

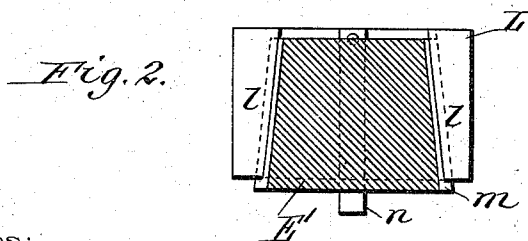
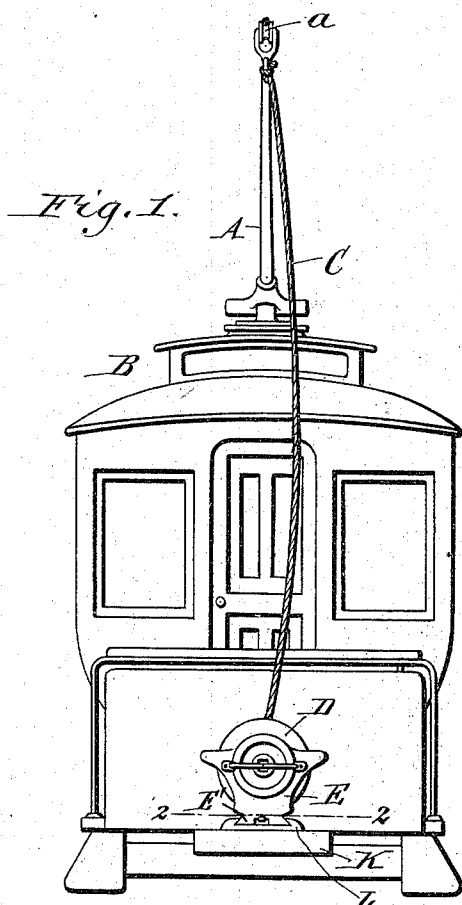
(No Model.)

2 Sheets—Sheet 1.

W. F. KENDT.
TROLLEY CATCHER.

No. 530,276.

Patented Dec. 4, 1894.



Witnesses:

Chas. F. Burkhardt.
Emil Neuhart.

W. F. Kendt
Inventor.

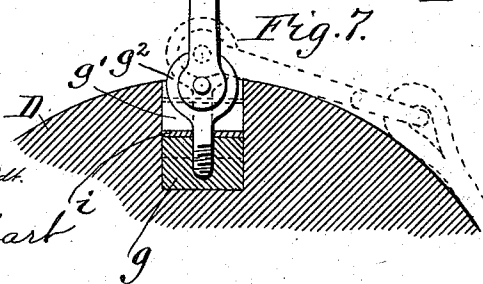
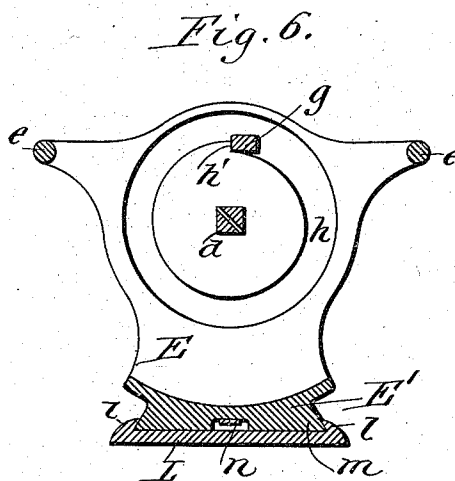
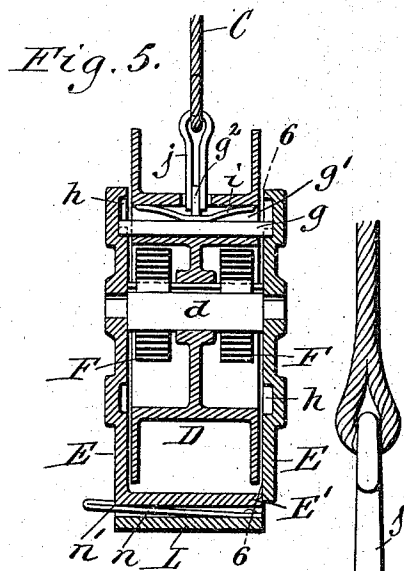
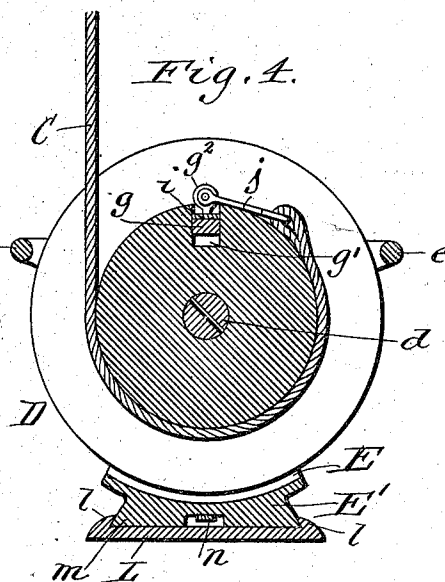
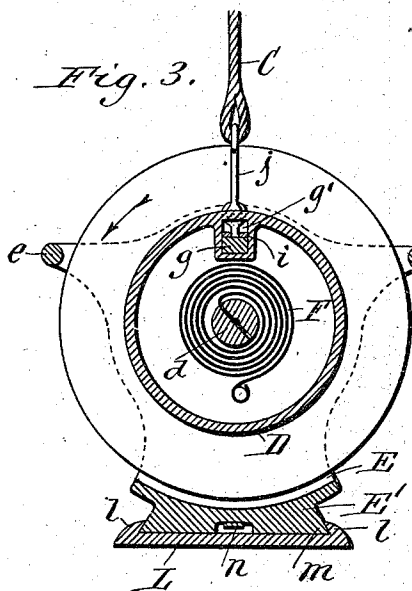
By Wilhelm H. Rönner

