

J. CASEY.

COMBINED BELT SHIFTER AND BRAKE.

No. 369,228.

Patented Aug. 30, 1887.

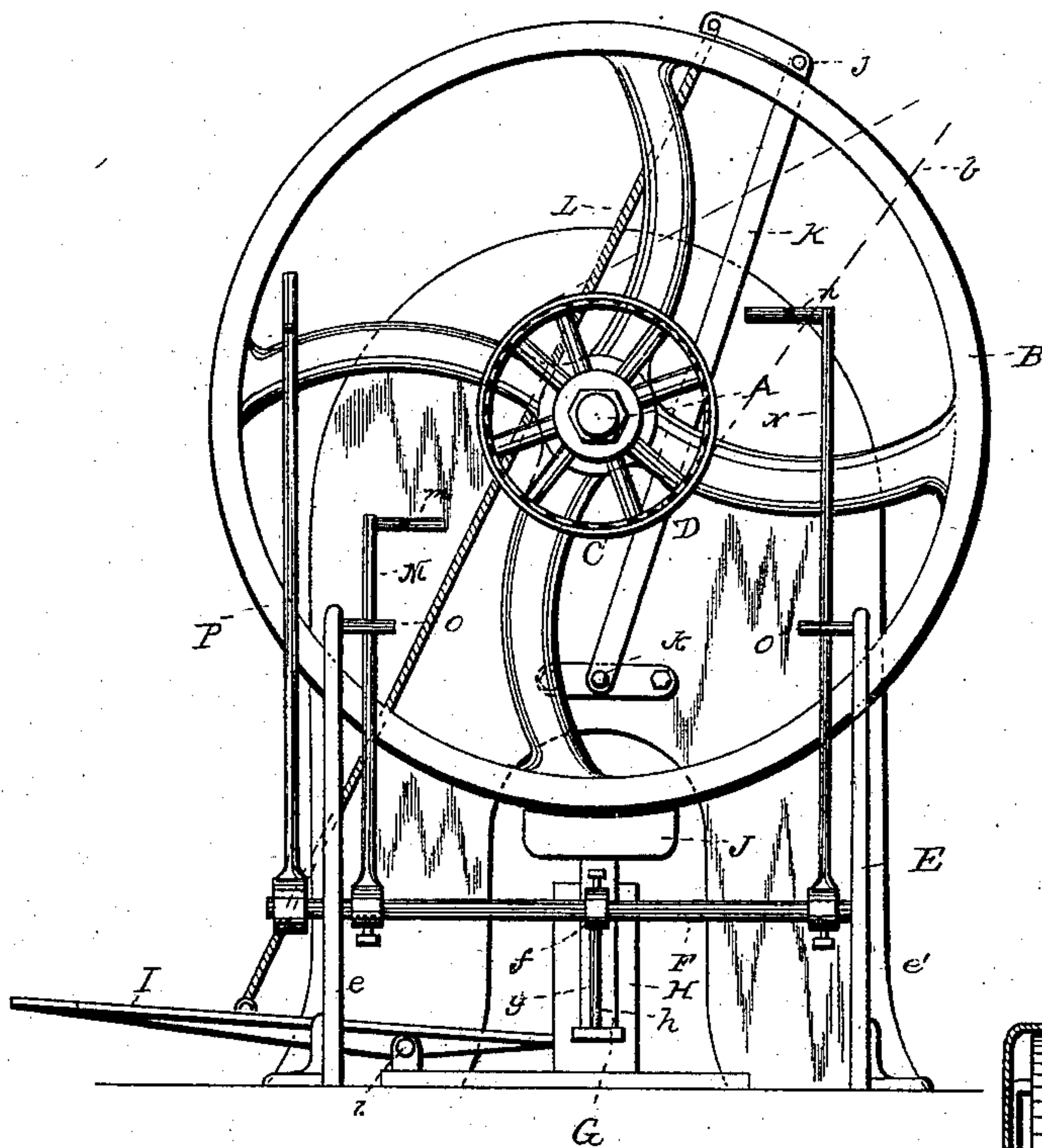


Fig. 1.

