

# Eckerson & Watson, Windlass Water Elevator.

N<sup>o</sup> 34,354.

Patented Feb. 11, 1862.

Fig. 3.

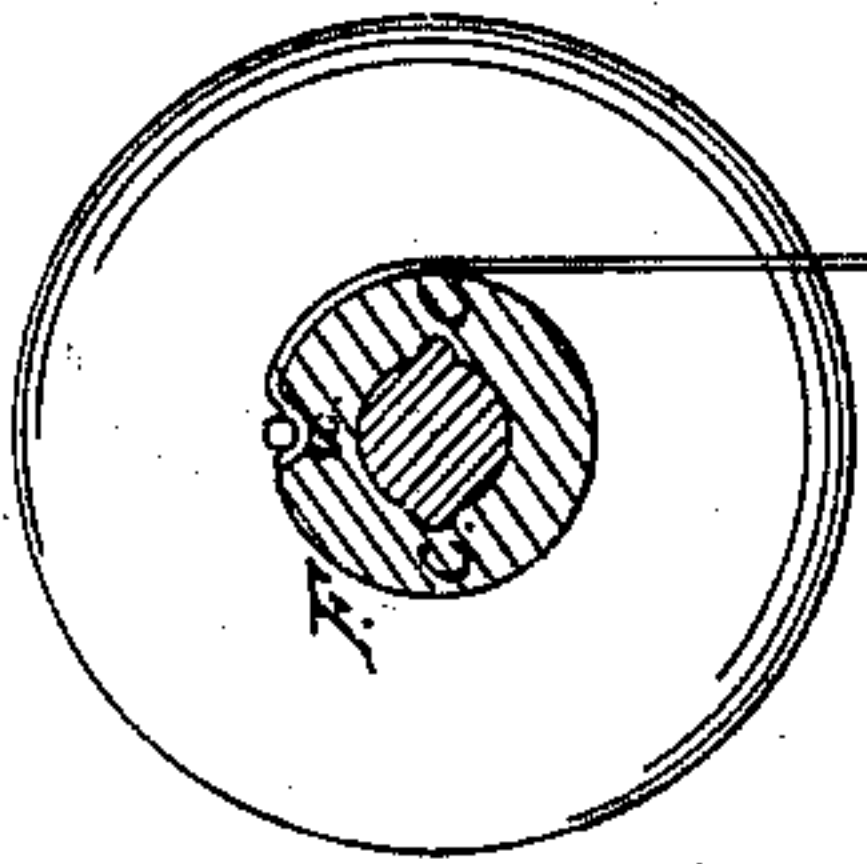


Fig. 4.

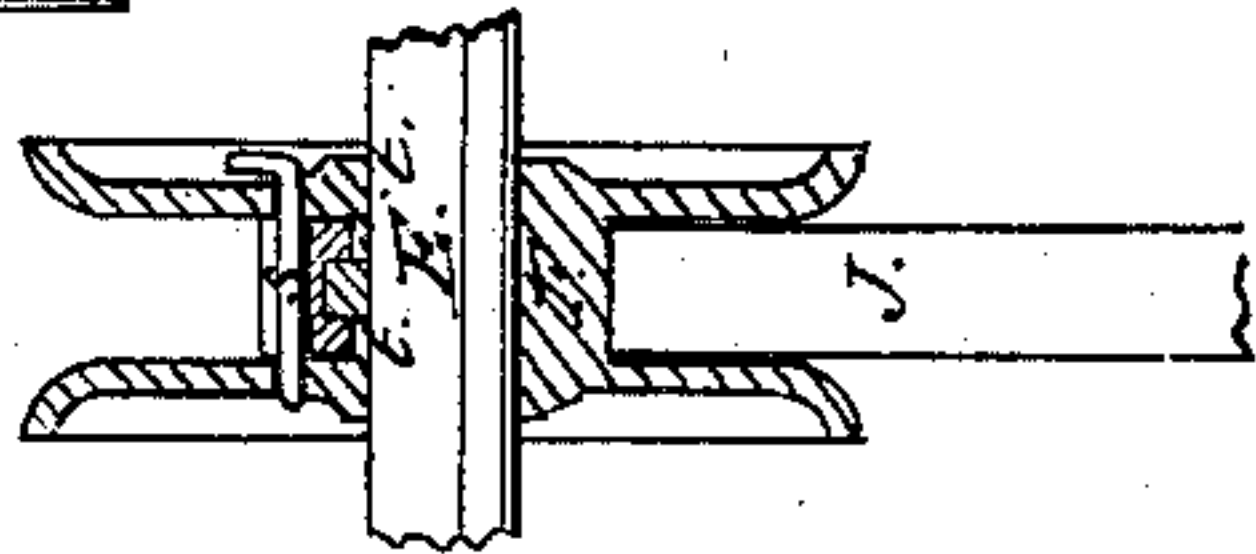


Fig. 2.

