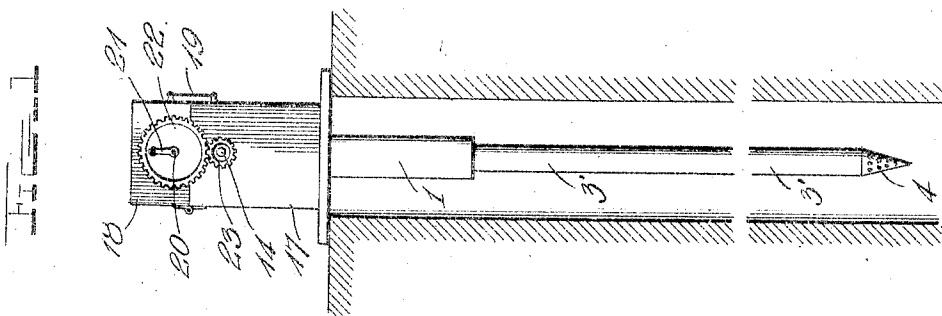
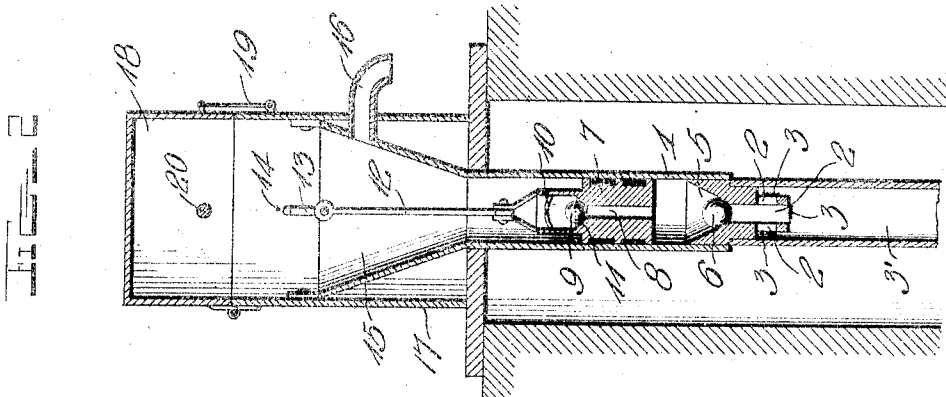
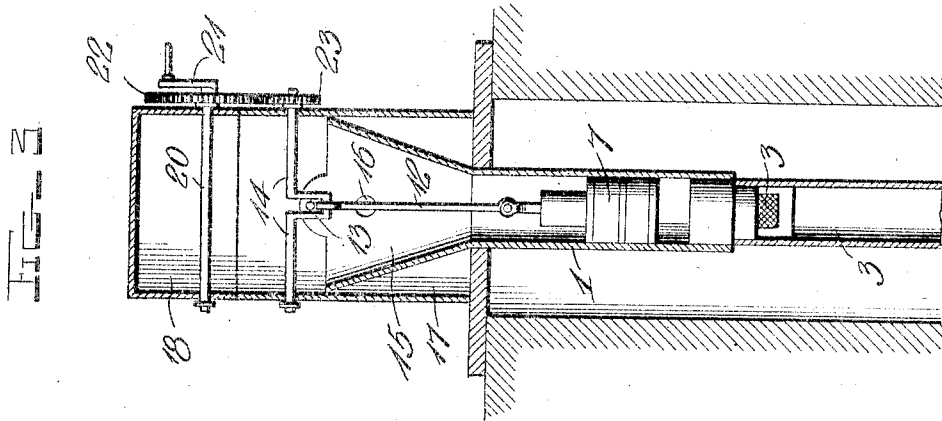


J. B. BUCKNER.
LIFT PUMP.
APPLICATION FILED JULY 20, 1911.

1,009,892.

Patented Nov. 28, 1911.



Witnesses

E. E. Allen
O. B. Hopkins

Inventor

John B. Buckner

By *A. B. Wilson & Co*
Attorneys

UNITED STATES PATENT OFFICE.

JOHN B. BUCKNER, OF NOWATA, OKLAHOMA.

LIFT-PUMP.

1,009,892.

Specification of Letters Patent.

Patented Nov. 28, 1911.

