No. 764,371. PATENTED JULY 5, 1904.

J. D. RATLIFF.

TROLLEY WIRE REPLACER.

APPLICATION FILED FEB. 15, 1904.

NO MODEL.

Fig. 1.

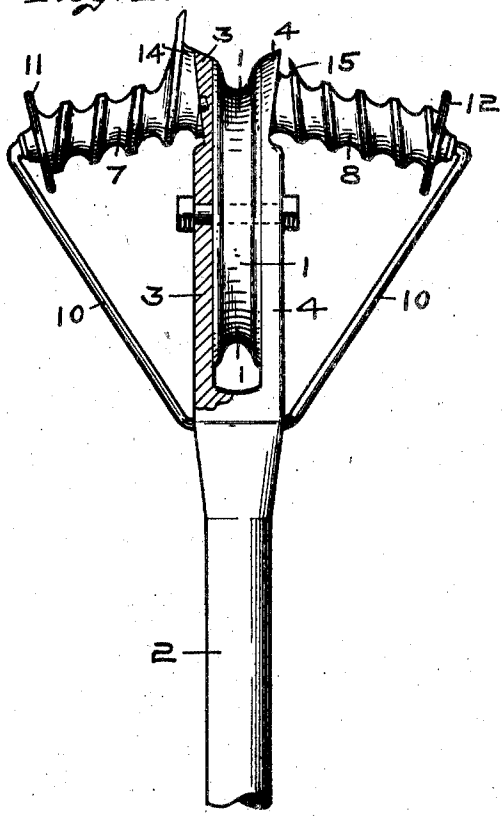


Fig 2.

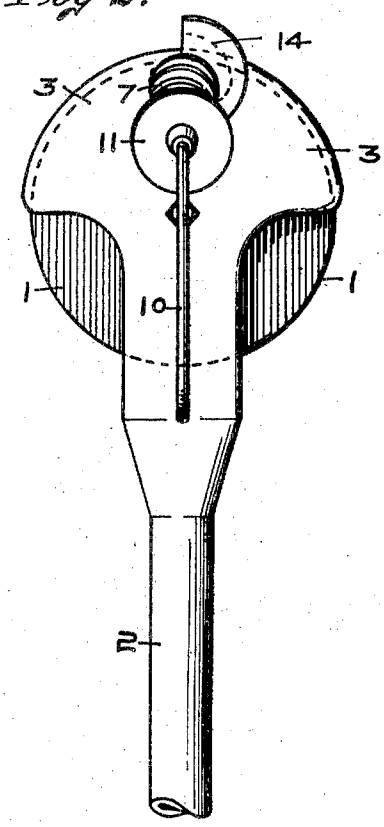
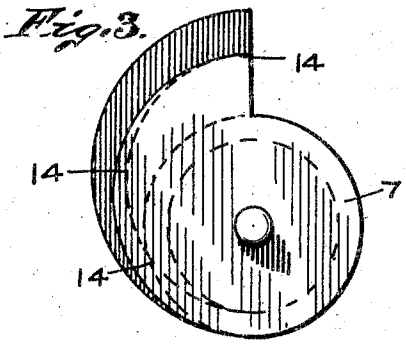


Fig. 3.



Witnesses

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No. 764,371. Patented July 5, 1904.

UNITED STATES PATENT OFFICE.

JOHN D. RATLIFF, OF MUNCIE, INDIANA.

TROLLEY-WIRE REPLACER.

SPECIFICATION forming part of Letters Patent No. 764,371, dated July 5, 1904.

Application filed February 15, 1904. Serial No. 193,600. (No model.)

To all whom it may concern:

Be it known that I, JOHN D. RATLIFF, a citizen of the United States, residing at Muncie, in the county of Delaware and State of Indiana, have invented certain new and useful Improvements in Trolley-Wire Replacers, of which the following is a specification.

