

F. O. DE HYMEL.
WATER LIFT.

APPLICATION FILED MAY 2, 1908.

933,894.

Patented Sept. 14, 1909.

2 SHEETS—SHEET 1.

Fig. 1.

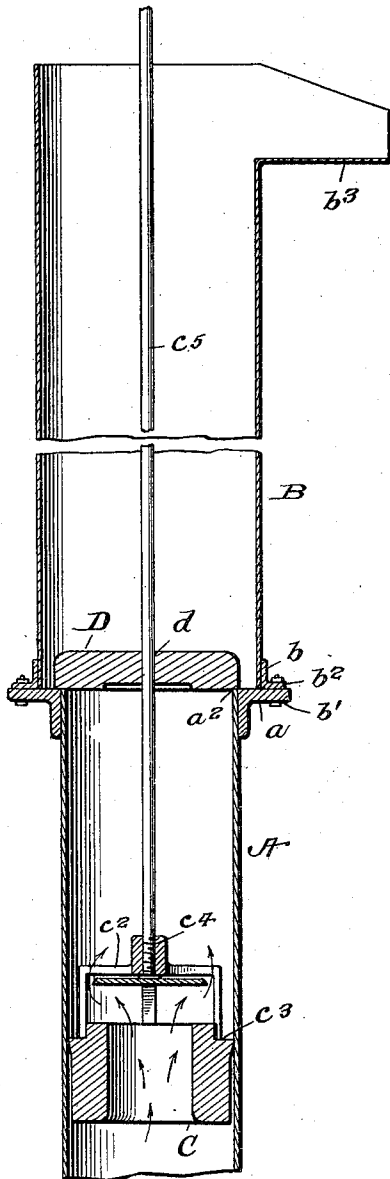
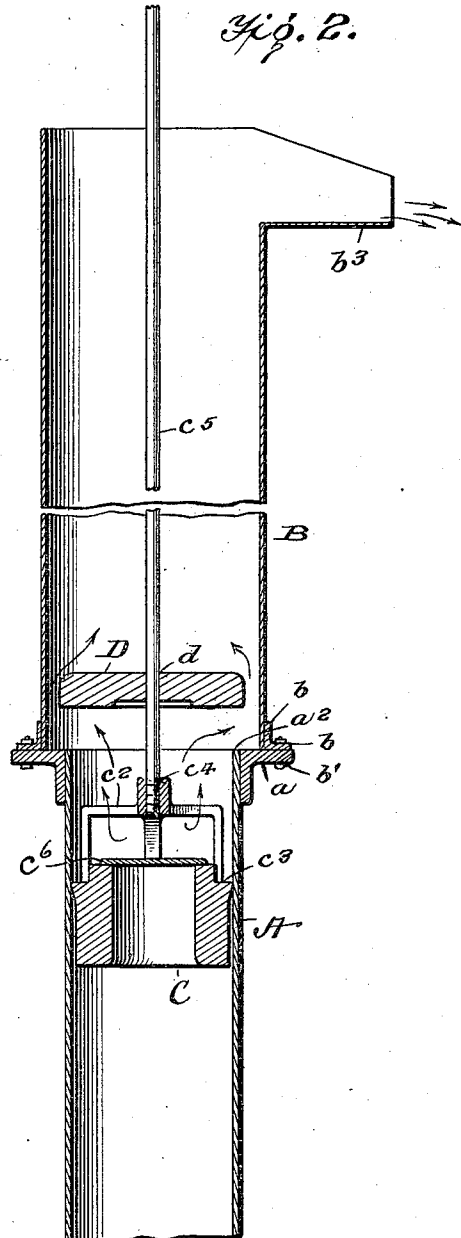


Fig. 2.



WITNESSES

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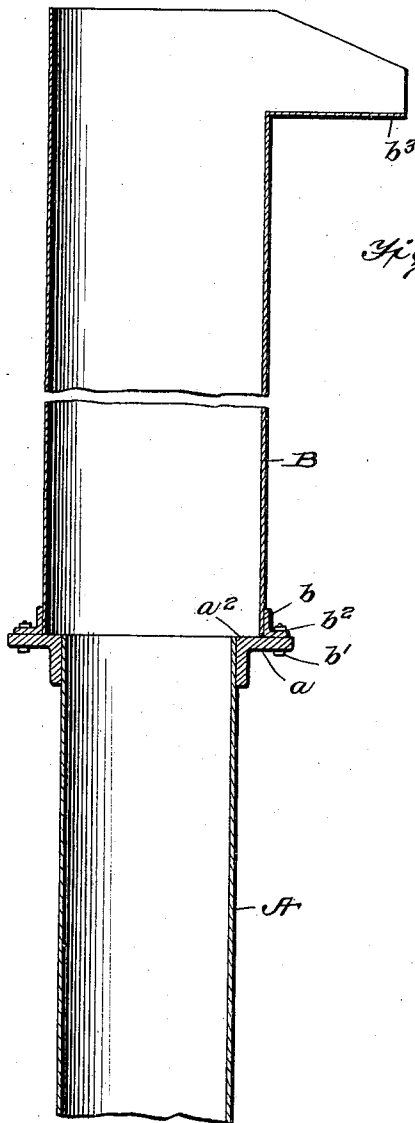


Fig. 3.

