

(No Model.)

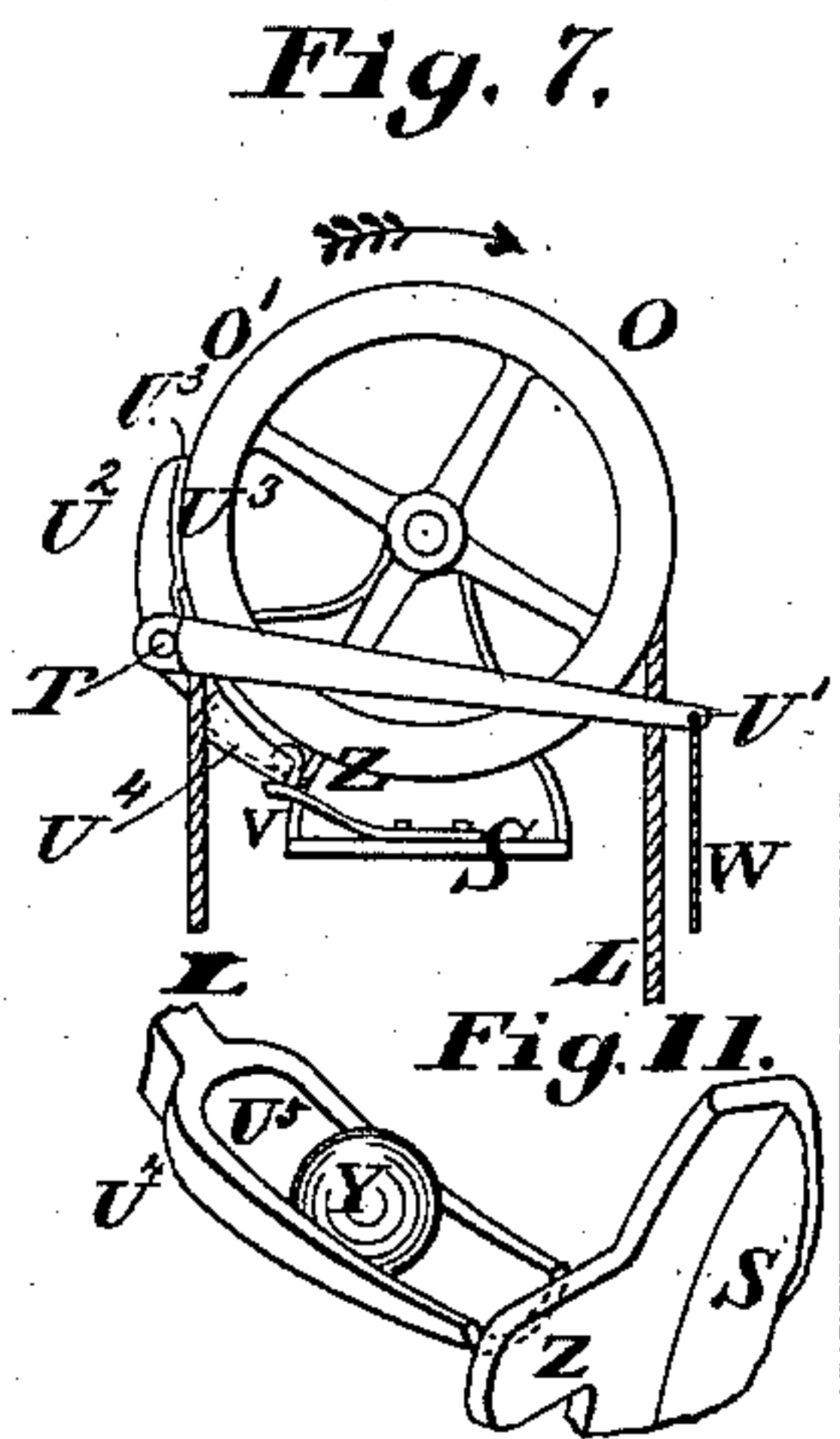
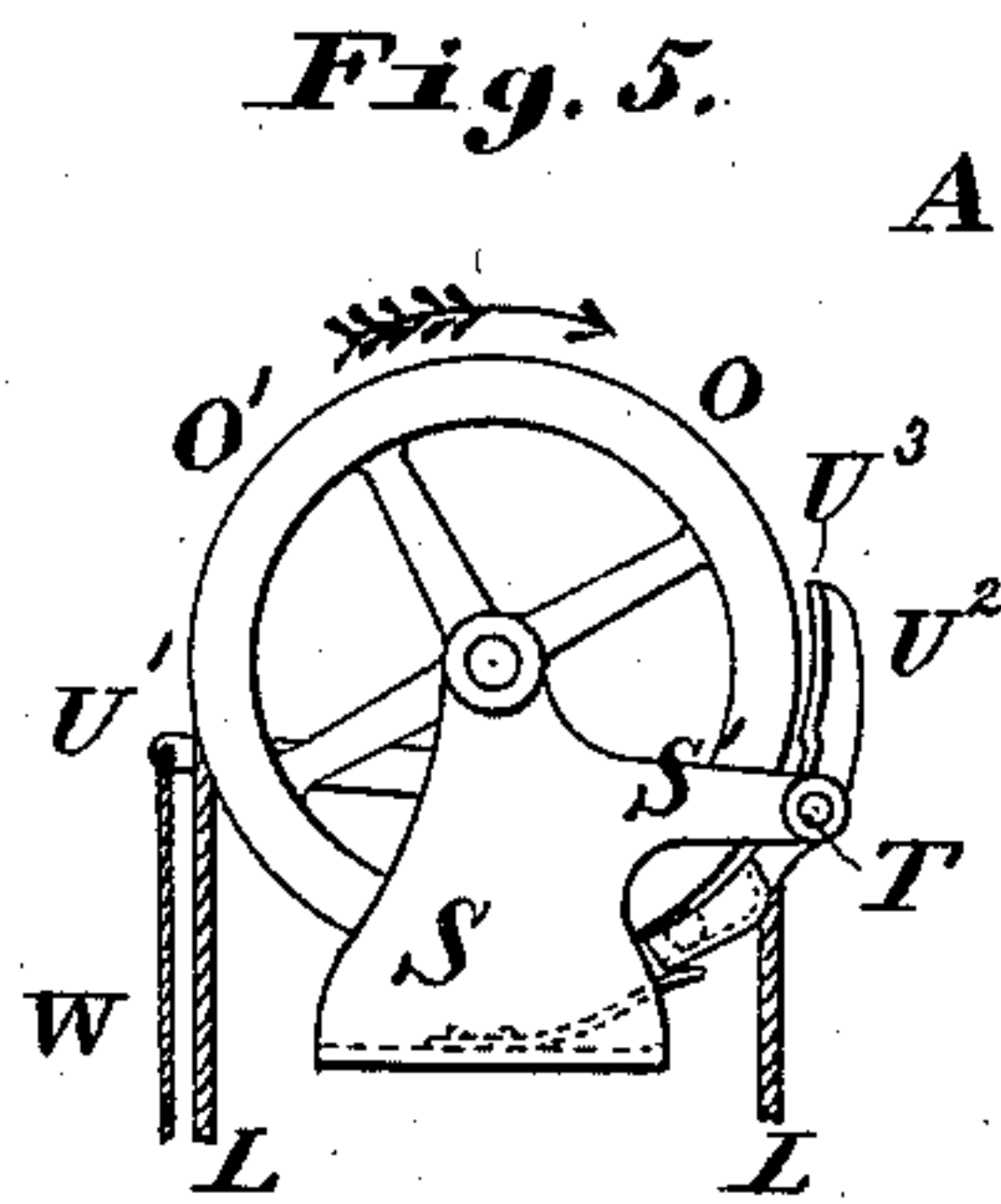
