

W. Meigs,

Windlass Water Elevator,

N^o 43,517.

Patented July 12, 1864.
Fig 1

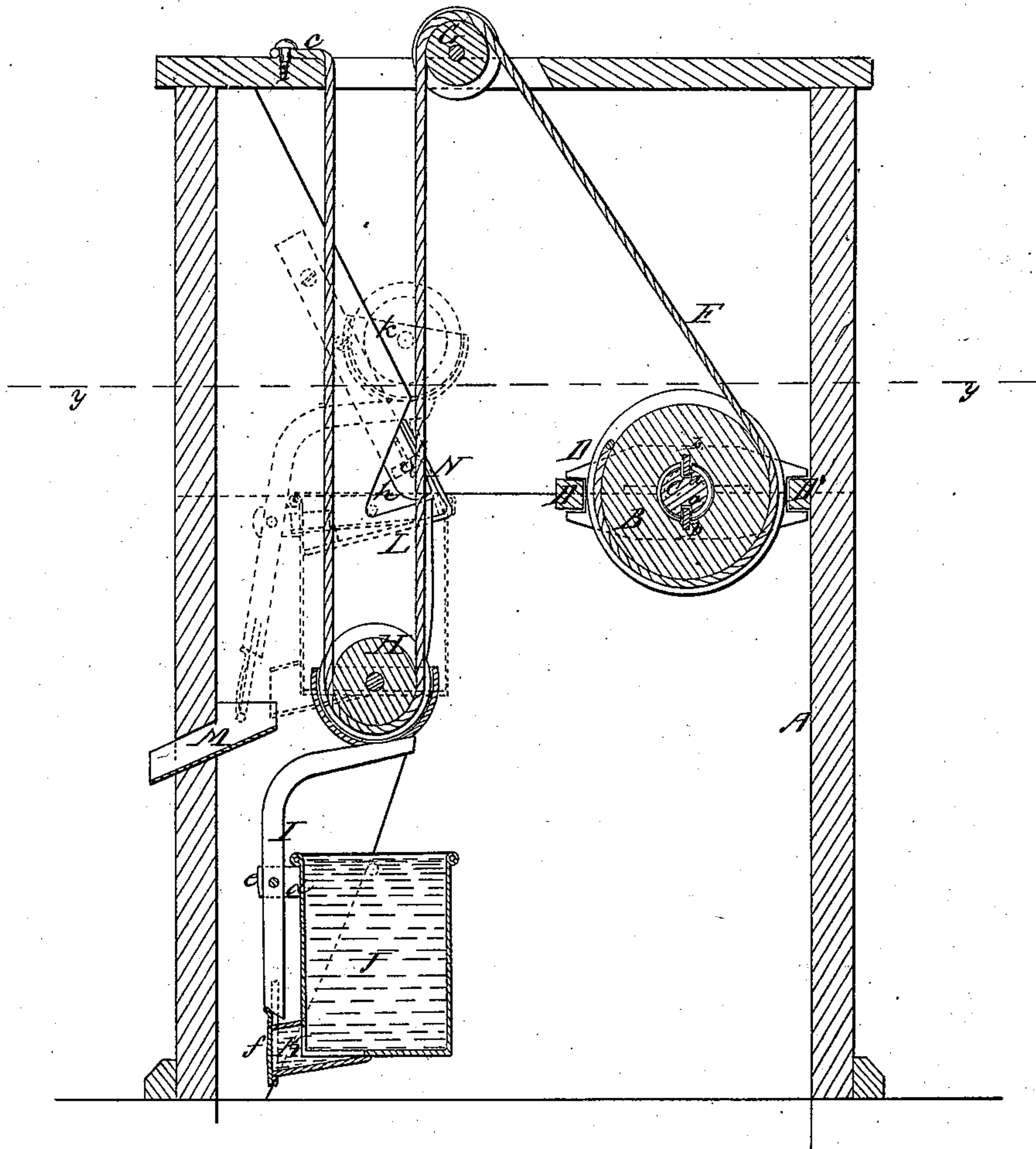
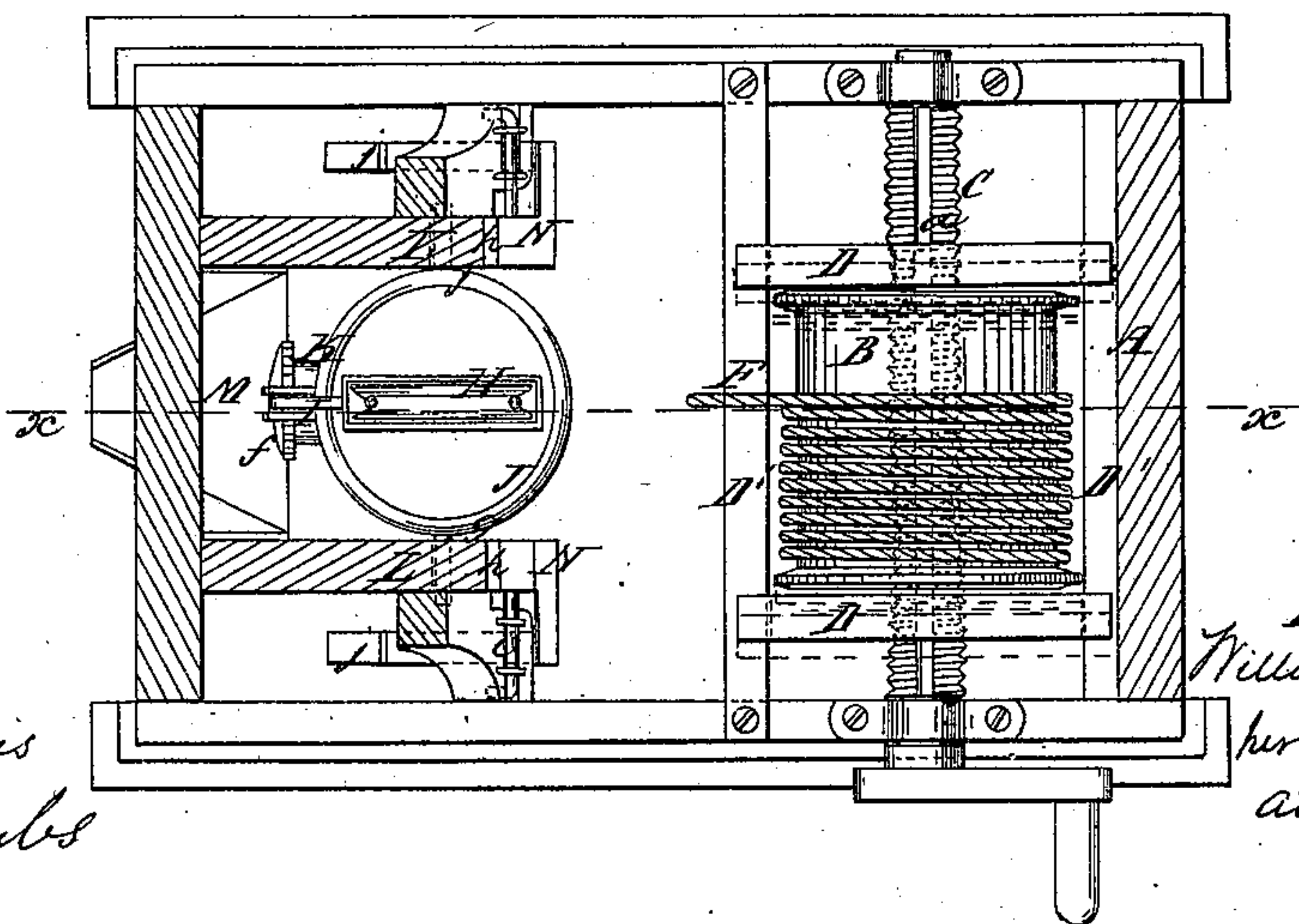


