

(No Model.)

M. M. WOOD.
TROLLEY POLE CATCHER.

No. 484,986.

Patented Oct. 25, 1892.

Fig. 1.

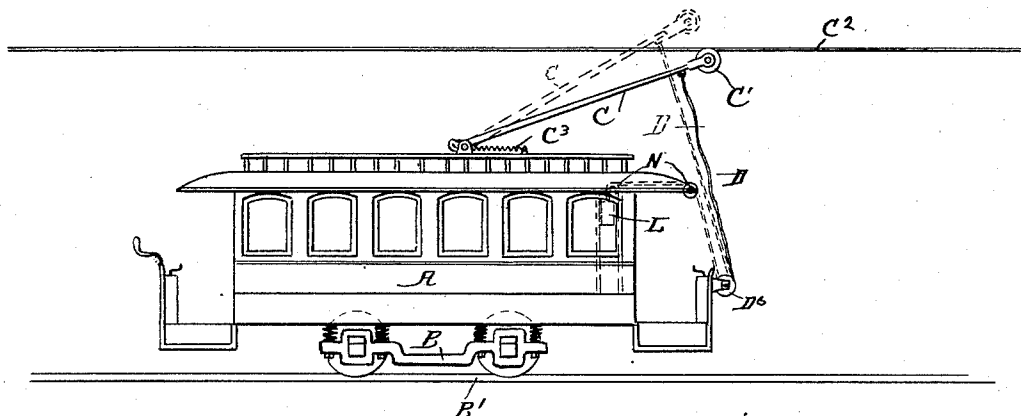


Fig. 2.

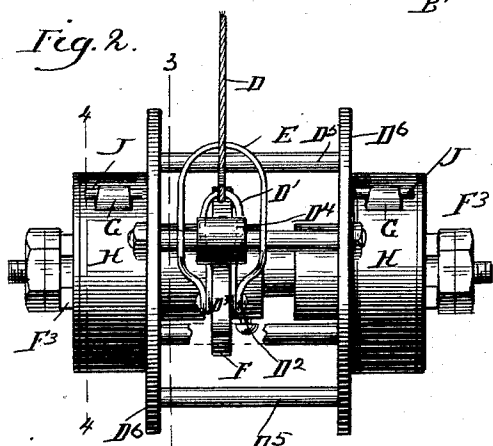


Fig. 3.

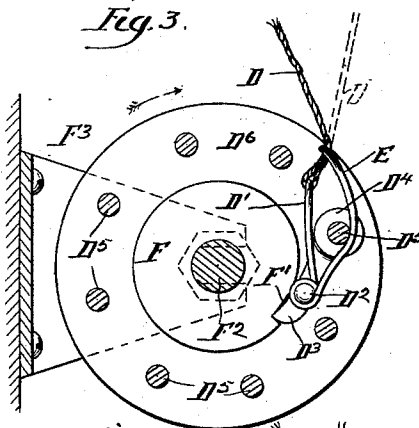


Fig. 4.

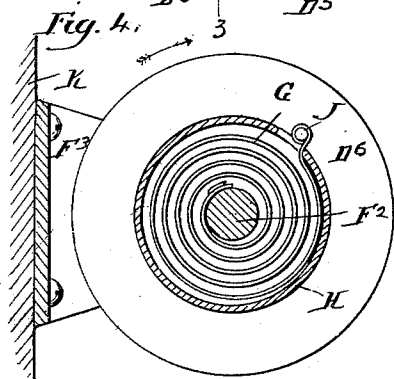
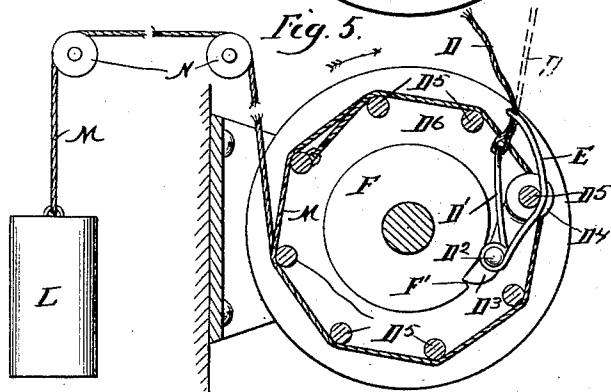


Fig. 5.



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UNITED STATES PATENT OFFICE.

MONTRAVILLE M. WOOD, OF CHICAGO, ILLINOIS.

TROLLEY-POLE CATCHER.

SPECIFICATION forming part of Letters Patent No. 484,986, dated October 25, 1892.

Application filed June 4, 1891. Serial No. 395,074. (No model.)

To all whom it may concern:

Be it known that I, MONTRAVILLE M. WOOD, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Trolley-Pole Catchers, of which the following is a full, clear, and exact specification.

My invention relates to trolley-pole catchers or to means for catching the trolley-pole and for drawing it down when the trolley accidentally jumps from the conductor; and its object is to provide a convenient device which shall accomplish the result referred to. It is illustrated in the accompanying drawings, wherein—

Figure 1 is a car provided with my device and also showing in dotted lines the modification. Fig. 2 is a front view of the device. Fig. 3 is a cross-section therethrough on the line 3 3. Fig. 4 is a cross-section on the line 4 4. Fig. 5 is a cross-section through the modification, showing the use of a weight.

