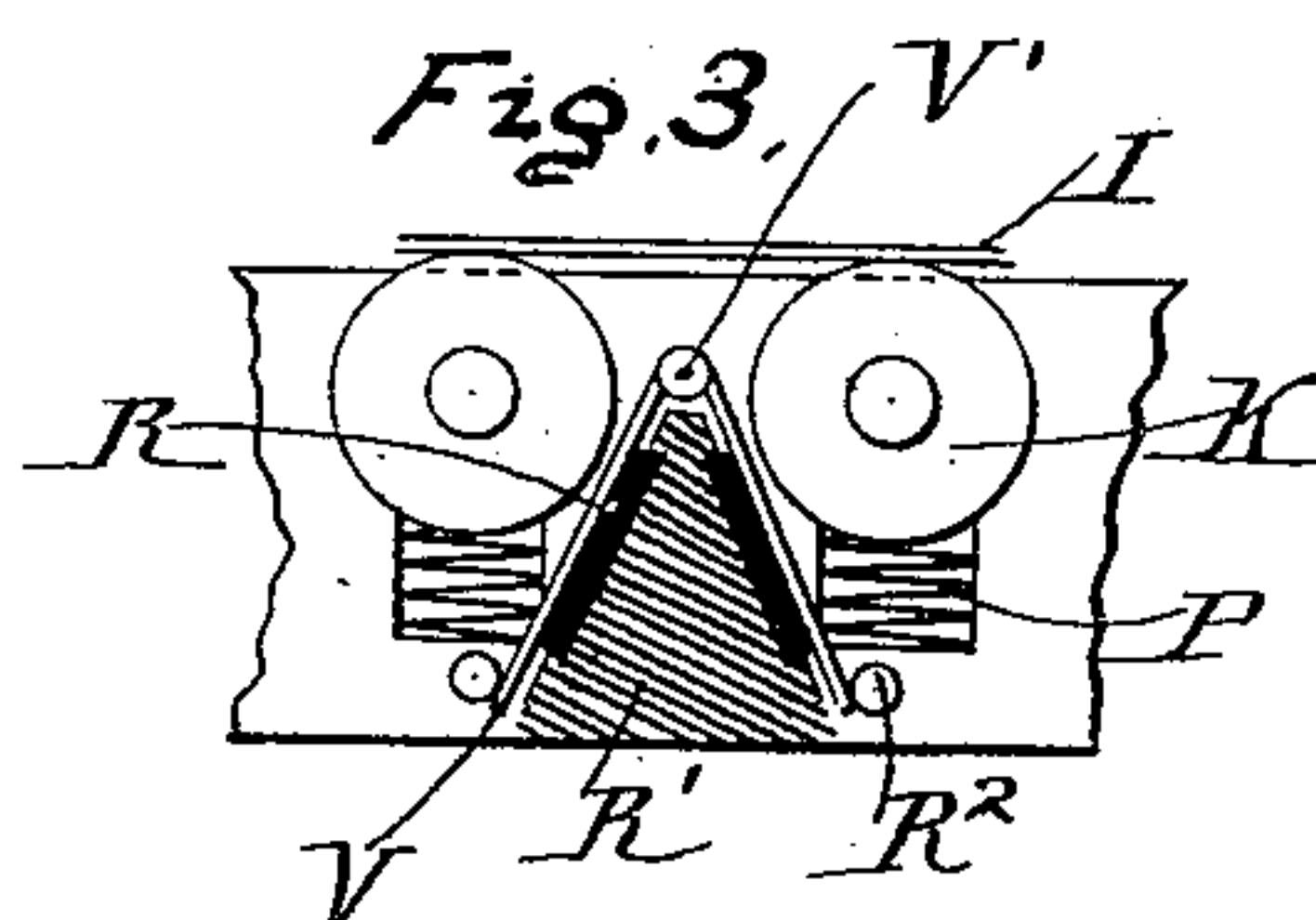
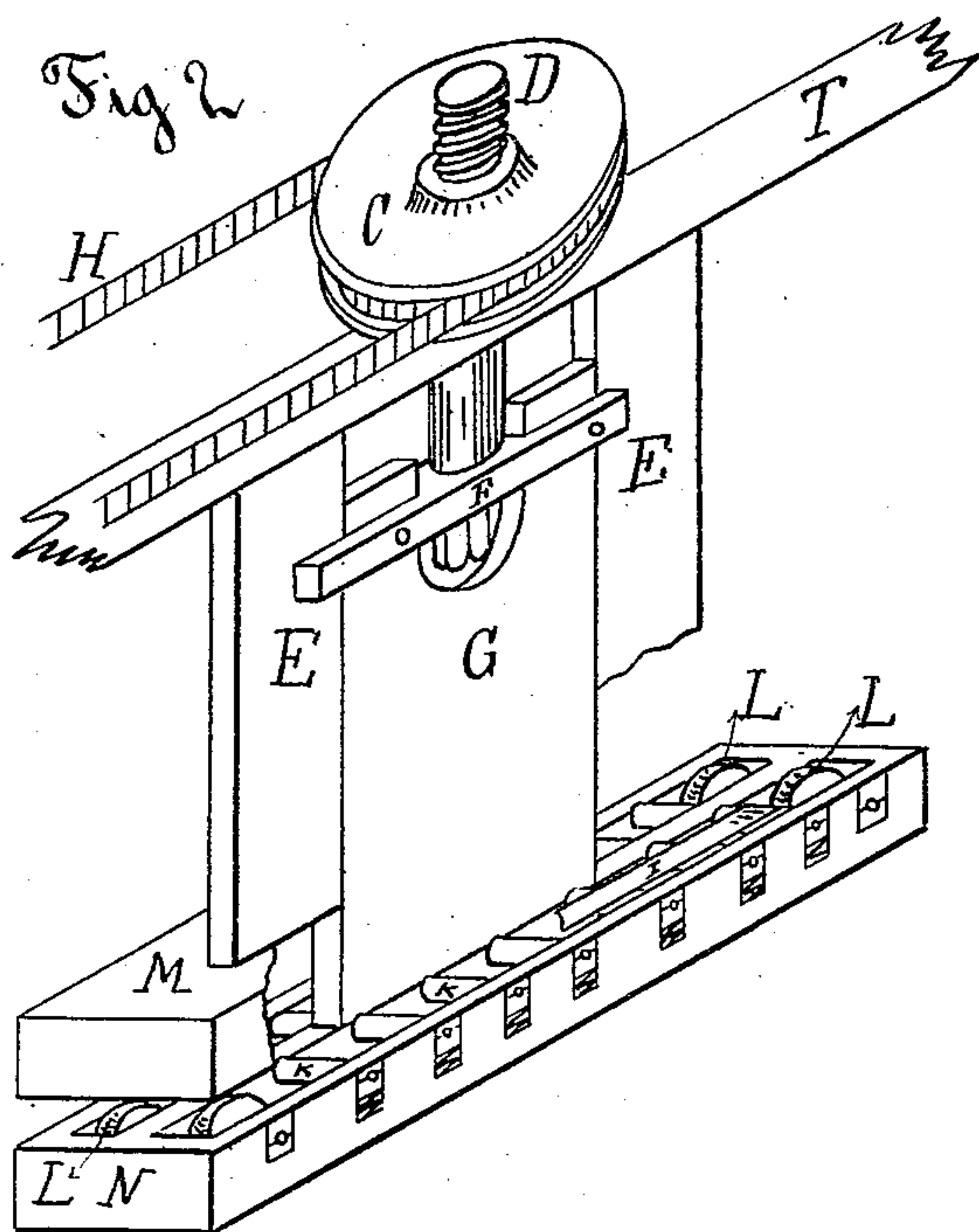