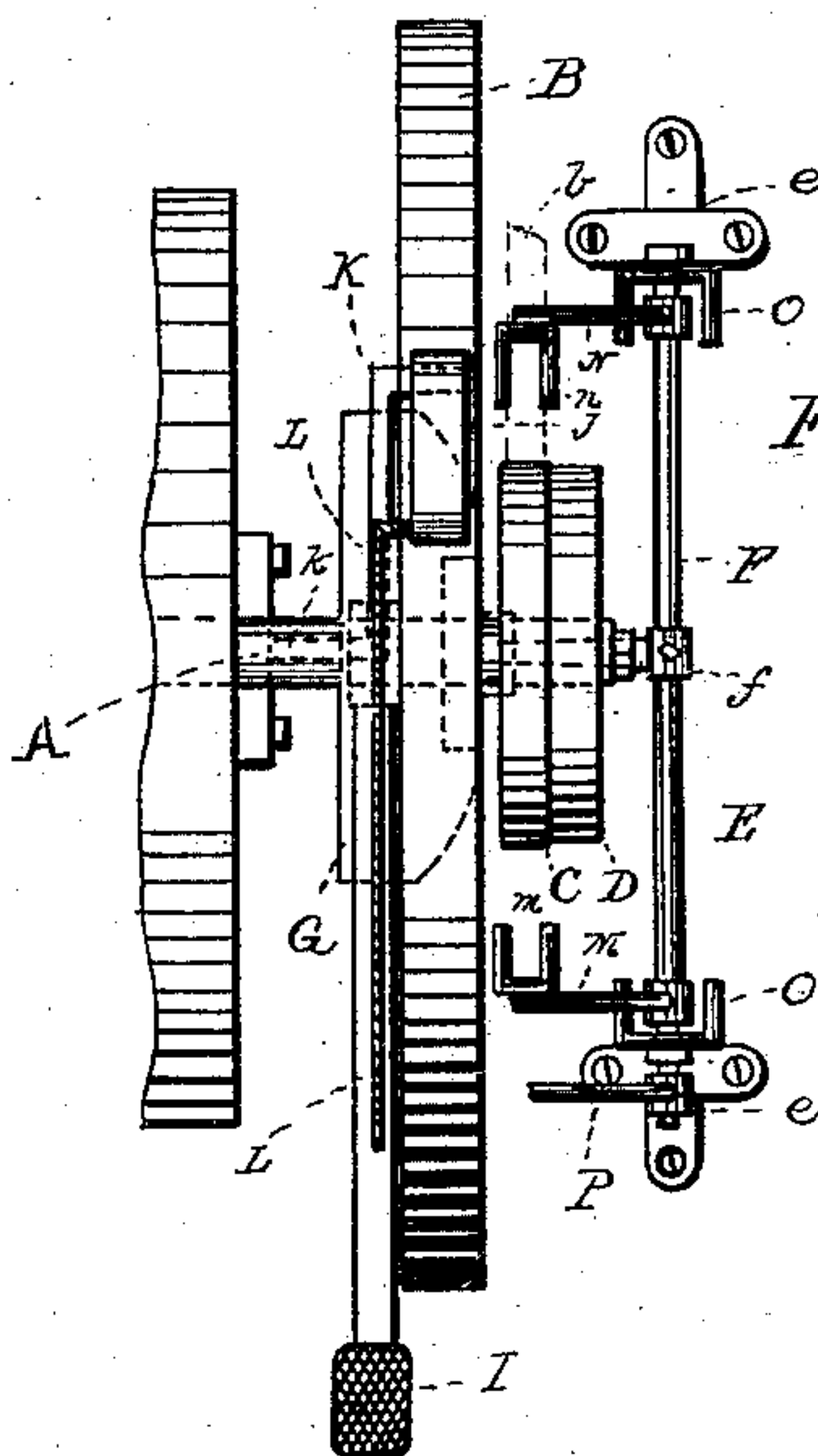


Fig. 2.

