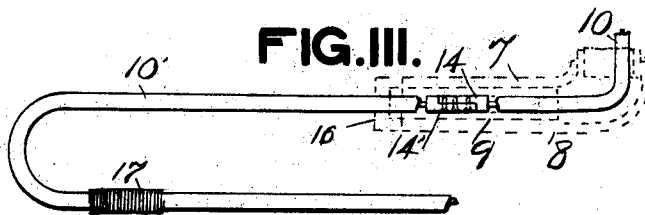
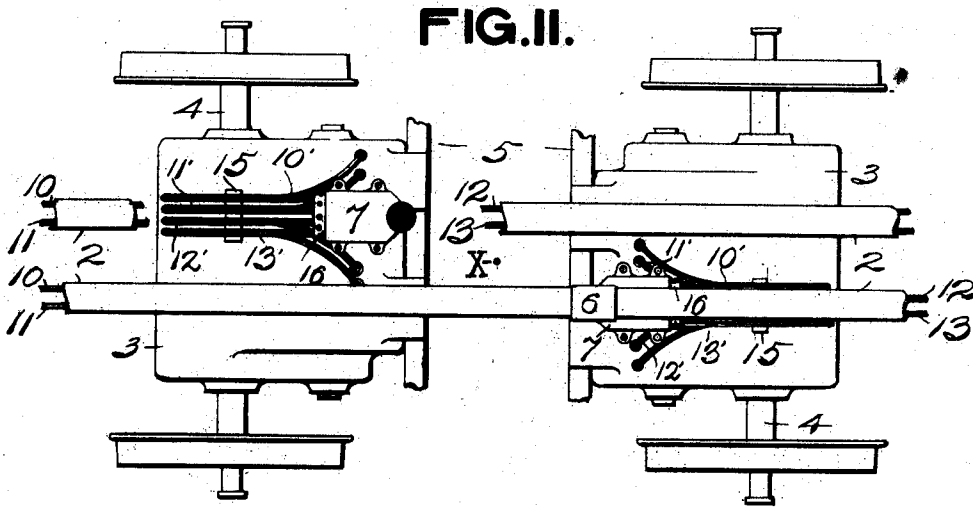
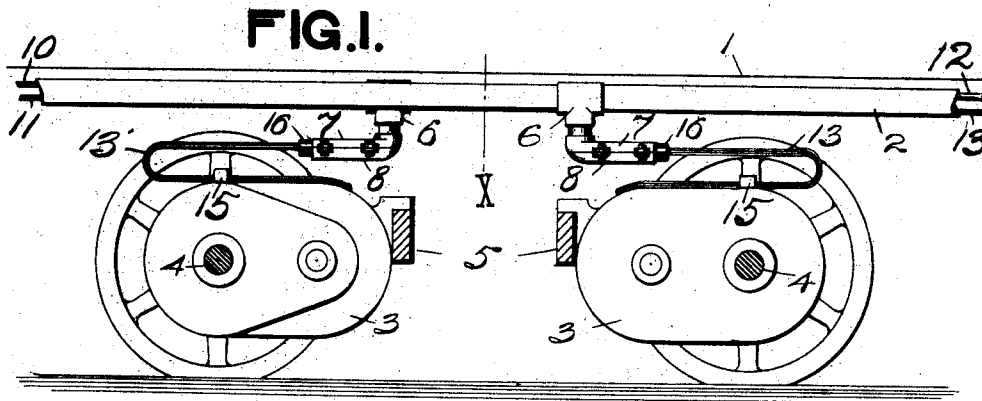


H. ETHERIDGE.  
MOTOR LEADS CONNECTION FOR STREET CARS.  
APPLICATION FILED MAY 13, 1909.

981,545.

Patented Jan. 10, 1911.



Witnesses

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# UNITED STATES PATENT OFFICE.

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## MOTOR LEADS CONNECTION FOR STREET-CARS.

981,545.

Specification of Letters Patent.

Patented Jan. 10, 1911.

Application filed May 13, 1909. Serial No. 495,790.

*To all whom it may concern:*

Be it known that I, HARRY ETHERIDGE, a citizen of the United States, residing at Zelenople, in the county of Butler and State of Pennsylvania, have invented certain new and useful Improvements in Motor Leads Connections for Street-Cars; 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention has for its objects the provision of a leads connection between the conduits and motors carried by electrically operated street cars, whereby flexibility of said leads is attained between their fixed points, permitting the trucks carrying the motors to follow any curvature and thus prevent crystallization and consequent breaking of the leads heretofore occasioned therein when disposed in the ordinary manner.

