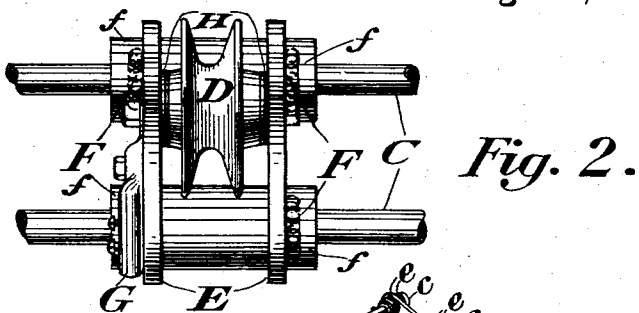
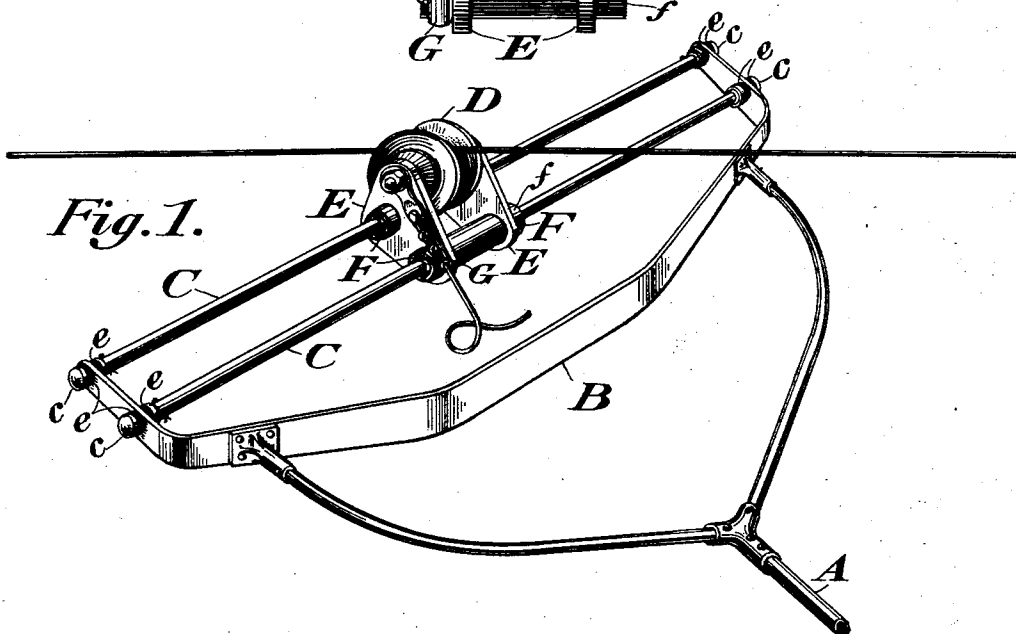
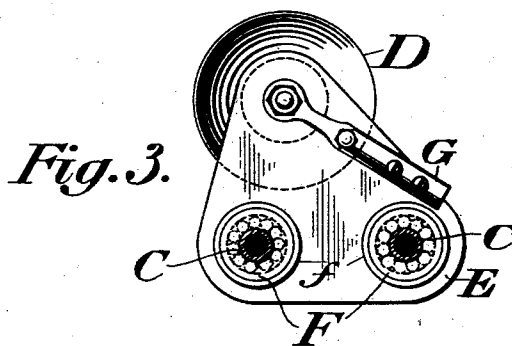


(No Model.)

S. HARRIS.
ELECTRIC TROLLEY DEVICE.

No. 588,144.

Patented Aug. 17, 1897.



WITNESSES:

H. C. Stiff
A. O. Carpenter

Samuel Harris INVENTOR

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ATTORNEY

UNITED STATES PATENT OFFICE.

SAMUEL HARRIS, OF JOHNSTOWN, PENNSYLVANIA, ASSIGNOR TO THE
STEEL MOTOR COMPANY, OF SAME PLACE.

ELECTRIC TROLLEY DEVICE.