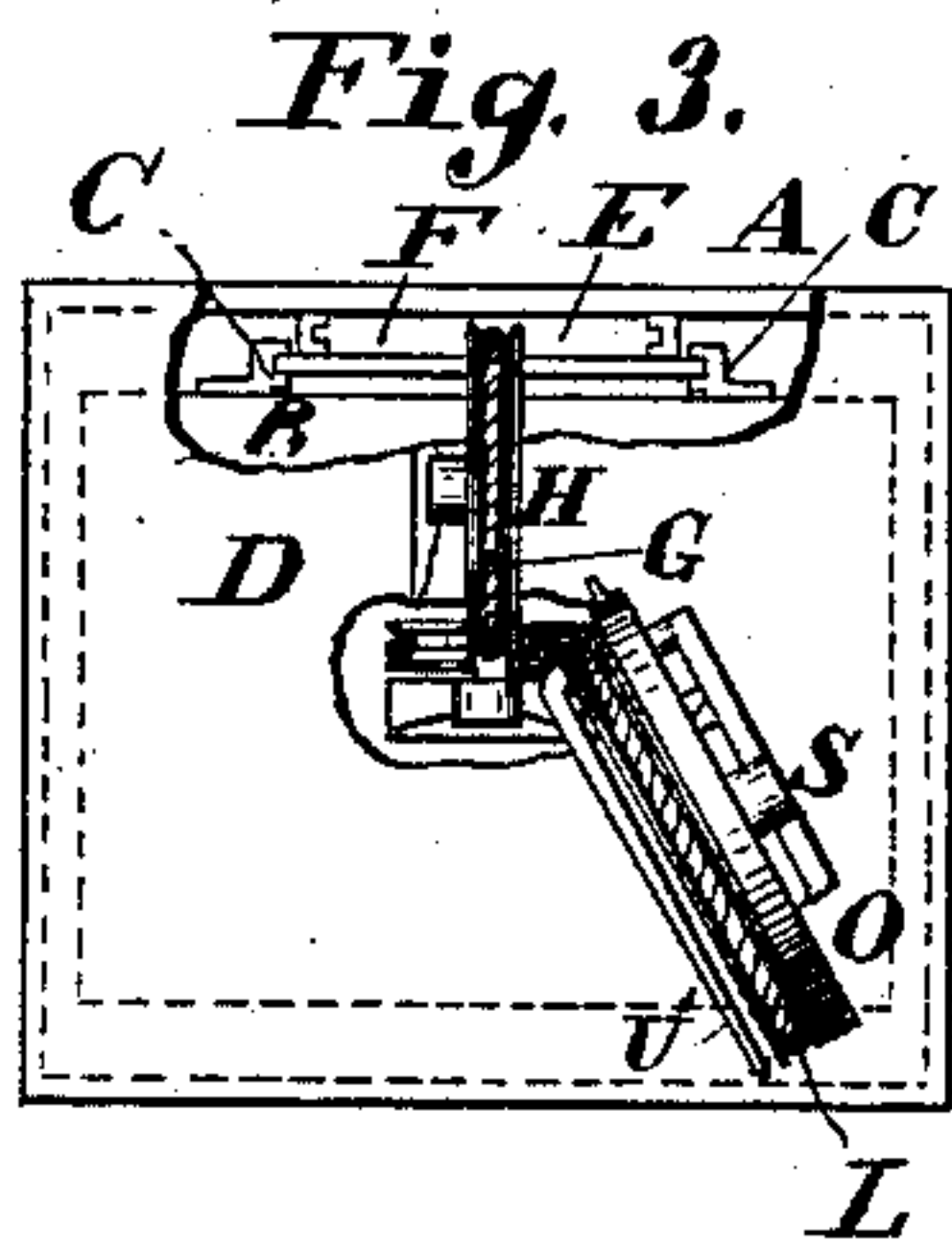
E. W. MOON
BRAKE FOR DUMB WAITERS.

