T. B. BARBER.

Windlass Water-Elevator.

No. 198,263. Patented Dec. 18, 1877.

Fig. 1.

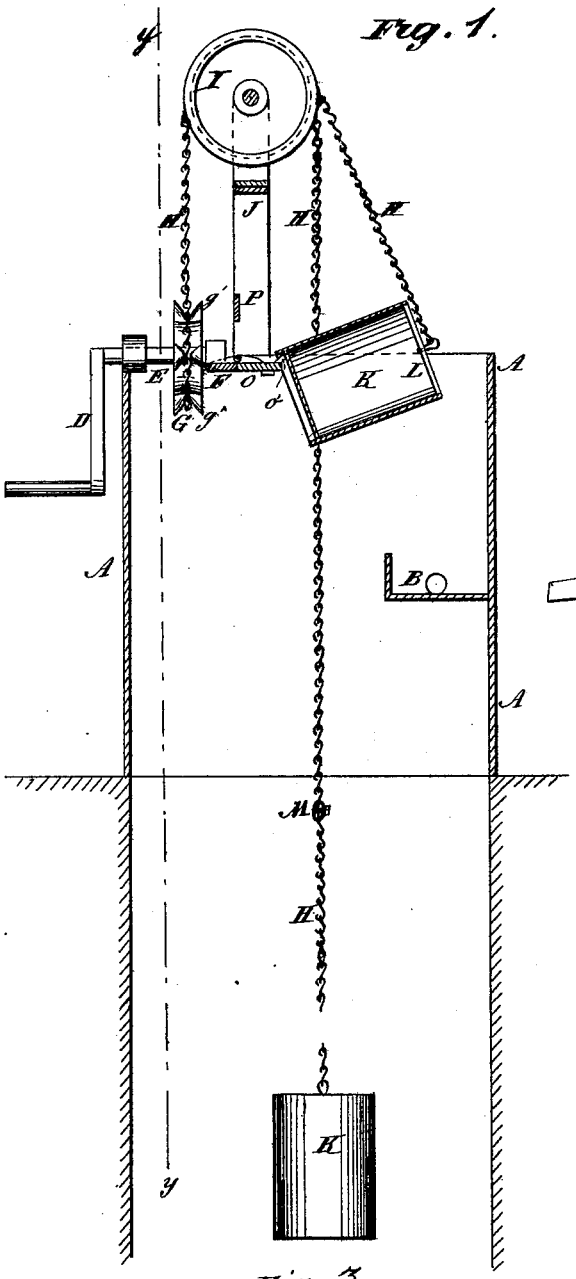


Fig. 2.

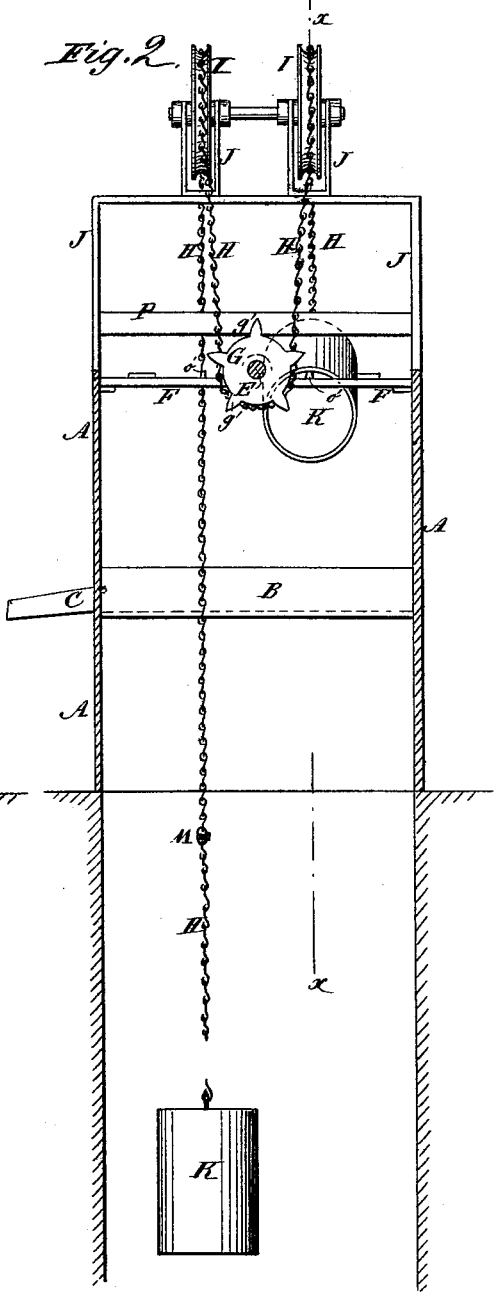


Fig. 3

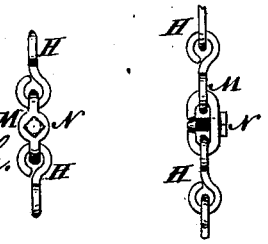


Fig. 4

WITNESSES:

C. Neveux

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# UNITED STATES PATENT OFFICE.

