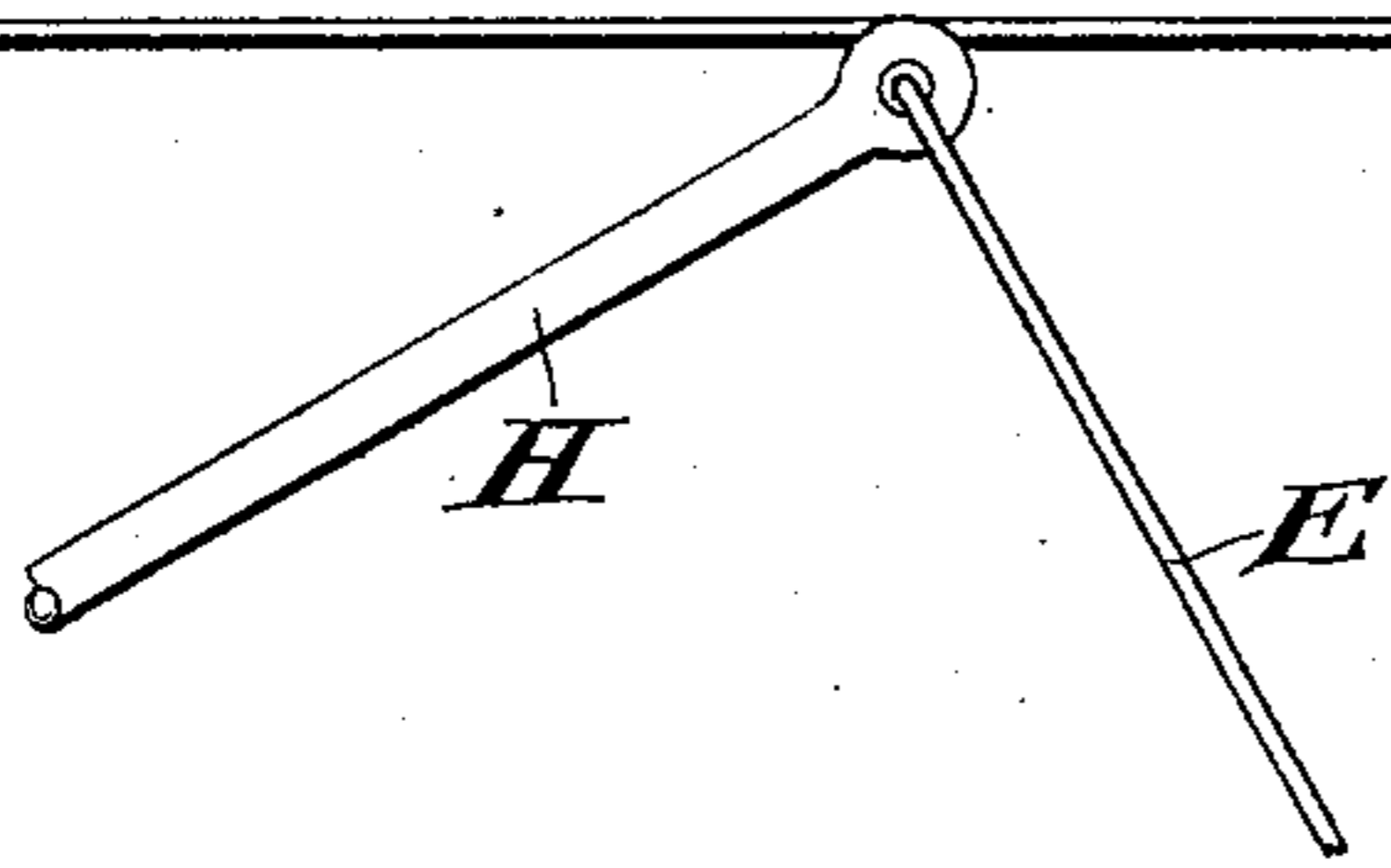


(No Model.)

