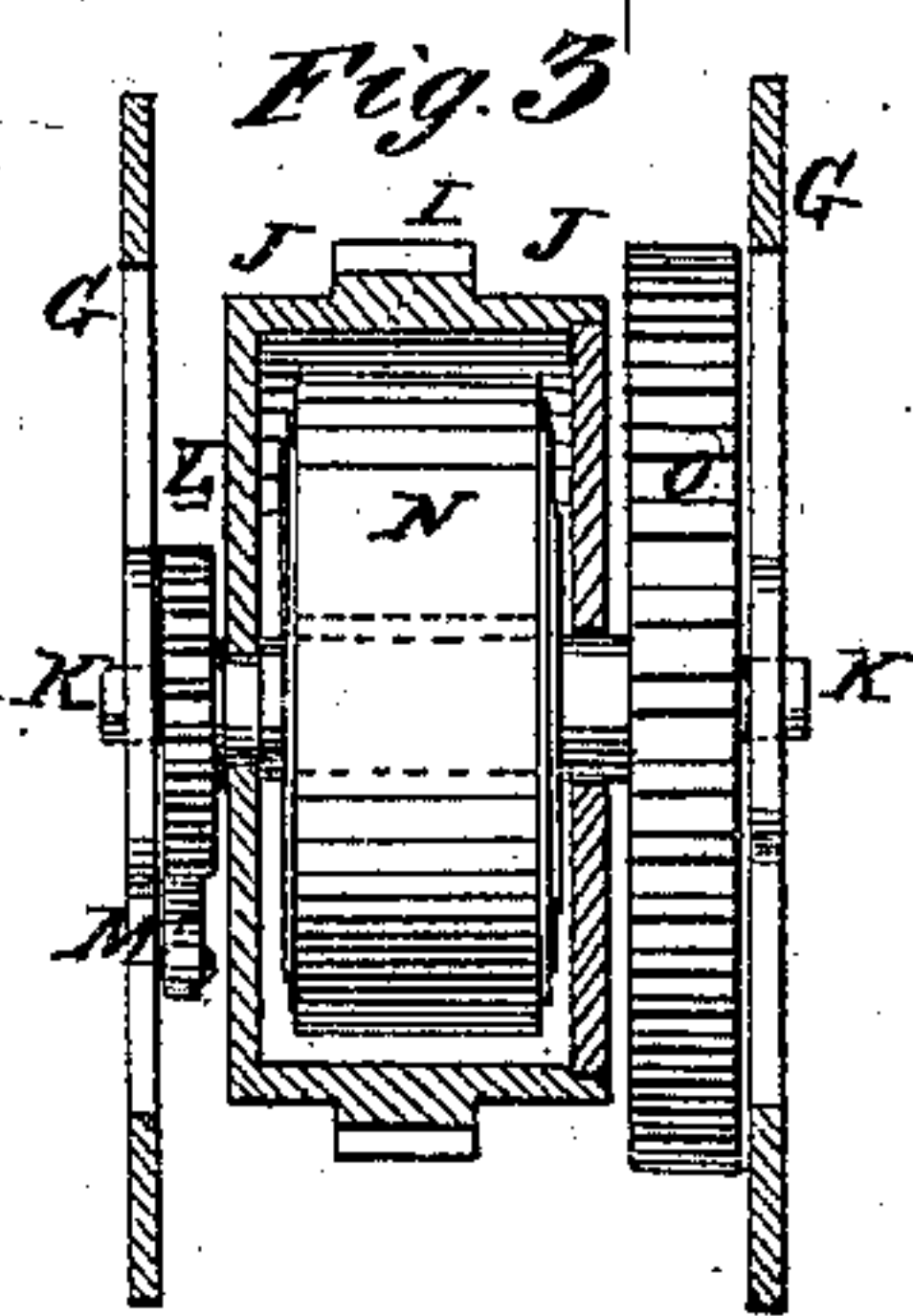
