

(No Model.)

C. A. HOLLAND.
LIFT PUMP.

No. 412,501.

Patented Oct. 8, 1889.

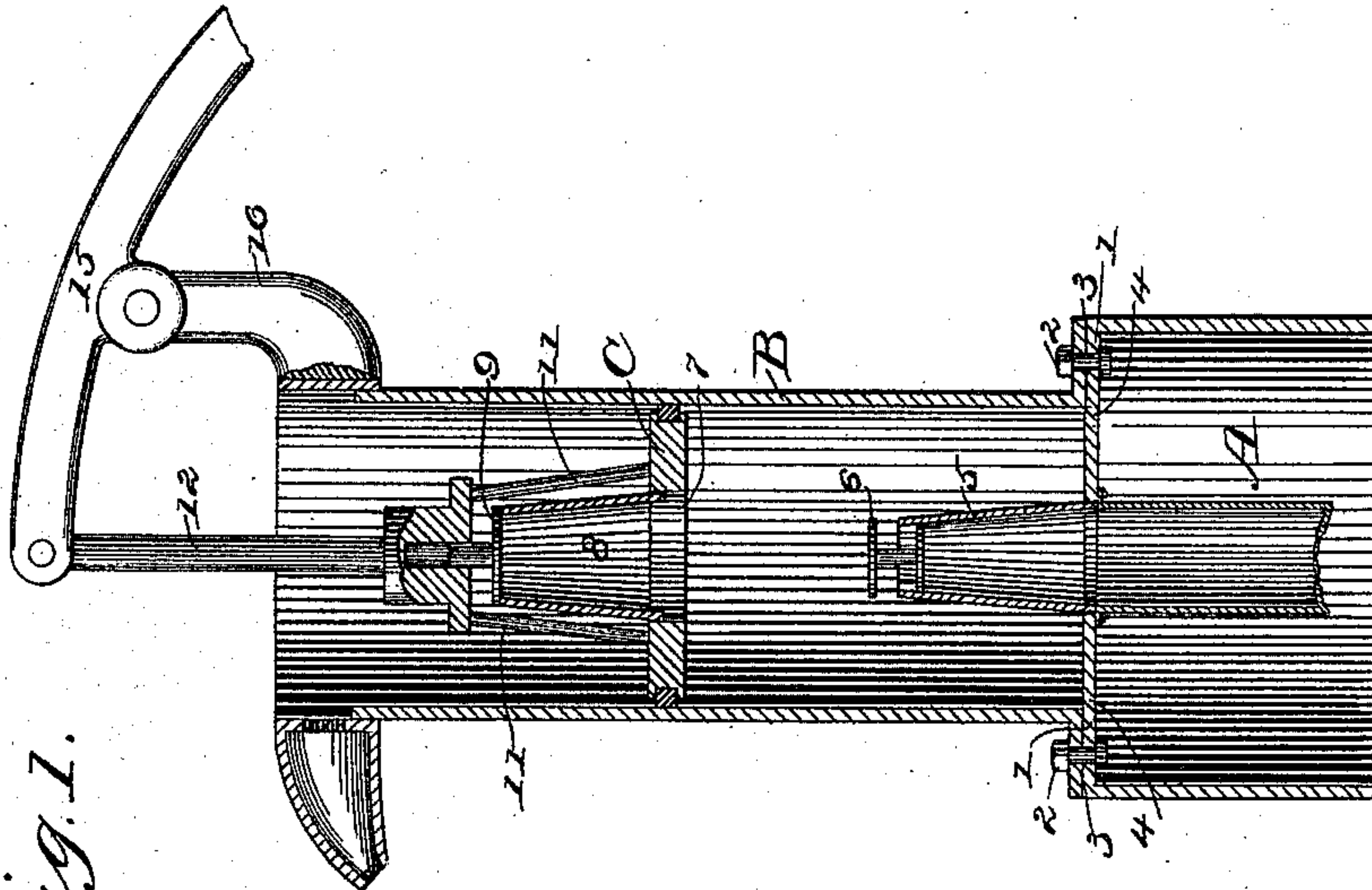


Fig. 1.

