C. D. Palmiter,

Water Elevator.

No. 88,069. Patented Mar. 23. 1869.

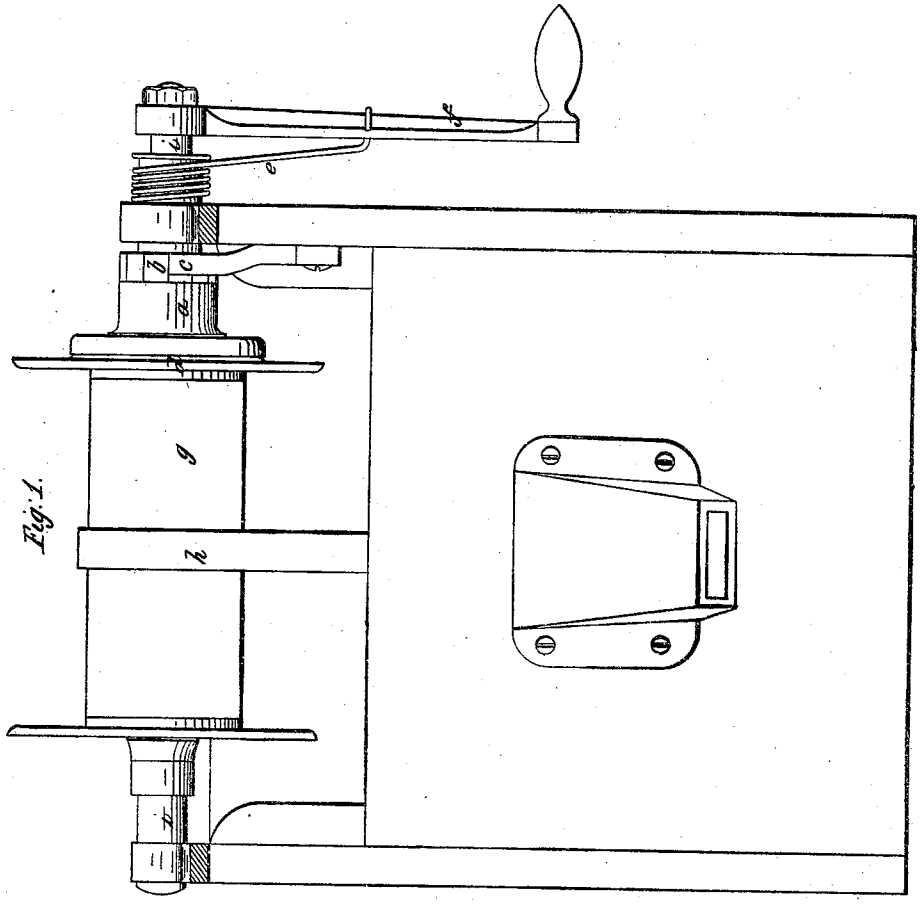


Fig. 1.

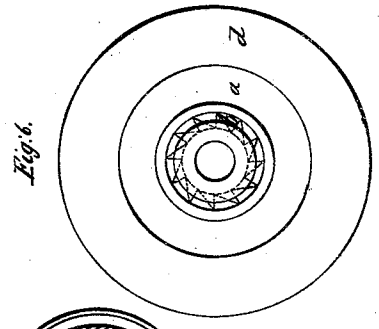


Fig. 6.

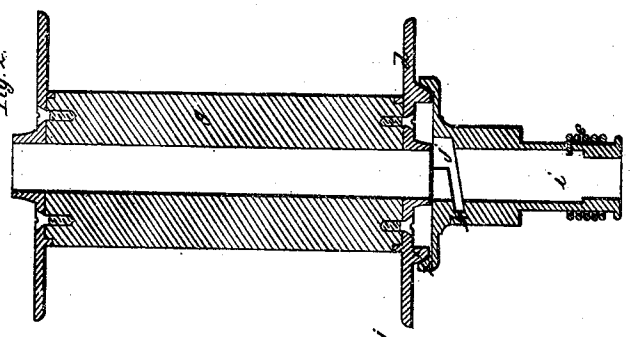


Fig. 2.

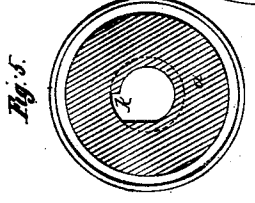


Fig. 5.

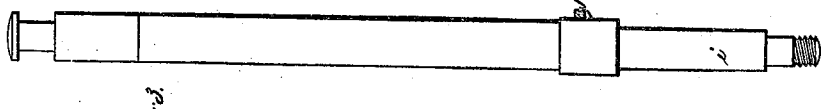


Fig. 3.



