No. 846,750 PATENTED MAR. 12, 1907.

O. E. LINDFORS.

PUMPING MOTOR,

APPLICATION FILED JUNE 6, 1905.

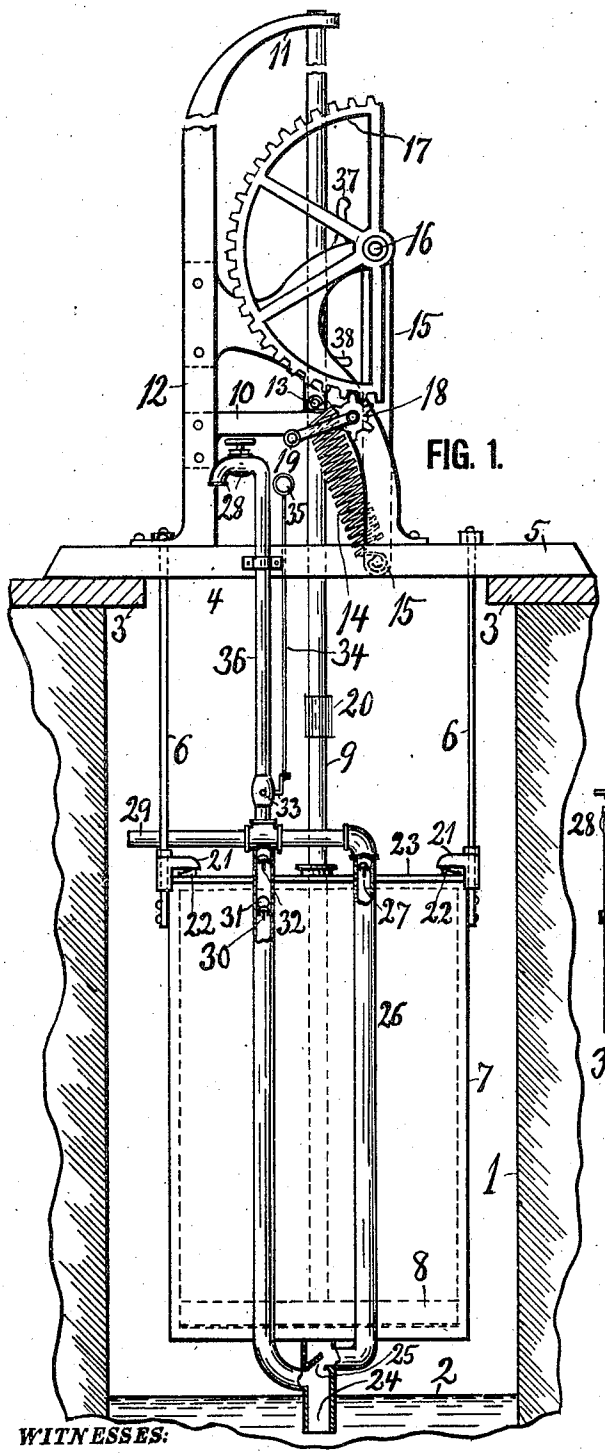


FIG. 1.

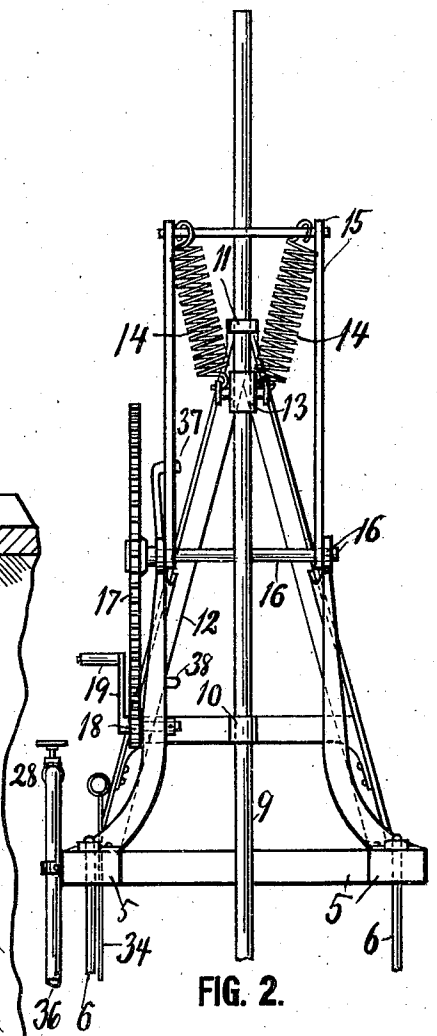


FIG. 2.

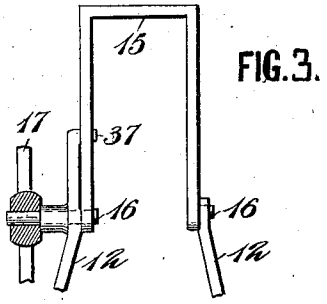


FIG. 3.

WITNESSES:

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OLAF E. LINDFORS, OF FRUITA, COLORADO.

PUMPING-MOTOR.

No. 846,750. Specification of Letters Patent. Patented March 12, 1907.

Application filed June 6, 1905. Serial No. 263,981.

