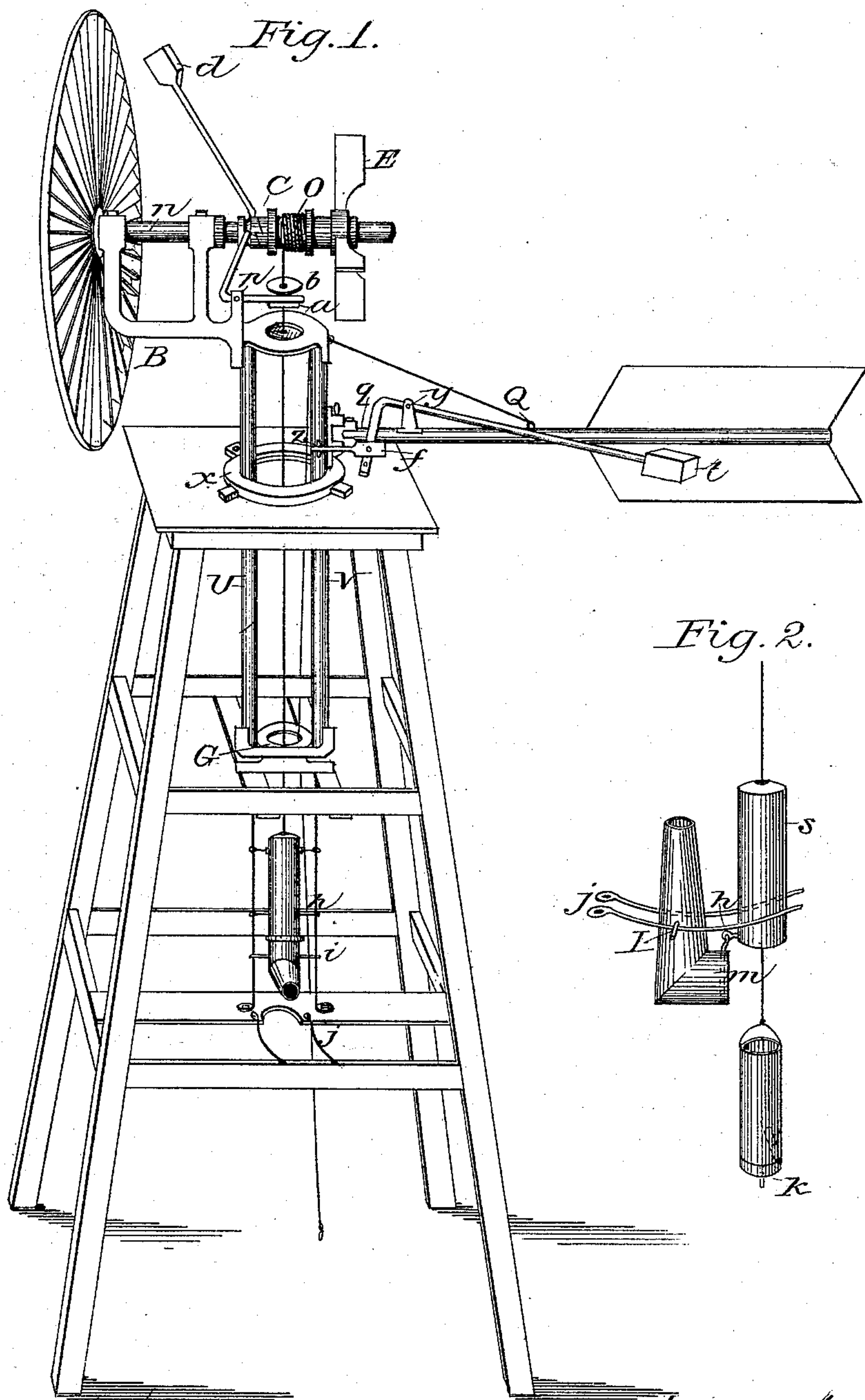


(No Model.)

L. W. MAXON.  
Water Elevator.

No. 232,531.

Patented Sept. 21, 1880.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

LEE W. MAXON, OF JUNIATA, NEBRASKA.

## WATER-ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 232,531, dated September 21, 1880.

Application filed May 25, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, LEE W. MAXON, a citizen of the United States, residing at Juniata, in the county of Adams and State of Nebraska, have invented a new and useful Improvement in Water-Elevators, of which the following is a specification.

My invention relates to an improved mode of raising water by wind-power; and it consists in certain principles and details of construction hereinafter more fully described and shown. Its object is to provide a device for easily and rapidly raising water from a well in a bucket and dumping the same, thereby dispensing with the use of expensive pumps and metallic tubing.

In the drawings, Figure 1 is a perspective view of a windmill with my improvements attached. Fig. 2 is a detail view, showing the bucket and manner of operating the same.