Attorneys.

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Attorneys.

UNITED STATES PATENT OFFICE.

WILLIAM F. KENDT, OF BUFFALO, NEW YORK, ASSIGNOR OF TWO-THIRDS
TO GEORGE M. MITCHELL AND ROD MCLEOD, OF SAME PLACE.

TROLLEY-CATCHER.

SPECIFICATION forming part of Letters Patent No. 530,276, dated December 4, 1894.

Application filed May 26, 1894. Serial No. 512,509. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. KENDT, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented a new and useful Improvement in Trolley-Catchers, of which the following is a specification.

This invention relates to trolley catchers of that class in which the trolley, in the event of accidentally leaving the conducting wire, is automatically drawn down by a rotary spring-drum having a detent device which is connected with the trolley rope.

The height of the conducting wire generally varies at different points of the line and the trolley rope must, therefore, have enough slack to enable the trolley to reach the most elevated sections of the conducting wire. In order to insure the requisite slack of the rope, it is desirable that it should have a definite length. Heretofore, the drum has usually been provided with ratchet teeth and the detent pawl was at all times free to engage with the teeth of the drum. This construction is undesirable, because it locks the drum irrespective of whether the trolley rope is sufficiently unwound or not, so that in case it is not sufficiently unwound, it has too little slack to permit the trolley to reach the highest points of the conducting wire.

One of the objects of my invention is to organize the catcher so that in unwinding the trolley rope for tensioning the spring, the drum will not be locked against backward movement except when the trolley rope is sufficiently unwound therefrom, thus always insuring the requisite slack of the rope to allow the trolley to remain in contact with the conducting wire under ordinary circumstances.

Another object of my invention is to provide the spring-drum with a simple attachment which permits it to be readily removed from and applied to the car.

In the accompanying drawings consisting of two sheets:—Figure 1 is an end view of a street car equipped with my improved trolley catcher. Fig. 2 is a horizontal section, on an enlarged scale, in line 2—2 Fig. 1. Fig. 3 is a vertical section of the device showing the spring of the drum wound up and the trolley

rope unwound from the drum. Fig. 4 is a similar view showing the trolley rope wound upon the drum. Fig. 5 is a vertical section at right angles to Fig. 3. Fig. 6 is a vertical section, in line 6—6, Fig. 5, looking toward the right. Fig. 7 is an enlarged view of the detent pawl, its link and the adjacent portion of the drum.

Like letters of reference refer to like parts in the several figures.

A is the pole carrying the trolley *a* and attached to the roof of the car B in any well known manner.

C is the rope depending from the trolley pole and D is the flanged rotary drum upon which the rope is wound in drawing down the trolley. This drum is journaled in a casing composed of side plates E, E, a base E' connecting the lower ends of the side plates and transverse rods *e* connecting the upper portions of said plates.

d is the shaft of the drum which is preferably stationary and provided with square ends which are seated in correspondingly shaped openings formed in the side plates of the casing, the remaining portion of the shaft being cylindrical and the drum turning thereon.

F represents coiled springs surrounding the drum shaft and secured at their inner ends to the shaft and at their opposite ends to the drum. The drum shaft is preferably divided diametrically from end to end and the inner ends of the springs F are confined between the opposing faces of the shaft-sections as shown in Fig. 3, the sections being held together by the engagement of their ends in the openings of the side plates E. This forms a simple and ready attachment for the springs which involves no screws or other separate fastenings.

g is a detent pawl carried by the rotary drum and adapted to interlock with the casing, for preventing backward movement of the drum under the impulse of its springs. This pawl consists of a transverse bar which is arranged in a radial pocket or recess *g'* formed in the drum, within the peripheral face thereof, and which is capable of sliding radially in said pocket. The ends of the pawl bar extend beyond the sides of the drum and project into circular grooves or depressions *h*, formed in

the inner sides of the casing, as shown in Fig. 5. The inner wall of each of these grooves is constructed in the form of a cam and is formed with an abrupt face or shoulder h' , against which shoulders the projecting ends of the pawl engage in arresting the rotation of the drum, as shown in Fig. 6.

i is a flat spring secured centrally to the back of the pawl and bearing with its ends against the adjacent inner side of the drum, as shown in Fig. 5. This spring tends to press the pawl inward into the path of the stop shoulders on the casing.

j is a link connecting the detent pawl with the lower end of the trolley rope and passing through an opening formed in the face of the drum. The pawl is provided with an eye g^2 , and the link j is pivoted at its lower end to this eye by a pivot-pin arranged parallel with the drum shaft, so as to permit the link to swing against the face of the drum, as shown in Fig. 4.