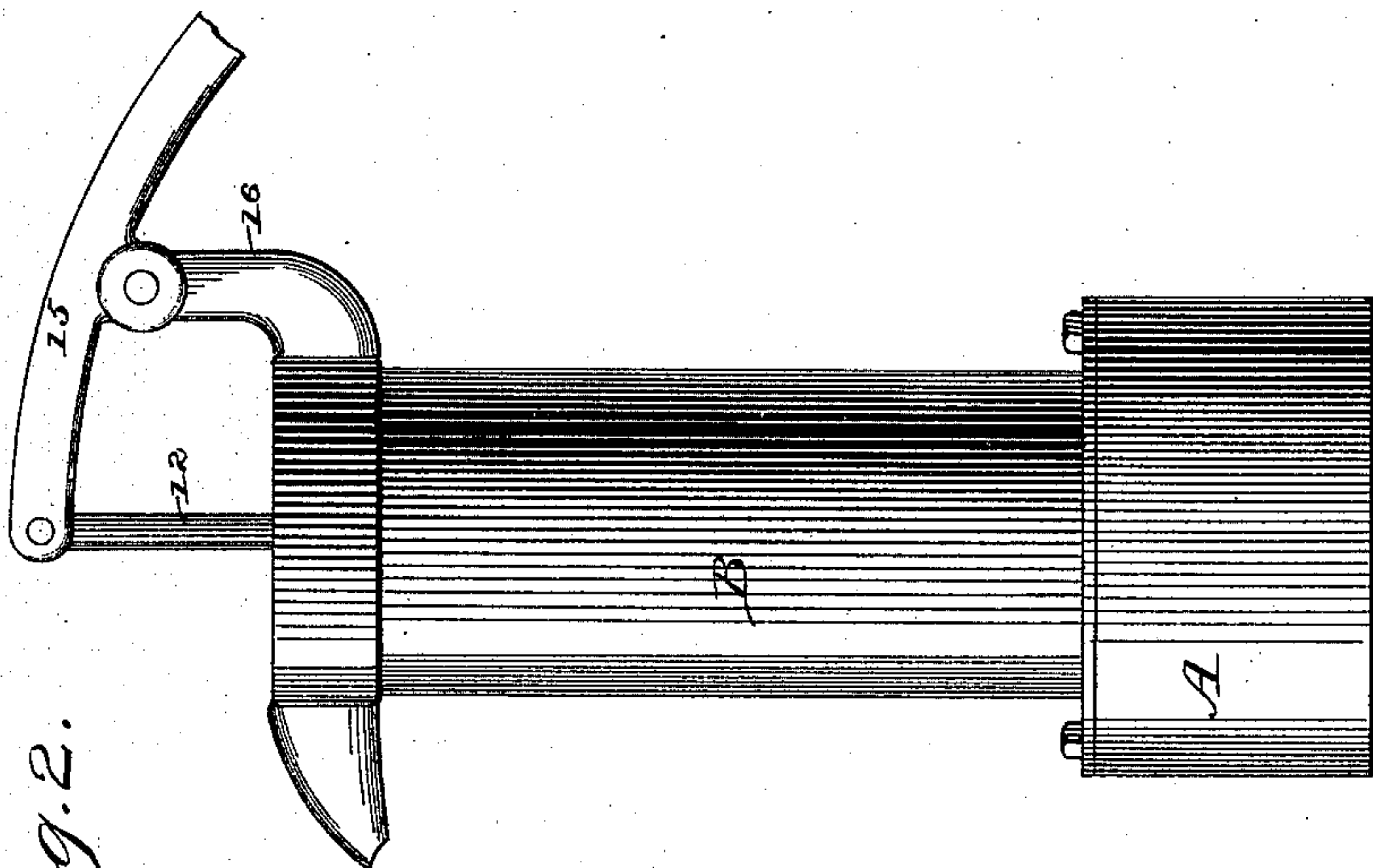


Fig. 2.