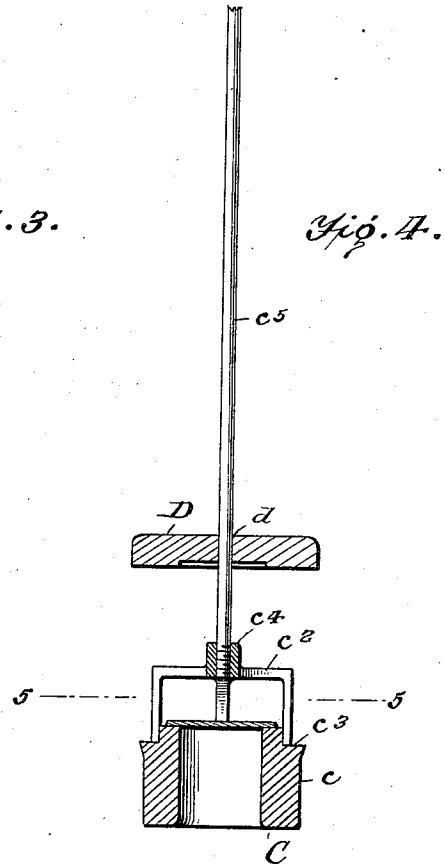


Fig. 4.

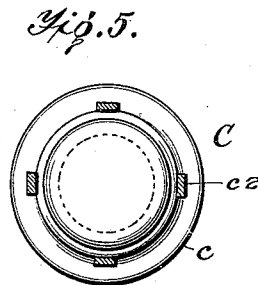


Fig. 5.

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UNITED STATES PATENT OFFICE.

FRANKLIN OSCAR DE HYMEL, OF SAN ANTONIO, TEXAS.

WATER-LIFT.

933,894.

Specification of Letters Patent. Patented Sept. 14, 1909.

Application filed May 2, 1908. Serial No. 430,443.

To all whom it may concern:

Be it known that I, FRANKLIN OSCAR DE HYMEL, a citizen of the United States, and a resident of San Antonio, in the county of Bexar and State of Texas, have invented certain new and useful Improvements in Water-Lifts, of which the following is a specification.

My invention is an improvement in water lifts and consists in certain novel constructions and combinations of parts hereinafter described and claimed.

Referring to the drawings forming a part hereof Figure 1 is a central longitudinal section of the improved lift showing the piston in one position. Fig. 2 is a similar view showing the piston in another position. Fig. 3 is a central longitudinal section of the cylinder of the lift, Fig. 4 is a detail view of the piston and disk valve, and Fig. 5 is a section on the line 5—5 of Fig. 4.

The present embodiment of my invention, comprises a cylinder A, a casing B, a piston C, and a valve D.

The cylinder A is of equal cross section throughout, and is provided at its upper end, with an exterior annular flange a , provided at suitable intervals with openings, and the casing B is of greater diameter than the cylinder, and is also provided with an exterior flange b at its lower end provided with openings adapted to register with the openings of the flange a when the casing is arranged coaxial with the cylinder, as shown in Fig. 1, and bolts b' pass through the registering openings and are engaged by nuts b^2 , whereby to secure the casing to the cylinder.

Since the casing is of greater diameter than the cylinder, a shoulder a^2 is formed between the cylinder and the casing, the said shoulder being used for a purpose to be presently described. The piston C consists of a ring c , fitting snugly to the cylinder, and a spider c^2 is connected with the upper edge of the ring, the ring being shouldered as at c^3 , to permit the connection of the spider therewith. The spider is provided with a central bearing c^4 , in which is threaded the lower end of the piston rod c^5 , and a piston valve c^6 engages the top of the ring within the spider, said valve being retained in place thereby.

The disk D is provided with a central opening d , through which passes the piston

rod c^5 , and the edges of the disk are adapted to rest upon the shoulder a^2 before mentioned, when the piston is on the down stroke. The casing B is provided with the usual outlet spout b^3 , and any suitable means may be connected with the piston rod for operating the same.

In operation on the down stroke, the valve D will move down to its seat through the weight of the super-incumbent water, while the piston valve will be raised by the water flowing into the cylinder. On the up stroke, the piston valve is closed by the weight of the super-incumbent water, and the water will be lifted by the piston raising the valve D, and permitting the water to pass into the casing from whence it flows through the outlet spout.

It will be evident from the description, that by drawing upward on the piston, all of the operative parts of the lift may be withdrawn from the well whereby to clean or repair the same with little trouble and but slight expense. This is of especial advantage, since it is not necessary to introduce a separate cylinder into the well, the casing of the well acting as a cylinder.

It will be understood that the dimensions shown are not constant but may be varied in accordance with the end to be attained. In deep water or oil wells, the cylinder will be of very small size and the other members of the lift reduced in accordance with formulas known to hydraulic engineers. For purposes of irrigation and in shallow wells the cylinder will be of large size.

I claim:

1. A water lift comprising a cylinder of uniform interior diameter throughout adapted to be permanently placed in the ground, a cylindrical casing of greater diameter than the cylinder and attached to the upper end of the cylinder, a piston having a valve located in the cylinder and attached to a rod extending through the cylindrical casing, and a disk valve of greater diameter than the cylinder and of less diameter than the casing arranged in the casing and working loosely on the rod, substantially as described.

2. A water lift comprising a cylinder of uniform interior diameter throughout adapted to be permanently placed in the ground, an annular flange extending from the upper end of the cylinder, a cylindrical casing of greater diameter than the cylinder and at-

tached to the flange, a piston having a valve
located in the cylinder and fitting closely
therein and attached to a rod extending
through the cylindrical casing, and a disk
5 valve of greater diameter than the cylinder
and of less diameter than the casing ar-
ranged in the casing and working loosely on

the rod, the disk valve being adapted to seat
on the upper end of the cylinder, substan-
tially as described.

FRANKLIN OSCAR DE HYMEL.

Witnesses:

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D. K. FURNISH.