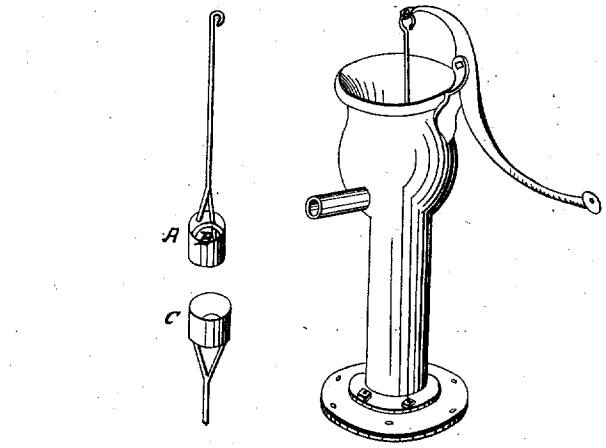
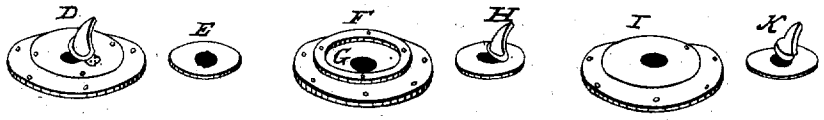
7834X

I. & J. Reed,

Pump Lift,

Patented Nov. 19, 1833.





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

X7834 Nov 19 1833 163.

Jesse Reed & Josiah Reed
Bellows Patent

The Schedule referred to in these Letters Patent and making part of the same containing a description in the words of the said Jesse Reed & Josiah Reed themselves of their improvement in the Cast Iron Pumps.

The principle parts of the machine consist of a perpendicular hollow cylinder with its flange — bottom foliate valve — piston all made of cast iron or other suitable metal and lever or beech lead pipe, screw & bolt. The body of the pump or cylinder is about two feet long with a caliber or bore from two to four inches in diameter according to the quantity of water required to be raised. At the bottom of the cylinder there is a horizontal projection or flange about eight inches in diameter. The piston of the pump is about three inches long of a size adapted to the bore of the cylinder and is grooved on its circular side for receiving rope yarn or any other packing substance which may be required to make the piston more sufficiently close and tight. The bottom part of the piston to the height in the centre of about one inch and a half from near its circular edge to a hole passing, thro' the piston, is made concave in the form of the upper part of a tunnel inverted. The valve in the piston rests horizontally on a shoulder about one eighth of an inch wide, and is placed at the lower end of the hole when the said hole opens into the concave bottom part of the piston. A rod of suitable size & length is attached to the upper side of the piston, and the top part connected by a joint with the lever or beater. The parts of the pumps beneath the flange of the cylinder are adjusted in three different modes as may be preferred. In the first mode a plate about twelve inches

in diameter and of a suitable thickness for the strength required, with a hole in the centre about one inch & a half, diameter is placed under the horizontal flange of the cylinder. This plate has a circular elevation on the upper side between the centre and circumference, about one inch wide for the purpose of holding more firmly the screws which pass thro' this elevated part from the flange and is depressed within the elevation so as to receive within its bed another plate about four inches in diameter and half an inch in thickness. This small plate has a hole in the centre, corresponding with that in the large or main plate beneath, with a valve attached on the upper side. A lead pipe passes from the water thro' the hole in the large plate and about one half inch thereof is turned over nearly at a right angle between the plates and covered with a piece of leather of the same width. The central part of the upper side of the small plate is raised about one eighth of an inch and being of the same diameter with the bore of the cylinder valves & forms a close joint therein. That part of the plate not wired is covered with leather of such thickness as to make the surface under the flange of the cylinder level and all the parts compact and tight when brought together by the screws which pass through the said flange & the thick & elevated part of the large or main plate. In the second mode, the lead pipe passes thro' a hole about one & a half inch over, in the centre of a plate nearly eight inches in diameter and half an inch in thickness & turned over as in the preceding mode —

The plate is inclosed or embedded centrally and horizontally in the under side of another plate about one foot in diameter so that the under sides of both plates may form an even & level surface. A hole is made in the large or main plate of the same size with the one in the

the small plate beneath & accurately over the same having a valve attached thereto on the upper side. the parts are secured and made compact by screws which pass through the flange of the cylinder & the main plate and screw into the small plate. In the third mode a plate about twelve inches diameter having a hole in the centre of the size above mentioned is placed horizontally under the flange of the cylinder. The lead pipe passes through the aperture and is turned down nearly at a right angle so as to fill a counter sink in the plate to a level surface. Another plate about half an inch thick and of the requisite diameter with a hole in the centre to correspond with that in the plate last above mentioned is inserted in the lower end of the cylinder having its lower side on a level with the lower side of the horizontal flange of the cylinder. In putting the parts together the screws pass through the flange & screw into the main plate. The lower valve which is of the same form and operates in the same way in all the different modes of arranging the plates / consists of a horizontal and circular plate about one third of an inch in thickness with a diameter a little exceeding that of the hole over which it is placed and of another plate of nearly the same thickness, placed on the upper side and across the diameter of the horizontal plate its widest sides being at a right angle with the same. The latter plate is of an oval form at the top and its narrow sides or edges decline about ten degrees from a perpendicular toward the side where the valve opens to its greatest extent. This valve beside opening in the ordinary way may be opened & kept open as long as is necessary by raising the brake of the pump & bringing down the concave or funnel like surface of the bottom part of the piston upon & against that side of

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of the steel top of the valve, directly opposite to the joint of the valve. the top of the valve at the same time, pressing against & raising the valve in the piston. In this way water in the cylinder may be let off at pleasure, and the important object attained of guarding effectually against the effects of frost in the cold season of the year.

The improvements claimed are the different modes or methods of adjusting the plates and connecting with them the flange of the pump & lead pipe. and the mode or method of letting off the water from the cylinder by raising the brake to its greatest extent and opening the valves. Said improvements are claimed as they are respectively set forth and described in this specification

Witnesses
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Exd.
11.96.