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By

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LIFT-PUMP.

989,475.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, TELESPHORE BABIN, a citizen of the United States, residing at Houma, in the parish of Terrebonne and State of Louisiana, have invented a new and useful Lift-Pump; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as it appertains to make and use the same.

This invention relates to the art of pumps and the like, and it particularly pertains to a new and useful manually operated pump for elevating water and other fluids.

One of the objects of the invention is to provide a novel form of check valve at the lower end of the pump cylinder. This valve comprises a single plate having an integral extension bent to form a rolled loop to encircle a loop of the inner circumference of the pump cylinder, and extended at right angles to the plate to provide a lug to contact with the pump cylinder to limit the movement of the plate.

A further feature of the invention is to provide a thimble extension to be secured telescopically within the lower end of the pump cylinder, and provided with an annular flange with which the plate check valve coöperates when closed.

A further object of the invention is to provide a pump rod having its lower portion extended at an angle including an enlargement and terminating into an annular ring arranged laterally of the rod.

A further feature of the invention is the provision of a plate check valve having an aperture adjacent its peripheral edge to receive the angled portion of the rod.

Another feature of the invention is the fact that the plate check valve is concaved convexed, whereby the fluid may be rapidly elevated. The enlarged portion of the lower angled part of the rod constitutes means for limiting the plate check valve.

In the drawings, there is only disclosed one certain form of the invention, but in practical fields this form may require alterations, to which the applicant is entitled, provided the alterations are comprehended by the appended claims.

The invention comprises further features and combination of parts hereinafter set forth, shown in the drawings and claimed.

In the drawings:—Figure 1 is a vertical

sectional view through a pump embodying the features of the invention, showing the valves of the pump rod and the lower end of the pump cylinder in certain positions. Fig. 2 is a view similar to Fig. 1 showing the valves in positions opposite to those shown in Fig. 1. Fig. 3 is a detail view of the valve at the lower end of the pump cylinder. Fig. 4 is a detail view of the lower end of the pump rod and its check valve. Fig. 5 is a detail view of the lower end of the pump rod without the valve.

As to the annexed drawings, 1 designates a pump cylinder, terminating at its upper end into an enlarged funnel-shaped portion 2, to receive the body of water when elevated by the pump rod 3 and its check valve 4. Extending laterally of this enlarged funnel-shaped portion of the pump cylinder is the funnel-shaped discharge pipe 5, the outer end of which terminates into a downwardly extending neck 6. Secured telescopically by means of solder or the like into the lower end of the pump cylinder is the thimble extension 8. This thimbled extension is provided with an annular flange 9 at its upper portion, while the lower portion thereof is provided with a plurality of apertures 10 arranged annularly about the extension. These apertures are for the purpose of permitting the water or other fluid to be drawn into the cylinder, in case the same is engaging squarely upon the bottom of the hole or receptacle from which the fluid is being pumped. Projecting upwardly from the annular flange of the extension is a loop 11. Engaging the loop 11 is the cylindrical roll 12 of the plate check valve 13. This plate check valve is formed from a single sheet of metal having the extension 14, which forms the cylindrical roll 12. This extension 14 is soldered or otherwise secured to the plate valve 13 as shown at 15, after the roll 12 is formed. The extension after being soldered as indicated at 15, the same is extended at right angles to the plate valve, thus providing a lug for limiting the valve when the pump rod 3 is moved in one direction. The annular flange 9 limits the valve to a closing position, when the pump rod is operated in the opposite direction.

The pump rod 3 terminates at its upper end into a handle, 17, whereby the rod may be reciprocated vertically, while the lower end of the pump rod is turned into an an-

nular ring 18, thus acting as a support for the plate check valve 4, when the rod 3 is moved upwardly.

The plate check valve 4 is composed from a single piece of sheet metal, and is concaved 5 convexed, in order to increase the lifting capacity of the valve. Adjacent the peripheral edge of the valve 4 an aperture 19 is arranged, through which an angled portion 10 of the pump rod 3 extends. This angled portion 20 is arranged between the substantially vertical part of the pump rod and the annular ring, which is disposed laterally of the pump rod. The angled portion 20 is 15 formed with an enlargement 21, which acts as a stop for the check valve 4. The angled portion of the pump rod, because it extends toward and over the center of the valve 4, obviates the necessity of increasing the size 20 of the enlargement, and thus constituting means for assisting in limiting the valve 4.

The normal positions of the valves are as shown in Fig. 1, and when the pump rod is elevated, the valve 4 is held in contact with 25 the annular ring, and the valve 13 is opened. However, when the rod is forced downwardly the valve 4 is opened and the valve 13 is closed, thus allowing the water or other fluid (which was drawn past the valve 13 30 on the upward stroke of the rod) to flow past and above the valve 4. Then upon the upward stroke of the rod the fluid above the valve 4 is forced through the discharged pipe of the pump cylinder, and other fluid is

drawn past the valve 13, because it opens 35 on the upward stroke of the rod.

The invention having been set forth, what is claimed as new and useful is:—

1. In a lift pump, a pump rod composed of a single length of rod material formed 40 into a handle at its upper portion, and turned into an annular ring at its lower portion, a concaved convexed plate check valve resting upon the ring and having an aperture to receive the rod above the ring, the rod 45 above the ring having an enlargement acting as a stop for the valve.

2. In a lift pump, a rod composed of a single length of rod material formed into a 50 handle at its upper portion, and turned into an annular ring at its lower portion, the rod having an angled portion adjacent the ring and at the base of the substantially vertical portion of the rod and provided with an enlargement, a convexed concaved plate check 55 valve resting upon the ring and having an aperture to receive the angled portion below the enlargement, the enlargement and the angled portion both acting as means to limit the plate valve. 60

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

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Witnesses:

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