L. STEINBERGER.

UNDER GROOVED TROLLEY WIRE.

APPLICATION FILED NOV. 23, 1903.

917,500. Patented Apr. 6, 1909.

Fig. 1.

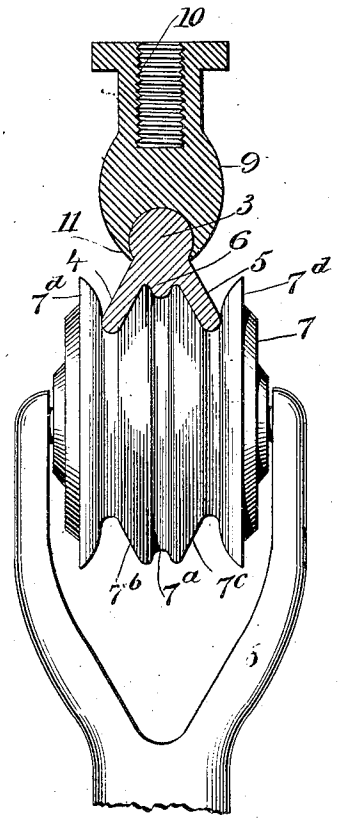
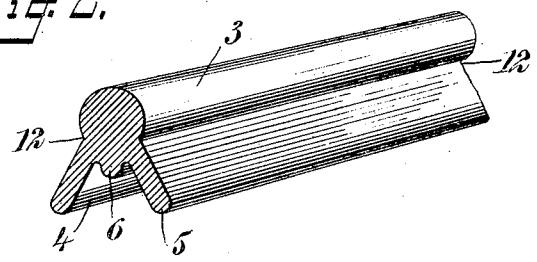


Fig. 2.



WITNESSES:

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LOUIS STEINBERGER, OF NEW YORK, N. Y.

UNDER-GROOVED TROLLEY-WIRE.

No. 917,500. Specification of Letters Patent. Patented April 6, 1909.

Application filed November 23, 1903. Serial No. 182,339.

To all whom it may concern:

Be it known that I, LOUIS STEINBERGER, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Under-Grooved Trolley-Wire, of which the following is a full, clear, and exact description.

My invention relates to conducting wires, and more particularly to a type of trolley wire admitting of general use, and of peculiar value in supplying current to movable vehicles.

Among the advantages secured by my invention, are the following, to wit: First, the wire is provided with a contact face which is protected from the action of the weather. Second, the contact face has a plurality of bearing surfaces insuring a contact of considerable area. Third, the wire can readily be substituted for wires of other kinds heretofore used. Fourth, the wire is made up from a minimum of metal for the amount of contact surface. Fifth, the wire is of a conformity which enables it to be readily suspended from clips. Sixth, the shape of the wire is such that the trolley easily engages it. Seventh, the trolley wheel can not be readily misplaced from the wire when once in contact therewith.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in both the figures.

Figure 1 is a front elevation partly in section, showing my invention in use; and Fig. 2 is a fragmentary perspective view of a portion of the wire removed from the line.

The wire is provided with a rotund portion 3, of substantially cylindrical form and integrally connected with it are webs 4, 5, which radiate from its axis. Intermediate of the webs 4, 5, is a longitudinal bead 6, having a curved surface as shown. The trolley wheel is shown at 7, and the trolley harp at 8. The wire is supported by means of clips 9, each having a threaded socket 10, whereby the clip is suspended, and provided with malleable lips 11, which may be bent into the side channels 12 of the rotund portion 3, thereby affording a good grip upon the rotund portion.

The trolley wheel 7 is provided with a central groove 7^a which engages the longitudinal bead 6 of the wire, and is also provided with annular contact faces 7^b, 7^c, which engage the inner portions of the webs 4, 5. The flanges 7^d of the trolley wheel are disposed upon the outer sides of the webs 4, 5, for the purpose of guiding the same into position.

It will be seen that the inner surfaces of the webs 4, 5, form a contact of considerable area with the annular contact surfaces 7^b, 7^c of the wheel, and that the contact made by the groove 7^a in engagement with the bead 6 is also one of considerable area; therefore the total contact surface is a large one.

It also will be noted, by reference to Fig. 2, that the webs 4, 5, depend from the substantially cylindrical portion 3 of the wire, and that the contact surface of the bead 6, together with the inner surfaces of the webs 4, 5, are protected from the action of moisture. In other words, the webs 4, 5, serve as weather shields, thus maintaining the contact surfaces of the wire as dry as possible.

It will also be noted that there are a plurality of contact surfaces disposed at different angles and lying in different planes so that any rocking or lateral movement of the wheel will not prevent a sufficient contact to carry the current properly. In other words, if by a lateral movement the trolley wheel should move a little downward and to the right or left, its conformity is such that a suitable contact is nevertheless performed between it and the wire.

Should moisture accumulate upon the upper surface of the conductor and run down so as to form icicles, or snow settle upon the upper portion of the wire, the contact surface is always clear. Moreover, the depending webs are of such shape that icicles are readily disengaged from the under side thereof, and if not abundant may be removed automatically by the action of the trolley wheel.

It will be noted that my wire is in most respects like any other wire; that is, it has practically the same resilience or freedom to bend, and is in all other respects adapted to be suspended upon poles or otherwise mounted in accordance with custom.

I do not limit myself to the exact form of wire herein shown, nor to the particular means for suspending the same, nor to the precise conformity of the several contact surfaces.

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

1. A trolley wire comprising a longitudinal flexible member provided with a substantially cylindrical portion having a downwardly projecting body constituting a contact surface, said member being further provided upon opposite sides of said body with webs radiating outwardly from said substantially cylindrical portion, said webs being wider than said body.

2. A trolley wire comprising a longitudinal resilient body portion adapted to spring in the general direction of its length and having such proportions that it may be bent with comparative ease, said body portion being provided with webs projecting radially from each other, and further provided with a contact surface.

3. A trolley wire comprising a continuous body portion the diameter of which as compared with its length is so apportioned that said body portion may be sustained as a wire, said body portion being provided with webs integral with it and projecting radially outward from its geometrical center.

4. A trolley wire comprising a substantially cylindrical member provided with webs, and a clip provided with a cylindrical opening for receiving said cylindrical member, and further provided with jaws for engaging said cylindrical member at the points where said webs radiate therefrom, said webs being integral with said cylindrical member.

5. A trolley wire comprising a longitudinal wire-like section provided with a substantially cylindrical portion having a downwardly projecting body constituting a contact surface, said member being further provided upon opposite sides of said body portion with webs radiating from the center of said section, said webs being wider than said body portion.

6. A trolley wire comprising a longitudinal wire-like section provided with a substantially cylindrical portion having a contact surface and provided upon opposite sides with webs radiating from said cylindrical portion.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LOUIS STEINBERGER.

Witnesses:
WALTON HARRISON,
JNO. M. RITTER.