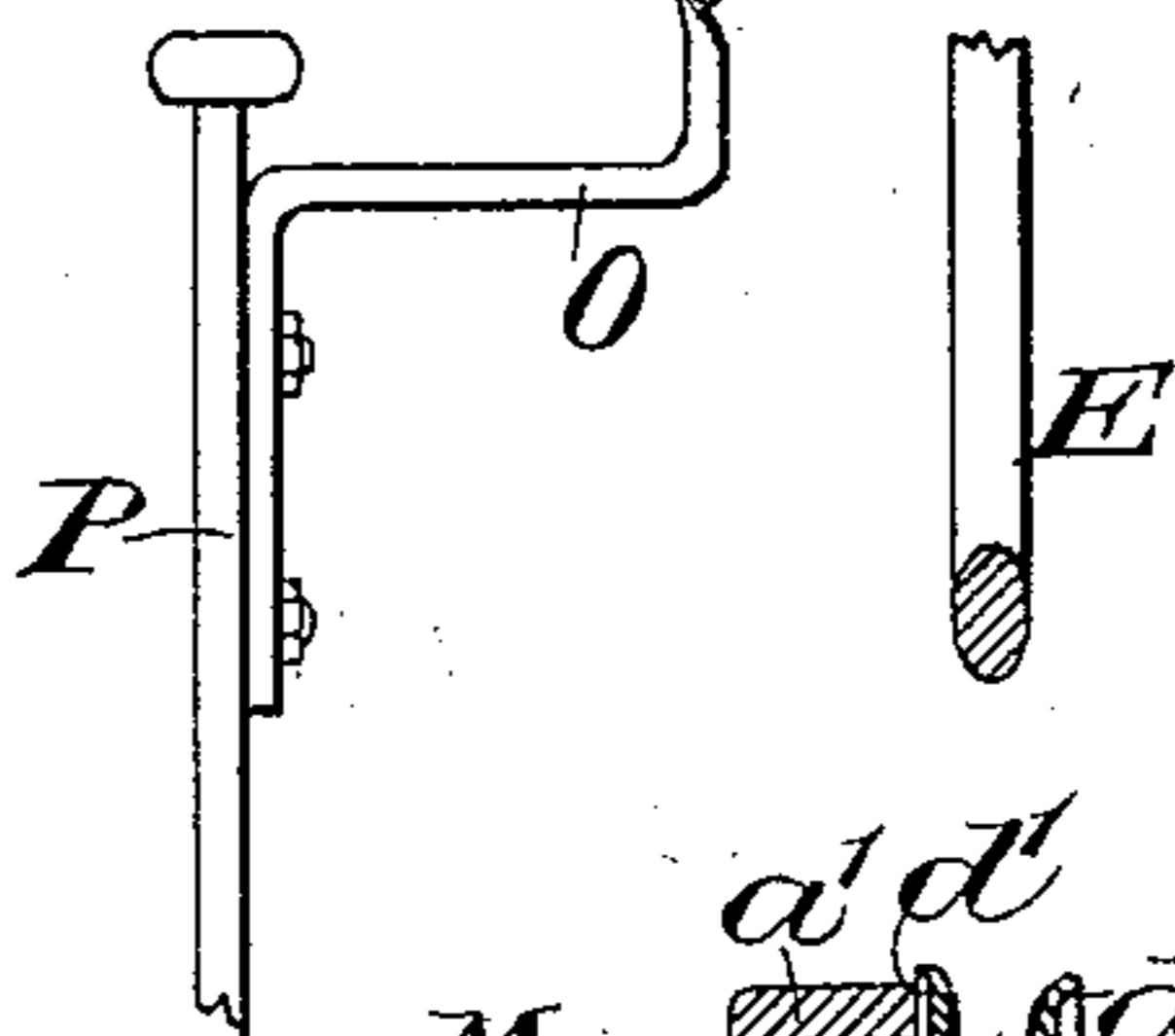
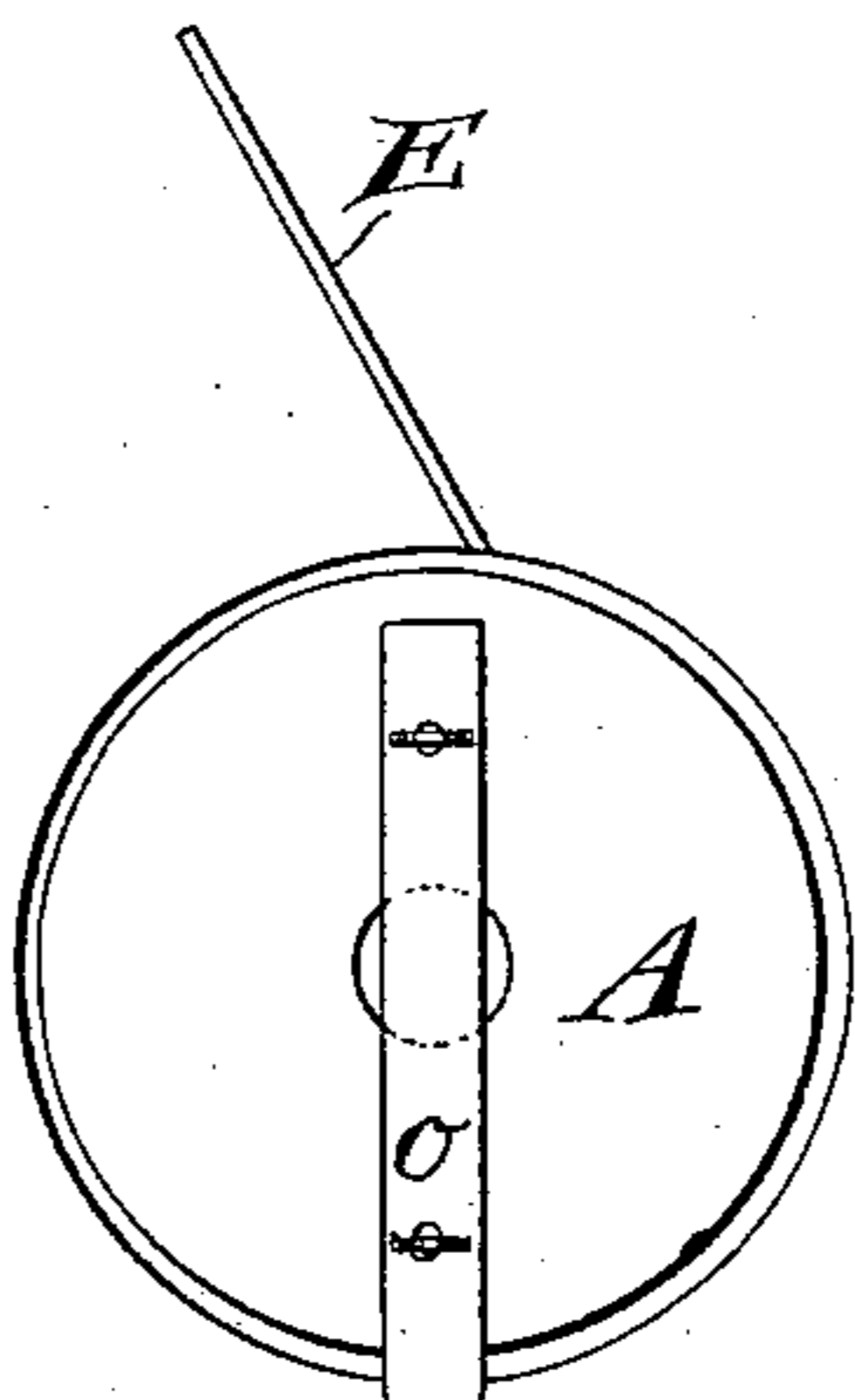
C. F. WILSON.  
TROLLEY CATCHER.

