

No. 687,766.

Patented Dec. 3, 1901.

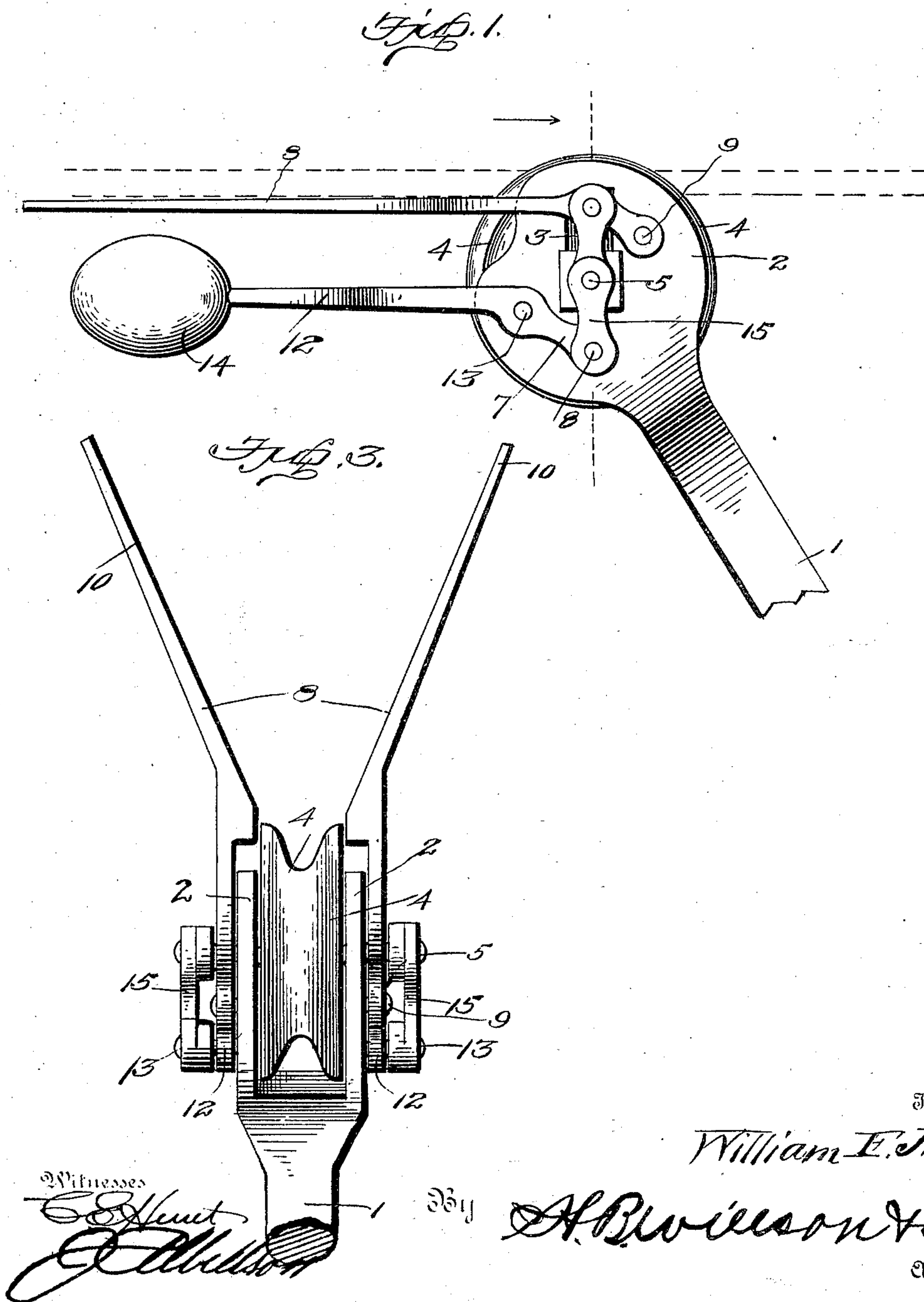
W. F. MACK.

TROLLEY FOR ELECTRIC RAILWAYS EMPLOYING OVERHEAD CONDUCTORS.

(Application filed Sept. 26, 1901.)

(No Model.)