No. 349,258.

Patented Sept. 14, 1886.

Fig. 1.

Fig. 2.



Attest:
F. A. Hopkinson
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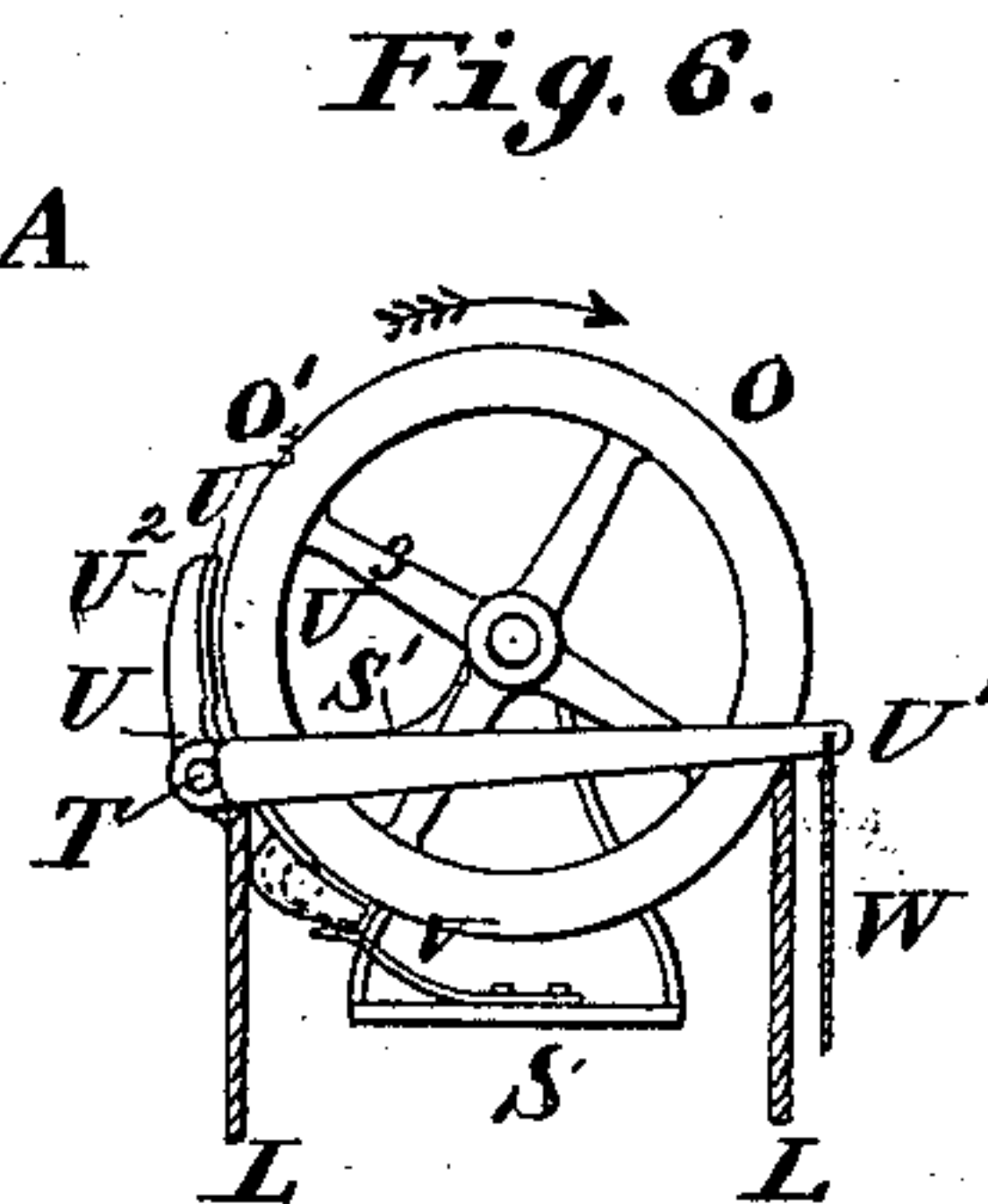
