

N. U. METZ.
SPEED REGULATOR.

No. 178,943.

Patented June 20, 1876.

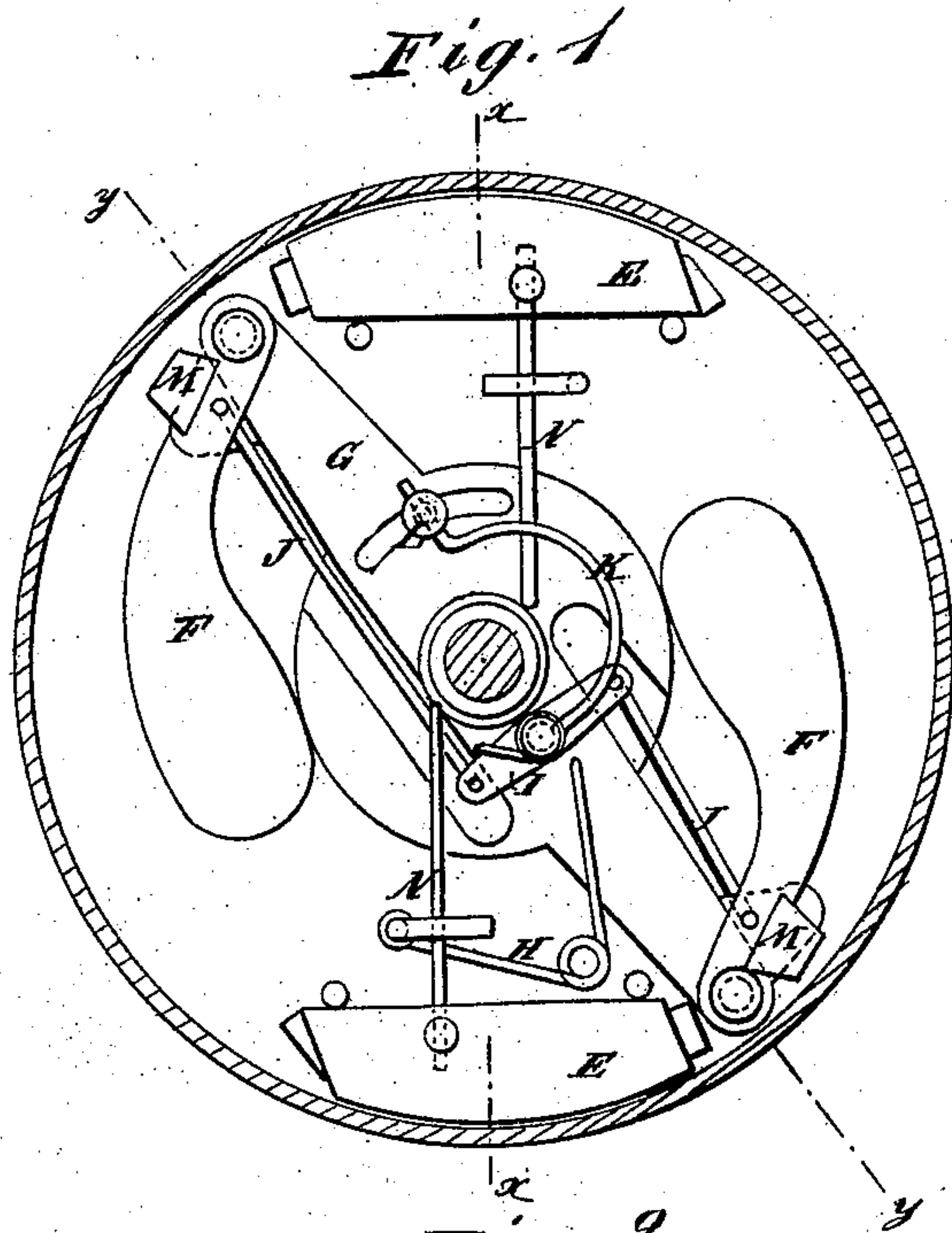
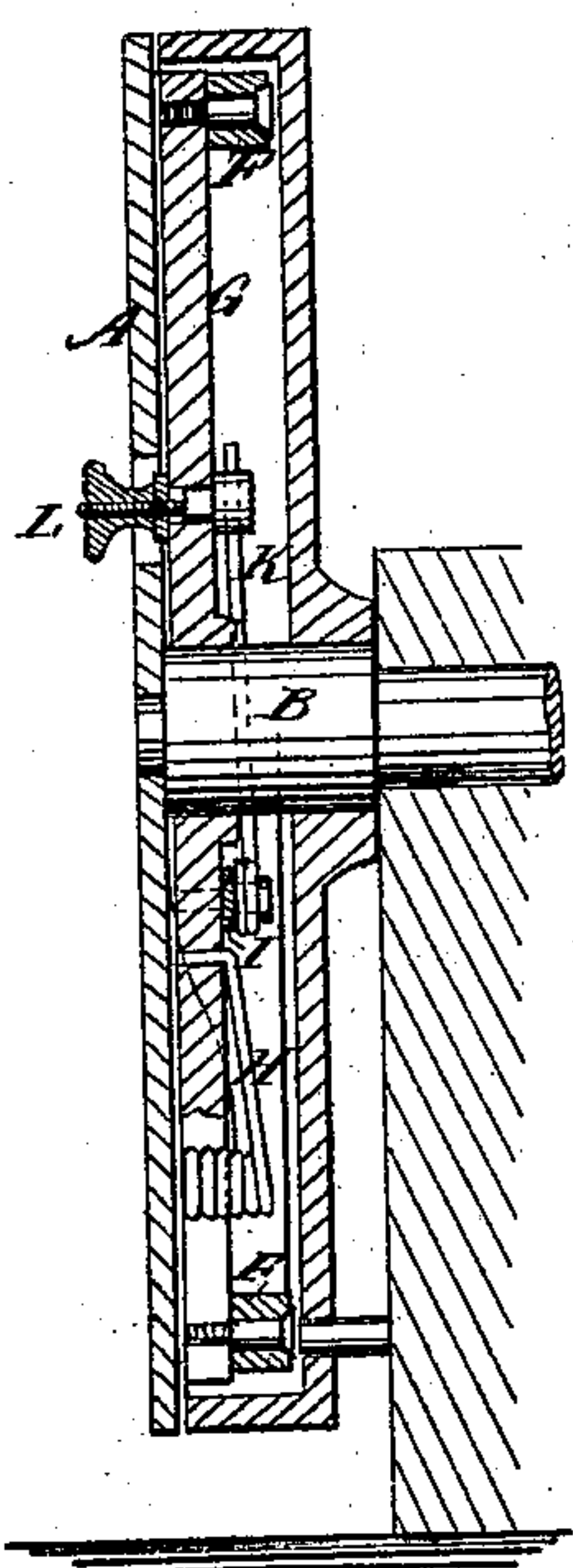