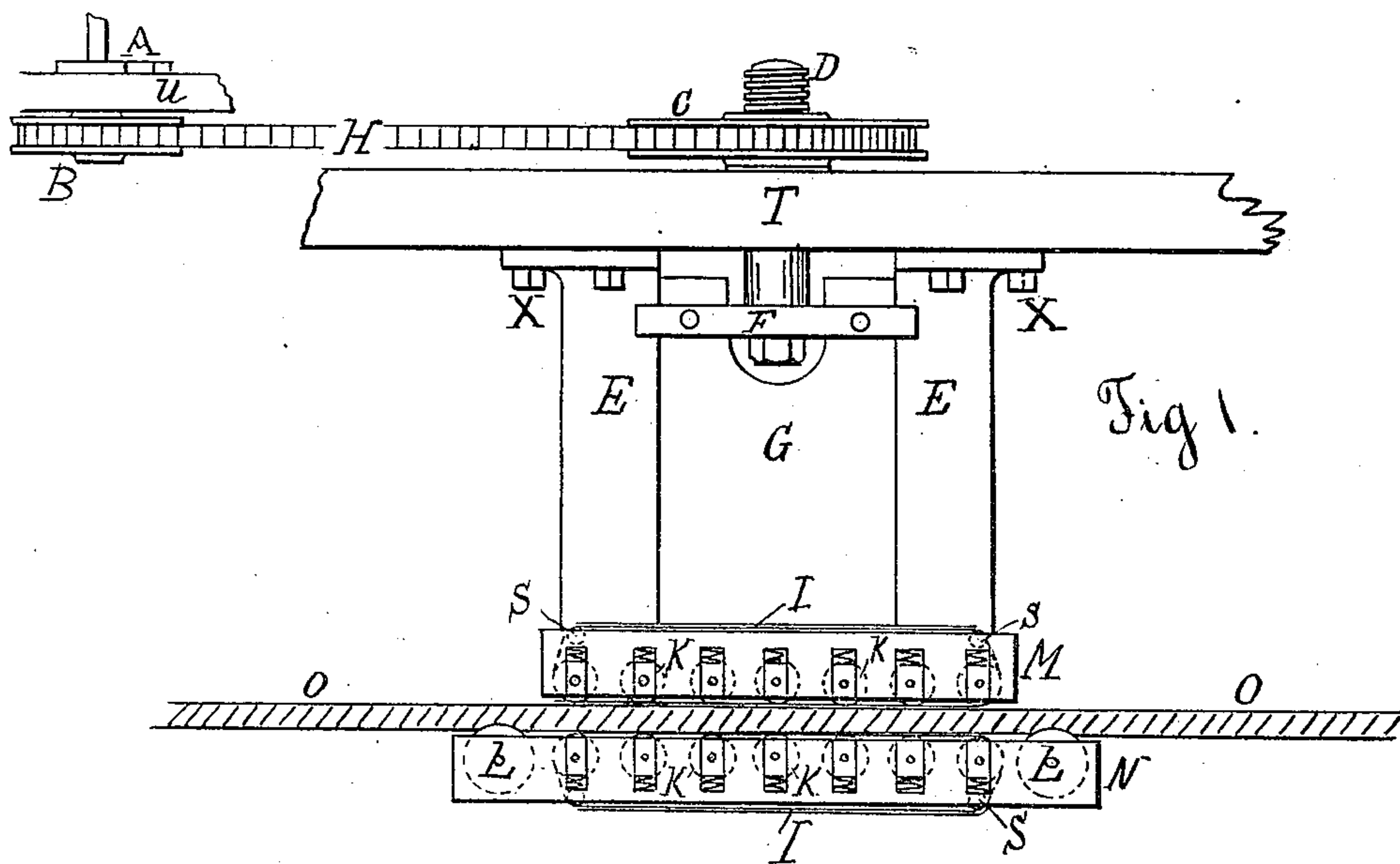