This invention relates to attachments for trolley-wheels, and has for its object a means for automatically replacing trolley-wires by catching and discharging them into the wheels when the wires are disconnected from the wheels. There are other features, and the construction and arrangement of the several parts of such devices whereby the advantages sought are attained will first be fully described and then pointed out in the claims.

Referring to the accompanying drawings, which are made a part hereof, and on which similar numerals of reference indicate similar parts, Figure 1 is an edge view of the trolley-wire replacer and shows the same partly in section and partly in elevation. Fig. 2 is a side elevation of the construction shown in Fig. 1. Fig. 3 is an end elevation of one of the screw-drums.

In the drawings, 1 is the old and well-known trolley-wheel, which is suitably supported in the trolley-pole 2. The pole 2 is bifurcated at the top and terminates in the members 3 and 4, which provide the bearings for the trolley-wheel 1. As shown in Fig. 3 of the drawings, the members 3 and 4 have semicircular formations in which the diameters slightly exceed that of the wheel 1. The peripheries of these members are cut on inclines in which the descents are disposed toward the trolley-wheel, so that when the trolley-wire is deposited upon either of these inclined surfaces it will slide into the groove of the wheel 1.

A plurality of screw-drums 7 and 8, which are provided with threaded peripheries in which the pitch of these threads is disposed toward the trolley-wheel, are mounted on the sides of said wheel and find bearings at their inner ends in the members 3 and 4 of the pole 2. The outer ends of the drums are supported by means of the standards 10, in which the lower ends of the latter are secured to the pole 2. The screw-drums 7 and 8 provide means for catching and automatically carrying the disconnected trolley-wire and discharges the same into the trolley when the car is moving. The screw-drums 7 and 8 are provided at the outer ends with the shoulders 11 and 12, which prevent the trolley-wire from escaping over the ends should the disconnected wire strike near the extreme outer ends of the drums. The trolley-pole is usually held in a raised position by means of springs secured to the base and the tendency of the pole is to rise when the trolley-wheel is disconnected from the wire. This lateral and upward movement of the pole permits the drums to catch the wire, and as the car is still under motion it causes the contacted drum to revolve, thus moving and eventually discharging the free wire into wheel 1 by means of the threads on the drums. The drums 7 and 8 are provided at the inner ends with the integral cams 14 and 15, over which the ends of the threads pass. These cams lift the free trolley-wire from the drum-bodies to the peripheries of the inclined faces of the members 3 and 4 of the pole 2, and said wire thence slides into the groove in the wheel 1.

It will be readily seen that in the employment of my wire-replacer unnecessary delays of cars will be avoided and much time saved that is now consumed by motormen and conductors in replacing the trolley-wheels which are disconnected from the trolley-wires in various ways.

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

1. In a trolley-wire replacer, in combination with the trolley-wheel and supporting-pole, comprising a plurality of revoluble screw-drums mounted obliquely to the trolley-wheel, and having their bearings in the fork of the trolley-pole and above the axis of the trolley-wheel, threads in the peripheries of the drums the pitch of said threads being disposed toward the trolley-wheel, so that the trolley-wire is moved toward said trolley-wheel when the drums are revolved, and means suitably arranged for supporting the drums.

2. In a trolley-wire replacer, the combination with the trolley-wheel and supporting-

pole, a revoluble screw-drum mounted on each side and in an oblique plane to the trolley-wheel, in which the oblique plane traverses the axial-plane line of the trolley-wheel, and means extending from the trolley-pole to engage and support the outer ends of the screw-drums.

3. In a trolley-wire replacer, the combination with the trolley-wheel and supporting-pole, a revoluble screw-drum mounted on each side and in an oblique plane to the axial plane of the trolley-wheel, the forked end of the pole provided with inclined faces that slant at right angle to the axis of the screw-drums, and means extending from the trolley-pole to engage and support the outer ends of the drums.

In witness whereof I have hereunto set my hand and seal, at Muncie, Indiana, this 28th day of January, A. D. 1904.

JOHN D. RATLIFF. [L. S.]

Witnesses:

MATHIAS L. NEFF,

JOHN W. GIBSON.