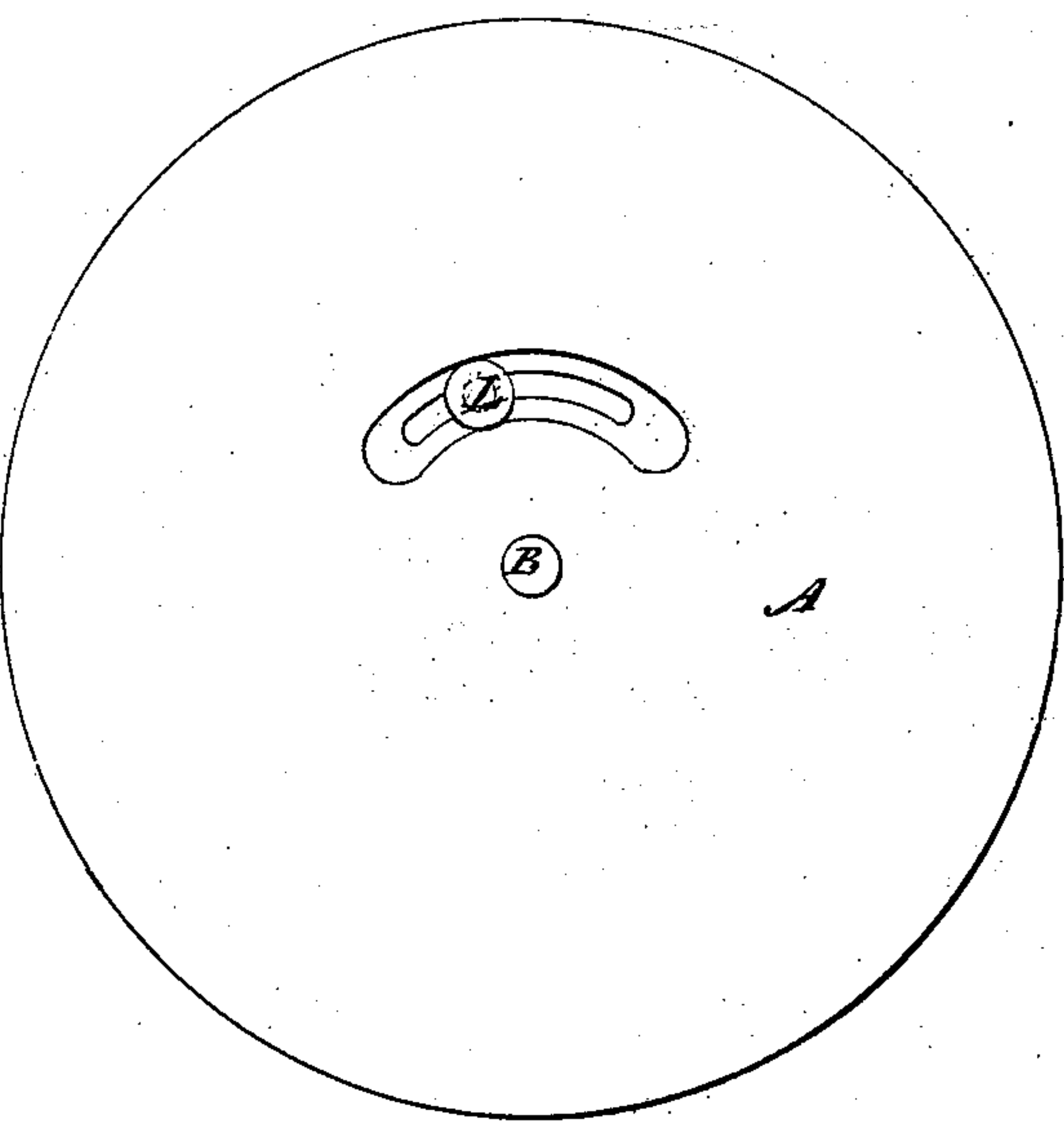
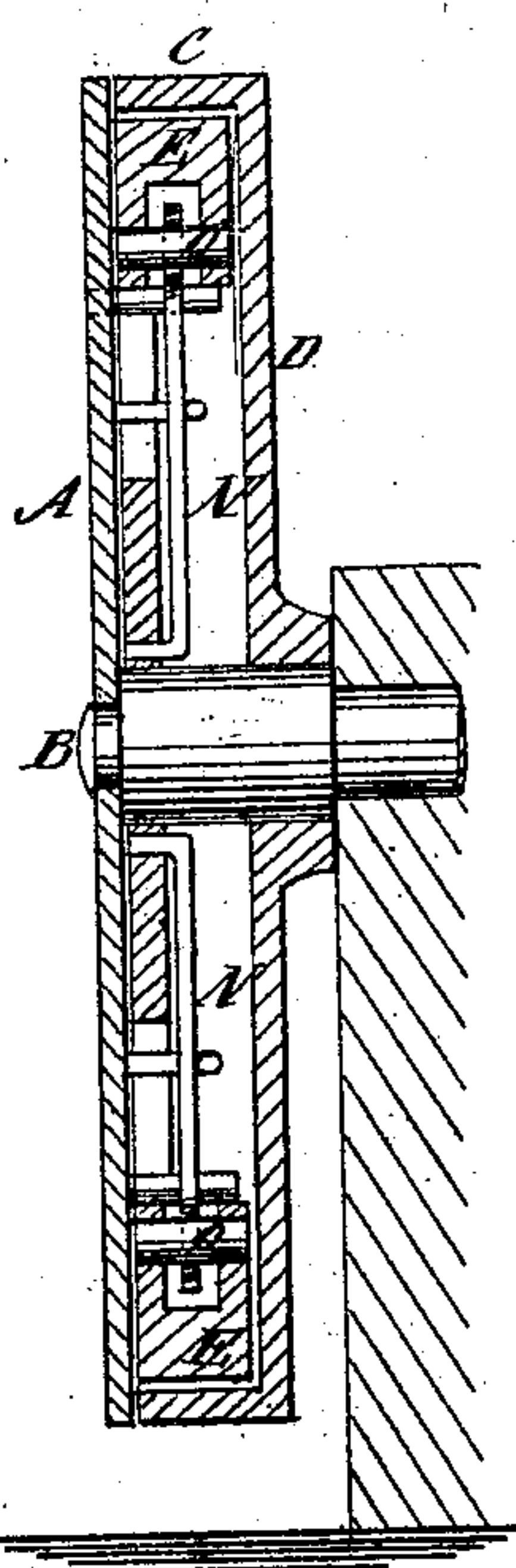


