

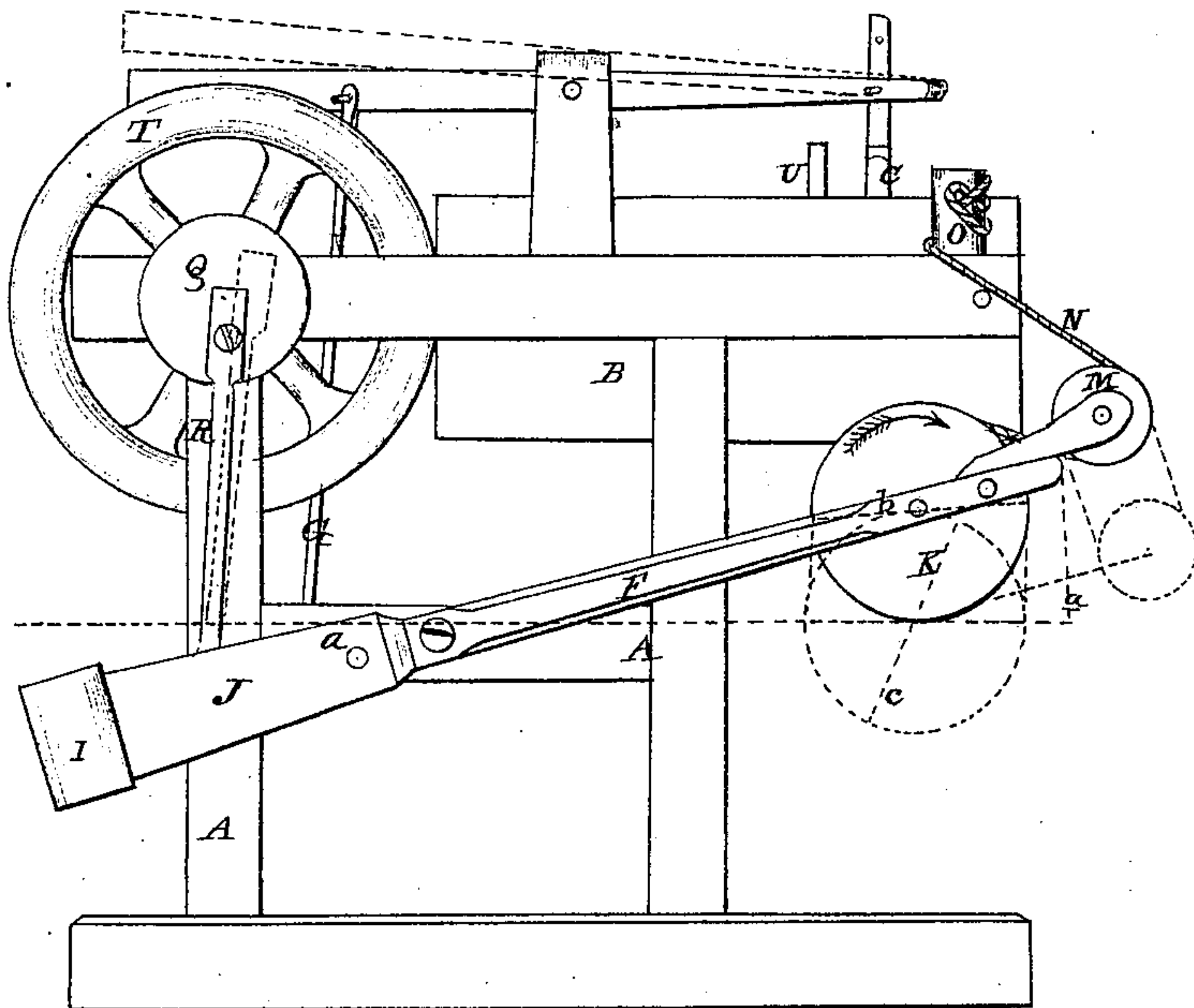
*W. M. Ginniss,*

*Water Motor.*

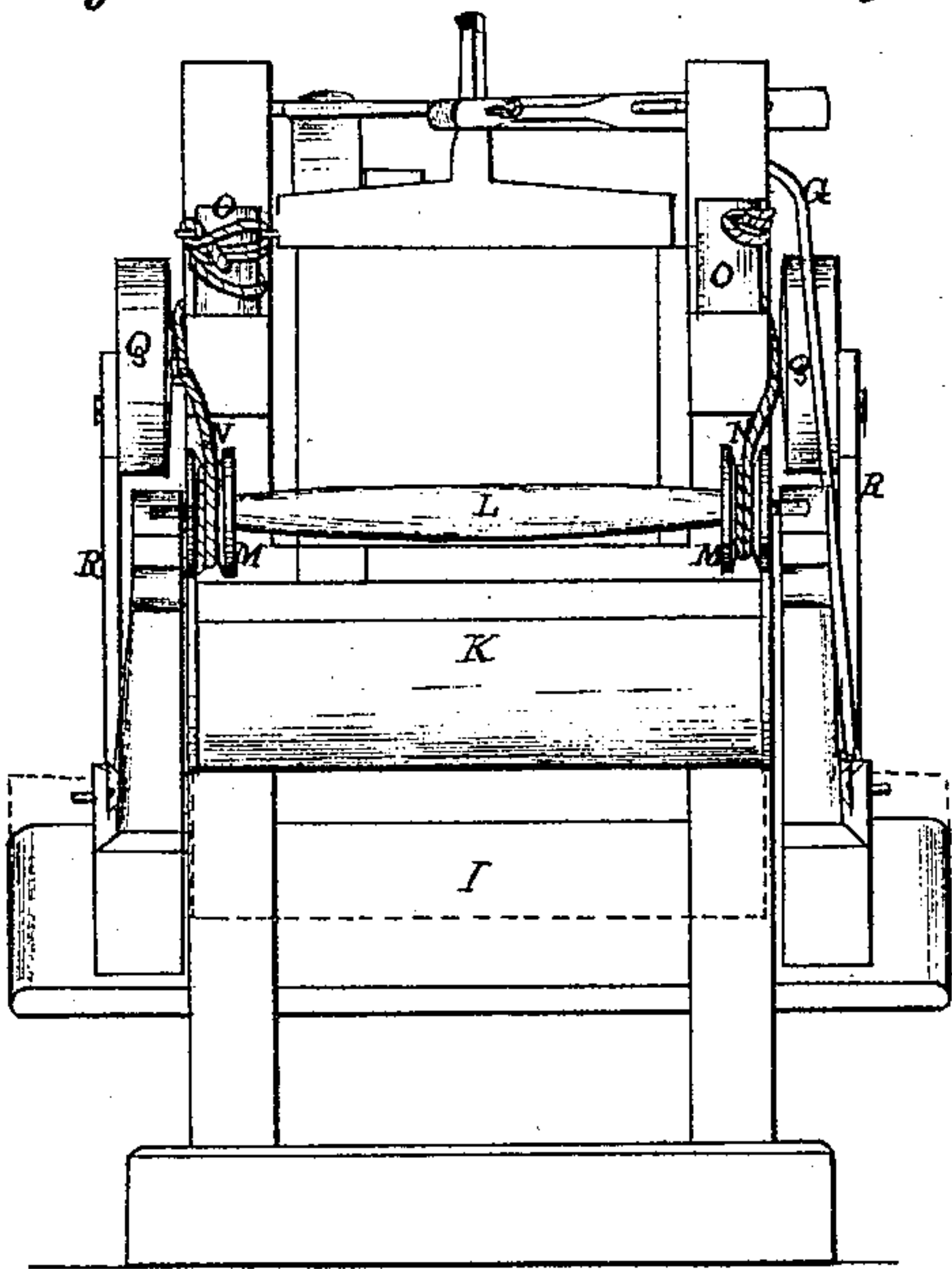
*No. 102571.*

*Patented May 3. 1870.*

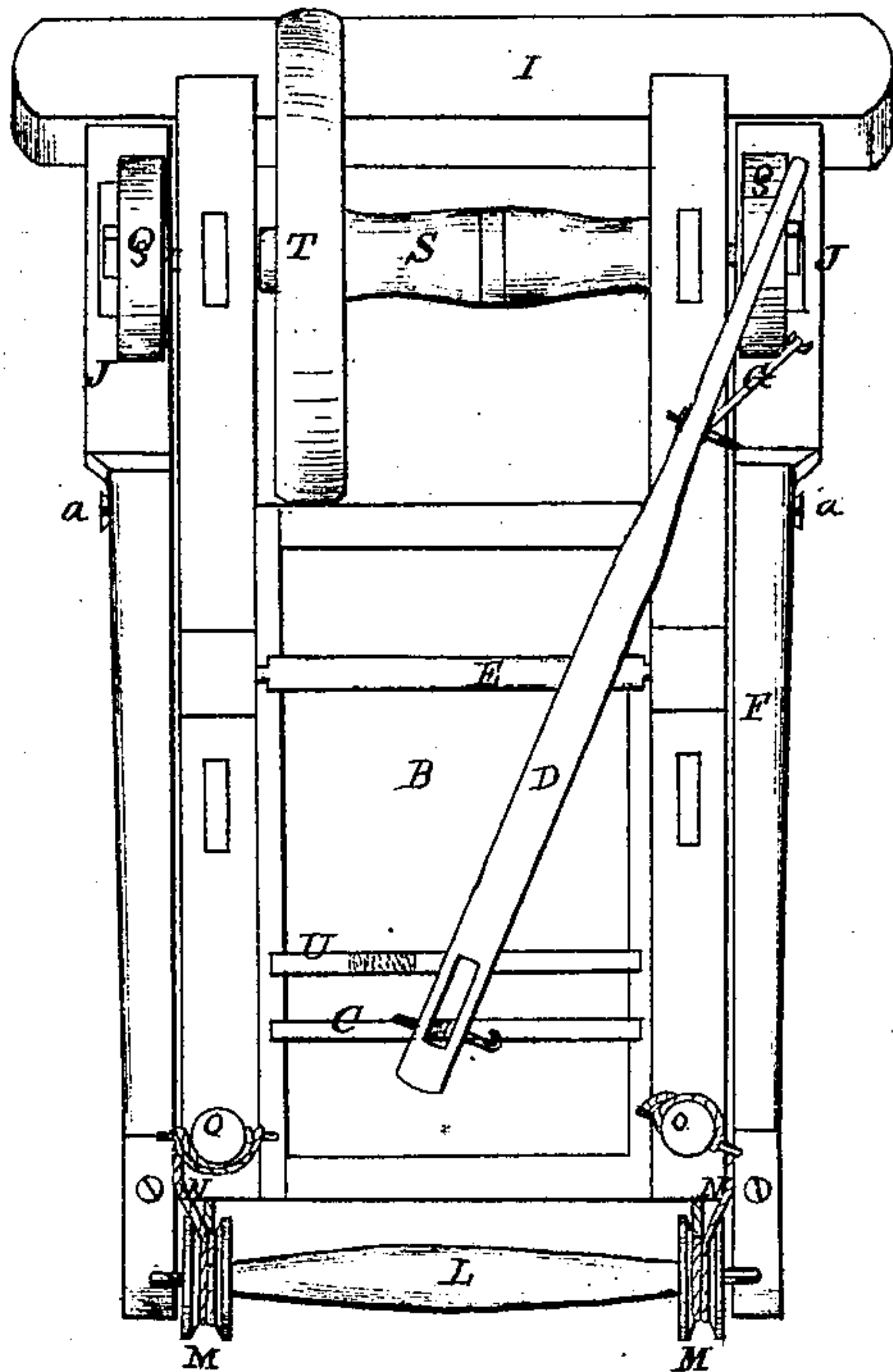
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



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*Witnesses*  
*W. B. Humphrey*  
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# United States Patent Office.

WILLIAM MCGINNISS, OF AUBURN TOWNSHIP, OHIO.

Letters Patent No. 102,571, dated May 3, 1870.

## IMPROVEMENT IN WATER-MOTOR.

The Schedule referred to in these Letters Patent and making part of the same

To all whom it may concern:

Be it known that I, WILLIAM MCGINNISS, of Auburn Township, in the county of Crawford and State of Ohio, have invented a new and improved Water-Motor, of which the following is a specification.

### *Drawings.*

Figure 1 is a side view of the motor.

Figure 2, and end view.

Figure 3, a view of the top.

Like letters of reference refer to like parts in the different views.

