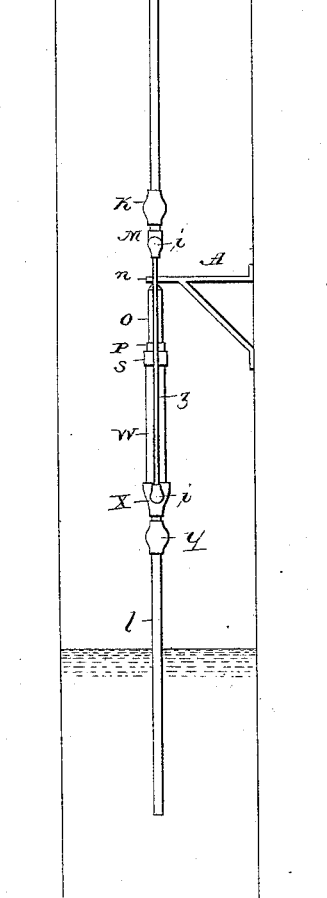
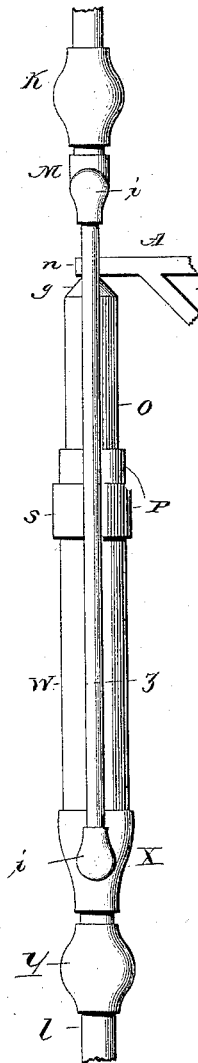
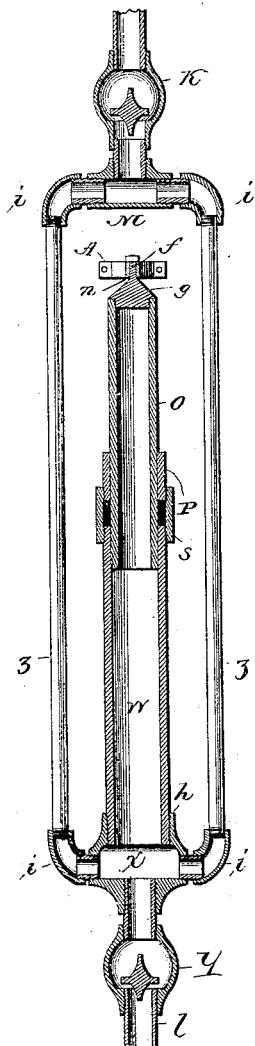
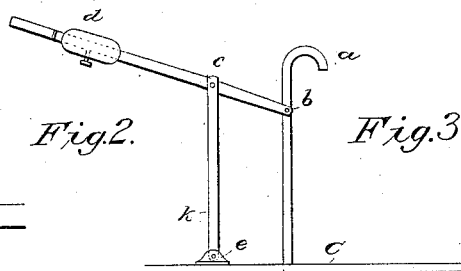
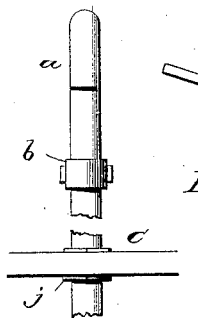
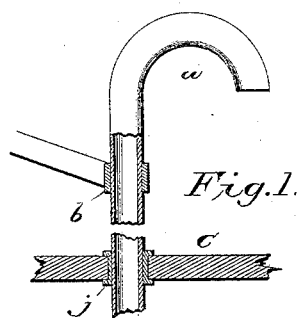


(No Model.)

H. M. JOHNSTON.
PUMP.

No. 419,957.

Patented Jan. 21, 1890.



Witnesses
L. S. Elliott,
E. M. Johnson

Hector M. Johnston,
Inventor

By his Attorneys

UNITED STATES PATENT OFFICE.

HECTOR M. JOHNSTON, OF EAU CLAIRE, WISCONSIN.

PUMP.

SPECIFICATION forming part of Letters Patent No. 419,957, dated January 21, 1890.

