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THIRD RAIL ELECTRIC RAILWAY.  
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952,004.

Patented Mar. 15, 1910.

Fig. 1.

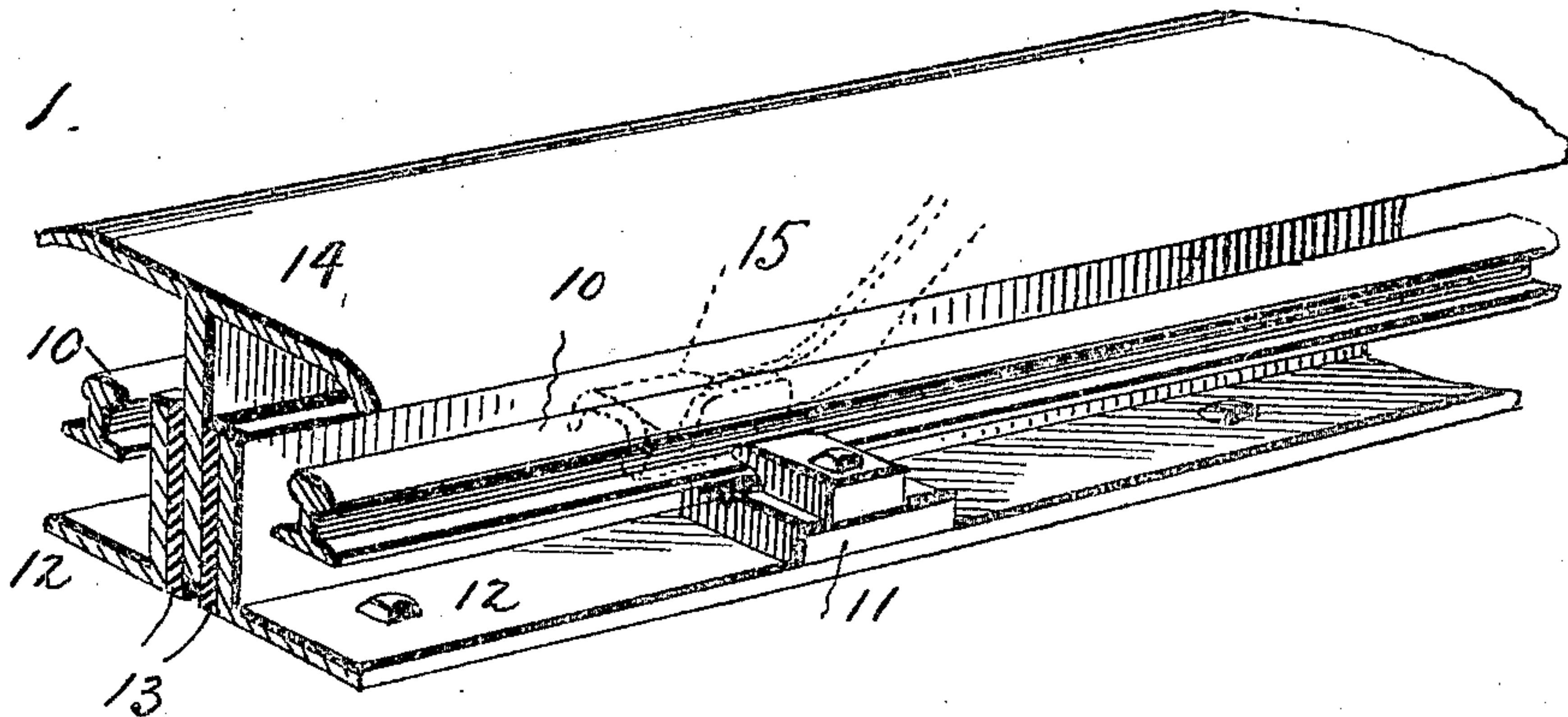
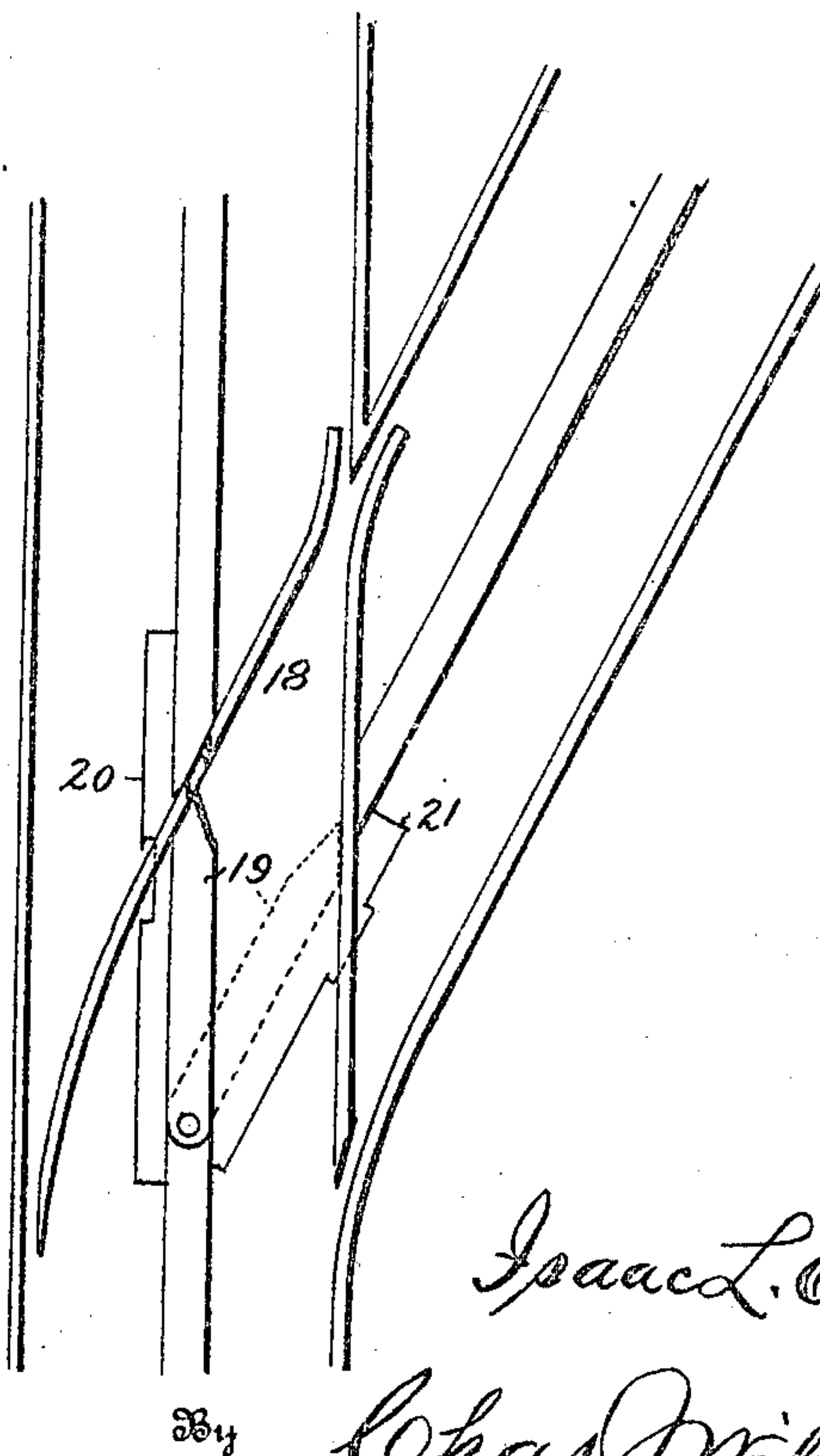