Fig. 2



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WILLIAM MEIGS, OF WAYNESVILLE, OHIO.

IMPROVEMENT IN WATER-ELEVATORS.

Specification forming part of Letters Patent No. 43,517, dated July 12, 1864.

To all whom it may concern:

Be it known that I, WILLIAM MEIGS, of Waynesville, in the county of Warren and State of Ohio, have invented a new and Improved Water-Elevator; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side sectional view of my invention, taken in the line *x x*, Fig. 2; Fig. 2, a horizontal section of the same, taken in the line *y y*, Fig. 1.

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

This invention relates to a new and improved water-elevating device, such as are provided with a rising and falling bucket, and are designed chiefly for domestic or household use.

The invention consist in the novel and improved means employed for discharging the contents of the bucket when the same is elevated to the desired point, and also in a means for keeping the windlass-rope in line with the fixed pulley, over which it passes to the bucket, so as to prevent said rope from being drawn off said pulley and from being coiled upon itself on the drum.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents a curb, which may be of rectangular or other suitable form, and placed at the top of the well, as usual.

B is the drum of the windlass, the shaft C of which is a screw, and has two longitudinal grooves, *a a*, made in it extending its whole length, said grooves being at opposite points in the periphery of the screw, as shown in Fig. 1. The drum B is provided internally with two feathers, *b b*, which are fitted and work in the grooves *a a* of the shaft C, and cause said drum to rotate with the shaft. (See Fig. 1.)

D D are two parallel bars, the ends of which are fitted on guides D' D', placed in the curb A and allowed to slide or work freely thereon. The bars D D are placed one at each end of the drum B, and they are provided with internal screws, through which the screw-shaft C passes.

From the above description it will be seen that when the shaft C is turned a rotary motion will be communicated to the drum B in

consequence of the feathers *b b* fitting in the grooves *a a*, and it will also be seen that the bars D D will be moved along under the action or rotation of the screw-shaft C and a longitudinal movement given the drum B while the same is rotated. To the drum B there is attached a rope, F, which passes over a fixed pulley, G, on the upper part of the curb A, and extends down underneath a pulley, H, at the upper end of a curved bar, I, which is attached to the bucket J, said rope then extending upward to the top of the curb, where it is secured, as shown at *c*. (See Fig. 1.)

The bucket J may be of any desired form, and it is provided at its lower end with a short spout, K, through which the water is discharged. The bar I is attached by a pivot, *d*, to an arm, *e*, which projects horizontally from the upper part of the bucket, the lower part of said bar I being straight and provided with a valve, *f*, which covers the end of the spout K, while the upper part of the bar above the pivot *d* is curved, so that the gravity of the bucket and its contents will keep the spout K closed by the valve *f*, as will be fully understood by referring to Fig. 1. To the outer side of the upper part of the bucket J, at two opposite points, there are attached horizontal pins *g g*, and within the curb A there are secured two vertical guides, L L, against the edges of which the pins *g g* of the bucket bear as the latter is raised within the curb. These guides L have each a notch, *h*, made in them, as shown in Fig. 1, to receive the pins *g g* when the latter reach them, which occurs when the bucket is at its highest point.

M is an inclined trough placed in one side of the curb, and in such a position as to receive the water as it is discharged from the bucket through the spout K. The spout K of the bucket J, as previously stated, is kept closed under the weight of the bucket and its contents, but when the bucket is fully elevated the pins *g g* pass into the notches *h h* of the guides L L, and the bucket is sustained thereby, and the valve *f* will open under the gravity of the bar I, as the upper part of the latter, to which the pulley H is attached, will have a tendency to descend and effect the result specified. (See red lines in Fig. 1.) The pins *g g* in entering the notches *h h* pass under inclined planes or strips N N, which are attached to shafts *i i* on the guides L L, and cover said

notches *h h*. These inclined planes have weights *j* attached to their lower ends, which serve to keep the upper part of the former in contact with the outer edges of the guides *L*, the latter being beveled or inclined at their upper parts, as shown at *h*. In order to lower the empty bucket, the latter is first raised out from the notches *h h*, the upper parts of the inclined planes *N* yielding or being forced outward under the rising movement of the pins *g g*, and then, under the gravity of the weights *J*, falling in contact with the beveled or inclined surfaces of the guides *L*, and forming surfaces over which the pins *g g* may pass free from the notches. The longitudinal movement of the drum *B* on the shaft *C* compensates for the spiral winding of the rope *F* on the drum *B*, and admits of the former being always in line with the pulley *G*, so that the rope will not be liable to be drawn off from the pulley during the raising and lowering of the bucket.

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

1. The curved bar *I*, attached to the bucket *J* by a pivot, *d*, provided at its lower end with

a valve, *f*, and having a pulley, *H*, attached to its upper end, underneath which the rope *F* passes, all being arranged, substantially as shown, to cause the valve *f* to cover and close, under the gravity of the bucket and its contents, the discharge-spout *K* of the bucket as the latter is elevated, and also to cause the valve *f* to open under the gravity of the bar *I* when the bucket *J* is suspended or held up free from the rope *F*, as set forth.

2. The pins *g g*, attached to the bucket *J*, the notches *h h* in the guides *L L*, and the adjustable inclined planes *N N* attached to the latter, to operate substantially as and for the purpose specified.

3. In connection with a well-curb provided with a rising and falling bucket, a windlass having its drum arranged so as to slide longitudinally on its shaft while rotating with the latter, and by the means substantially as herein described keeping the bucket-rope *F* in line with the fixed pulley *G*, as set forth.

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Witnesses:

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