No. 563,531.

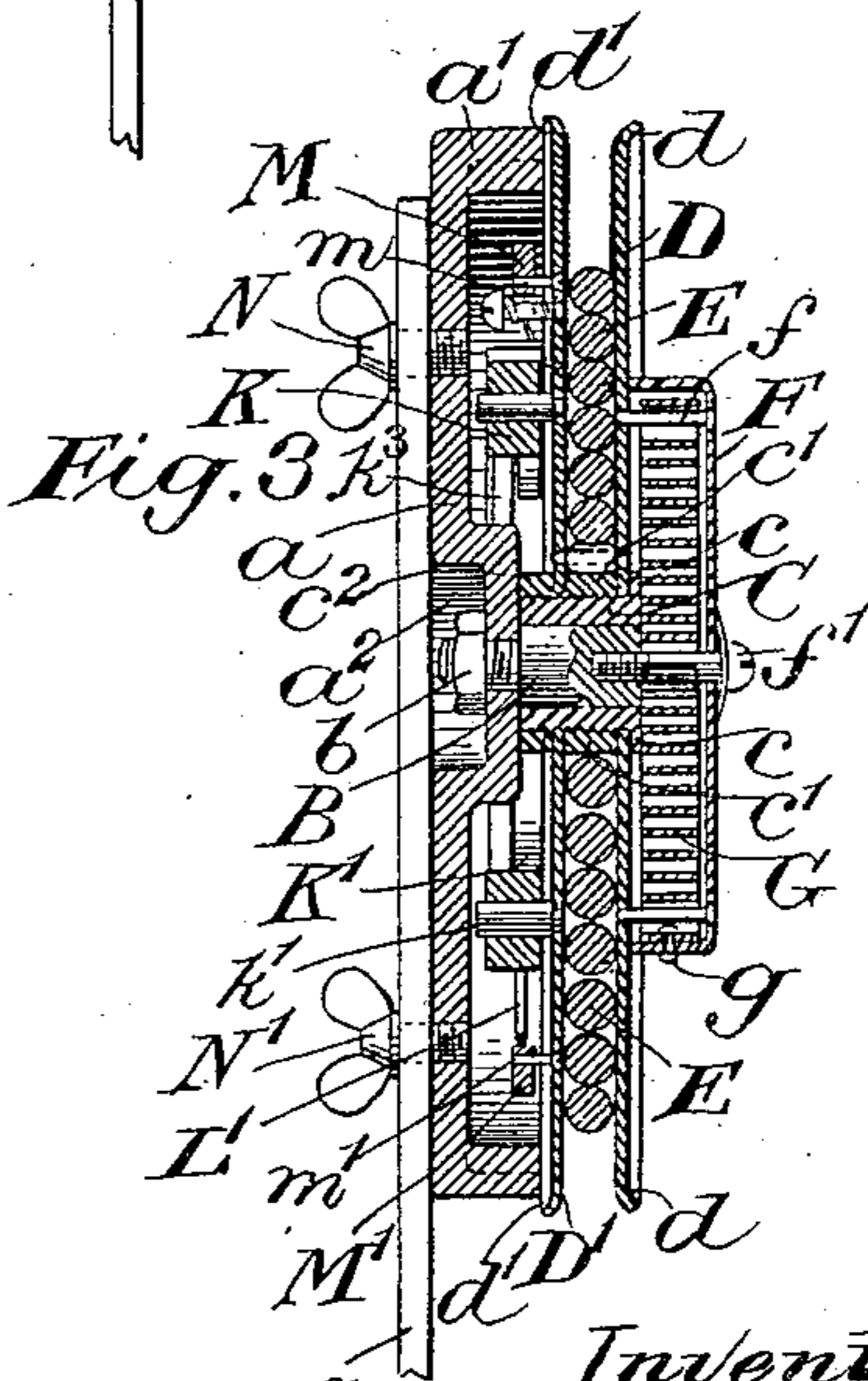