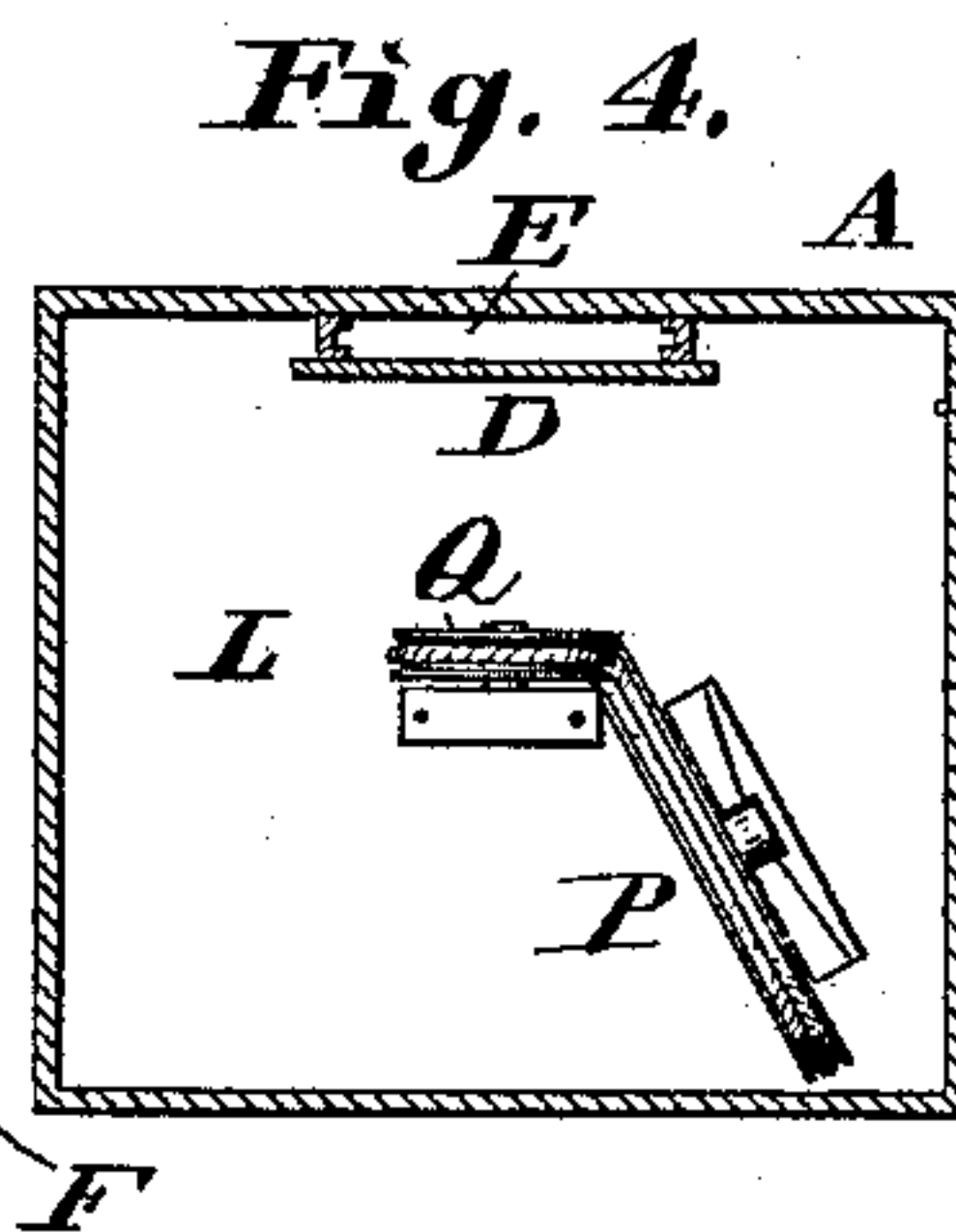
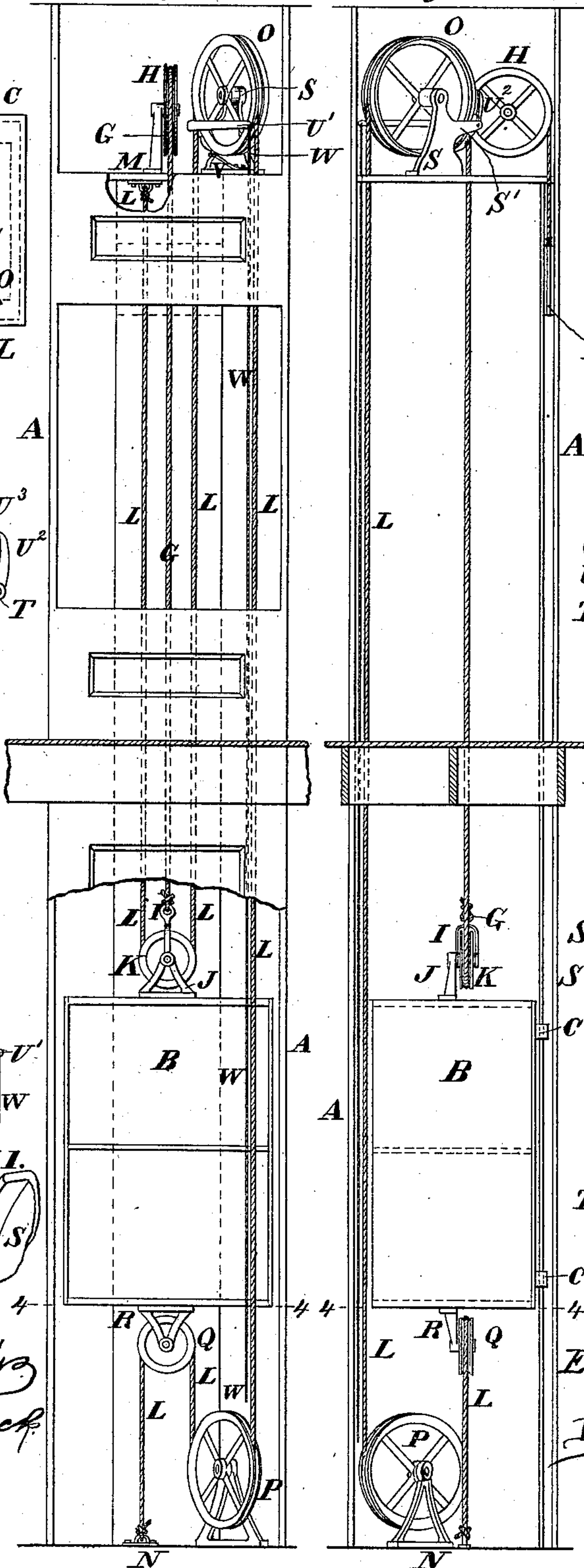