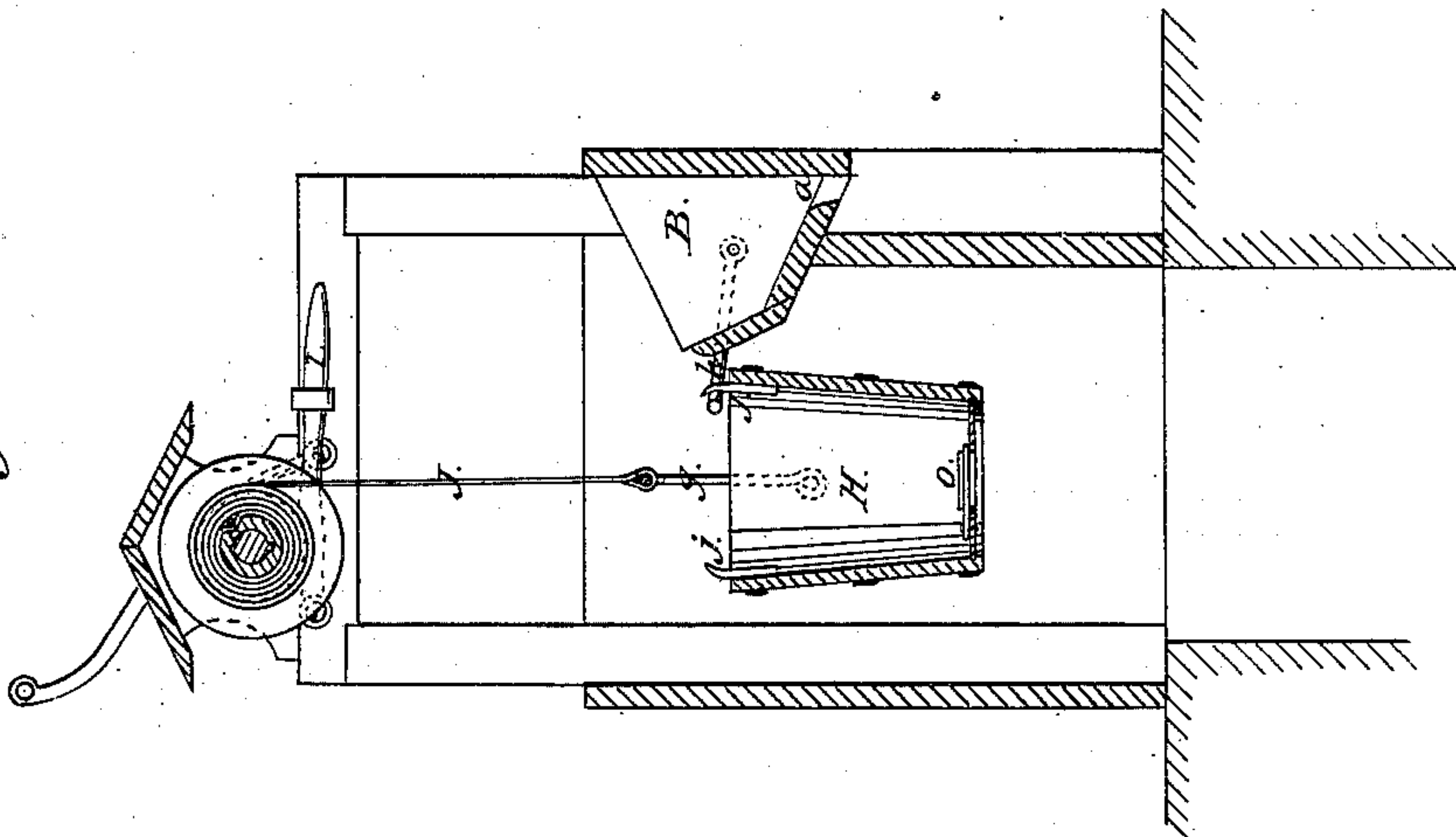