Application filed April 25, 1889. Serial No. 308,629. (No model.)

To all whom it may concern:

Be it known that I, HECTOR M. JOHNSTON, a citizen of the United States of America, residing at Eau Claire, in the county of Eau Claire and State of Wisconsin, 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention has reference to pumps of that class wherein the plungers are stationary and the barrel is moved relatively thereto.

The said invention consists in the improved construction hereinafter described, whereby a simple and efficient pump of the type mentioned is provided.

In the accompanying drawings, forming part of this specification, Figure 1 is a vertical sectional view of a pump embodying my improvements, looking at the side thereof. Fig. 2 is a front view of the construction shown in Fig. 1, and Fig. 3 a like view showing the pump positioned within a well.

Within the well and at one side thereof is permanently secured a bracket A, the outer projecting end *n* of which occupies a central position within the well, and is perforated for the bearing therein of the threaded reduced end *f* of the plug *g*, which closes the upper end of the short tube-section O, forming the plunger. The said reduced end *f* projects through and above the end *n* of the bracket, and is threaded for the engagement of a nut, so that said plug and plunger will be rigidly supported centrally within the well. A T-section X has centrally a nipple *h*, to which is attached a vertical cylinder-section W, which embraces the depending plunger, the said barrel carrying a sleeve *s*, externally embracing the plunger and serving as a means for interposing packing to furnish a watertight joint between the barrel and plunger. A stuffing-box P is also carried by said sleeve.

At each side the section X carries an elbow-coupling *i*, to each of which is connected an extended vertical section of pipe Z, of small

diameter, the upper ends of which pipes Z Z are connected to corresponding elbows *i*, branching from a T-section M, but in a reversed position relative to the section X. As will be apparent, the section M is immediately above the supporting end of the bracket and plunger suspended therefrom. A valve-globe K is connected at its lower side to the section M, and has extending from the top thereof a discharge-pipe *a*, playing through a bearing-ferrule *j* in the platform, the pipe *a* above said platform being curved to present the discharge-spout. A plate *e* is bolted on the upper side of the platform and is provided with parallel ears, in which is pivotally mounted the lower end of a standard *k*, the upper extremity of which has pivoted thereto an operating-lever, the forward end of which is looped for the reception of the discharge-pipe, which has a pivot-pin engaging said loop to afford a positive connection between said lever and pipe. The other portion of the lever carries a weight *d*, adjustably secured thereon, so as to regulate the position of the parts within the well.

The central depending portion of the section X has a globe-chamber Y, connected therewith, in which a freely-moving check-valve is located, said check-valve having a pipe *l*, extending therefrom, for immersion in the water of the well.

In operation the handle is vibrated, so that the discharge-pipe and other parts carried therewith are reciprocated, the movement of the barrel W relative to the fixed plunger acting to draw the water into the barrel around the lower check-valve, and thereafter forcing the water out of the barrel to the tubes Z Z, and through and from the discharge-pipe *a*.

It will be readily seen that the upper and lower valves are so disposed that they act alternately, and hence the upper valve is never so unseated that it will admit air to counteract the drawing action of the fixed plunger. The hollow form of the fixed plunger enables it to act as an air-cushion upon the water in the barrel when forcing water therefrom.

I claim—

1. The combination, in a pump, of a cylinder closed at its upper end and supported to form a fixed plunger, a cylinder W, embrac-

ing said plunger X, connected to said cylinder W and having globe-chamber and check-valve, pipes Z Z, communicating with said section and connected at their top to a similar section having a globe-chamber with check-valve and a discharge-pipe leading from said upper globe-chamber, and lever devices for moving said discharge-pipe and parts connected therewith, substantially as set forth.

2. The combination, in a pump, of a bracket having a perforated end, a plug with reduced portion bolted in said end, a cylinder con-

nected to said plug-section X, embracing said cylinder and having a globe-chamber and check-valve, pipes Z Z, communicating with said section and connected at their top to a similar section having a globe-chamber with check-valve, a discharge-pipe leading from said upper globe-chamber, and lever devices for moving said discharge-pipe and parts connected therewith, substantially as set forth.

HECTOR M. JOHNSTON.

In presence of—

WM. F. WENCK,
FRANK FRERICKS.