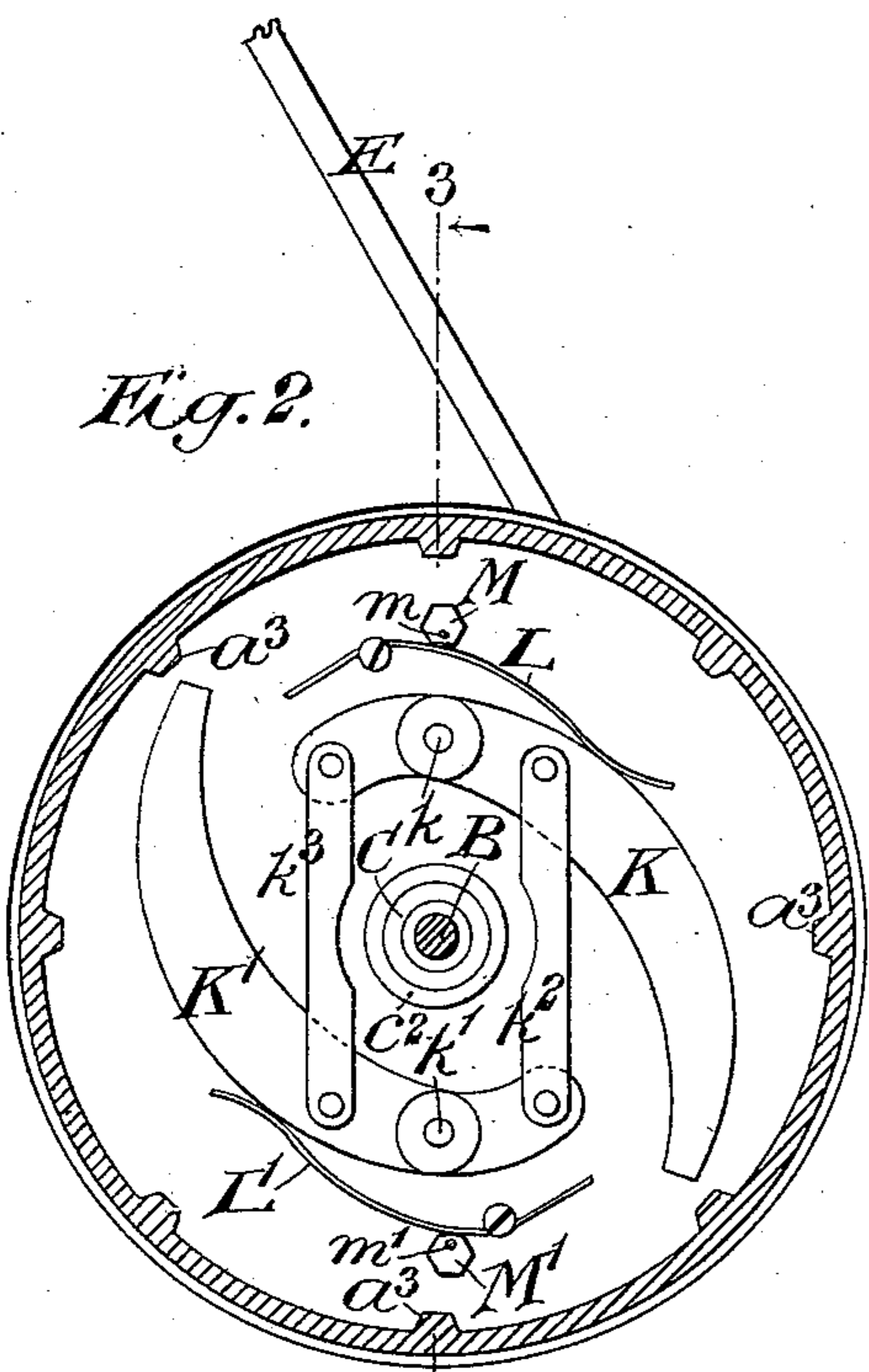
Patented July 7, 1896.