The trolley rope is so long that when it is wholly unwound from the drum, it has sufficient slack to allow the trolley to reach all sections of the conducting wire.

When the parts are in the normal position, shown in Figs. 3, 5, 6 and 7, the trolley rope is unwound from the drum, the spring of the latter is strained, and the detent pawl is held in engagement with the shoulders of the casing by its spring. In case the trolley leaves the conducting wire, its upward movement causes the trolley rope to pull the detent pawl out of engagement with the shoulders of the casing, and the drum being now released, its springs turn it in the proper direction to wind the rope thereon, whereby the trolley is drawn down below the conducting wire and the supports of the latter. The rotation of the drum, which takes place the moment the pawl is retracted, causes the link to swing or fold against the face of the drum, as shown by full lines in Fig. 4, and by dotted lines in Fig. 7, and as the link is firmly held in this position by the winding of the rope upon the drum, the link acts as a stop which restrains the inward or return movement of the pawl, until the rope is wholly unwound from the drum. In subsequently unwinding the rope from the drum, for again straining the spring, it is therefore impossible to lock the drum by partly unwinding the rope. The conductor or other car attendant is thus compelled to unwind it wholly in order to allow the pawl to engage with the shoulders of the casing, thereby always giving the trolley rope a definite length and insuring a sufficient amount of slack in the same.

In unwinding the rope the pawl rides freely over the cam shaped faces which lead to the stop shoulders of the casing.

The trolley catcher may be attached to the car roof or the end of the platform by any suitable fastening, but it is preferably supported upon the buffer block K of the car and

detachably secured thereto by the following means.

L is a base plate secured upon the buffer block and provided on its upper side with longitudinal ways or guides l , which are dovetailed or undercut, as shown. The base of the casing is provided with a correspondingly shaped tenon m , which engages with the ways of the base plate L. These ways and the tenon of the base are preferably tapered, so that the tenon may be wedged between the ways to prevent rattling. n is a spring catch secured at its rear end to the upper side of the base plate L and provided at its free front end with a shoulder or nose n' which overlaps the front side of the base and thereby locks the same in place on the base plate. This spring catch is arranged in a recess formed in the under side of the base of the trolley catcher, as shown in the drawings. The catcher is readily removed from the base plate L by depressing the front end of the spring catch and withdrawing the catcher from the ways of the plate. A base plate L is arranged at each end of the car, so that the catcher may be readily fastened to either end thereof.

I claim as my invention—

1. In a trolley catcher, the combination with a stationary frame or casing having a stop or shoulder and a rotary spring-drum journaled therein, of a detent pawl carried by the drum, adapted to be connected with the trolley rope and engaging with the stop or shoulder of the casing, substantially as set forth.

2. In a trolley catcher, the combination with a stationary frame or casing having a stop or shoulder and a rotary spring-drum journaled therein, of a detent pawl carried by said drum, capable of moving toward and from the axis of the drum for engaging and clearing the stop or shoulder of the casing, and adapted to be connected with the trolley rope, substantially as set forth.

3. In a trolley catcher, the combination with a stationary frame or casing having a stop or shoulder and a rotary spring-drum journaled therein, of a detent pawl carried by said drum and engaging with the stop or shoulder of the casing, and a link pivoted to said pawl and adapted to be connected with the trolley rope, substantially as set forth.

4. The combination with the stationary casing having stops or shoulders in its sides, of a spring-drum journaled in said casing and having a radial pocket or recess, a transverse detent pawl arranged to slide radially in said pocket or recess and adapted to engage with said stops or shoulders, and a spring whereby the detent pawl is moved into engagement with said stops or shoulders, substantially as set forth.

5. The combination with the stationary casing having openings in its sides, of a shaft arranged with its end portions in said openings and divided from end to end, a drum mounted

on said shaft, and a spring secured at one end to the drum and having its other end confined between the sections of said divided shaft, substantially as set forth.

- 5 6. The combination with a base plate secured to the platform or other stationary part of the car and having undercut guides, of a removable trolley catcher having a tenon engaging with said guides, and a spring catch

whereby the trolley catcher is locked in said guides, substantially as set forth.

Witness my hand this 12th day of April, 1894.

WILLIAM F. KENDT.

Witnesses:

CARL F. GEYER,
THEO. L. POPP.