

J. KEITH.
Windlass Water-Elevators.

No. 154,333.

Patented Aug. 25, 1874.

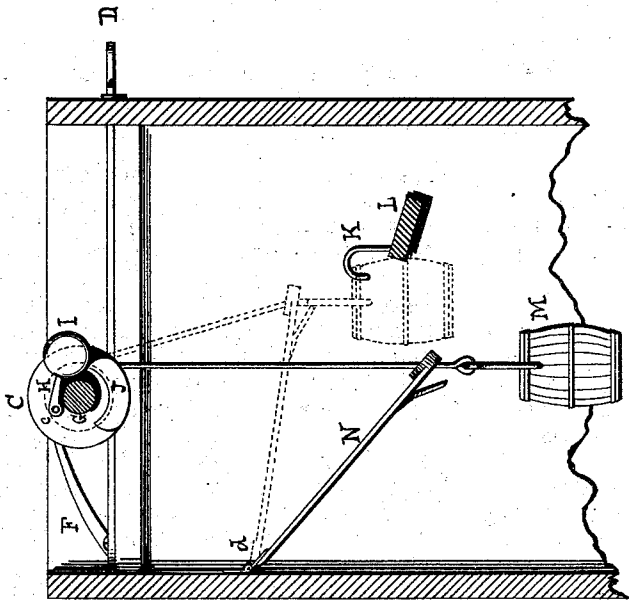


FIG. 2.

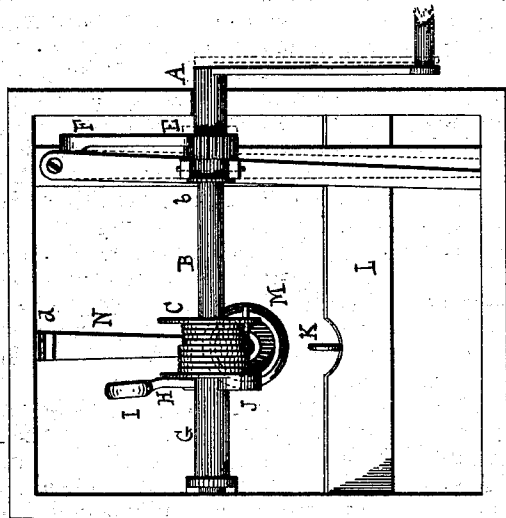


FIG. 1.

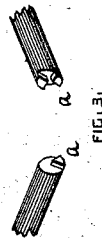


FIG. 3.

WITNESSES.

INVENTOR.

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JEREMIAH KEITH, OF PROVIDENCE, RHODE ISLAND.

IMPROVEMENT IN WINDLASS WATER-ELEVATORS.

Specification forming part of Letters Patent No. **154,333**, dated August 25, 1874; application filed March 19, 1874.

To all whom it may concern:

Be it known that I, JEREMIAH KEITH, of the city and county of Providence, in the State of Rhode Island, have invented a new Improvement in Well-Curbs, of which the following is a specification:

In the accompanying drawing like letters indicate like parts.

Figure 1 is a top view of my invention. Fig. 2 is a sectional view on the line *x x*. Fig. 3 shows the locking device on the windlass shaft.

My well-curb is made of the usual form and construction, but is furnished with an apparatus to regulate the fall of the bucket, and a guiding-arm to bring the bucket into contact with the hook, by which it is tipped. The windlass is made in two detachable parts, the one part, A, carrying the crank, the other part, B, carrying the drum C. These two parts of the windlass-shaft are locked together by the clutches *a a*, shown in Fig. 3, and are connected or detached at will by the lever D, as it bears against the ratchet E on the one side, or the flange *b* of the ratchet-wheel on the other, as the case may be. This ratchet-wheel is fastened immovably to the part A of the windlass-shaft, and furnishes a bearing for the journal of the part B. The pawl F is placed in the usual position. The part B of the windlass-shaft revolves also in the cylindrical journal-box G, which is fastened to the side of the well-curb. The regulating device consists of an arm, H, which moves about the screw *c*, which holds it upon the side of the drum C, on that side farthest from the crank. The longer arm of this regulator terminates in a ball, I, of metal or other suitable material, while the shorter arm comes in frictional contact with the cylindrical journal-box G, opposite this governor, but upon the same side of the drum is a mass of metal, J, connected immovably with the drum, and designed to balance the weight of the regulator H. My well-curb is also provided with a hook, K, fastened into the cross-piece L, for the purpose of tipping the bucket M. But in order to always bring the bucket into proper contact and engagement with the hook, I have placed a guide, N, upon the rear wall of the well-curb, hinged at *d*, and having at its end a ring, through which the chain or rope passes.

When I wish the bucket to descend, I move the lever D laterally to the right. This move-

ment draws apart the clutches *a a*, and detaches the crank from the rest of the windlass, so that it does not revolve as the bucket falls. Immediately as the bucket begins to descend the regulator H flies outwardly, and, being provided with its heavy ball or knob of metal, the centrifugal force gives it great momentum, which causes the short arm of the regulator to press with a much greater power upon the cylindrical journal-box G, and thus, by friction, counteracts the force of gravity somewhat, so that the bucket descends with a slower steadier motion, and the chain or rope is not liable to break, as many times happens when a bucket drops too rapidly.

Before drawing up the bucket again, I slide the lever D back to its former position, and thereby connect again the crank to the windlass. The governor H and the counter-balance J, lying opposite to and balancing each other, do not hinder the easy revolution of the windlass, for when the ball I has passed the highest point of revolution the long arm H falls by its weight, adding the leverage of that weight to the force revolving the shaft, until it reaches the lowest point of revolution, after which it hangs vertically and close to the central point, and its weight is compensated for by the counter-balance J on the opposite side. Instead of the counter-balance another regulator, H, may be used, and these will balance each other, besides increasing the friction by which the fall of the bucket is retarded.

As my crank remains stationary while the bucket descends, all danger, accidents, and annoyance are prevented, which are occasioned by the cranks in other well-curbs, as they revolve with great rapidity and force while the bucket goes down.

I do not claim the locking device shown in Fig. 3, nor the guiding-arm N; but

I do claim as a novel and useful invention, and desire to secure by Letters Patent—

The regulating attachment, consisting of one or more weighted arms, H, with or without the counterbalance J, in combination with the shaft or drum of a windlass, as and for the purpose specified.

JEREMIAH KEITH.

Witnesses:

ED. S. HOPKINS,
WARREN R. PERCE.