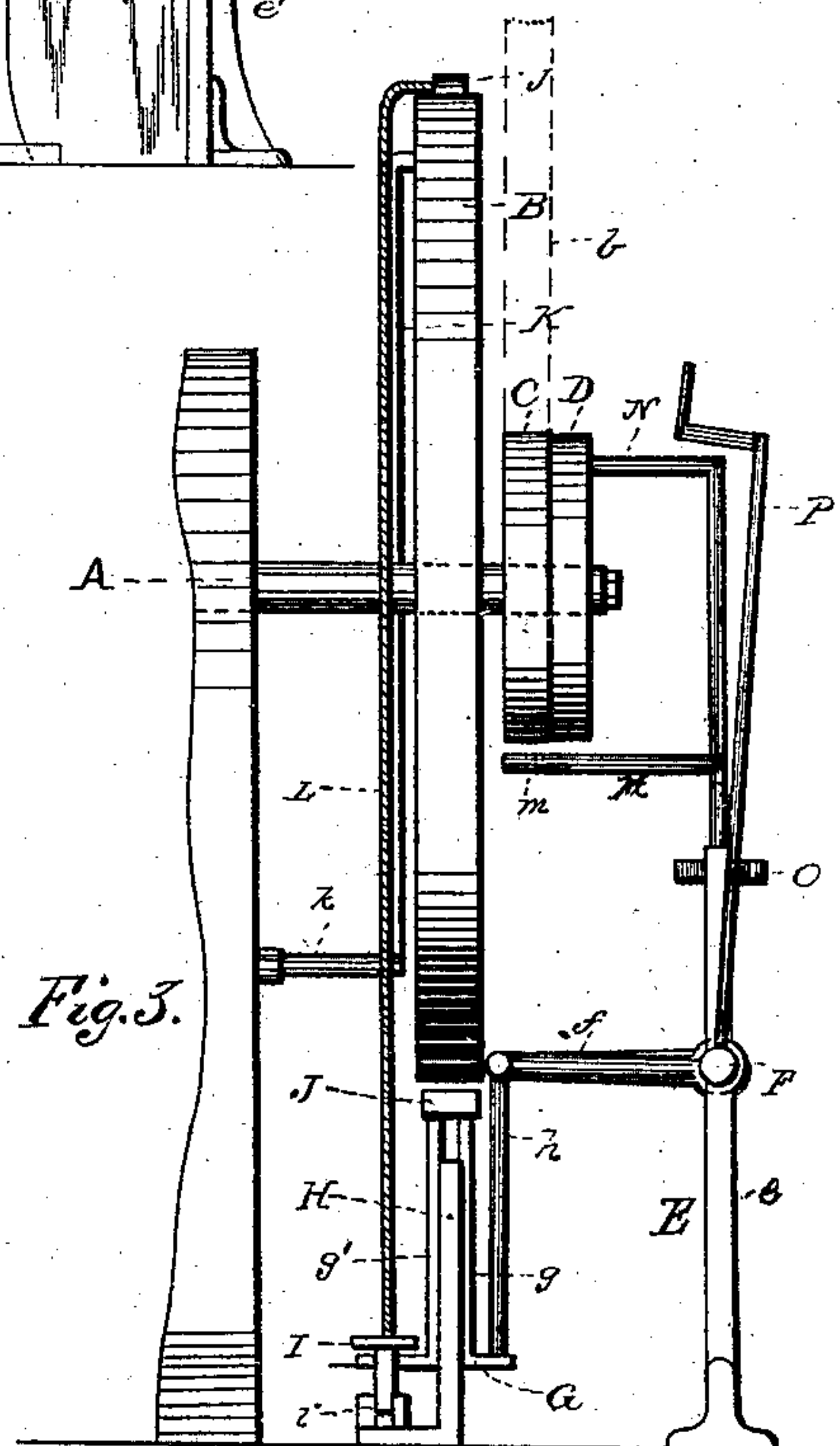


Fig. 3.

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(No Model.)