2 Sheets—Sheet 1.



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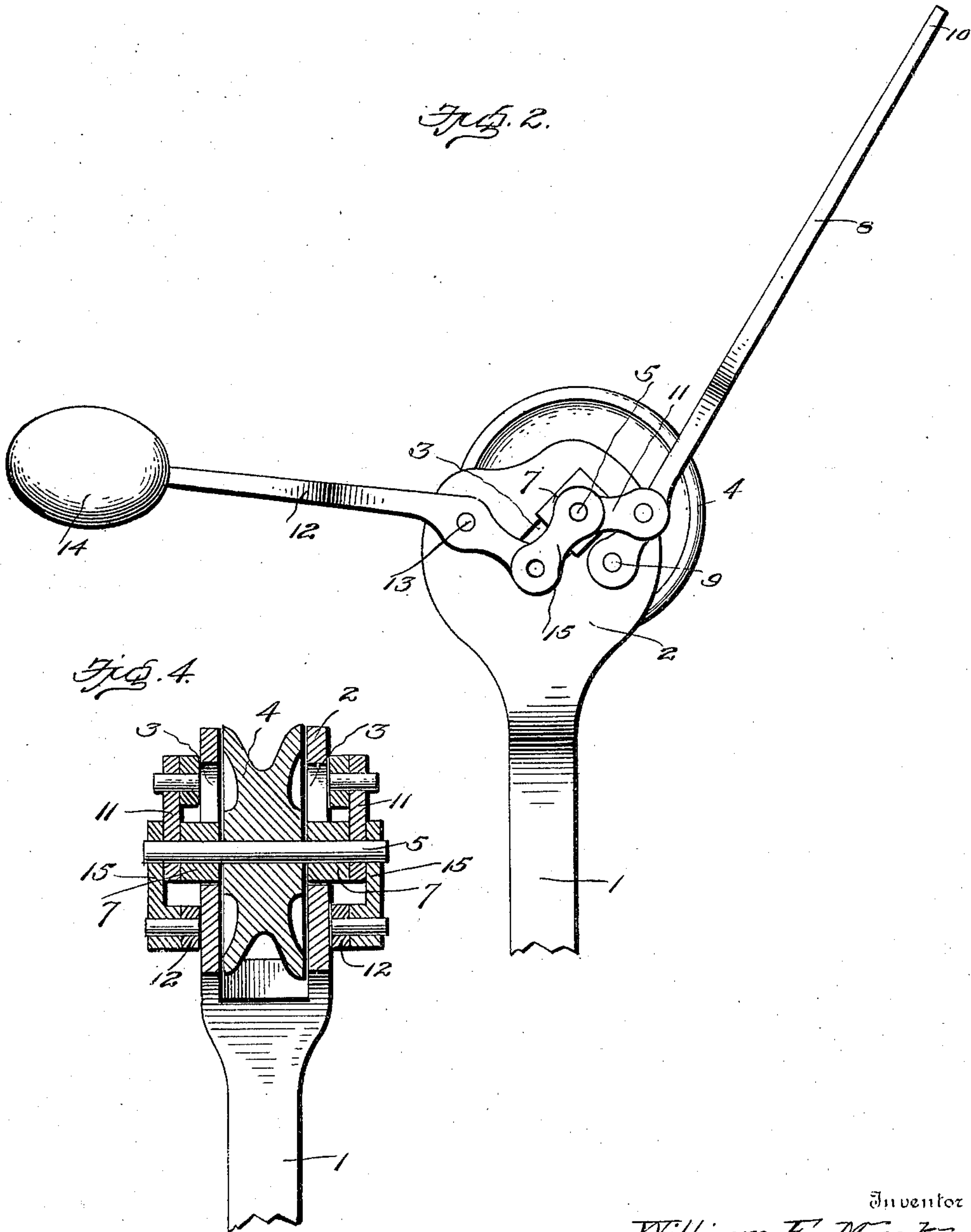
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# UNITED STATES PATENT OFFICE.

WILLIAM F. MACK, OF SOUTH BETHLEHEM, PENNSYLVANIA.

TROLLEY FOR ELECTRIC RAILWAYS EMPLOYING OVERHEAD CONDUCTORS.

SPECIFICATION forming part of Letters Patent No. 687,766, dated December 3, 1901.