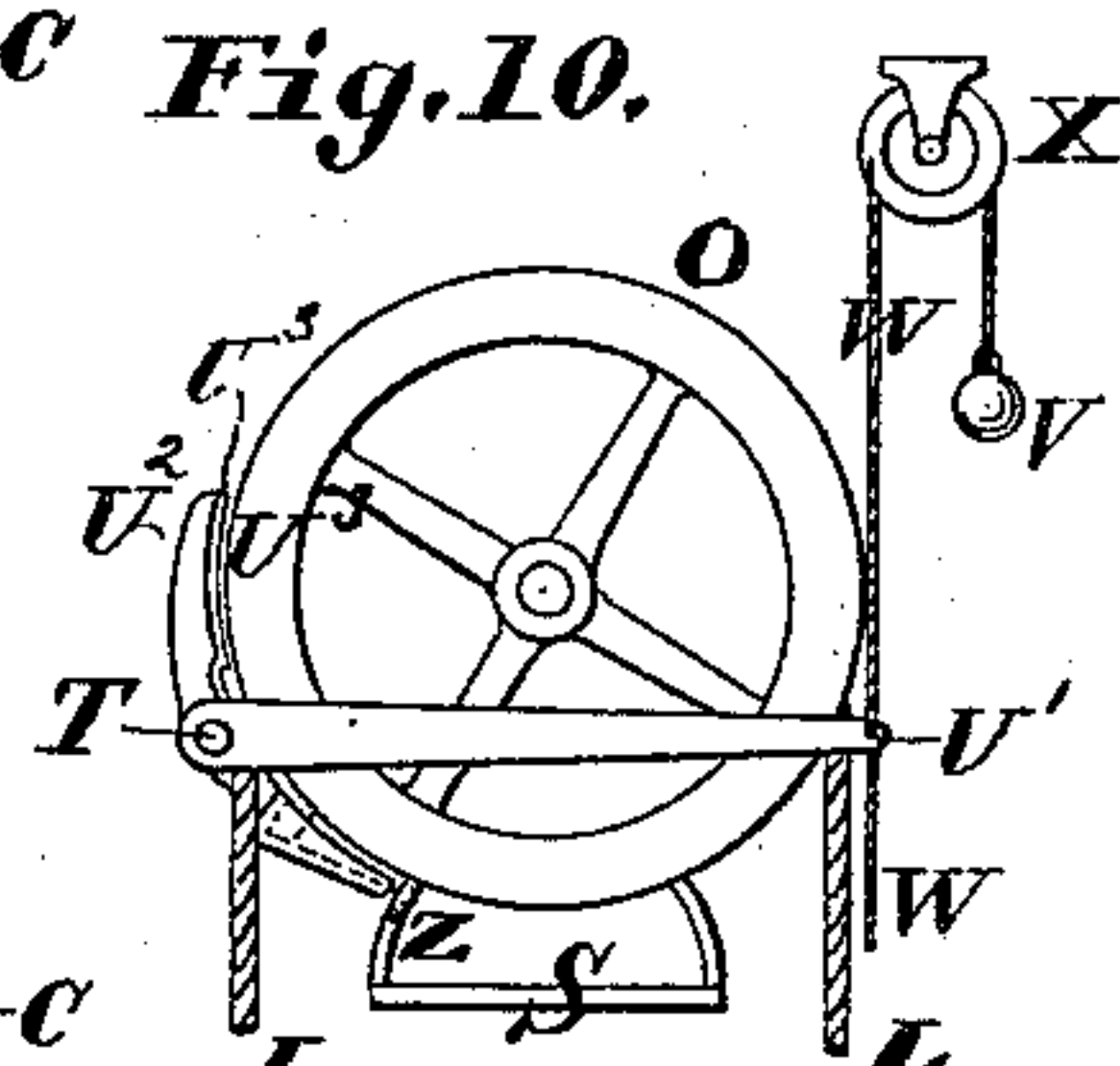
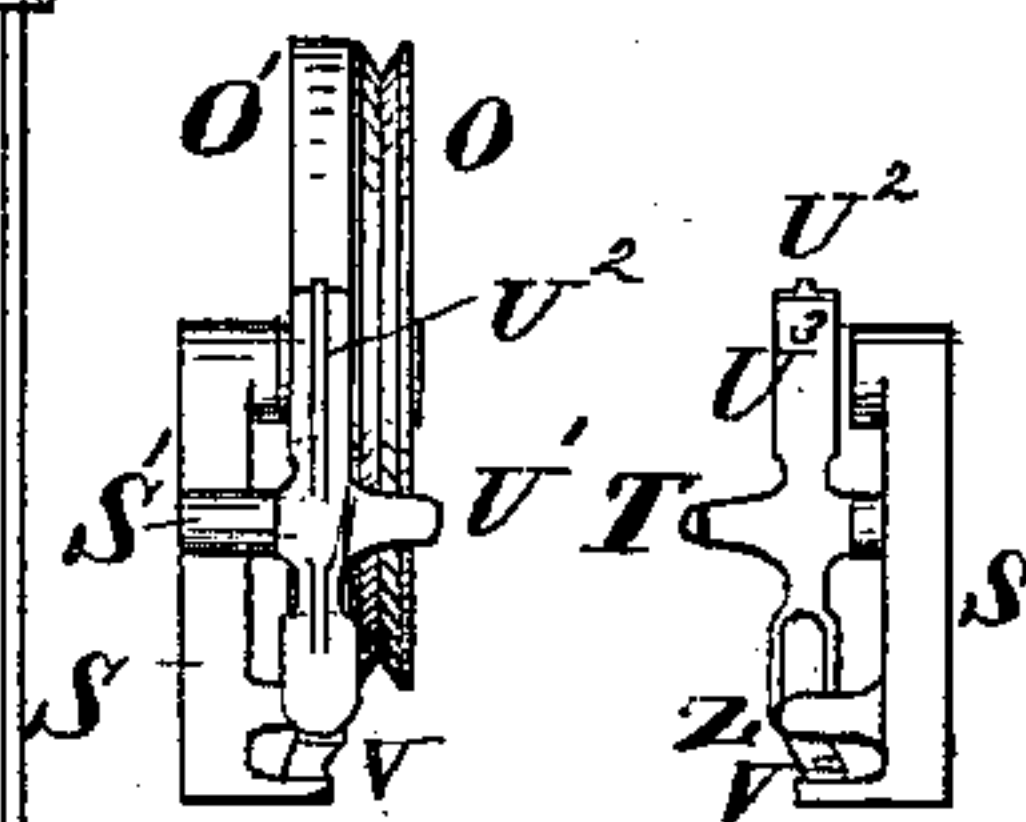


