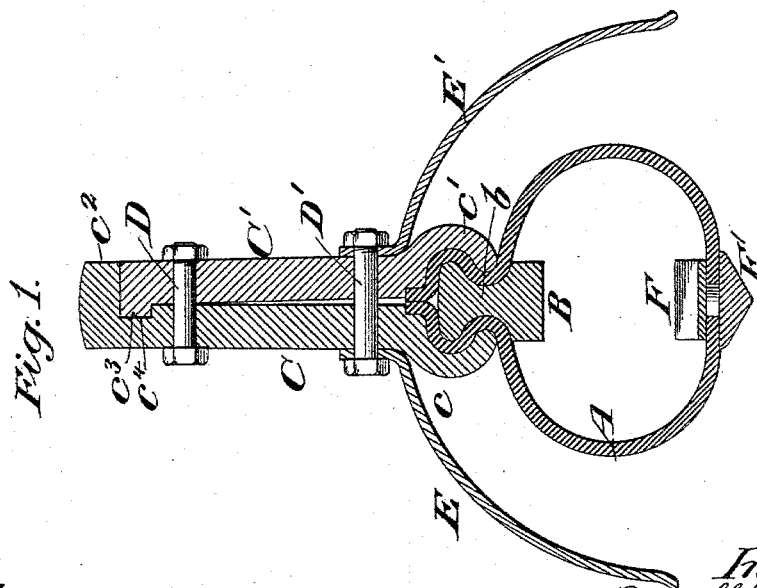
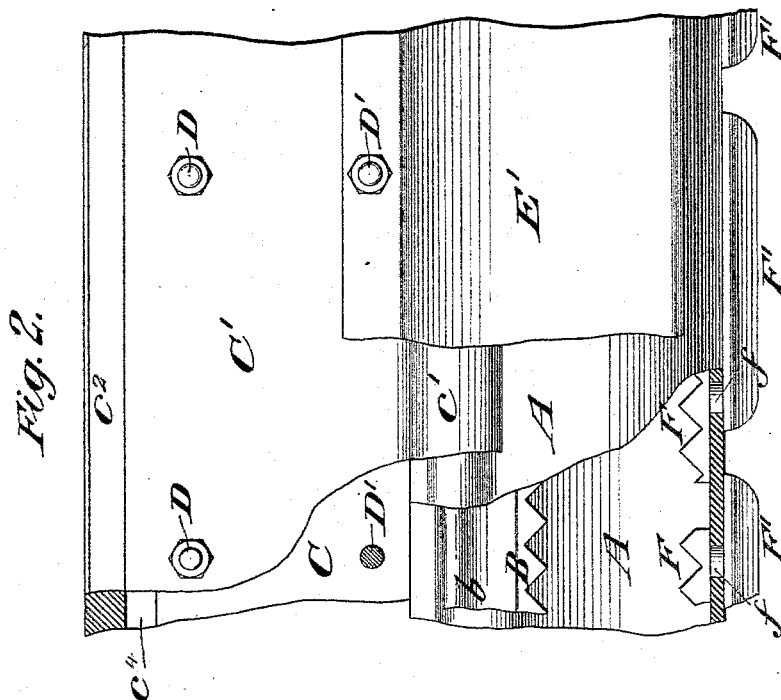


(No Model.)

R. PARKER & B. F. SUTTON.
CLOSED CONDUIT FOR ELECTRIC RAILWAYS.

No. 490,306.

Patented Jan. 24, 1893.



Witnesses:
R. H. Haywood
J. B. Lusk.

Inventors:
Russell Parker
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by attorneys
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UNITED STATES PATENT OFFICE.

RUSSELL PARKER AND BENJAMIN F. SUTTON, OF BROOKLYN, NEW YORK.

CLOSED CONDUIT FOR ELECTRIC RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 490,306, dated January 24, 1893.

Application filed January 9, 1892. Serial No. 417,489. (No model.)

To all whom it may concern:

Be it known that we, RUSSELL PARKER and BENJAMIN F. SUTTON, of Brooklyn, in the county of Kings and State of New York, have
5 invented a new and useful Improvement in Conductors for Electric Railways, of which the following is a specification.