To all whom it may concern:

Be it known that I, OLAF E. LINDFORS, a subject of the King of Sweden, residing at Fruita, in the county of Mesa and State of Colorado, have invented certain new and useful Improvements in Pumping-Motors; 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in pump-motors, and is especially adapted for pumping water from wells, cisterns, and other sources by means of a spring-operated pump and to hold the same under pressure ready to be drawn from faucets, thus providing independent waterworks for farms and other residences located beyond the reach of the great waterworks of cities. This and other objects I attain by the novel construction and arrangement of parts illustrated in the accompanying drawing, in which—

Figure 1 is a sectional side elevation of a well with my motor in position to draw water from the same, the pump-piston being on its downward stroke. Fig. 2 is a front elevation of the upper half or so of Fig. 1, the pump piston-rod being on its upward stroke and the spring-winding means slightly modified. Fig. 3 is a fragmentary partly sectional front view of Fig. 1.

Referring to the drawing by reference-numerals, 1 designates a well; 2, the water in same.

3 is the platform covering the well and provided with an opening 4. Upon the platform I place the base-timbers or wooden frame 5, from which I suspend by rods 6 a large pump-cylinder 7, in which moves a piston 8, whose rod 9 is guided in the arms 10 and 11 of a frame 12, secured upon the wooden frame 5. Upon the pump-rod 9 is fixed a cross-head 13, which is connected by a series of coil-springs 14 to the outer end of a yoke or frame 15, whose inner end is pivoted at 16 to the frame 12, so as to be swung into either an upward position, causing the springs to pull the piston upward, or into a downward position, causing the springs to pull the piston downward. For a small motor the yoke may be forced into either of said positions by hand, but for large motors I secure the shaft 16 in the yoke 15 and in a toothed half-moon 17, which is oscillated by a pinion 18 and hand-crank 19.

20 is a coupling by which the rod 9 may be detached or separated into an upper section going with the motor and a lower section going with the pump as its piston-rod.

21 are latches swinging horizontally on the rods 6 and bearing upon the inclines cams 22 of the cylinder-cover 23 hold the latter down tight in an easily-removable manner for repair of the piston or its packing.

The cylinder being double-acting takes in water both above and below the piston—below the piston through the pipe 24 and valve 25, exhausting it through pipe 26, valve 27, and the outdoor-faucet 28, and the pipe 29, which leads to faucets in the house, (not shown,) and above the piston the water enters through valve 30 and port 31 and is exhausted through port 31, valve 32, and faucets already described.

33 is a stop-and-waste valve operated by a rod 34 and handle 35 above the platform, while the valve itself is located so low down as not to freeze in winter when it is used to let the water down from the pipe 36 above it.

In Figs. 1 and 3 is shown how the shaft 16 may have its middle portion removed to allow in that way free motion of the springs 14, while in the modification Fig. 2 the shaft 16 is integral, but placed rearward of the pump-rod 9, and thus beyond the path of motion of the head 13 and the springs 14.

From the above description it will be seen that by turning the yoke 15 alternately into an upward and downward position once in a while, according to the quantity of water used, the springs 14 will drive the piston and hold water under pressure, so that it may be drawn from the faucets when wanted, and when not wanted the water will prevent motion of the piston, and thus preserve the power stored in the springs until water is needed.

37 and 38 are stops on the frame to touch the yoke and help hold it in its two positions.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A pumping-motor comprising a double-acting pump with an external piston-rod, suitable framework adjacent thereto, a yoke pivoted with one end to the framework so as to swing in two opposite directions, one or

more springs connecting the pump-rod with the swinging end of the yoke so that the springs will operate the piston-rod in the direction of the yoke.

2. A pumping-motor comprising a double-acting pump with an external piston-rod, suitable framework adjacent thereto, a yoke pivoted with one end to the framework so as to swing in two opposite directions, one or more springs connecting the pump-rod with the swinging end of the yoke so that the springs will operate the piston-rod in the direction of the yoke, and a power-increasing mechanism for throwing said yoke from one position to the other and thereby stretch the springs.

3. A pumping-motor comprising a double-acting pump with an external piston-rod, suitable framework adjacent thereto, a yoke pivoted with one end to the framework so as to swing in two opposite directions, one or more springs connecting the pump-rod with the swinging end of the yoke so that the springs will operate the piston-rod in the direction of the yoke, and guides on the framework for the rod operated by the springs, and stops to limit the swinging of the yoke.

4. A pumping-motor comprising a double-acting pump with an external piston-rod, suitable framework adjacent thereto, a yoke pivoted with one end to the framework so as to swing in two opposite directions, one or more springs connecting the pump-rod with the swinging end of the yoke so that the springs will operate the piston-rod in the direction of the yoke, guides on the framework for the rod operated by the springs, and stops to limit the swinging of the yoke, said rod having a coupling by which to separate the spring-motor from the pump.

5. A pumping-motor comprising a double-acting pump with an external piston-rod, suitable framework adjacent thereto, a yoke pivoted with one end to the framework so as to swing in two opposite directions, one or more springs connecting the pump-rod with the swinging end of the yoke so that the springs will operate the piston-rod in the direction of the yoke, and piping and faucets for distributing the water from the pump and for saving the power of the motor when water is not needed.

6. A pumping-motor comprising a double-acting pump with an external piston-rod, suitable framework adjacent thereto, a yoke pivoted with one end to the framework so as to swing in two opposite directions, one or more springs connecting the pump-rod with the swinging end of the yoke so that the springs will operate the piston-rod in the direction of the yoke, and a power-increasing mechanism for throwing said yoke from one position to the other and thereby stretch the springs, and piping and faucets for distributing the water from the pump and for saving the power of the motor when water is not needed.

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

OLAF E. LINDFORS.

Witnesses:
CHARLES J. NUGENT,
O. J. BOLINGER.