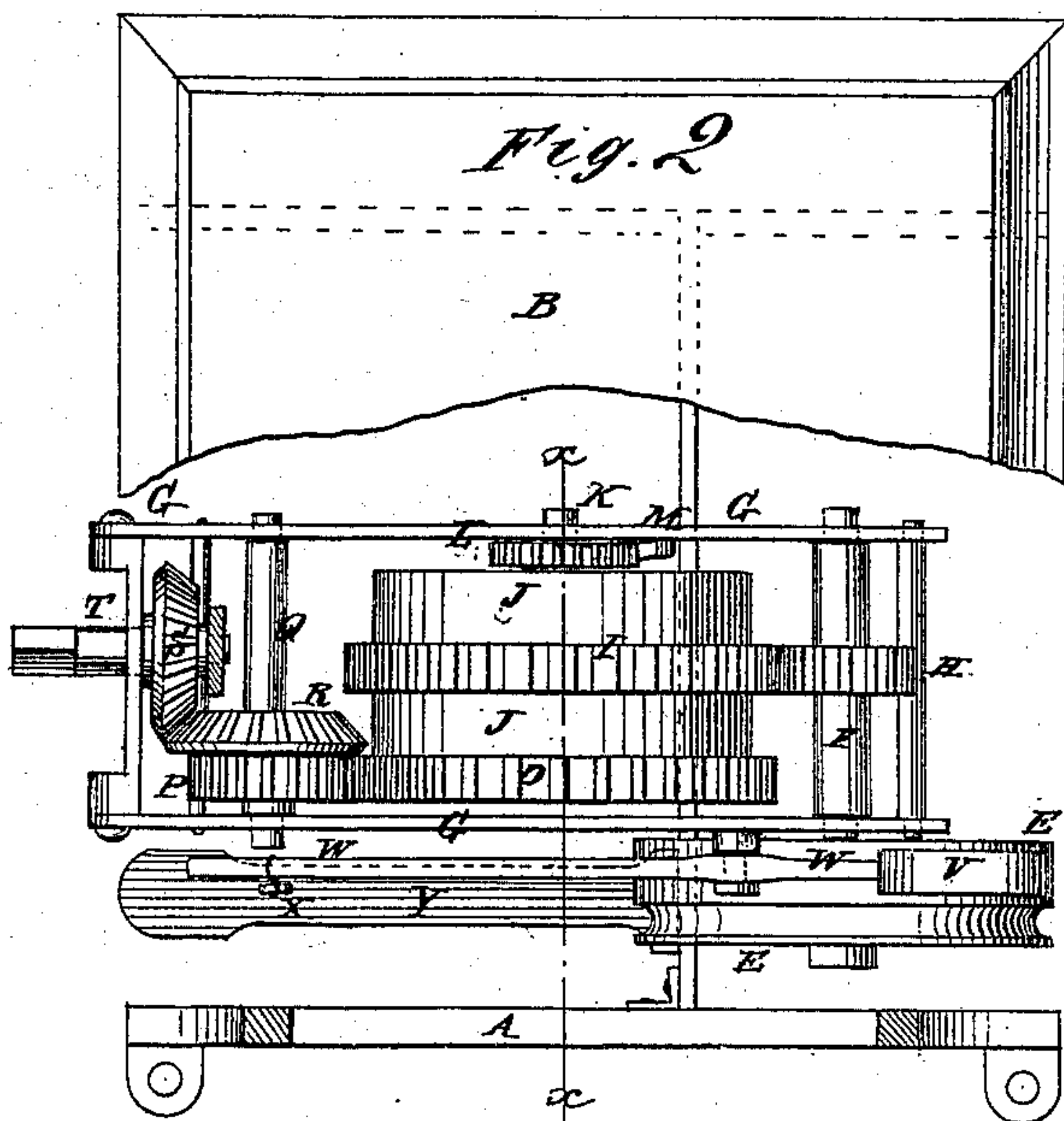