Application filed September 26, 1901. Serial No. 76,687. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM F. MACK, a citizen of the United States, residing at South Bethlehem, in the county of Northampton and State of Pennsylvania, have invented certain new and useful Improvements in Trolleys for Electric Railways Employing Overhead Conductors; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The invention relates to trolleys for electric railways employing overhead conductors, and the object in view is to provide a trolley of this character which shall be simple of construction, durable in use, comparatively inexpensive of production, and which if it should become accidentally disengaged from the conductor will automatically restore itself in electrical contact therewith, thus obviating the annoyance heretofore so frequently experienced by the conductor in attempting to restore the trolley by means of the usual pendent rope.

With this and other objects in view the invention consists of certain novel features of construction, combination, and arrangements of parts, which will be hereinafter more fully described, and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a side view showing the position of the parts when the trolley-wheel is in engagement with the conductor-wire. Fig. 2 is a similar view showing the position the parts assume the instant said trolley-wheel jumps or becomes disengaged from the wire. Fig. 3 is a front view, and Fig. 4 is a vertical sectional view, through the trolley-fork, the trolley-wheel, and its bearing.

Referring to the drawings, 1 denotes the trolley-arm, having at its upper end a trolley-fork 2, the side pieces of which are provided with vertically-disposed apertures 3.

4 denotes a trolley-wheel loosely mounted upon an axle 5, the ends of which are secured in bearing-blocks 7, mounted to slide vertically in the apertures 3.

8 denotes finder-arms pivoted to studs 9, projecting from the sides of the fork and hav-

ing divergent ends 10 and pivotally connected to the axle 5 by a link 11.

12 denotes a weighted lever, one end of which is bifurcated and the members thereof pivoted to studs 13, projecting laterally from the trolley-fork, and the other end of which is provided with a weight 14. 15 denotes a link connecting the inner end of said lever to the axle 5.

The operation of the device is as follows: Assuming the car to be traveling along its track and the trolley-wheel to be held in engagement with the conductor-wire by the spring so employed for holding the trolley-arm in operative position, should through any jolting or vibration of the car the trolley-wheel be disengaged from the conductor-wire the weighted lever will exert its energy to swing the finder-arms upwardly in a position to find the wire and direct the trolley-wheel into electrical contact therewith. In the upward swinging movement of the finder-arms the trolley-wheel will also move upwardly with respect to the fork, and the instant the finder-arms have restored the wheel to its normal position in contact with the wire said wheel will be depressed, which movement will lower the finder-arms to the position shown in Fig. 2 and elevate the weight, so that the instant the trolley-wheel again leaves the wire the weight will be in position to exert its force to swing the finder-arms upwardly and direct the trolley-wheel into engagement with the conductor-wire.

From the foregoing description, taken in connection with the accompanying drawings, the construction, mode of operation, and advantages of my invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion, and details of construction may be made within the scope of the invention without departing from the spirit or sacrificing any of the advantages thereof.

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

1. The combination with a trolley-fork, of bearing-blocks having a sliding connection with said fork, a trolley-axle carried by said



bearing-blocks, a trolley-wheel mounted upon said axle, divergent finder-arms pivoted to said trolley-forks, links connecting said finder-arms to said axle, and means for constantly exerting a downward pressure upon the axle to elevate the trolley-wheel and swing upwardly the finder-arms, substantially as set forth.

2. The combination with a trolley-fork, of bearing-blocks having a sliding connection with said fork, a trolley-axle carried by said bearing-blocks, a trolley-wheel mounted upon said axle, divergent finder-arms pivoted to said trolley-fork, links connecting the said finder-arms to said axle, and means for constantly exerting a downward pressure upon the axle to elevate the trolley-wheel and swing upwardly the finder-arms, said means comprising a weighted lever pivoted to the trolley-fork and a link pivotally connecting the

inner end of the weighted lever to said axle, substantially as set forth.

3. The combination with a trolley-fork provided with vertically-disposed apertures in its side pieces, of blocks mounted to slide vertically in said apertures, an axle having its ends supported by said blocks, a trolley-wheel journaled upon said axle, finder-arms pivoted to said fork, links connecting said finder-arms to said axle, a weighted lever pivoted to said fork, and links connecting the inner end of said weighted lever to said axle, substantially as set forth.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM F. MACK.

Witnesses:

I. T. HARTZOG,

CORNELIUS BEYSHER.