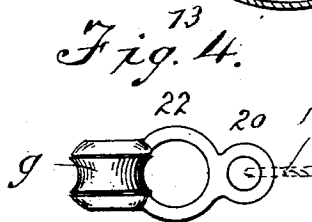
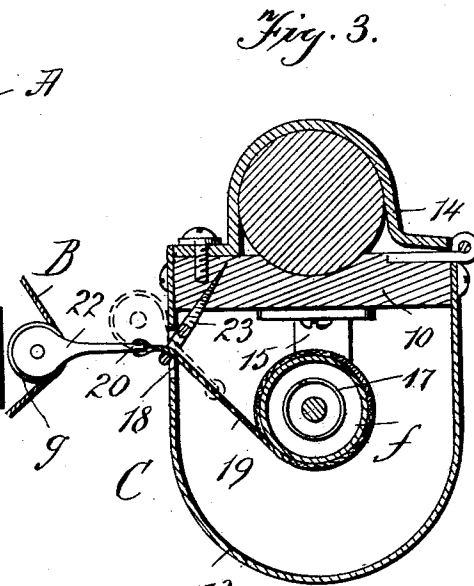
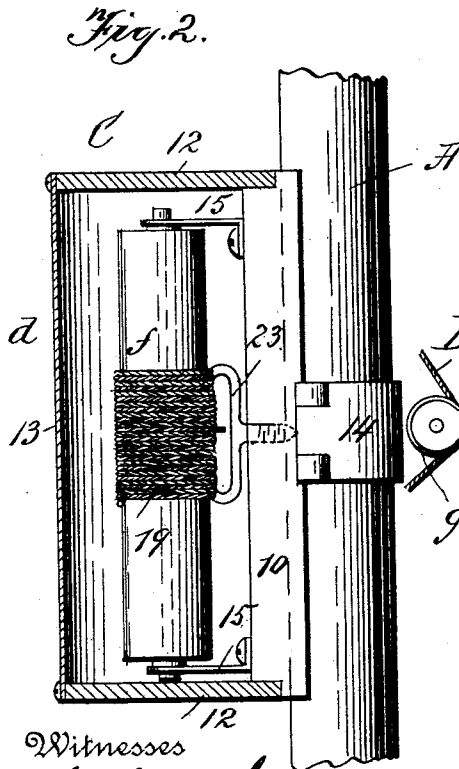
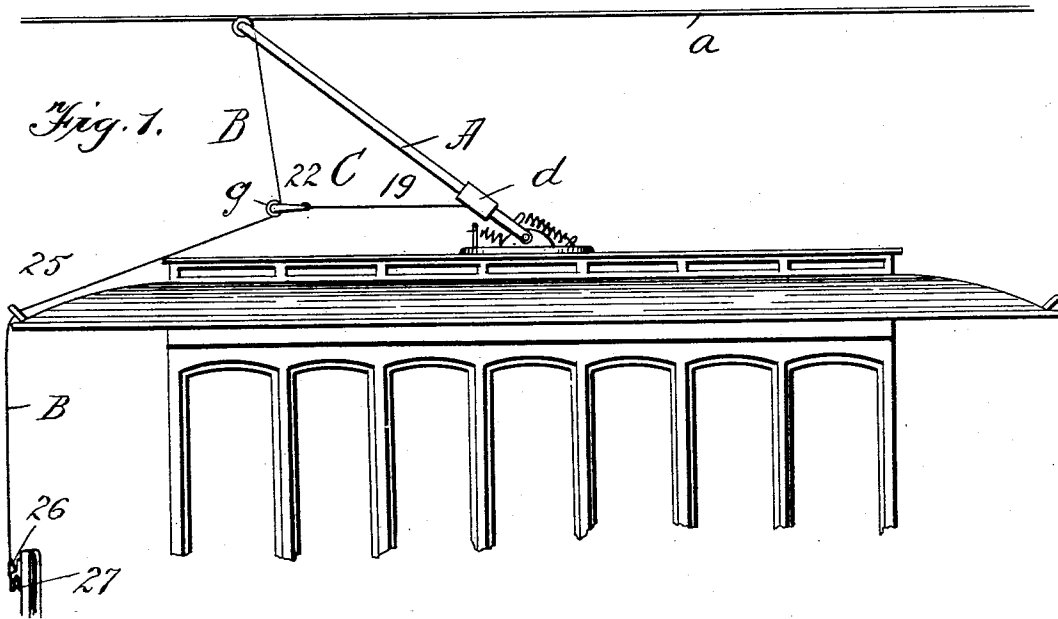


(No Model.)

A. J. WOOD.
TAKE-UP DEVICE FOR TROLLEY CORDS.

No. 586,302.

Patented July 13, 1897.



Witnesses
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UNITED STATES PATENT OFFICE.

ALBERT J. WOOD, OF SPRINGFIELD, MASSACHUSETTS.

TAKE-UP DEVICE FOR TROLLEY-CORDS.

SPECIFICATION forming part of Letters Patent No. 586,302, dated July 13, 1897.

Application filed April 9, 1897. Serial No. 631,388. (No model.)

To all whom it may concern:

Be it known that I, ALBERT J. WOOD, a citizen of the United States, and a resident of Springfield, in the county of Hampden and State of Massachusetts, have invented certain new and useful Improvements in Take-Up Devices for Trolley-Cords, of which the following is a specification.

As well known, the trolley-pole of an electric-railway car has a cord attached to an end portion thereof near the trolley-wheel, which cord extends downwardly therefrom at the rear end of the car to enable a person to control the trolley-pole from below, whereby the trolley-wheel may be engaged with or disengaged from the feed-wire, or the trolley-pole reversed so as to extend in its oblique line toward either end of the car.