Fig. 8. Fig. 9.



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UNITED STATES PATENT OFFICE.

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BRAKE FOR DUMB-WAITERS.

SPECIFICATION forming part of Letters Patent No. 349,258, dated September 14, 1886.

Application filed February 10, 1886. Serial No. 191,479. (No model.)

To all whom it may concern:

Be it known that I, EDWARD W. MOON, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Brakes for Dumb-Waiters, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, and in which—

Figure 1 is an elevation with part broken out. Fig. 2 is a vertical section at 2 2, Fig. 1, showing some parts in elevation. Fig. 3 is a top view, parts of the ceiling being broken out. Fig. 4 is a horizontal section at 4 4, Figs. 1 and 2, looking down. Fig. 5 is a side view of one side of the brake-pulley, showing it locked, and Fig. 6 is a view of the other side, showing it unlocked. Fig. 7 is a side view of the brake-pulley, showing it unlocked by depression of the brake-lever, the brake being applied to the pulley. Fig. 8 is an elevation showing the edge of the pulley and the brake. Fig. 9 is an inside view of the brake. Fig. 10 is a side view of the brake-wheel, showing neither the brake or lock applied to it.

This improvement relates chiefly to the lock and brake, which is applied to the upper pulley, over which the hoisting cord or cable passes.

The features of novelty will be indicated in the claims.

A is the vertical shaft, in which the cage B has movement. The cage may be guided in any suitable manner. I show guide-cleats C upon it, which engage the edges of the vertical guide D. The guide D forms the outer wall of the way E, in which the counter-balance F travels. The counter-balance is secured to the cage by a cord, G, which passes over a grooved pulley, H, and is attached to a bracket, I, secured to a standard, J, on which the grooved pulley K has bearing. The hoisting-cord L is attached at the upper end to the head-frame M, and at the lower end to a sill or frame, N. From M it first passes beneath the pulley K, and from that over the grooved pulley. From the pulley O down to and beneath the grooved pulley P; from pulley P over the grooved pulley Q, having bearing in a hanger, R, attached to the bottom of the cage. From the pulley Q the cord passes to the fixed attachment at N.

In moving the cage upward or downward the hand is applied to the cord between the pulleys O and P, the downward movement of the cord lifting the cage, and vice versa. The counter-balance should be made at least of sufficient weight to balance the cage; but as the load would cause the cage to descend if left to itself, it is proper to have a lock of some kind to sustain it at any elevation at which it may be placed.