2 Sheets—Sheet 2.

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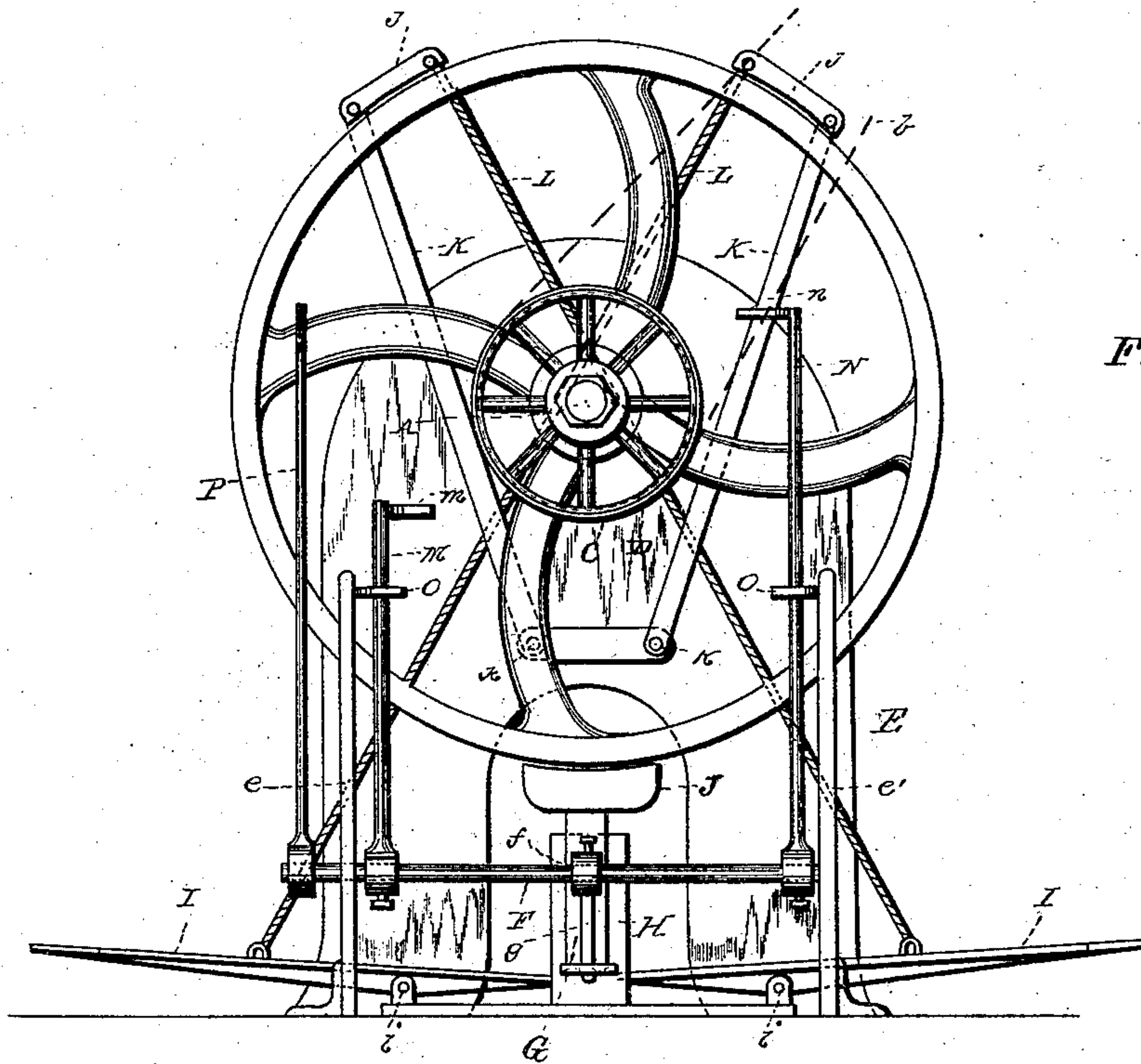


Fig. 4.

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UNITED STATES PATENT OFFICE.

JEREMIAH CASEY, OF NEW YORK, N. Y.

COMBINED BELT-SHIFTER AND BRAKE.

SPECIFICATION forming part of Letters Patent No. 369,228, dated August 30, 1887.

Application filed June 25, 1887. Serial No. 242,510. (No model.)

To all whom it may concern:

Be it known that I, JEREMIAH CASEY, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in a Combined Belt-Shifter and Brake; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is an end view of my improved belt-shifter and brake. Fig. 2 is a top view of same. Fig. 3 is a side view of same. Fig. 4 is a modified view of my improved belt-shifter and brake.

The invention relates to improvements in belt-shifting mechanism; and it consists in the construction and novel combination of parts, as hereinafter set forth.

Referring to the drawings by letter, A designates a shaft having upon it the fly-wheel B, the fixed pulley C, and the loose pulley D, a little less in diameter, preferably, than the fixed pulley, so that the belt *b* will not wear by friction on it when thrown thereon.

E is a frame, the standards *e e'* of which rise on each side of the shaft A, and F is a horizontal rock-shaft having its ends journaled in said standards and an arm, *f*, standing laterally from it and secured thereon by a set-screw, as shown.

G is a vertical frame provided with two side strips, *g g'*, which ride on a vertical standard, H, the base-plate of which is secured to the floor by bolts or other suitable means. The end of the arm *f* is pivoted to the upper end of a link-bar, *h*, having its lower end pivoted to the outstanding foot of the adjacent strip *g*. The opposite strip, *g'*, has its foot loosely connected to the end of the inner arm of the treadle I, pivoted at *i* on the base-plate of the standard H, so that by bearing down on the foot-plate of the treadle the frame G will be elevated, the strips *g g'* moving between guide-strips on the corresponding sides of the standard H.