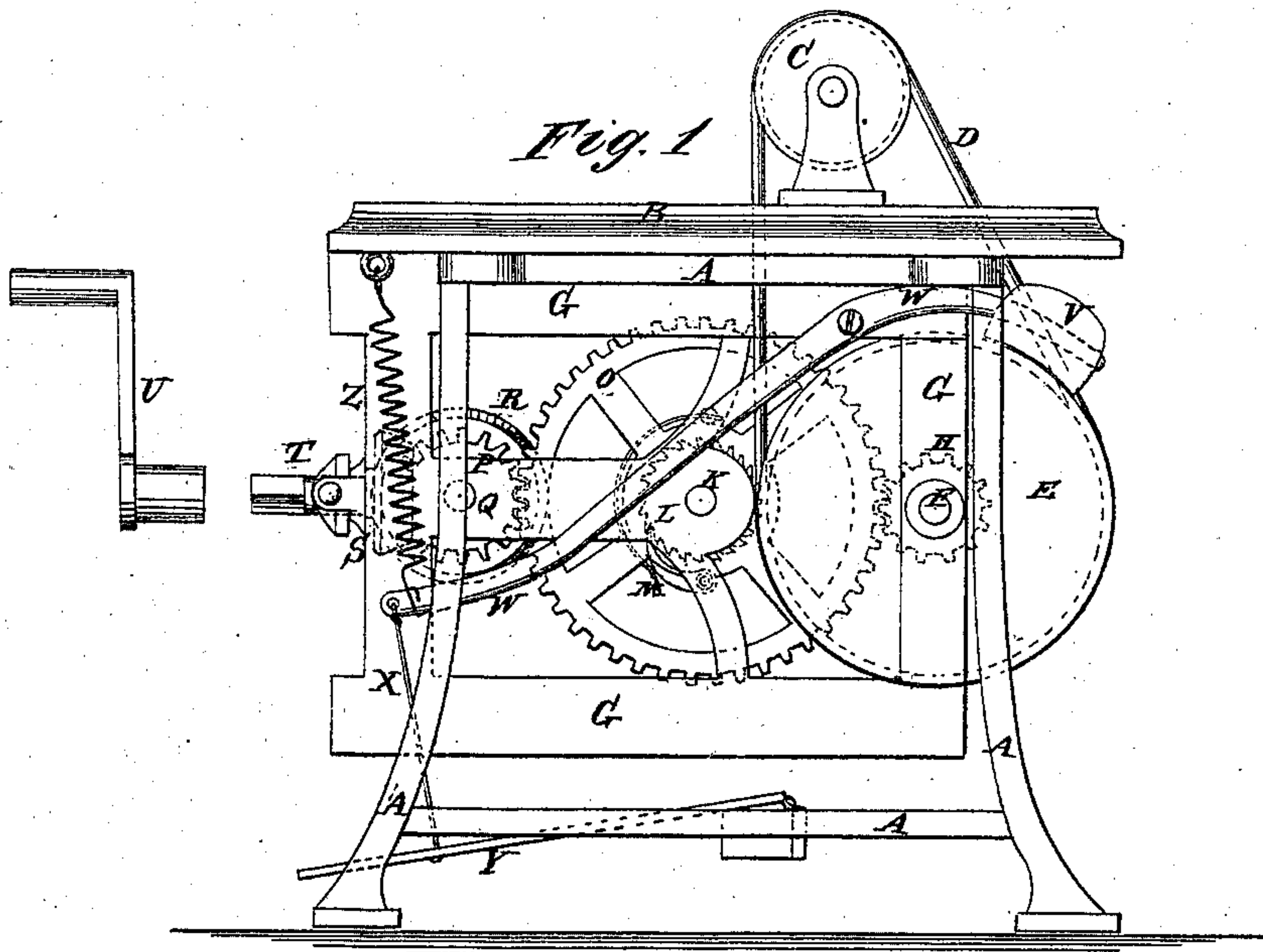