Further objects of my invention are to dispose the leads in a position over the top of the motors where they are less apt to sustain injury, and where access thereto may be readily had when necessary.

Again, the invention has for a further object the separating and holding of the leads connections in operative position as they issue from the conduits, the means employed to effect my objects being fully shown in the accompanying drawings and set forth in this specification.

In said drawings, Figure I, is a side elevation of a portion of a double car truck, in longitudinal section, together with the conduits carried by the car and showing the application of my invention thereto. Fig. II, is a plan view of the same. Fig. III, is an enlarged side elevation of one of the leads connections, and Fig. IV, is a transverse sectional view through the conduit outlet member, in all of which views similar detail parts are designated by numerals of like character.

Upon further reference to the drawings the numeral 1 designates the line of the car body, 2 the leads conduits secured to said body and 3 the motors carried upon the wheel axles 4 of the truck and the transverse truck frame portions 5, the pivotal

point of the truck to the car body being designated by the character X, all of which are well known in the art.

The invention comprises a T connection 6 carried by each conduit 2, each T having rigidly secured thereto a horizontally disposed outlet member formed of the two parts 7 and 8 connected to one another and provided with registering parallel grooves between which are clamped insulating tubes 9, the conductor leads 10, 11, 12 and 13 within the conduits being passed down into the said outlet member and extending part way into the said insulating tubes the ends of each carrying a connecting terminal 14.

The insulated connecting leads 10', 11', 12' and 13' located above the motors are each connected to one of the conductor terminals within the insulating tubes of the outlet member by means of screws passed through duplicate terminals 14' carried thereby, said leads connections being each formed into a horizontally disposed loop projecting from and in the direction of the said outlet member for some distance and then returning in the opposite direction and passing into the motor, each of the leads loops being in parallel relation with one another and in the same horizontal plane and secured in position upon the motor by cleats 15.

Upon the ends of the insulating tubes, where they issue from the conduit outlet members, and the leads connections, is secured a secondary clamping member 16 divided longitudinally into two parts secured to one another by screws and said leads being protected throughout by a covering formed of spirally wound brass wire 17.

By means of the described leads connections for the motor it will be readily apparent that as the truck carrying the motor adjusts itself in rounding any curvature of the track the said leads connections will likewise adjust themselves in accordance to the truck movement the strain thereon being distributed throughout the length of the loops.

When it is desired to remove the motor and attending truck for repairs, etc., the lower section 8 of the conduit outlet member is detached and the secondary clamping member 16 is slightly loosened, after which the insulating tubes 9 and secondary clamping member are slipped along upon the leads loops, sufficient to expose the connecting ter-

minals 14 and 14', after which the said terminals may readily be disconnected and the motor and truck removed, and as the secondary clamping member and insulating tubes remain intact upon the leads loops they may be easily replaced in position, the terminals connected and the outlet member section replaced after the motor and truck have been restored in position.

10 Having thus fully shown and described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. The combination with a motor carried by a car truck and a conduit carried by the car body, of a plurality of conductors extending through and from said conduit to the motor, said conductors, between the motor and conduit, being each formed in an approximate horizontally projected loop disposed edgewise in approximate parallel relation with one another, and a member carried by the conduit to distribute the conductors and rigidly secure the same in spaced relation thereat.

25 2. The combination with a motor carried by the car truck and a conduit carried by the car body, of a plurality of conductors extending through and from said conduit to the motor, said conductors, between the motor and conduit, being each formed in an

approximate horizontally projected loop disposed edgewise in an approximate parallel relation with one another, and a member carried by the conduit to distribute the conductors and rigidly secure the same in spaced relation thereat, the loop portion of each conductor being detachably connected to the main portion.

3. The combination with a motor carried by a car truck and a conduit carried by the car body, of a plurality of conductors extending through and from said conduit to the motor, said conductors, between the motor and conduit, being each formed in an approximate horizontally projected loop disposed edgewise in approximate parallel relation with one another, and a member carried by the conduit to distribute the conductors and rigidly secure the same in spaced relation thereat, the loop portion of each conductor being detachably connected to the main portion and all insulatedly connected to one another where they issue from said member.

In testimony whereof, I affix my signature, in presence of two witnesses.

HARRY ETHERIDGE.

Witnesses:

JEAN WILSON,  
E. GOETTMAN.