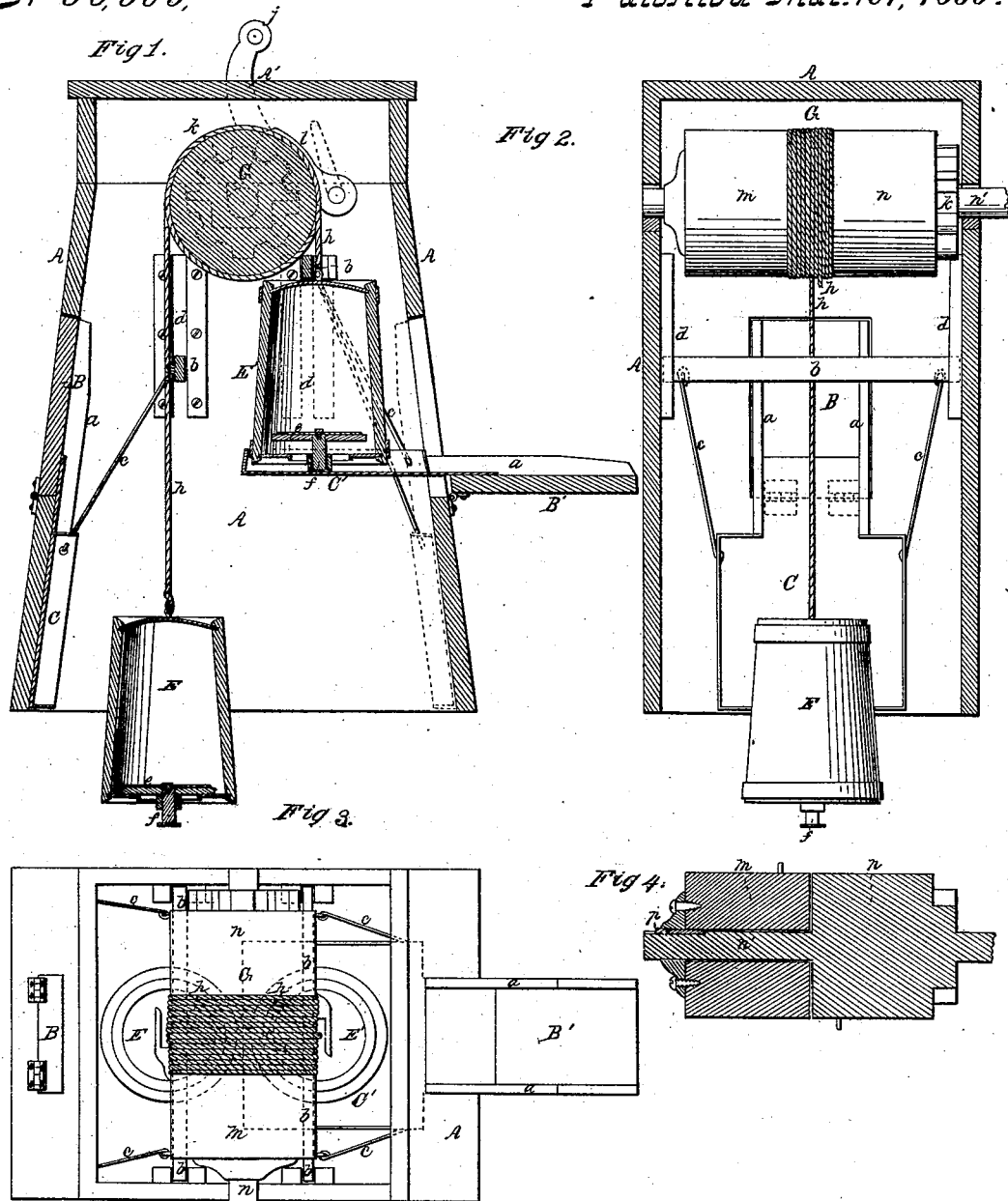


J. Tilley,

Windlass Water Elevator,

No 53,505,

Patented Mar. 27, 1866.



Witnesses.
R. D. Campbell,
Charles Schaefer

Inventor.
Josiah Tilley
by Atty
Wm. H. H. H. H.

UNITED STATES PATENT OFFICE.

JOHN TILLEY, OF WEST TROY, NEW YORK.

IMPROVEMENT IN WATER-ELEVATORS.

Specification forming part of Letters Patent No. 53,505, dated March 27, 1866.

To all whom it may concern:

Be it known that I, JOHN TILLEY, of West Troy, in the county of Albany and State of New York, have invented a new and Improved Water-Elevator; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a longitudinal section taken in a vertical plane through the center of the well-curb and the contrivances for raising and discharging water. Fig. 2 is a transverse section through the well-curb. Fig. 3 is a top view of the elevating contrivances, as seen by removing the cap of the curb. Fig. 4 is a diametrical section through the drum or windlass upon which the ropes of the well-buckets are wound.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to certain novel improvements in elevating water from wells by means of buckets, which are suspended by ropes that are wound upon a windlass.