The brake and lock, which form the most important feature of my invention, will now be described. The standard S, on which the pulley O has bearing, has an arm, S', giving bearing to an arbor or spindle, T, on which is supported a rocking frame, U, which is actuated by an arm, U', to throw either end of the frame U to or from the cylindrical part O' of the pulley O. The upper arm, U², of the brake-frame U, carries a brake-shoe, U³, which, by the downward movement of the arm U', may be brought in contact with the pulley to limit or to stop the rotation of the pulley, and consequently limit or stop the movement of the car. The arm is lifted, to carry the brake-shoe out of contact with the pulley, by a spring or weight, V. The spring bears against the lower arm or shoe U⁴, as seen in Figs. 1, 5, 6, 7, 8, and 9, while the weight V is shown in Fig. 10 attached to one end of a cord, W, which passes over a grooved pulley, X, above the arm U', and descends from the pulley to the arm, to which it is attached. This cord W descends, so that it can be grasped by any one operating or using the dumb-waiter, and by this means the arm may be pulled down for the purpose stated, or for the purpose of unlocking the pulley O, when desired, as will be hereinafter described. The shoe U⁴ of the lower arm is inclined, and has a channel, U⁵, in which works a friction ball or block, Y, the ball being shown in Figs. 5, 6, 7, and 11, and the block in Fig. 10, which, as the wheel O turns in the direction shown by the arrow in Fig. 5, is carried toward the lower end of the shoe, and as the lower end of the shoe is nearer to the periphery of the pulley than the upper end, the descent of the ball tightens its bearing on the shoe and pulley, and so locks the pulley and prevents its rotation in this direction, and as

this direction of rotation corresponds with the descent of the cage, the descent of the cage is prevented by this locking of the pulley. This lock of the pulley continues until either the
 5 pulley is turned in the opposite direction, as indicated by the arrow in Fig. 6, or the arm U is moved downward, so as to throw the shoe U⁴ away from the periphery of the pulley, and thus relieve the pulley from the pressure of the
 10 ball or block Y, and allow it to turn. When the shoe U⁴ is moved away from the lever, the escape of the ball or block Y from the channel U⁵ is prevented by a projection, Z, against which the ball or block impinges. (See Fig. 7.)
 15 When the ball or block Y is in contact with the pulley O, and the pulley is turned in the direction indicated by the arrow in Fig. 6, the friction of the pulley against the ball or block moves it upward in the channel U⁵.
 20 The operation of the device is as follows: To move the dumb-waiter upward, the part of the hoisting-rope between the pulleys O and P is moved downward, which turns the pulley O in the direction shown by the arrow in Fig. 6.
 25 When the cage has reached the place of stoppage, the brake-cord W may be drawn down to apply the brake U³, or the pulley may be allowed to turn backward, (under the influence of the load upon the cage,) and in the latter
 30 case the locking device Y will arrest the rotation of the pulley. To lower the cage, if there is weight sufficient upon it to cause its descent the pulley O may be relieved from the lock by pulling the brake-cord W, and by the same
 35 movement the brake U³ may be applied to limit the speed of descent. Where the weight upon the cage is not sufficient to cause its descent, it is moved downward by moving up-

ward the part of the hoisting-rope between pulleys O and P, the arm U' being drawn down 40 sufficiently to relieve the pulley O from the lock.

I claim—

1. The rocking frame having a shoe with channel containing a movable ball and inclined 45 to the periphery of a pulley on which the hoisting-rope has bearing, a spring to press the shoe toward the pulley, and an arm and cord to draw the shoe away from the pulley, substantially as and for the purpose set forth. 50

2. The combination, with the hoisting-rope of a hoisting-machine or dumb-waiter, of a pulley, around which pulley the rope passes, a movable shoe having a channel inclined to the periphery of the pulley, a movable ball in said 55 channel, and a projection at the lower end of the channel to prevent the escape of the ball.

3. The combination of a hoisting-rope, pulley, and a rock-frame having an arm carrying a friction-brake and an arm projecting in the 60 opposite direction having a channel on the side toward the periphery of the pulley inclined relatively to the periphery and containing a movable ball, for the purpose set forth.

4. The combination, with the hoisting-rope, 65 pulley, and the standard having a projection thereon, of a rocking frame pivoted in the standard and having an arm, a channel in the arm, a movable ball in the channel, and suitable means for pressing the arm against the 70 pulley-rim, substantially as and for the purpose set forth.

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Witnesses:

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