J. CLEVELAND & C. A. TODD.  
Spring-Power for Sewing-Machines.

No. 133,760.

Patented Dec. 10, 1872.



Witnesses:

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# UNITED STATES PATENT OFFICE.

JAMES CLEVELAND, OF WILLIAMSBURG, AND CHARLES A. TODD, OF NEW YORK, N. Y.

## IMPROVEMENT IN SPRING-POWERS FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. 133,760, dated December 10, 1872.

*To all whom it may concern:*

Be it known that we, JAMES CLEVELAND, of Williamsburg, in the county of Kings and State of New York, and CHARLES A. TODD, of the city, county, and State of New York, have invented a new and useful Improvement in Spring-Power for Sewing-Machines, of which the following is a specification:

Figure 1 is a side view of a sewing-machine table to which our improved spring-power has been applied. Fig. 2 is a top view of the same, part of the table-leaf being broken away. Fig. 3 is a detail vertical section of the same taken through the line *x x*, Fig. 2.

Similar letters of reference indicate corresponding parts.

Our invention has for its object to furnish an improved spring-power for driving a sewing-machine, which shall be simple in construction, convenient in use, and effective in operation, driving the machine at any desired velocity, and which shall be so constructed that the tension may be readily kept upon the spring, so that the machine may be run continuously for any desired length of time; and it consists in the combination of the spring, drum, gear-wheels, and land-wheel with each other and with the driving-wheel of a sewing-machine; in the combination of the gear-wheels and squared shaft with the spring, drum, gear-wheels, and band-wheel; and in the combination of the brake-shoe, brake-lever, connecting-rod, treadle and spring, with the band-wheel E that gives motion to the drive-wheel of a sewing-machine, and which is driven by the spring, drum, and gear-wheels, as hereinafter more fully described.

A represents the frame-work, and B represents the top of a sewing-machine table, about the construction of which parts there is nothing new. C represents the ordinary driving-wheel of a sewing-machine, around which passes a band, D, which also passes around a groove formed in the wide wheel or drum E, which is attached to the shaft F. The shaft F revolves in bearings in a frame, G, attached to the frame A. To the shaft F is attached a small gear-wheel, H, the teeth of which mesh into the teeth of the large gear-wheel I, formed upon or attached to the drum J, which revolves upon the shaft K. The shaft K revolves in bear-

ings in the frame G, and to it is attached a ratchet-wheel, L, upon the teeth of which takes hold the spring-pawl M, connected with the frame G, so that the said shaft K cannot turn back, but may be turned forward freely to wind up the spring N. The spring N is coiled within the drum J, and one of its ends is attached to the said drum J, and its other end is attached to the shaft K. To the shaft K is also attached a large gear-wheel, O, into the teeth of which mesh the teeth of the small gear-wheel P attached to the shaft Q, which revolves in bearings in the frame G. To the shaft Q, or to the gear-wheel P, is attached a small bevel-gear wheel, R, into the teeth of which mesh the teeth of the small bevel-gear wheel S attached to the shaft T, which revolves in bearings in the frame G. The outer end of the shaft T projects, and is squared off to receive the crank or key U, by which the spring N is wound up. By this arrangement the operator can, by giving an occasional turn to the crank U with one hand, while the other hand guides the work, keep the spring N coiled so that the machine can be run continuously for any desired length of time. V is the brake-shoe that bears upon the face of the drum E, and which is attached to the end of the lever W. The lever W is pivoted to the frame G, and to its other end is attached the upper end of the connecting rod or chain X, the lower end of which is attached to the treadle or foot-lever Y. To the end of the lever W is also attached the lower end of a coiled-wire spring, Z, the upper end of which is attached to the table-top B, or to the frame A. By this construction the spring Z applies the brake-shoe V to the wheel E with sufficient force to hold it against the force of the spring N.

The operator, to set the machine in motion, has only to bear down with her foot upon the treadle Y; and to keep the machine in motion she has only to give the crank a few turns occasionally. The velocity of the machine is regulated by allowing the brake-shoe V to bear with greater or less force upon the wheel E.

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

1. The combination of the spring N, drum J, gear-wheels I H, and band-wheel E, with



each other and with the driving-wheel C of a sewing-machine, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the gear-wheels O P R S and squared shaft T with the spring N, drum J, gear-wheels I H, and band-wheel E, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the brake-shoe V, brake-lever W, connecting-rod X, treadle Y, and spring Z with the band-wheel E that gives

motion to the drive-wheel of a sewing-machine, and which is driven by the spring N, drum J, and gear-wheels I H, substantially as herein shown and described, and for the purpose set forth.

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