J is a brake-shoe secured to the cross-piece that unites the upper ends of the strips *g g'*,

and made concave on its face to bear against the rim of the fly-wheel B.

When the treadle is operated, the frame G is raised and the shoe brought to bear on the fly-wheel at the same time that the belt-shifting arms, hereinafter described, move from the fixed to the loose pulley, so as to quickly stop the motion of the shaft.

j is a concave-faced brake-shoe above the fly-wheel, and secured at its lower and outer end to the upper end of a bar, K, the lower end of which is firmly fixed to a rock-shaft, *k*, journaled in a part of the main frame of the machine. The upper and inner end of the brake-shoe *j* is connected by a rope or chain, L, to the outer arm of the treadle, so that when the latter is depressed the brake-shoe will be drawn against the rim of the fly-wheel simultaneously with the shoe J and aid in stopping the rotation of the shaft A.

M and N are the belt-shifter rods, secured at their lower ends upon the shaft F near the journals of the same, respectively. The upper ends of the rods are bent horizontally inward and provided, respectively, with the forks *m* and *n*, the arms of which stand on each side of the belt.

O O are horizontal limiting-bars, which stand inward in pairs from the standards *e e'* on each side of the rods M and N, to restrict the lateral motion of said bars.

When the treadle is depressed, the shaft F is rocked by means of the arm *f* and frame G in such manner as to throw the belt from the fixed or operating pulley upon the loose pulley, the shoes then bearing on the fly-wheel to stop quickly the rotation of the shaft. The fork *m* of the shifter-rod M is below the centers of the pulleys to act on a belt ascending to the pulleys, should such a belt be used, so as to more readily shift it. The fork *n* of the rod N is above said centers to more directly act on a belt descending to the pulleys, when such is used.

P is a lever-handle secured to the outwardly-extended end of the shaft F for the purpose of returning the belt from the loose to the fixed pulley and for releasing the lower brake-shoe, J, from the fly-wheel when again starting the machine.

Fig. 4 shows a modification in which two

opposite treadles, I, are used, each similarly connected to the foot of the corresponding strip, *g'*. Two similar upper brake-shoes are also used, secured identically, and, as described, to the corresponding treadles situated at points equidistant on each side from the vertical diameter of the fly-wheel, and connected with similar rock-shafts, *k*.

Having described my invention, I claim—

10 1. The combination, with the shaft, the fixed pulley, the loose pulley, and the belt, of the treadle, the vertically-reciprocating frame actuated by the inner arm of the treadle, the link-rod secured to said frame, the rock-shaft
15 journaled in the frame E of the belt-shifting mechanism, the arm connecting said shaft and link-rod, the shifting-rods provided with forked upper ends, the arms of which forks stand on each side of the pulleys, and the lever-handle
20 on the rock-shaft, substantially as specified.

2. The combination, with the shaft, fly-wheel, fixed and loose pulleys, and belt, of the treadle, the vertically-reciprocating frame, the brake-shoe secured to said frame, the rock-shaft jour-
25 naled in the frame E, the arm *f*, secured to the rock-shaft and connected to the reciprocating frame by a link-rod, the lever-handle on the rock-shaft, and the belt-shifting rods secured
30 tially as specified.

3. The combination, with the shaft and fly-wheel thereon, of the treadle, the vertically-reciprocating frame, the brake-shoe secured to the upper end of said frame, the rock-shaft, the arm *f*, secured to said shaft and connected to
35 the reciprocating frame by the link-rod, the lever-handle on the rock-shaft, and the brake-shoe above the fly-wheel connected by the bar K to the shaft *k*, journaled in the main frame of the machine and to the outer arm of the
40 treadle by the rope or chain, substantially as specified.

4. The combination, with the shaft, the fixed and loose pulleys, and belt, of the rock-shaft journaled in the frame E, the shifting-rods M
45 and N, provided, respectively, with the forked ends *m* and *n*, the former situated below the centers of the pulleys and the latter situated above the same, and mechanism, substantially
50 as described, for actuating the rock-shaft, as specified.

In testimony whereof I affix my signature in presence of two witnesses.

JEREMIAH CASEY.

Witnesses:

PHILIP C. MASI,
W. V. B. HARRIS.