Like parts are indicated by like letters in all the figures.

A is a car supported on the trucks B on the track B' and provided with the trolley-pole C, carrying the trolley C', adapted to engage the trolley-wires C², and normally forced upwardly against the trolley-wire by the spring C³.

D is the rope whereby the trolley-pole is drawn downwardly. This rope D is secured to the loop D', pivoted by the bolt D² to the end of the dog D³, which is provided with an enlarged sleeve-like portion D⁴, loose on one of the rods D⁵ of the reel D⁶. This rope passes through a similar loop E, pivoted in like manner upon the bolt D². The loop E, however, passes down one side of the bar D⁵ or sleeve D⁴, while the loop D' passes down the other side.

F is a disk provided with the notch F' to receive the dog and rigid upon the rod F², which is fixed in the supports F³ F³. At either end of the rod F² is placed a spiral spring G, secured to such rod and coiled within the case H on the end of the reel D⁶. The other end of the spring G extends through a slot in such case and is secured by a cross-pin J. The supports F³ F³ may be secured removably or permanently to the dash-board K or else-

where, as may be found convenient and satisfactory.

In the modification shown in Fig. 5 and in dotted lines in Fig. 1 a weight is substituted for the coil-springs. L is such weight, supported within the dash-board, or, as suggested in dotted lines, in a case in the car, and connected or attached to a rope M, which passes over one or more pulleys N N, and thence is coiled upon the reel, so as when unwinding to turn the reel to wind up the coil D, and vice versa.

It is apparent that this device may be greatly altered without departing from the spirit of my invention.

The use and operation of my invention are as follows: When the car is proceeding in the usual manner, the trolley will catch the trolley-wire, as shown in Fig. 1. The rope D will hang somewhat loose and will be connected to the reel. If now the trolley escapes from the trolley-wire the trolley attempts to rise, and if there be other cross-wires or obstructions in the atmosphere above the trolley-wire great damage may be done both by short-circuiting and by mechanical injury both to the trolley, the car, or to the object encountered. As soon, however, as the trolley begins to rise—as, for example, as indicated in dotted lines in Fig. 1—the rope D is tightened by a smart pull, and the parts are so positioned—as indicated, for example, in Fig. 3—that by said pull the cord bears strongly against the loop E, which, acting as a lever across the bar D⁵ as a fulcrum, raises the opposite end of the dog D³ and lifts it from the notch F', whereupon the coil-springs begin to expand and to wind the reel in the direction indicated by the arrow, the dog being held from engagement with the notch until the reel is rotated far enough to wind up a considerable portion of the cord, and thus bring the trolley down below the trolley-wire. The operator now by pulling upwardly upon the cord reverses the direction of rotation of the reel until the trolley is reseated against the wire, whereupon by holding the cord and slackening at the lower end the cord may be pushed outwardly in the position indicated in dotted lines in Fig. 3, whereupon the loop D' acts as a lever to force the dog D³ back into the notch F', when the parts will have assumed their original

position, as indicated in full lines in Fig. 1. The operation is the same in the case of the mechanism illustrated in Fig. 5 or in the dotted lines in Fig. 1, though here a weight is substituted for the spring.

The catcher can be removably attached to the car, so that the trolley-rope may be used at either end of the car with the same catcher. The catching device may be moved and carried from one end of the car to the other. There might also be a trolley-catcher on each end of the car.

I claim—

1. In a trolley-catcher, the combination of a normally upwardly-bearing trolley-pole with a rope attached thereto and normally loose, a reel for such rope, and a motor to wind the reel, and a catch normally locking the reel from rotation, but adapted to be released by tension on the rope.

2. In a trolley-catcher, the combination of a normally upwardly-bearing trolley-pole with a rope attached thereto and normally loose, a reel for such rope, and a motor to wind the reel, and a catch normally locking the reel from rotation, but adapted to be released by tension on the rope, said catch consisting of two opposing levers and a dog controlled thereby, said levers connected with the rope.

3. In a trolley-catcher, the combination of a normally upwardly-bearing trolley-pole with a rope attached thereto and normally loose, a reel for such rope, and a motor to wind the reel, and a catch normally locking the reel

from rotation, but adapted to be released by tension on the rope; said catcher consisting of a pivoted dog and two rope-levers, connected at one end to the dog and at the other end to the rope and oppositely fulcrumed.

4. In a trolley-catcher, the combination, with the trolley and its flexible connection, of the spring-actuated winding cylinder or drum and the holding or releasing mechanism thereto, substantially as specified.

5. The trolley-catcher comprising the box or casing, the winding drum or cylinder journaled therein, an actuating-spring in said drum or cylinder, a ratchet on the end of the drum-shaft, and a pawl in engagement therewith, a trip for said pawl, and a flexible connection with the trolley-rope, substantially as specified.

6. In a trolley-catcher, the combination of a spring-actuated winding cylinder or drum for the trolley-rope slack and a device for setting said spring and drum in operation.

7. In a trolley-catcher, the combination of a normally upwardly-bearing trolley-pole with a rope attached thereto and normally hanging loose and a motor adapted to be set into operation to wind the rope and pull down the trolley when the trolley-wheel escapes from the wire.

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