Our invention relates to an improvement in electric conductors for railways, and more
10 particularly to conductors used in connection with a trolley or other circuit maker and breaker which is arranged to exert an upward pressure upon the conductor to complete the circuit.

15 The object is to provide for a complete insulation of the conductor and protecting it from the effects of the sun and rain or snow and from dust and foreign substances which would be liable to interfere with its action in
20 connection with the circuit making and breaking arm or trolley.

A practical embodiment of our invention is represented in the accompanying drawings in which,

25 Figure 1 is a view of the conductor and its conduit in transverse section and Fig. 2 is a view of a portion of the same in side elevation, partially broken away to more clearly show the interior structure.

30 A represents a closed tube of some suitable flexible insulating material, such for example as rubber and the tube in the present instance is formed by a sheet of rubber the opposite edges of which are clamped together as will hereinafter appear. A continuous conductor
35 B is provided with a narrowed neck portion *b* against the opposite sides of which the material forming the tube A is clamped by means of jaws *c* and *c'* at the ends of clamping plates C and C' respectively. The jaws *c* and *c'* are
40 grooved or hollowed out at their inner faces so as to embrace the upper enlarged portion of the conductor B and the sheet of material which forms the tube A extends up around
45 the upper enlarged portion of the conductor B between it and the jaws *c* and *c'* and its edges are brought into snug contact by the plates C and C' at the base of the said jaws. We find it desirable to form one of the
50 plates C with a lip *c²* adapted to overlap the upper edge of the plate C', and to provide the plate C' with a shorter lip *c³* adapted to enter

a recess *c⁴* in the face of the plate C so that when the two parts are assembled and drawn tightly together by the bolts D and D' they
55 will be prevented from shifting positions relatively to each other in the direction of their width and furthermore the top of the section C will form a cap to prevent any entrance of moisture between the two plates from above. 60

In order to protect the insulating tube A from the effects of the sun and from rain and snow, we provide shields E and E', preferably of curved form as herein shown and extending from the opposite sides of the plates C and C' downwardly and outwardly over the tube A. The shields may be conveniently held in position by the same bolts D' which are employed to draw the lower edges of clamping jaws of the plates C and C' together. The
65 lower portion of the tube A is provided along its interior beneath the conductor B with a series of conducting strips F interrupted at short intervals to prevent a continuous current throughout their combined length, and
75 said sections are electrically connected with exterior conducting sections F', preferably by means of rivets *f*. We prefer to have the exterior sections F' overlap the spaces between the adjacent ends of the interior sections and
80 also to have the interior sections overlap the spaces between the adjacent ends of the exterior sections. We further find it desirable to provide the faces of the interior sections F and the face of the continuous conductor B with corresponding teeth so that as the two are brought
85 together by the pressure of the sections F upwardly into contact with the conductor B, there will be no tendency to slide the lower sections ahead of their proper positions as the
90 trolley moves along the line.

It is intended that the spaces between the lower ends of the jaws *c* and *c'*, when the parts are in assembled adjustment, shall be less than the width of the upper enlarged portion of the conductor B so that the latter cannot, by
95 any compression of the wall of the tube A, be drawn downwardly out of its position between the jaws.

What we claim is:

1. A flexible insulating tube, a main conductor extending along the interior of the tube, an interrupted electric conductor fixed to the tube opposite the main conductor and

combined clamping and supporting plates, the jaws of which partially embrace the main conductor exterior to the insulating tube, substantially as set forth.

5 2. A flexible insulating tube consisting of a sheet of material having its edges brought into proximity to each other, a main conductor about the sides of which the insulating sheet extends toward its free edges, clamping plates
10 having jaws which partially embrace the main conductor exterior to the insulating material and an interrupted electric conductor fixed to the tube opposite the main conductor, substantially as set forth.

15 3. The combination with the flexible tube

and the electric conductors engaged therewith, of the clamping plates and the shields depending from the clamping plates, substantially as set forth.

4. The combination with an electric conduit, 20 of supporting plates having their lower ends engaged with the conduit, their upper ends the one overlapping the other and means for holding the plates together, substantially as set forth.

RUSSELL PARKER.

BENJAMIN F. SUTTON.

Witnesses:

FREDK. HAYNES,

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