Similar letters indicate like parts.

*n* represents the shaft of the wind-wheel, mounted in bearings of an arm, B, extending horizontally from one side of the top of a vertical revolving frame or turn-table composed of two upright beams, U V, bolted to circular iron plates or collars at top and bottom. This turn-table is pivoted within a tower or derrick, such as is usually employed in supporting wind-wheels, and is made to revolve on its pivot to accommodate the wheel to the direction of the wind. It is confined in position and prevented from being lifted out of place from the force of the wind by a circular plate, X, bolted to the top of the tower, which confines a collar fixed to and surrounding the frame.

The power is controlled and the wheel adjusted to the wind automatically by the vane, and a wire, Q, is attached to the vane and passes thence over a pulley in the frame down within reach of the operator, whereby the vane may be drawn around and the wheel thrown out of the wind.

Upon shaft *n* is fitted a ratchet-collar, C, which is constructed to slide horizontally upon the shaft, but made to revolve with it by means of a projecting lug of the shaft fitting into a corresponding recess in the collar.

O represents a sleeve or spool fitting loosely upon the shaft, and which serves as the reel

or windlass for winding the bucket-chain. Its end next to the collar C is provided with teeth for engaging with the teeth of the ratchet-collar, and its opposite end is provided with a set of fans or wings, E, to retard its motion and prevent the too rapid descent of the bucket when the ratchet-teeth are disengaged.

*d* is a weighted lever, one end of which bears against collar C and presses it up against spool O, causing the ratchet-teeth to engage with each other.

P is an elbow-shaped tripping-lever, pivoted at or near the elbow-bend, one end of which fits into an annular groove around collar C, and the opposite end terminates in a plate or disk surrounding the bucket-chain at top of the turn-table. This lever is actuated by two projections or knots, *a*, which may be made adjustable and located at such points on the chain that when the bucket reaches the water and is submerged the upper knot will strike the upper side of plate *b* and throw the ratchet in gear with the spool or reel O, and when the bucket reaches the proper height a similar knot below will lift the lever and disengage the ratchet, permitting the bucket to descend again to the well. The bucket is provided with an ordinary valve in its bottom for the entrance of the water, having a projecting pin, K.

S is the dumping device, and consists of a hollow cylinder of sufficient size to inclose the bucket, constructed in two sections, the lower of which is an elbow, hinged to the upper at the point *h* in front, and an aperture is provided in its top, through which the chain passes. It is supported in an upright position by vertical rods, to which it is attached by eye-bolts in the upper section, whereby it is capable of a vertical movement along the rods, and when the bucket is below the elbow-section is carried out from beneath the upper section by the projecting pins I, which slide upon the curved rods *j*, and it occupies the inverted suspended position shown in Fig. 2.

The operation of my device is as follows: When the power is applied the chain is wound upon the wheel or spool O, and the bucket, filled with water, is drawn from the well into the upper section of the dumper S, which is



carried up the vertical rods by the bucket until the elbow-section is released from its suspended position upon the curved rods *j*, and assumes its normal position beneath the upper section, as shown in Fig. 1, when the bar *m* within the elbow-section (represented by dotted line) strikes the projecting pin *K* of the bucket-valve and releases the water, which flows down through the elbow-spout into the receiving-tank. The knot *a* in the chain then operates the tripping device, which throws back the ratchet-collar and releases the windlass or spool *O*, permitting the chain to unwind and return the bucket to the well, when the upper knot strikes the tripping-lever, again throwing the ratchet-collar into place, and the operation is repeated until a sufficient quantity of water is raised. Then the power is withdrawn by means of the wire, which draws the vane around and throws the wheel out of the wind.

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

- 25 1. In a water-elevator, the combination of the shaft *n*, sleeve or spool *O*, provided with ratchet-teeth on the inner end and the wings

*E* on its outer end, ratchet-collar *C*, and chain, substantially as and for the purpose described.

2. The combination of the ratchet-collar *C*, spool *O*, provided with the ratchet-teeth and the wings or fans *E*, the tripping-lever *p*, and bucket-chain provided with the knots *a*, arranged substantially as described, and for the purpose specified.

3. The shaft *n*, spool *O*, provided with the ratchet-teeth, ratchet-collar *C*, weighted lever *d*, lever *p*, and bucket-chain, all arranged and combined substantially as described, and for the purpose specified.

4. The dumping device consisting of the cylinder *S*, having the hinged elbow-section provided with the pins *I*, the curved rods *j*, and the water-bucket, all combined and operated substantially as described, and for the purpose specified.

5. The combination of the dumper *S* with the bucket having the bottom valve operated by the cross-bar *m* and pin *K*, substantially as described, and for the purpose specified.

LEE W. MAXON.

Witnesses:

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