THURSTON B. BARBER, OF BALTIC, CONNECTICUT.

## IMPROVEMENT IN WINDLASS WATER-ELEVATORS.

Specification forming part of Letters Patent No. **198,263**, dated December 18, 1877; application filed October 25, 1877.

*To all whom it may concern:*

Be it known that I, THURSTON BROWNING BARBER, of Baltic, in the county of New London and State of Connecticut, have invented a new and useful Improvement in Water-Elevators, of which the following is a specification:

Figure 1 is a vertical section of my improved water-elevator, taken through the line *x x*, Fig. 2. Fig. 2 is a vertical section of the same, taken through the line *y y*, Fig. 1. Figs. 3 and 4 are detail views of the connecting-link.

Similar letters of reference indicate corresponding parts.

The invention relates to the construction of the chain-wheels, the devices for tilting the buckets, and the general construction and arrangement of parts for elevating and lowering the buckets, as hereinafter described.

A represents the curb, in one side of which is formed a trough or chamber, B, to receive the water, and from which a spout, C, conducts it into a pail or other receiver.

D is a crank, which is formed upon or attached to the outer end of a short shaft, E. The shaft E revolves in bearings attached to the curb A and to a cross-bar, F, attached to said curb.

To the shaft E is attached the chain-wheel G, around which passes the chain H. The wheel G is made with sharp-edged forked projections *g'*, which take hold of the chain H, and prevent it from slipping and from being wound up upon the said wheel, and cut off any ice that may have formed upon the chain and which would otherwise cause it to slip. The projections *g'* also prevent the formation of ice upon the wheel G from causing the chain to slip.

The chain H passes from the wheel G over the two pulleys I, pivoted to a frame, J, attached to the curb A in such a position that the said pulleys I may be at a higher level than the wheel G, and that the chain H, as it passes down upon their other sides, may be over the middle part of the well.

K are the buckets, which are made in the usual way, but without bails, and have cross-bars L attached to their upper edges, to the centers of which are swiveled the ends of the chain H. The chain H is made of such a length that when one of the buckets K is raised into position to discharge the water, the other bucket may be sunk beneath the surface of the water to be filled. The chain H is made in parts, joined by connecting-links M, which are made with an opening upon one side of such a size as to enable the links of the chain H to be passed through it.

N is a screw, which passes through a screw-hole in the whole side of the link M, directly opposite the opening in its open side, and which is made of such a length that when screwed fully in its forward end may enter and close the said opening, so that it will be impossible for the said connecting-link to become accidentally detached. The head of the screw N is made square, so that it can be readily grasped and turned in and out with a wrench. The connecting-link M N enables a piece to be readily put into and taken out, as the water in the well may be shallower or deeper.

To the edge of the cross-bar F is hinged a bar, board, or plate, O, which, when left free, rests in a horizontal position upon cleats or other supports attached to the curb A, so that as the full buckets K rise, their upper ends may strike against the board O, turn it upward upon its hinges, and pass it, when it drops back into its former position. As the bucket passes the board O the motion of the crank D is reversed, and the said bucket is again lowered. As the bottom of the bucket K comes in contact with the board O it is tilted, and discharges the water contained in it into the trough B, its bottom being prevented from slipping off the board O before its contents are discharged by the stops O' attached to the said hinged board O, and upon which the chine of the said bucket catches. The board O is kept from being turned so far by the ascending bucket that it will not drop back when the said bucket has passed by the cross-bar P attached to the frame J.

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

1. The chain-wheel G, provided with the sharp-edged forked projections *g'*, in combina-

tion with the chain H of a water-elevator, substantially as herein shown and described.

2. The hinged board O, provided with the stops *o'*, in combination with the cross-bars F P attached to the curb A, and the frame J for tilting the buckets K, substantially as herein shown and described.

3. The combination of the crank and shaft D E, the chain-wheel G *g'*, the chain H, the two elevated pulleys I, the center-hung buckets K L, and the hinged tilting-board O *o'* with each other and with the curb A and the frame-work J F P, substantially as herein shown and described.

THURSTON BROWNING BARBER.

Witnesses:

E. C. KEGWIN,

A. F. BROWN.