(No Model.)

R. L. HARRIS.

CONDUCTOR FOR ELECTRIC RAILWAYS.

No. 348,008. Patented Aug. 24, 1886.

Fig. 1.

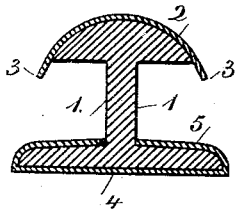


Fig. 2.

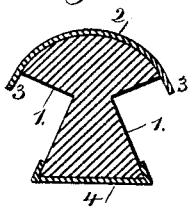


Fig. 3.

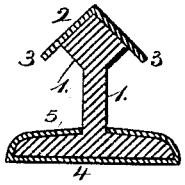
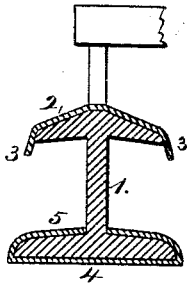


Fig. 4.



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UNITED STATES PATENT OFFICE.

ROBERT L. HARRIS, OF BROOKLYN, NEW YORK.

CONDUCTOR FOR ELECTRIC RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 348,008, dated August 24, 1886.

Application filed March 8, 1886. Serial No. 194,383. (No model.)

To all whom it may concern:

Be it known that I, ROBERT L. HARRIS, of Brooklyn, in the county of Kings and State of New York, have invented an Improvement in Conductors for Electric Railways, of which the following is a specification.

Metallic conductors have been made use of for conveying the electricity from a stationary generator to an electric motor upon the railway car or vehicle, and these metallic conductors have been insulated from the supports that hold the same; but in practice the water running over the conductor or dripping from the same weakens the electric current by leakage through the moisture.

The object of my present invention is to protect the metallic conductor from the direct contact of rain-water or moisture, and to accomplish the same in such a manner that the conductors require no other covering than that which is applied directly to the same.

In the drawings, Figure 1 represents a conductor with the covering applied on the same; and Figs. 2 and 3 are sections of different forms of conductors with my improvements thereon, and Fig. 4 represents a hanging conductor.

The conductor is to be made of suitable metal—preferably of copper—and it is provided with one or more naked or unprotected surfaces, 1 1, against which presses a contact-spring, wheel, or other device, that is connected to the carriage to be driven by the electric current passing through the same to a magneto or other engine upon the car.

In order to protect the contact-surfaces 1 of the conductor, I make use of an insulating-roof, 2, the same extending along over the conductor, and being either convex or inclined in its sectional form, and this insulating-roof is made of ebonite, vulcanized fiber, or other suitable insulating material, and the edges of this roof project to form eaves 3, from which any water pouring or falling upon the roof will drip, and not run down the exposed surfaces of the conductor, thereby keeping the conductor dry at the place where the contact-spring touches the same. The base of this conductor is of sufficient width to firmly support the same, and this base is covered with insulating material—such as vulcanite or vulcanized fiber—and if the conductor is supported this insulating material is applied on the under side of the base, as at 4, and also upon the upper surfaces thereof, as at 5, in such a manner that water dripping from the eaves 3 will not fall upon the metallic conductor itself, thereby effectually preventing leakage of the electrical current through the water or moisture, because such moisture does not reach the naked surface of the conductor. It is to be understood that this insulating material is confined directly to the surfaces of the conductor, so that moisture will not soak in between the conductor and such insulating material. This insulated conductor may be connected to the cross-ties of the railway, or it may be placed in a trunk or conduit below the track, or it may be suspended by insulated hangers, as seen in Fig. 4.

I am aware that a metallic rail upon which the car runs, and which forms the conductor, has been coated upon its sides and bottom with insulating material; but this is subject to moisture coming in contact with its exposed surface. In other cases a wooden support has been provided, to the under side of which a strip of copper is attached. This device is necessarily large, cumbersome, and not adapted to a sidewise-acting contact-maker.

I claim as my invention—

1. An electric conductor for railway-motors, composed of a metallic bar having a head with its upper surface coated with insulating material, a depending web below the head of the bar, the surface of which is exposed for the contact-maker of the traveling motor, substantially as specified.

2. The electric conductor for railway-motors, composed of a metallic bar having its upper surface coated with insulating material and forming a roof to the same, and its lower edge also coated with an insulating material, the metal between these insulations being exposed for the contact-maker of the traveling motor, substantially as specified.

Signed by me this 26th day of February, A. D. 1886.

ROBERT L. HARRIS.

Witnesses:

GEO. T. PINCKNEY,

WALLACE L. SERRELL.