Fig. 4.

Witnesses:
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C. D. PALMITER, OF OSWEGO, NEW YORK, ASSIGNOR TO HIMSELF AND LAVINIA P. WEBB, OF SAME PLACE.

Letters Patent No. 88,069, *dated March* 23, 1869.

IMPROVEMENT IN WATER-ELEVATOR.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, C. D. PALMITER, of the city and county of Oswego, and State of New York, have invented a new, improved, and useful Machine for Elevating Water, known as a Water-Elevator, being an improvement (new and useful) upon all other water-elevators heretofore known or used; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a front elevation of the entire water-elevator.

Figure 2 is a section of the drum, shaft, frictions, spiral recess in one part of the frictions, stud, or projection on the shaft, fitting into the spiral recess, and spring connected with the cap-piece of the friction pieces, and to the handle by which the drum is revolved.

Figure 3 is a view of the shaft which runs through the drum, with the stud, or projection, which fits into the spiral recess of the friction cap-piece.

Figure 4 is a section of the same shaft, with the same stud projecting.

Figure 5 is a section of the cap-piece of the frictions, showing the entrance to the spiral recess in that part of the friction.

Figure 6 is an end view of the same cap-piece, showing the ratchet, on that piece, to receive the pawl, which is fastened to the curb.

Like letters refer to like parts in the drawing.

i is the shaft, on which the drum *g* and friction *d* revolve, when loose, and with and by which they (both drum and friction-piece *d*) are revolved when fast.

b represents the ratchet upon which the pawl *c* acts.

f, the crank, and

e, the spring, which is attached to the cap *a*, at one end, and the crank *f* at the other.

a represents the cap-piece of the friction, and *d*, the other part thereof.

g represents a drum, on which the strap, or a cord or chain, *h*, is wound, by turning the crank *f*, when the drum is made fast by the friction-pieces *a* and *d*.

j represents the stud, or projection, on the shaft *i*, which fits into the spiral recess, or slot, *k*, in the cap-piece *a* of the friction-pieces.

To operate this water-elevator, a bucket is attached to the strap *h*, or a rope or chain instead, and, being in the well, or cistern, the bucket being full of water, the crank *f* is turned in the natural direction to turn a crank, (over and from you,) the stud, or projection, *j*, on the shaft *i*, (which may be a stud simply, or shaped like a portion of the thread of a coarse screw,) will move with the shaft forward in the spiral recess *k*, (which recess may be, instead, a slot, cut spirally clear through the sleeve of the cap-piece *a* of the friction,) and, moving forward, it will force the cap-piece against and upon the other part of the friction, at *x*, with great power, the leverage of the crank and incline, or pitch, of the spiral recess, or slot, making it a combination of the lever and inclined plane, while the shape of the flange *x*, on the cap-piece *a*, and the other part of the friction *d*, at *x*, forms another inclined plane, and again multiplies the force applied to the crank. The stud on the shaft, being a part of the shaft, will carry with it the friction-cap *a*, which, being thus forced on to the friction-piece *d*, will carry that with it, and, as the friction-piece *d* is fast to and forms one end of the drum *g*, the drum will be revolved, and will wind up the strap *h*, and raise the bucket of water attached to it, when, the bucket being emptied, we proceed to lower the bucket again. This is done by reversing the pressure on the crank, when the pawl *c* catches on the ratchet *b*, on the sleeve of the friction-cap *a*, and prevents its turning back, while the stud *j* is forced, by the backward motion of the crank-shaft, backward in the spiral recess, or slot *k*, and will thus draw the cap-piece *a* away from the friction *d*, thus leaving the drum *g*, which is locse on the crank-shaft, free to revolve loosely, and the bucket will descend by its own weight.

If it should be wished to stop the bucket in its descent, it is only necessary to let go of the crank, and the spring *e* will move the crank, in the same direction as it was turned to elevate the bucket, far enough to again force the cap-piece on to the friction *d*, and the drum *g* will become fixed, and held by the action of tne pawl *c* and ratchet *b*, and the bucket will be arrested, in its descent, at that point, and will so remain until, by turning the crank forward, it will be again raised, or, by pressing the crank back, the drum will be released, and descend to the water.

I disclaim all other parts of the said described water-elevator, as they are not new, but in common use.

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

The combination of the friction-pieces *a* and *d*, the stud *j*, spiral recess, or slot *k*, and spring *e*, arranged substantially as shown and described.

C. D. PALMITER.

Witnesses:

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E. W. GILLES