Often in electric railways the overhead wire at some place runs at a lower level than its ordinary height—as, for instance, as may occur when necessary for it to pass under a bridge or arch—whereupon the trolley-cord slackens and becomes tangled or caught with some object or person at the end of the car and throws off the trolley and otherwise operates to the annoyance and disadvantage of the conductor and passengers.

The present invention relates to an improved take-up device for the trolley-controlling cord whereby said cord will be always taut notwithstanding variations in the height of the trolley-wire, the object of the invention being to provide a device of the character and for the purpose indicated which shall be most simple in construction, effectual in operation, easy of application on or in combination with the trolleys of the ordinary electric cars, requiring no alterations in the arrangements thereof, and tending in no wise to interfere with the usual action thereof; and the invention consists in constructions and combinations of parts, all substantially as will hereinafter fully appear, and be set forth in the claims.

Reference is to be had to the accompanying drawings, in which—

Figure 1 is a side elevation of so much of an electric-railway car and its trolley as is necessary to show the application thereupon of the present improved take-up device. Fig. 2 is a sectional view through the portion of

the take-up which comprises the casing and the take-up roller. Fig. 3 is a cross-sectional view of the device. Fig. 4 is a plan or edge view of the guide-sheave comprised in the take-up device with which the trolley-cord has a running engagement.

Similar letters and figures of reference indicate corresponding parts in all the views.

In the drawings, A represents the trolley-pole pivotally mounted at the center of the top of the car and adapted to be held, by the usual spring appliances, with a bearing-pressure at its trolley-wheel end against the trolley-wire *a*.

B represents the trolley-controlling cord applied in the usual way to the trolley-pole and for the usual purpose.

C represents the take-up device for the trolley-cord B, and will be now described in detail.

d indicates a casing composed of a back or base 10, which may be of wood or other suitable material, perpendicular ends 12 12, and arch-formed front and sides constituted by the sheet-metal portion 13. The form of this case may of course be variable, but that shown is practical and desirable. The case has at its back the hinged strap 14 and detachable set-screw whereby it is held upon the side of the trolley-pole near the connection of the latter with the car-top. Within the casing on suitable brackets 15 15 is mounted a spring roller or spool *f*, an internal spring 17 being applied in a manner common in spring take-up rolls, and not necessary to herein particularly describe. The casing has the opening 18 through its side.

19 is the cord having a winding engagement with the spring take-up roll, its outer extremity being passed through the aforesaid aperture in the side of the case, and to the outer end of this cord is attached, by its eye 20, the frame or stirrup 22, in which the take-up guide-sheave *g* is supported.

An eyebolt 23 is mounted within the casing adjacent the aperture 18 through the side of the latter, whereby the take-up cord 19 will not become chafed by the wall of the casing surrounding the aperture 18 in passing out from and being retracted within the casing. The intermediate part of the trolley-cord B is passed with a running engagement

down partially round the sheave *g* and thence to the rear end of the car, and it may advantageously pass within a yoke or guide, as indicated at 25, at the end of the car-roof which overhangs the platform, and the extremity of the trolley-cord, which may have an eye 26, may be temporarily engaged with a hook or stud 27, secured upon the dashboard of the platform.

It will be seen that the trolley-cord B will extend from its end, detachably secured at 27 to the dashboard, to the place of connection with the trolley-pole in a more or less deflected or zigzag line, but there will be no slack cord, and if the trolley-wire *a* becomes lowered, whereby the trolley-cord slackens as the pole is swung downwardly, the slack will be instantly taken up by reason of the sheave *g* being drawn toward the casing under the winding engagement of the take-up cord with the spring-roller, while, on the other hand, as the pole becomes elevated a greater portion of the take-up cord is drawn out in a rearward direction from within the casing, as plain.

It will be seen that the frame 22 for the take-up sheave at its portion to the rear of the cheeks between which is mounted the sheave is comparatively flat and thin, whereby under some circumstances this thin shank portion of the frame may be drawn within the casing, as indicated by dotted lines in Fig. 3, so that nothing of the take-up device except the sheave remains external of the casing.

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

1. As a take-up device for a trolley-pole cord, the combination with the trolley-pole, and its usual cord, of a spring take-up roller mounted near the base of the pole, a cord having a winding engagement with the take-up roller, and having at its end a cord-guide with which an intermediate portion of the

trolley-cord has a running engagement, substantially as described.

2. As a take-up device for a trolley-pole cord, the combination with the trolley-pole, and its usual cord, of a casing mounted on, and near the base of the pole, a spring-roller in said casing, a cord having a winding engagement with the take-up roller, and having at its end a cord-guide with which an intermediate portion of the trolley-cord has a running engagement, substantially as described.

3. As a take-up device for a trolley-pole cord, the combination with the trolley-pole, and its usual cord, of a casing, having its back provided with the hinged strap, and confining means for the free end of the strap, a spring-roller in said casing, and a cord having a winding engagement with the take-up roller, and provided at its end with a cord with which an intermediate portion of the trolley-cord has a running engagement, substantially as described.

4. As a take-up device for a trolley-pole cord, the combination with the trolley-pole, and its usual cord, of a casing mounted on, and near the base of the pole, having an aperture through its side, an eyebolt supported within the casing adjacent said aperture, a spring-roller in said casing, a cord having a winding engagement with the take-up roller and extended through said guide-eye and aperture to the exterior of the casing, and having provided at its end a cord-guiding sheave with which an intermediate portion of the trolley-cord has a running engagement, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 7th day of April, 1897.

ALBERT J. WOOD.

Witnesses:

WM. S. BELLOWS,
M. A. CAMPBELL.