53,750. Patented Apr. 3, 1866.

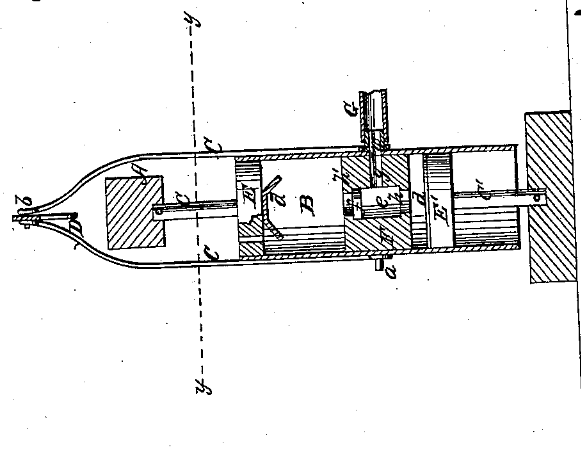

Fig. 2.

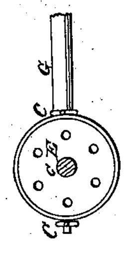

Fig. 3.

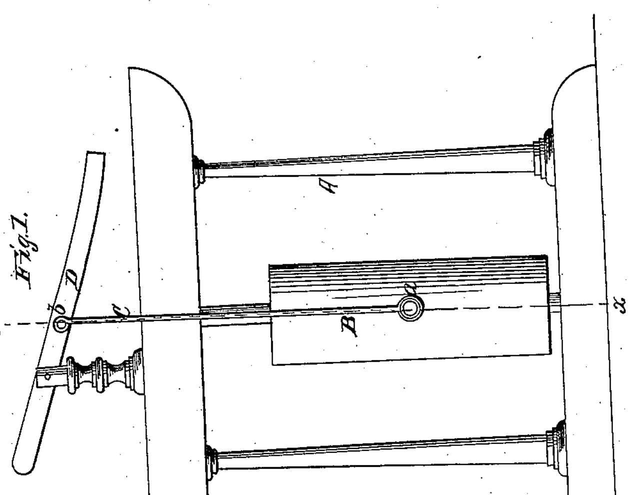

Fig. 1.

Witnesses.
Wm. Trewin
Theo. Tusch

Inventor
H. M. Stokes
By Munn & Co
Attys

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

H. M. STOKER, OF WATSON, ILLINOIS, ASSIGNOR TO HIMSELF AND J. C. STOKER, OF SAME PLACE.

IMPROVEMENT IN PUMPS.

Specification forming part of Letters Patent No. **53,750**, dated April 3, 1866.

To all whom it may concern:

Be it known that I, H. M. STOKER, of Watson, in the county of Sangamon and State of Illinois, have invented a new and Improved Pump; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is an elevation of my invention; Fig. 2, a vertical central section of the same, taken in the line *x x*, Fig. 1; Fig. 3, a horizontal section of the same, taken in the line *y y*, Fig. 1.

Similar letters of reference indicate corresponding parts.

This invention consists in constructing a pump with a reciprocating cylinder and two stationary pistons provided with valves, the piston having a central transverse abutment secured within it, and provided with a water-passage and a valve, all arranged as hereinafter fully shown and described, whereby it is believed that the packing of the pistons are subjected to less wear than when moved, as usual, by means of a lever or brake, and the pump capable of being operated with a less expenditure of power and to throw a continuous stream.

A represents a framing in which the pump is secured, and which may be constructed in any proper manner. B is the pump-cylinder, of any suitable or desired dimensions, and having two arms, *a a'*, projecting horizontally from its exterior at opposite points at about the center of its height. To these arms *a a'* rods C C are attached, which extend upward above the framing A, and are connected to a brake or lever, D, by a pivot-bolt, *b*.

E E′ represent the two pistons of the pump, which are fixed or stationary, and are attached to stems or rods *c c'*, secured to the framing A. These pistons are placed one directly over the other, and the cylinder B is fitted on or over them and allowed to work freely up and down, the cylinder being operated through the medium of the brake or lever D and rods C C. The pistons E E′ are both perforated with holes, and the upper one, E, is provided with a valve, *d*, opening downward, and the lower one, E′, provided with a valve, *d'*, opening upward.

Within the center of the cylinder B there is secured transversely an abutment, F, provided with a vertical central opening, *e*, in which a valve, *f*, is placed. This vertical opening *e* has a horizontal opening, *g*, communicating with it, said opening extending through the arm *a'*, on which a flexible eduction-tube, G, is fitted.

The framing A and pump are submerged at the bottom of the well, the rods C C extending up to the top of the same, or attached to a rod which does, the brake or lever, of course, being above the top of the well.

In operating the brake or lever a reciprocating motion is communicated to the pump-cylinder B. As said cylinder rises the valve *d* of the upper piston, E, closes and the valve *f* in the opening *e* of the abutment is forced down on its lower seat, *h*, the water in the cylinder B above the abutment F being forced through the horizontal opening *g* and up through the tube G. Meanwhile the valve *d'* of the lower piston, E′, opens and the water is drawn into the lower part of the cylinder B below the abutment F. As the cylinder B descends the valve *d'* of the piston E′ closes, the valve *f* in the opening *e* of the abutment F closes against its upper seat, *h'*, and the water is forced through the openings *e g* into tube G, while during said descent of the cylinder the valve *d* of the upper piston, E, opens and water is drawn into the upper part of the cylinder above the abutment F, to be forced up through tube G when the cylinder B rises. Thus it will be seen that a continuous stream of water is forced up through tube G.

The arrangement is extremely simple, the pistons are not subjected to much wear, and there are no parts liable to get out of repair. The packing of the pistons will last a long time, much longer than when the pistons are operated, as in the latter case they are subjected to a greater or less degree of lateral pressure due to the curvilinear motion of the handle or brake.

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

The reciprocating pump-cylinder B, in combination with the fixed or stationary valvular pistons E E′ and the abutment F, placed or secured within the pump-cylinder and provided with the openings and valve, with the eduction or force tube G communicating with said openings, substantially as and for the purpose herein set forth.

H. M. STOKER.

Witnesses:
WM. G. JACK,
A. M. BLAIR.