The main object of my invention is to prevent dirt and trash from getting into wells, by providing the well-curb which covers the top of the well with doors, which shall be opened and closed automatically in the act of raising and lowering the well-buckets, as will be hereinafter described.

Another object of my invention is to adapt said doors to serve, also, as the discharge-spouts for conducting off the water from the well-buckets when these buckets are elevated to a proper height, as will be hereinafter described.

Another object of my invention is to provide for shortening or lengthening the ropes of two buckets which are suspended from a windlass, without detaching either one of the ropes therefrom or removing the windlass from its bearings, as will be hereinafter described.

To enable others skilled in the art to understand my invention, I will describe its construction and operation.

In the accompanying drawings, A represents a well-curb of a pyramidal form, which is covered by a movable cap, A', and which has two openings through its sides, through which the water, which is elevated into the curb, is

drawn. These openings through the inclined sides of the well-curb are closed by means of doors B B' that are hinged at their lower ends, so that they will assume the position shown in Fig. 1 when open. These doors are provided with side ledges, *a a*, and, also, with rectangular pans C C', which form, in conjunction with the doors, spouts for conducting the water from the buckets out of the curb.

The pans C C' may be made of metal, and they should be of sufficient size to receive all the water which escapes from the buckets and conduct it out of the well-curb. These pans C C' are secured to the inner ends of the doors B B', so as to move with these doors and assume the two positions shown in Fig. 1. These pans C C' are connected to horizontal bars *b b* by means of rods *c c*. The bars *b b* are allowed to have a free vertical movement in grooves *d d* formed in the sides of the well-curb, and they are so arranged with relation to their respective well-buckets E E' that when these buckets are drawn up to a certain point their upper ends come into contact with the bars and elevate these bars, which operation elevates the pans C C' and brings them directly beneath the buckets, as shown in Figs. 1 and 3. As the pans are connected to the doors B B' these doors will, of course, move with them. When the buckets are lowered into the well the bars *b b* will be released, and the weight of the pans will cause them to drop down and close the doors. The buckets E E' are constructed with valves *e e* in their bottoms, which valves open inward and allow the buckets to fill with water when let down into the well. When the buckets are elevated the valves *e e* are forced down upon their seats by the weight of water in the buckets. The stems *f f* of the valves *e e* are made of sufficient length to project below the bottoms of the buckets and be acted upon by the spouts or pans C C' when the buckets and pans are elevated to a proper height for discharging the water. In this way the spouts themselves open the valves in the buckets and let the water out.

The buckets E E' are suspended from each side of a windlass, G, by means of ropes or chains, *h*, which are wound upon said windlass in opposite directions, so that as one bucket is lowered into the well the other bucket will

be drawn up, and thus as one bucket is emptying its contents into one of the hinged troughs the other bucket will be filling with water. The windlass G has its bearings on top of the curb-box A and a winch, *j*, is used for rotating it. The dog and ratchet-wheel *kl* are used for stopping the motion of the windlass, and sustaining the buckets at any desired point in the well. This windlass G is constructed of two cylindrical sections, and the section *m* is applied to the shaft *n'* of the section *n* in such manner that by removing the key *p* this section *m* will rotate freely on its shaft. The rope of one bucket is fastened to one section, *n*, and the rope of the other bucket is fastened to the other section, *m*, so that when this section *m* is loosened from its shaft the ropes by which the buckets are attached can be shortened or lengthened as occasion requires. When the length of the ropes is properly adjusted the loose section *m* is again keyed to the shaft of the section *n*, so that both sections will turn together. I have described a curb which is constructed for two buckets, but it is obvious that the invention is applicable to one bucket only.

I am aware that the spout-aperture of well-curbs has been closed by the spout itself.

I am also aware that the spout has been

adjusted to a position for discharging the water by the ascent of the bucket.

I am also aware that the valve in the bottom of the bucket has been opened by contact with the spout, these operations being illustrated in a patent granted to John W. Wheeler in 1860. I therefore do not claim, broadly, any one of said operations as peculiar to my water-elevator, except so far as the same is effected in a better manner and by new means; but,

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

1. The arrangement of the slide or slides *b b*, guide or guides *d d*, link or links *c c*, combined door and spout or doors and spouts, B C *a*, and valved bucket or buckets E E', all constructed and operating substantially in the manner and for the purpose described.

2. The arrangement of the valved bucket, combined door and spout, and the slide *b*, substantially as described.

3. The construction of the windlass G of two sections, *m n*, in combination with a provision for keying the section to its shaft, substantially as described.

Witnesses:

JOHN TILLEY.

C. L. ALDEN,

WILLIAM SULLIVAN.