J. C. KILE.

Apparatus for Raising Water.

No. 202,950. Patented April 30, 1878.

Fig. 1.

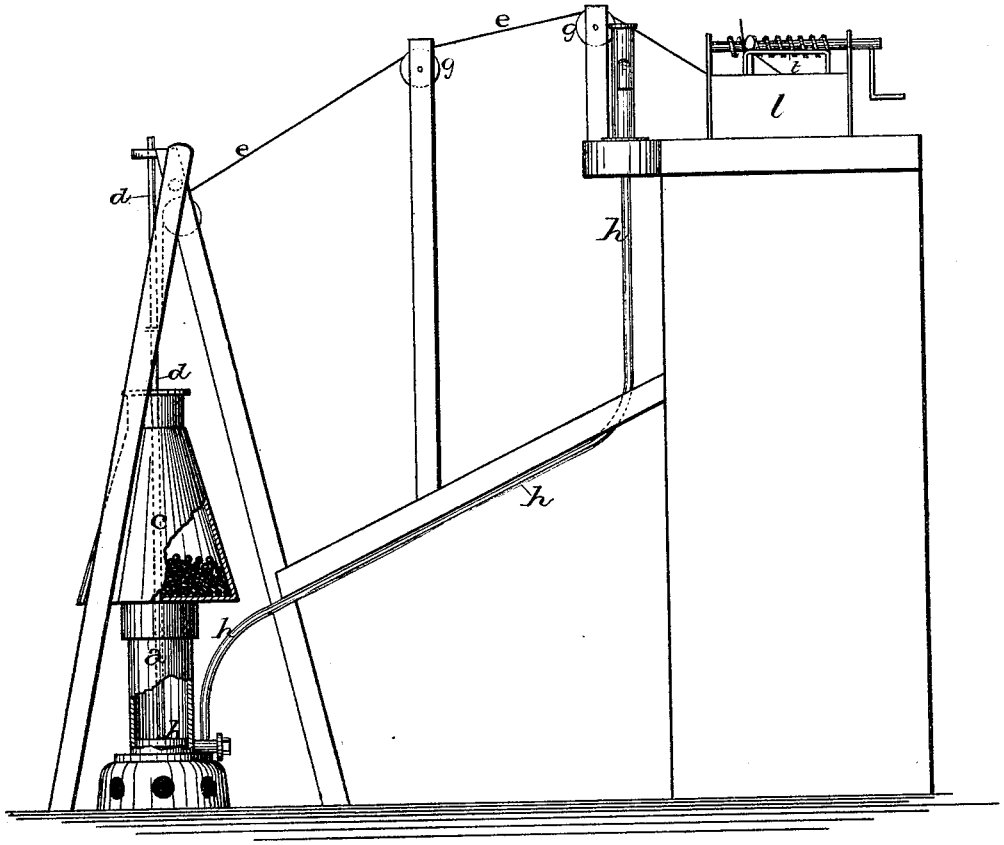


Fig. 2.

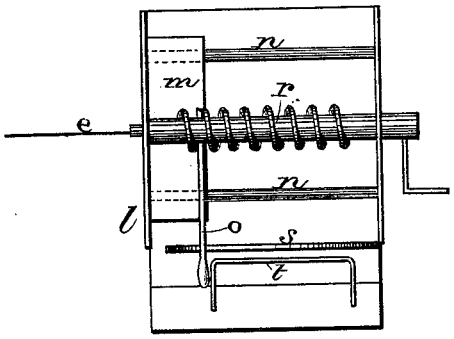
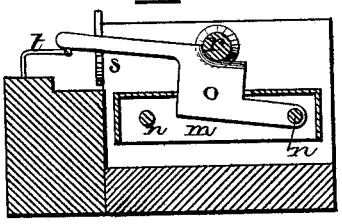


Fig. 3.



Witnesses.

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W. D. Haines

Inventor.

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per

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UNITED STATES PATENT OFFICE.

JARVIS C. KILE, OF WOODBOURNE, ASSIGNOR OF ONE-HALF HIS RIGHT TO ISAAC JELLIFF, OF LIBERTY, NEW YORK.

IMPROVEMENT IN APPARATUS FOR RAISING WATER.