Application filed July 20, 1911. Serial No. 638,553.

To all whom it may concern:

Be it known that I, JOHN B. BUCKNER, a citizen of the United States, residing at Nowata, in the county of Nowata and State of Oklahoma, have invented certain new and useful Improvements in Lift-Pumps; and I do 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 improvements in lift pumps.

One object of the invention is to provide a pump of this character having an improved construction and arrangement of operating devices whereby a continuous stream of water may be pumped from a well.

Another object is to provide a pump which will be simple, strong and durable in construction, efficient and reliable in operation and provided with means whereby the water may be easily lifted and caused to flow from the pump in a practically continuous stream.

With these and other objects in view the invention consists of certain novel features of construction, combination and arrangement of parts as will be more fully described and particularly pointed out in the appended claim.

In the accompanying drawings: Figure 1 is a side view of my improved pump; Fig. 2 is a central vertical section of the upper portion thereof; Fig. 3 is a similar view taken at right angles to Fig. 2.

My improved pump comprises a cylinder 1 having in its lower end water inlet passages 2 covered by suitable screens 3. Connected to the lower end of the cylinder is a water conducting tube 3' which may be of suitable length and is adapted to extend down into the well. The lower end of the water conducting pipe 3' is preferably tapered to a point 4 whereby the same may be readily driven through the ground. The pointed end of the pipe 3' is perforated to permit the entrance of the water from the well into the pipe. In the lower end of the cylinder 1 is arranged a conical valve seat 5, with which is adapted to be engaged an upwardly opening ball valve 6, the operation of which will be hereinafter described. Slidably mounted in the cylinder 1 is a piston 7 having a centrally disposed passage

8 with which is adapted to be engaged an upwardly opening ball valve 9 said valve being confined and limited in its upward movement in a cage 10 formed on the upper side of the piston as shown. The valve 9 is adapted when closed to engage a conical seat 11 formed in the upper end of the passage through the piston as shown. Arranged on the upper end of the valve cage 10 is a pair of pivot lugs to which is pivotally connected the lower end of a piston rod 12, the upper end of which is loosely engaged with the crank 13 of an operating shaft 14 the construction and arrangement of which will be hereinafter described.

The upper end of the cylinder 1 has arranged thereon a flared or funnel shaped water receiving head 15 with one side of which is preferably engaged a discharge spout 16. The head 15 is preferably arranged above the platform of the well and is inclosed within and secured at its upper end to a well curb or casing 17 in the upper portion of which is revolubly mounted the piston operating shaft 14 hereinbefore described. The upper end of the casing 17 is preferably closed by a cap or cover 18 adapted to be secured in closed position by means of a hook or other suitable fastening 19. Revolubly mounted in the cap or casing 18 is an operating shaft 20 having on one end a crank handle 21 and also having fixedly mounted thereon an operating gear 22 which when the cover is in closed position is adapted to be engaged with a gear pinion 23 fixed on the adjacent end of the crank shaft 14 whereby the latter is adapted to be easily operated by the handle 21 thereby reciprocating the piston 9 in the cylinder 1. By providing the operating shaft 20 with a large gear 22 and the crank shaft 14 with a similar gear or pinion 23, said shaft and pinion may be readily operated at great speed thus causing a practically continuous stream of water to be elevated and discharged from the pump.

In the operation of the pump the valve 6 is lifted on the upstroke of the piston and water drawn into the cylinder. On the down-stroke of the piston the valve 6 closes and the valve 10 in the piston opens thus permitting the water to pass through the piston and into the upper portion and head of the cylinder. On the next up-stroke of the piston more water is drawn into the cylinder while the water which passes

through the piston into the head 15 will be lifted and discharged from the spout 6.

From the foregoing description taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention as defined in the appended claim.

Having thus described my invention, what I claim is:

A pump comprising a cylinder having a reduced lower end provided with inlets in

its side and end walls, a water conducting pipe encircling said reduced cylinder end and spaced from the side walls thereof, an inwardly opening valve arranged within said cylinder adjacent to said inlets, a valved piston, operable in said cylinder, means on said piston for limiting the opening movement of the valve thereof, and means for reciprocating said piston.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN B. ^{his} X BUCKNER.
mark

Witnesses:

DENTON HARRISON,
CHAS. PATTERSON.