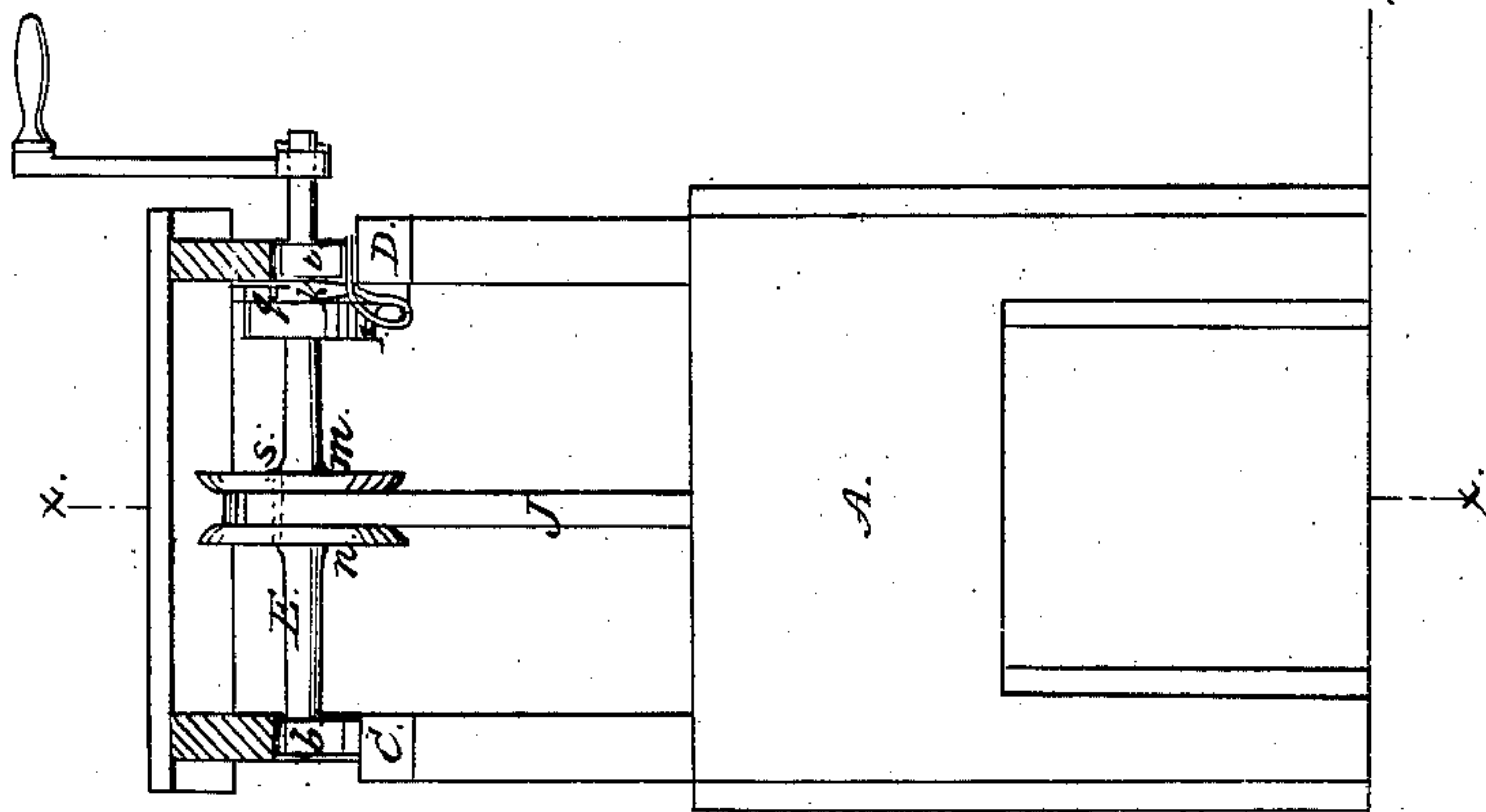