Specification forming part of Letters Patent No. **202,950**, dated April 30, 1878; application filed March 18, 1878.

To all whom it may concern:

Be it known that I, JARVIS C. KILE, of Woodbourne, in the county of Sullivan and State of New York, have invented certain new and useful Improvements in Apparatus for Raising Water from Wells, Springs, and Streams; 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 pertains to make and use it, reference being had to the accompanying drawing, which forms part of this specification.

My invention relates to an improvement in apparatus for raising water from wells, springs, and streams; and it consists in the peculiar construction of the operating device whereby it is made to automatically adjust itself so that the operator has nothing to do but to turn the crank, and the piston will be constantly operated, as will be more fully described hereinafter.

The accompanying drawings represent my invention.

a represents a suitable cylinder, provided with a valve in its lower end, and in which the piston *b*, having a heavy weight, *c*, upon its top, works up and down. This cylinder is to be placed in a spring, stream, or a deep well, and the weight upon the top of the piston will be proportioned to the distance to which the water is to be forced. For the purpose of making the weight adjustable, I prefer to form it of any suitably-shaped vessel or holding device into which sand, shot, or any heavy substance can be placed. Although here shown as a vessel, a wire cage into which rocks or other heavy material can be placed will answer substantially the same purpose. Passing up through this weighted vessel is a vertical rod, *d*, the upper end of which passes through a guide, so as to keep it always straight, and fastened to it, at any distance below its upper end that may be found desirable, is a chain, cord, rope, or other suitable flexible connecting device, *e*, which passes up over suitable pulleys *g* to the operating mechanism by which the piston is made to move up and down in the cylinder.

Passing from the lower end of the cylinder is a conducting-pipe, *h*, made of lead, iron, or galvanized iron, as may be preferred, and which extends upward to any desired point, as shown.

The operating mechanism, which is to be placed near or inside of the house, or at any other point that may be preferred, consists of a suitable frame-work, *l*, passing horizontally through which are the two guide-rods *n*, upon which the latch-box *m* moves back and forth, and to which latch-box is fastened the wire, rope, or chain extending up from the weighted piston, as already described. Pivoted in this latch-box is a lever, *o*, the lower end of which is formed into a plate having its top edge beveled away in one direction, so as to form a sharp edge, which edge catches in the screw or worm-gear *r*. Bearing upward against the under side of this lever, so as to catch its sharp edge in contact with the screw or worm at the point where the lever *o* begins to move forward, is the spring *s*. This spring is so bent as to force the lever upward only until after it has moved forward far enough to catch over the top of the support *t*, which continues to press the sharp edge of the lever into the screw or worm.

After the worm has drawn the lever and the box *m* forward until the lever no longer has its outer end held up or supported by the support *t*, the lever sinks downward, so that the latch or sharp portion escapes from the screw or worm, when the weight of the piston jerks it instantly back across the frame to the starting-point. As the box and lever move backward to the starting-point, the outer end of the lever again moves over the top of the spring *s*, when the latch portion of the lever is again thrown in contact with the screw or worm. Thus it will be seen that the operator has only to continue turning the crank, when the latch-box will raise the weighted piston upward the length of the screw or worm, and as soon as the latch has reached the end of the worm it is thrown out of gear with it, when the piston at once falls, and all of the water in the cylinder is forced upward through the delivery-pipe. By continuing the turning of the crank volume after volume of the water will be raised until the desired quantity has been received.

In the lower end of the cylinder and in the discharge-pipe there will be arranged any suitable valves that may be found necessary.

Either the frame-work here shown will be used for supporting the pulleys and guiding the weighted piston, or any other that may be preferred.

The wire, rope, or chain connecting with the piston should be of such a flexible nature that it can be made to turn at angles and move in any direction desired.

Having thus described my invention, I claim—

1. The combination of a worm or screw, a lever, a spring for forcing the outer end of the lever upward, and a support, *t*, substantially as described.

2. Frame *l*, guide-rods *n*, latch-box *m*, worm-gear *r*, spring *s*, support *t*, and lever *o*, with the weighted piston, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 2d day of March, 1878.

JARVIS C. KILE. [L. S.]

Witnesses:
BENJAMIN VERNOOY,
R. R. JELLIFF.