Fig. 3

Fig. 2

Fig. 4



WITNESSES:

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UNITED STATES PATENT OFFICE.

NATHANIEL U. METZ, OF NORRITONVILLE, PENNSYLVANIA.

IMPROVEMENT IN SPEED-REGULATORS.

Specification forming part of Letters Patent No. **178,943**, dated June 20, 1876; application filed February 28, 1876.

To all whom it may concern:

Be it known that I, NATHANIEL U. METZ, of Norritonville, in the county of Montgomery and State of Pennsylvania, have invented a new and Improved Speed-Regulator, of which the following is a specification:

My invention consists of a disk on the driving-shaft to be regulated, carrying a pair of centrifugal weights, which are thrown out against the flange of a stationary disk, the friction of which is made to move out brake-shoes with great force against the flange, to arrest the motion of the shaft in case the belt runs off, or the engine or other power runs too fast for any cause.

Figure 1 is a section through the flange of the stationary-disk. Fig. 2 is a front elevation of the regulator. Fig. 3 is a sectional elevation of Fig. 1, taken on line *xx*; and Fig. 4 is a section on line *yy*.

Similar letters of reference indicate corresponding parts.

A represents the disk, which revolves with the driving-shaft B. C is the flange of the stationary disk D, on which the brake-shoes E are made to work by the centrifugal levers F, which are pivoted to the outer ends of bar G, which revolves with disk A, but is free to fall back a little, being fitted loosely on the shaft and connected to the disk by the spring H. The levers are connected to rock-lever I on bar G by rods J, and the rock-lever has a spring, K, and an adjusting-stud, L, by which it is set so as to hold the levers with more or less force against their tendency to fly outward, thus adjusting them for different speeds. The centrifugal levers have a brake-pad, M, which touches the flange C when the

limit of speed is reached, and the friction thus caused makes bar G turn back on shaft B relatively to the speed of disk, which throws out the brakes E by the rods N with great force, so that the machine cannot race, even though the whole load be instantaneously disconnected. When the pads M come in contact with the flange their friction keeps the levers out, when the motion falls below that necessary to bring them out in the first place.

The shoes E are contrived so as to slide to and from the flanges and make the contact of the whole of bearing-surface, and the rods N are connected to them by screwing in and out of a stud, O, to compensate for the wear on the face.

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

1. In speed regulators, the bar G, having the pivoted weights at each end, connected with the revolving disk A by a spring, H, and placed loosely on shaft, as and for the purpose specified.

2. The spring K, adjusting-stud L, rock-lever I, and rods J, in combination with the centrifugal levers F and bar G, substantially as specified.

3. The combination of brakes E and rods N with the bar G, centrifugal levers F, stationary disk D C, and the revolving disk A, substantially as specified.

NATHANIEL U. METZ.

Witnesses:

T. B. MOSHER,

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