Fig. 1.



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# UNITED STATES PATENT OFFICE.

O. D. ECKERSON AND C. WATSON, OF MIDDLEBURG, NEW YORK.

## IMPROVEMENT IN WATER-ELEVATORS.

Specification forming part of Letters Patent No. 34,354, dated February 11, 1862.

*To all whom it may concern:*

Be it known that we, O. D. ECKERSON and C. WATSON, both of Middleburg, in the county of Schoharie and State of New York, have invented a new and useful Improvement in Water-Elevators; and we 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 represents the water-elevator by a front view. Fig. 2 represents the same by a transverse section taken at the line *xx*, Fig. 1. Fig. 3 is a transverse section of the windlass or crank-shaft and drum. Fig. 4 represents a transverse section of the drum, taken at the line *yy*, Fig. 3, showing the manner of fastening the bucket-strap thereto.

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

This invention relates to that class of water-elevators which are employed for drawing water from wells by means of a bucket suspended by a cord or strap from a windlass, the bucket having a water-way in the bottom to cause it to fill as it descends into the water in the well, and a hinged valve to close the said water-way when the bucket is filled to prevent the water therein from escaping through the bottom while being drawn, the bucket being tilted by suitable mechanism when at the proper height to discharge the water into a spout in the well-curb.

The invention consists in the manner of fastening the cord or strap by which the bucket is suspended to the drum on the windlass or crank-shaft, as will be hereinafter fully explained.

To enable others skilled in the art to fully understand and construct our invention, we will proceed to describe it.

A represents a curb-box, which is constructed, in the usual manner, of four uprights boarded part way up on the outside and forming a square box, which is furnished on the inner and front sides with a trough B, having an opening *a* in the bottom to allow the water discharged therein from the bucket to run out. On the top of the uprights, and which serve to strengthen the curb-box, are two pieces of scantling C D, which are placed parallel with each other and mortised into or oth-

erwise secured to the uprights and support the elevating mechanism.

E is a windlass or crank-shaft, which is located near the back of the curb-box and journaled in boxes *b b*, which are secured on top of the scantling by screws or bolts passing through them into the scantling.

In the middle of the crank-shaft E, between the boxes *b b*, a flanged drum F is rigidly secured against a shoulder by projections *c c*, which are cast upon the shaft and extend longitudinally thereof. These projections enter corresponding grooves in the drum, and thereby prevent the drum and shaft from independent movement. The drum is secured against lateral movement in one direction by the shoulder *m* on the shaft and in the other direction by a key *n*, which is driven transversely through the shaft. At one point in the periphery of the drum, between the flanges, a groove *u* is made therein parallel with the crank-axle, which, in connection with a pin or bolt *s*, passed transversely through the flanges and drum inside of the periphery of the latter, serves to secure one end of the strap by which the bucket is suspended and elevated, so that the strap J will wind even and true upon the drum. At each extremity of the said groove a cavity V is formed in the drum, which cavities assist in making the fastening of the strap to the drum more secure. To fasten the strap J, the end is placed on the drum and pressed in the groove *u*, so as to sink the sides into the cavities V at each end. The pin *s* is then driven through holes passing transversely through the flanges over the strap, so as to confine the strap between the pin and bottom of the groove, and thus secure the strap by compression, the sides of the strap which are sunk into the cavities serving to make the fastening more secure.

The bucket H is made of the usual shape, and suspended from the strap J by a bail *g*, attached by a swiveled connection on opposite sides of the bucket about one-third of the distance down from the top.

In the bottom of the bucket an opening is made, through which the water enters to fill the bucket when lowered into the well. This opening is closed on the inside by a valve *o*, which is hinged at one side of the opening to the bottom and acts by gravity to close the



opening when the bucket is raised out of the water in the well.

Attached to the front and back side of the bucket, and at right angles to the bail at top, are hooks *j*, one of which, when the bucket is elevated to a certain height, catches under a tilter *p*, hinged on opposite sides of the trough, to tilt the bucket, and thus cause it to discharge its contents into the trough.

The crank-shaft near the crank-side is provided with a ratchet-wheel *q*, which is cast with a drum on one side, against the periphery of which the hinged lever *I* acts, and by friction alone serves to give a person perfect control over the descent of the bucket. A pawl *k*, hinged to the scantling *D*, engages with the teeth of the ratchet-wheel, and thereby prevents the crank-shaft from turning backward except when it is desired to lower the bucket into the well.

When the bucket is let down into the well, the water raises the valve and fills the bucket, and on the bucket being raised the valve closes in consequence of the pressure of the water upon it, assisted by its own weight, and remains closed until the bucket is elevated, discharged, and again lowered into the water in the well.

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

The combination of the pin *s* with the flanged drum *F*, groove *u*, and cavities *V*, when arranged to operate in the manner and for the purpose described.

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