*Fig. 1.*



*Fig. 2.*



Witnesses:  
Edmund A. Stanger  
George Barry Jr.

Inventor.  
Charles F. Wilson  
by attorneys  
Brown & Woodward

# UNITED STATES PATENT OFFICE.

CHARLES F. WILSON, OF BROOKLYN, NEW YORK.

## TROLLEY-CATCHER.

SPECIFICATION forming part of Letters Patent No. 563,531, dated July 7, 1896.

Application filed March 6, 1896. Serial No. 582,045. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES F. WILSON, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful  
5 Improvement in Trolley-Catchers, of which the following is a specification.

My invention relates to an improvement in automatic tenders for trolley-operating ropes, with the object in view of providing a simple device for holding the trolley-operating rope at all times under sufficient tension to keep it out of the way of the passengers entering and passing out of the car, and also to provide against the jumping of the trolley  
10 upwardly a considerable distance past the wire when from any cause it escapes from the wire.

A practical embodiment of my invention is represented in the accompanying drawings,  
20 in which—

Figure 1 is a view of the tender mounted on one of the dashboards at the end of the car-platform, showing the tender in side elevation as it appears in use, the rope leading  
25 to the trolley-arm being broken away. Fig. 2 is an enlarged view showing the curved wall of the casing in section and the operating parts therein in side elevation; and Fig. 3 is a transverse section through line 3 3 of  
30 Fig. 2, looking toward the left as the drawing is held in reading.

The tender consists of a casing A, preferably cylindrical in form, having one of its ends closed and the other open. The closed  
35 end  $a$  of the casing and the curved portion  $a'$  are conveniently formed in one piece and may be made of cast-iron, or may be struck up from any suitable malleable metal, or may be formed of any other desired material other  
40 than metal, either in one or two pieces, as may be most expedient in practice. The central portion of the end  $a$  is depressed, as shown at  $a^2$ , for the reception of a nut  $b$  on the screw-threaded end of a stub-axle B, which projects  
45 along the axial line of the cylindrical casing. On the axle B there is mounted a hub C, to which are fixed a pair of disks D D', spaced apart a sufficient distance to receive between them the trolley-operating rope E and preferably made at their outer edges to flare away  
50 from each other, as shown at  $d d'$ , to form a ready guide for directing the trolley-operat-

ing rope between them. The disks D D' are conveniently fixed to the hub C by screwing or sliding the disk D onto the screw-threaded  
55 hub C into engagement with a flange  $c$  at the end of the hub, then screwing a spacing nut or sleeve  $c'$  onto the hub C to hold the disk D snugly against the flange  $c$ , then screwing  
60 or sliding the disk D' onto the hub into engagement with the end of the spacing nut or sleeve, and then screwing the nut or sleeve  $c^2$  onto the hub to hold the disk D' in position.