(No Model.)

C. W. RASMUSEN.
GRIP FOR CABLE RAILROADS.

No. 266,521.

Patented Oct. 24, 1882.



Witnesses
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UNITED STATES PATENT OFFICE.

CHARLES W. RASMUSEN, OF CHICAGO, ILLINOIS.

GRIP FOR CABLE RAILROADS.

SPECIFICATION forming part of Letters Patent No. 266,521, dated October 24, 1882.

Application filed December 3, 1881. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. RASMUSEN, of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Grips for Cable Railways, of which the following is a full, clear, and exact description.

My invention relates to certain improvements in that class of grips used in connection with cable railways, which are attached to a car or dummy for the purpose of connecting it with or disconnecting it from a constantly-moving cable, said grip extending through a slot into a tunnel or tube in which the cable runs, and gripping or releasing the cable to propel or stop the car.

It has heretofore been difficult, I believe, in grips of the ordinary construction, for the driver or operator to apply the grip gradually enough to prevent sudden jerks and shocks to the car and wear and strain upon the cable when starting the car. It has also been difficult to prevent the wear on the cable caused by the friction of the cable against the gripping-jaws when starting the car and when it is necessary that it should move at a less speed than the cable—as, for example, when a wagon or other vehicle is being driven slowly in front of the car.

The object of my invention is to provide an improved gripping apparatus for connecting the car or dummy with the cable, of suitable construction, gradually starting the car or dummy and relieving or avoiding the strain and shock incident to the starting of a car or dummy from a standstill instantaneously into full motion, and to obviate the wear on the cable when starting the car or dummy, or when the same is running at a less speed than the cable. This object of my invention I attain by the improved mechanism hereinafter fully described, and particularly pointed out in the claims and illustrated in the accompanying drawings, forming part of this specification.

Figure 1 is a side elevation of my improved cable-grip. Fig. 2 is a perspective view of the same, a portion being broken away. Fig. 3 is a side view of a portion of the lower jaw, the side of such portion being removed for the better illustration of the rollers and brake mechanism.

In the several figures of the drawings like letters of reference indicate corresponding parts.

T designates the cross-beam on the bottom of the car or dummy, upon the platform of which is placed the usual winding-post, A, having a hand-wheel (not shown) and a pawl and ratchet. To the lower end of this winding-post is attached a sprocket-wheel, B, from which there extends an endless sprocket-chain, H, to the screw sprocket-wheel C, which fits on the screw-shaft D, attached by means of the yoke F to the head G of the movable or sliding jaw N. The ends of the yoke F fit over and travel upon the arms E, attached to the cross-beams T by bolts X and sustaining the fixed jaw M. The jaws M and N are each divided by a central plate, the central plate of the upper jaw, M, being cut away or channeled out to permit the passage of the head G, which is connected to the central plate of the jaw N. Since the central plate of the upper jaw is thus channeled for the passage of the head of the lower jaw, such central plate must be of sufficient width not only to furnish a channel for the head G, but also to leave side supports for the journals of the rollers.