Witnesses

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UNITED STATES PATENT OFFICE.

CHARLES A. HOLLAND, OF MAXTON, NORTH CAROLINA.

LIFT-PUMP.

SPECIFICATION forming part of Letters Patent No. 412,501, dated October 8, 1889.

Application filed April 29, 1889. Serial No. 308,979. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. HOLLAND, a citizen of the United States, residing at Maxton, in the county of Robeson and State of North Carolina, have invented certain new and useful Improvements in Lifting-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.

My invention has relation to improvements in lifting-pumps, such as are used on farms and for domestic purposes generally. In pumps of this character, when the water in the stock has leaked out, leaving the valve dry, it has been necessary to replenish the stock or barrel with water in order to get a suction; but by my improvements the stock or barrel is kept supplied with water, so that the pump is always ready for use, as will be readily understood by the following description.

Reference being had to the accompanying drawings, Figure 1 is a vertical section of my improved pump. Fig. 2 is a side view in elevation.

A designates the well, provided with a seat 1, on which the pump-stock B is secured by means of bolts 2, passing through a flange 3, formed in the bottom. The bottom 4 of the pump-stock is formed integral therewith, or, if separate, is made water-tight in its connections. In the bottom 4 is an orifice or port, as shown, over which is secured a valve-seat 5. This may be made in one piece or separate. In the latter instance the valve-seat has screw-threads at its lower end to screw in the bottom. This valve-seat is preferably made tapering, as seen in the drawings in Fig. 1, being substantially a frustum of a cone in shape, on the top of which is secured the valve 6, constructed in the form of a double disk. I have illustrated it as having the ordinary puppet-valve.

C designates the plunger fitted to the bore of the stock and provided with a suitable packing to render it water-tight. In the cen-

ter of the plunger is an orifice 7, over which is secured, or it may be formed as a part of the plunger, a valve-seat 8, which is preferably cone-shaped and hollow to fit over the valve-seat in the bottom of the stock. On the top of the valve-seat 8 is a valve 9, of any suitable style. I have shown it as a puppet-valve.

11 designates a bail secured to the plunger by any suitable means, and is for the purpose of raising and lowering the plunger. To the bail is fastened the pump-rod 12, which extends up through a hole in the top 14 of the pump, and is connected to the handle 15, which is fulcrumed in the handle-support 16, fixed to the top of the pump. The bail-bars may constitute a cage at the top over the valve to serve as guides to the valve. It will be perceived that the valve-seat extends up in the bottom of the pump far enough to always hold sufficient water to start the pump. The valve being on top of the valve-seat, the water cannot escape until it comes on line with the top of valve-seat. Consequently the pump always holds sufficient water to be operative. The chamber of the valve-seat in the plunger is of the same length as the valve-seat in the bottom of the pump, so that when the plunger comes down to the bottom of the pump and over the lower valve-seat the water is forced up through the valve in the plunger and flows over the packing around the plunger sufficient to make the pump draw water. The valve-seats are shown tapering, so that the plunger will not strike in working; but they may be made simply of tubes.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A lift-pump having a valved piston provided with a conical seat, a puppet-valve thereon having its upwardly-extending stem loosely socketed in the lifter-head, and the two heads or disks with their coupling-rods, which form the carcass or frame of said piston, the lower disk being of greater diameter than the upper and provided with a suitable packing.

2. A lift-pump having an inlet-valve frame
formed with a conical seat, a double-disk
puppet-valve located thereon, a plunger hav-
ing a frame of tapering form, a conical elon-
5 gated valve-seat therein, a puppet-valve with
a loosely-socketed upwardly-extending stem
thereon, and a disk at the lower section of
said frame provided with suitable packing.

In testimony whereof I affix my signature in
presence of two witnesses.

CHARLES A. HOLLAND.

Witnesses:

R. H. STRICKLAND,
O. S. HAYES.