SPECIFICATION forming part of Letters Patent No. 588,144, dated August 17, 1897.

Application filed December 3, 1896. Serial No. 614,310. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL HARRIS, of Johnstown, Cambria county, Pennsylvania, have invented certain new and useful Improvements in Electric Trolley Devices, of which the following is a specification.

My invention relates to underrunning trolley devices intended to make contact with suspended electric conductors, and more especially it relates to that type of trolley devices which has a contact-maker adapted to slide transversely, so as to adjust itself to the different vertical planes in which the conductor may be hung.

The object of my invention is to produce a contact-carrier of light and simple construction so mounted on transverse shafts that it will slide easily upon them and having the said shafts mounted so that accidental contact between them and the conductor will not blister them and so prevent the easy sliding of the contact-carriage.

To this end my invention consists in the novel construction and combination of parts, as hereinafter described.

Referring to the drawings, Figure 1 is a perspective view of my invention as it would appear when mounted upon the free end of a pole. Figs. 2 and 3 are respectively top and side views of the contact-carriage.

A is the end of a trolley-pole and may be mounted upon any known form of base adapted to give the requisite upward pressure. This pole is forked at its upper end, as shown, and to the ends of the prongs is secured the member B, here shown as a metallic ribbon bent to a shape suited for the reception of the two transverse horizontal tubes C C, upon which the contact-carrier is adapted to slide. C C are secured to the ends of B, as by caps c c, and are insulated from B, as by fiber washers e e and fiber rings (not shown) encircling C C and passing through B.

D is the trolley-wheel, which is rotatable upon a short shaft mounted between the two triangular plates E E, which plates I make of insulating material, such as hard rubber or vulcanite.

H H are washers, and G is the electric connection between the trolley-wheel shaft and the electric apparatus upon the car.

The carriage is free to slide transversely upon ball-bearings F F within the tubes f f, which latter encircle the shafts C C and secure together the plates E E.

By the combination of parts as herein shown and described I obtain a trolley device adapted to adjust itself readily to sudden changes in the position of the wire, and I reduce the wear upon the wire to a minimum, as I always have the contact-wheel at right angles to the wire. By insulating the rods C C from the trolley-wheel and from the other parts of the pole no current will be delivered to the electric apparatus at such times as the wheel may leave the wire. The non-delivery of current at such times has the double advantage of removing any danger of the blistering of the tubes caused by arcs from the conductor to said tubes, which would prevent the easy sliding of the carriage, and of immediately notifying the operator that the wheel has left the wire.

I limit myself neither to the exact details herein shown and described nor to the use of my invention as carried at the end of a pole. There have been many devices other than poles designed to give upward pressure against a suspended conductor, and my invention may be used in conjunction with such devices. It is evident also that with any type of transverse-sliding contact-maker, or with more or less than two transverse shafts, the insulation of the shaft or shafts would subserve the same result as herein described, thus falling within the scope of my invention. I do not limit myself, therefore, either to the number of shafts or to the form of contact-carrier shown.

What I claim, and desire to protect by Letters Patent, is—

1. In an electric trolley device, in combination with a contact-maker movable along a transverse shaft which engages the conductor when the contact-maker looses engagement therewith, insulating members between the said shaft and the electrical apparatus upon the car.

2. In an electric trolley device, a transversely-sliding contact-carriage comprising a contact-maker carried between members E E made of insulating material, said members be-

ing mounted about upwardly-pressed shafts insulated from the electrical apparatus upon the railway-car.

3. In an electric trolley device, in combination, an upwardly-pressed arm and a transverse shaft carried at its free end but insulated therefrom, a carriage adapted to slide upon said shaft and carrying a contact-wheel also insulated from said shaft or shafts.

10 4. A slidable carriage for electric trolley devices comprising the combination of a con-

tact-maker, plates between which said contact-maker is mounted, tubular connections between said plates, and suitable bearings within said connections.

In testimony whereof I have affixed my signature in presence of two witnesses.

SAMUEL HARRIS.

Witnesses:

JOS. D. FORRER,
H. W. SMITH.