### *Objective.*

The nature of this invention relates to a water-motor or power, consisting of a bucket pivoted in the arms of a pair of levers, which, as the bucket fills with water, descends, carrying down with it the levers, thereby throwing upward the opposite end thereof, actuating by this means a wheel attached thereto, by a pitman and crank, as hereinafter more fully described.

### *General Description.*

In fig. 1—

A represents a frame.

In the upper front part thereof is secured a water-tank, B, in which is a gate, C, fig. 3, attached to the end of the beam D.

Said lever is secured to a rock-shaft, E, whereas the opposite end of the beam is connected to a lever, F, by a link, G, whereby the beam is made to vibrate, and thereby open and close the gate referred to, for a purpose presently shown.

The lever F is pivoted to the side of the frame at the point a, fig. 1.

A lever, H, corresponding to this is also pivoted to the opposite side of the frame.

The two rear ends thereof are connected by a beam, I, which, together with the weights J, serve as counterbalances to the weight of the bucket K, journaled in the front end of the levers, and extends across the front of the machine, immediately under the front end of the water-tank.

The bucket referred to is of a cylindrical shape, about one-half of it, longitudinally, being open for receiving the water from the tank.

In the outer ends of the arms or levers F, and immediately in front of the bucket, is journaled a shaft, L, fig. 2, on each end of which is a grooved pulley, M, around which is turned a cord, N, one end of said cord being attached to the bucket, whereas the opposite end is secured to the top of the frame by means of the adjusting pins O.

The rear ends of the levers F are connected to crank-wheels Q by pitmen R.

Said cranks are secured to the shaft S, which also carries a fly-wheel, T, whereby the movement of the machine is balanced.

### *Operative.*

The practical operation of this motor is as follows:

A stream of water is conducted into the tank, and thereby kept full. The flood-gate U, fig. 3, is now slightly raised, allowing the water to flow out under to the gate C, the flood-gate still holding back the pressure of water from the feed-gate. Now, on starting the machine, the feed-gate will open by means of the vibration of the beam D. Water will now flow from under the gate into the bucket, it being elevated, as shown in fig. 1.

The bucket, on being filled, will now descend by the weight of the water it contains, as indicated by the dotted lines a, fig. 1.

On the descent of the bucket, as a consequence, the opposite end of the lever is thrown upward, thereby actuating the crank, and causing the wheel and shaft to revolve.

A continuation of the movement of the lever, &c., is effected by the discharge of the water from the bucket, which, as it descends, is caused to rotate in the direction of the arrow by the cord N drawing thereon, so that the mouth of the bucket is turned from a horizontal position, indicated by the dotted line b, to the position indicated by the dotted line c, thereby allowing the water to flow out. The bucket, being thus released of the weight of the water, ascends by the gravity of the counter balance, and, as it ascends, the mouth thereof again assumes a horizontal position, by virtue of the superior weight of the bucket being on one side of its axial line of vibration.

The bucket is again in position for being charged with water, and, on being so charged, it again descends, and, by its rotary movement in the manner above described, discharges its contents as before, and so on, the weight of the water carrying down the bucket and lever, and the weight of the counterbalance causing its return, thereby producing a crank-movement upon the shaft, causing its rotation.

It will be observed that on the descent of the bucket the feed-gate C closes, thereby shutting off from the bucket a further inflow of water until its return, when the gate is again raised by the beam, and the water, in consequence, flows out into the bucket to cause its descent.

The vibration of the beam and that of the side levers F are made in the same time, their operation being simultaneous, and the opening and closing of the gate so timed as to shut off the water as the bucket descends, and opens it immediately as it begins to ascend.

This device for using water for a power is simple in

its construction and arrangement, and can be used with good results, where the stream is small, and but a small power required.

*Claims.*

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The rotating bucket K, vibrating arms or levers F, pulleys M, and cords N, when combined and arranged to operate in the manner substantially as described and for the purpose set forth.

2. The rotating bucket K, vibratory arms or levers

F, as arranged, to operate in combination with the feed-gate C, substantially as and for the purpose specified.

3. The combination of the levers F, bucket K, pulleys M, cord N, feed-gate C, and shaft S, substantially in the manner as described and for the purpose set forth.

WILLIAM MCGINNISS.

Witnesses:

S. S. BLOOM,

S. F. STAMBAUGH.