The hub C is held in position on the stub-axle by means of a cap-piece F, secured to  
65 the outer face of the disk D by suitable screws or bolts  $f$  and held against displacement, together with the disks and their hub, by means of a set-screw  $f'$ , which may be tapped into  
70 the end of the axle B opposite the end  $a$  of the casing. The cap F also serves as a housing for a coil-spring G, one end of which is attached to the screw  $f'$  and the opposite end  
75 to the curved wall of the cap  $f$ , as shown at  $g$ . The coil-spring G will be wound as the trolley-rope E is unwound, and will, in turn, wind the trolley-rope on its hub when any  
80 slack occurs in the rope, thence tending to keep it at all times under tension sufficient to prevent it from falling down in the way of passengers.

To provide against the rapid unwinding of the rope when from any cause the trolley-arm H springs upwardly past the wire I, as the  
85 trolley escapes therefrom, I provide the disk D', on its side toward the interior of the casing A, with a pair of dogs K K', pivoted to the disk D' at  $k k'$  and held against an outward throw under the ordinary rotary movement of the disks by means of springs L L',  
90 fixed to the face of the disk D' and having their free ends bearing against the backs of the dogs K K'.

When there is any unusual rotary movement imparted to the disks D D', as by the  
95 sudden springing upwardly of the trolley-arm H, the centrifugal force will overcome the tension of the springs L L' and will throw the free ends of the dogs K K' outwardly into position to catch teeth  $a^3$ , projecting from the  
100 interior curved wall of the casing. The tension of the springs L L' may be conveniently regulated to hold the dogs out of contact with the teeth  $a^3$  under ordinary rotary movement

of the disks by eccentric polygonal-faced blocks  $M M'$ , fastened to the ends of pins or screws  $m m'$ , inserted in the wall of the disk  $D'$  and capable of being turned by engaging  
 5 their heads with a wrench or screw-driver inserted between the disks  $D D'$ .

The dogs  $K K'$  are caused to operate mutually by means of connecting-links  $k^2 k^3$ , so that when the weight of one of the dogs operates against the tension of its spring it will  
 10 be resisted by the weight of the opposite dog, acting through one of the links. When the two links are employed, as shown in the accompanying drawings, with the distances between their pivotal points equal and each  
 15 less than the distance between the pivotal points of the dogs, the effect will be, when the parts are connected by an ordinarily close pintle-joint, to limit the throw of the dogs inwardly or toward a folding position while  
 20 permitting them a sufficient movement to be thrown outwardly into contact with the teeth  $a^3$ . The two links are not, however, necessary for causing the two dogs to operate mutually, either one of the links  $k^2$  or  $k^3$  being  
 25 sufficient for this purpose.

The tender may be fastened in position for use by means of set-screws  $N N'$ , extending through the upright arm  $o$  of a bracket  $O$ ,  
 30 fixed to the dashboard  $P$  at the end of the car, as represented in Fig. 1. This admits of its being readily removed from the bracket  $O$  at one end of the car and attached to a similar bracket at the opposite end of the car, if so  
 35 desired. Under ordinary conditions the rope will be held by the coiled spring  $G$ , as hereinabove stated, under sufficient spring-tension

to take up its slack, but the moment there is a sudden jerk, as when the trolley escapes from the wire, the quick rotary movement of the disks will throw the dogs  $K$  outwardly by centrifugal force and at once lock the disks against further rotary movement by the engagement of the dogs with the teeth on the interior of the casing. The dogs will release themselves just as soon as the rope is slackened and the device is ready for continued action.

What I claim is—

1. The tender, comprising a winding mechanism for receiving the trolley-operating rope, a support, swinging dogs pivoted to the winding mechanism, a link connecting the dogs for causing them to mutually operate and means for holding the dogs out of engagement with the support under an ordinary movement of the winding mechanism and for permitting them to engage the support under an extraordinary movement of the winding mechanism, substantially as set forth.

2. The combination with the winding mechanism for receiving the trolley-operating rope, the support and a dog pivoted to the winding mechanism and adapted to swing into and out of engagement with the support, of a spring for holding the dog normally out of engagement with the support and a polygonal-faced block mounted eccentrically in the winding mechanism for varying the tension of the spring, substantially as set forth.

CHARLES F. WILSON.

Witnesses:

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 IRENE B. DECKER.