Between the sheaves or rollers K are placed the brake-surfaces, or mechanism consisting preferably of brake-plates V, hinged at their tops or connected ends to the pins V'. These brake-plates rest upon the rubber cushions R, set into the lugs or cross-pieces R', attached to or cast with the side portions of the gripping-jaws. By means of these rubber cushions an elastic or yielding action is given to the brake-plates. Connected to the sides of the jaws at the end of the brake-plates are the stops R², which serve to retain the plates in their proper position. Each of the jaws M and N is furnished with two sets of the sheaves or rollers K preferably, which are held upon journal-bearings seated within recesses in the sides of the jaws and their central plates, and are acted upon by the springs P. I have shown each of the jaws provided with the sheaves or rollers, as such construction will, I believe, best accomplish the purpose of my invention. My object in providing a double set of these rollers on each jaw is to enable the cable to be readily transferred from one to the other when desirable. The sheaves or rollers K may be

made either plane or concaved, so as to conform to the cable, and the friction-surfaces or brake-plates may be correspondingly flat or convexed to fit the rollers.

5 Over the rollers K and suitable idlers, S, journaled in the jaws, pass the endless belts I, against which bears the cable O. These belts may be constructed of a flat wire rope or chain covered with rubber or leather, if desired, and formed to fit the cable; or they may
10 be made of leather or rubber alone, or of other suitable material. The belts furnish an even and soft surface for the cable, and serve effectively to diminish the friction and consequent
15 wear of the same.

In the ends of the lower jaw, N, beyond the ends of the upper jaw, M, friction-rollers L are journaled in such manner as to project above the sheaves or rollers K and the endless belts
20 I, and to sustain the cable O when not clamped by the gripping-jaws.

While I have described with particularity what I believe to be the best manner of embodying my invention, I wish it distinctly understood that I do not propose to limit myself
25 to the exact construction set out, for it is obvious that it may be extensively modified without departing from the spirit of my invention. Thus I do not propose to confine myself to any
30 certain kind of brake in combination with the rollers, all that is necessary being that there shall be a friction-surface placed in such relation to the rollers that the action of closing the gripping-jaws upon the cable shall cause contact between such friction-surface and the
35 sheaves or rollers, and thus gradually arrest the rotation of the latter. So, also, the endless belts may prove advantageous, whether the remaining features of my invention be or be not
40 used in connection therewith.

I am aware that it has been heretofore proposed to construct a clutch for cable-cars consisting of a pulley, a foot for holding the rope to the pulley, and a brake upon the opposite
45 side of the pulley from the foot, the said parts being arranged in such relation that a pressure of the brake upon the periphery of the pulley clamps the rope, and this therefore I do not claim.

50 I do not wish to be understood as claiming broadly in this case the combination, with the grip, of mechanism to operate the same from either end of the car, nor the combination, with the gripping-jaws, of a band or belt passing
55 over the same, as said subjects are reserved by

me to form the subject-matter of another application.

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

1. A grip for traction-cables, having its vertically-sliding jaw provided with a double set of oblong recesses, and with a series of sheaves or rollers loosely journaled therein, and having
60 brake mechanism, substantially as described, arranged above the series of rollers and in such relation thereto that the action of clamping the cable will force the rollers against the brake mechanism, as set forth.

2. A grip for traction-cables, having gripping jaws, one, at least, of which is provided with spring-seated sheaves or rollers, and with a friction-surface or brake mechanism in such relation to said sheaves or rollers that the action of gripping the cable will force said rollers
70 against the friction-surface, substantially as described.

3. The combination, with the sheaves or rollers of a cable-grip, of elastic brake mechanism, substantially as described.

4. A grip for traction-cables, having gripping-jaws, one, at least, of which is provided with sheaves or rollers loosely journaled therein, and with elastic brake mechanism affixed thereto, substantially as described.

5. In a grip for traction-cables, the combination, with the gripping-jaws, of loosely-journaled sheaves or rollers and a band or belt passing over the same, substantially as described.

6. A grip for traction-cables, having gripping-jaws, one, at least, of which is provided with rollers, and with a belt passing over said rollers, and with a friction-surface or brake mechanism, substantially as described.

7. In a cable-grip having a rigid and a movable jaw, the combination, with the movable jaw, of a screw-shaft, a screw-wheel, and mechanism extending to and connecting said wheel with the winding-post of the car, substantially
90 as described.

8. The combination, with the cable-grip, of the screw-shaft D, the sprocket-wheel C, the endless chain H, the winding-post A, and the sprocket-wheel B, substantially as described.

CHARLES W. RASMUSEN.

Witnesses:

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