Fig. 2.



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# UNITED STATES PATENT OFFICE.

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## THIRD-RAIL ELECTRIC RAILWAY.

952,004.

Specification of Letters Patent. Patented Mar. 15, 1910.

Application filed April 13, 1909. Serial No. 489,685.

*To all whom it may concern:*

Be it known that I, ISAAC L. EDWARDS, of Aurora, in the county of Kane and in the State of Illinois, have invented a certain new and useful Improvement in Third-Rail Electric Railways, and do hereby declare that the following is a full, clear, and exact description thereof.

The object of my invention is to provide a guard or housing for the live rail of third rail electric railways, which shall possess the essential qualities of complete insulation from the live rail, complete covering or housing thereof to protect the same from snow or sleet, and which possessing these qualities or characteristics, will be economical of construction and installation, and to these ends my invention consists in the third rail guard or cover constructed substantially as hereinafter specified and claimed.

In the accompanying drawings, Figure 1 is a perspective view of a portion of a third rail system embodying my invention; and Fig. 2 a detail plan view of a portion of a track including a switch.

In the embodiment of my invention illustrated in Fig. 1 of the drawings, a system of construction is illustrated in which there are two contiguous third rails 10, both of which require guarding and protection, and they are suitably secured to the railroad bed by chairs 11 from which they are properly insulated. Situated substantially midway between the two live rails which are comparatively close together, are two angle bars 12, with one member arranged horizontally and forming the foot or base, and the other arranged vertically, and the sides of the vertical members of the two angle bars are each covered by a sheet 13 of insulating material of the composition hereinafter described, a space being left between the opposing sides of the two sheets of insulating material on the respective angle bars. The space thus provided is for the reception of the vertical web or member of a T-bar 14, whose cross member thus extends horizontally in opposite directions so as to overhang each of the live rails a sufficient distance to make it impossible for a person or animal accidentally or inadvertently to touch the live rail, and to prevent sleet or snow reaching the rail. If desired, each outer edge of the cross member may be bent or turned downward slightly to add to the protection afforded.

As will be seen, however, from the contact plow or shoe 15, illustrated in the drawings, proper engagement of the shoe and rail is in nowise interfered with.

It will be observed that in the carrying of my invention into practice, I make use of regular structural iron shapes, a feature, of course, that conduces to economy and facility of installation or construction, especially since the aim of my invention is to cover the third rail throughout its length.

My insulation is formed by a mixture of sand, leather, wood, asbestos, rubber and asphalt, the asphalt serving as a uniting medium for the other elements, and constituting a surface protection of the sheet. The leather, wood, asbestos and rubber are in a ground or comminuted condition, and thoroughly intermingled. An insulating body so constructed, besides having excellent insulation qualities, is durable, tough, and sufficiently flexible as not to crack or break.

As illustrated in Fig. 2, in carrying out my invention at a switch, one of the switch rails 18 crosses beneath the main track third rail from which it is insulated, and a section 19 of the third rail is pivoted at its end so that it may swing into and out of alinement with the third rail of the main track or of the siding. The electrical connection between the main track third rail on opposite sides of the section 19 and the switch or siding third rail are effected by suitable conductors 20 and 21. The pivoted third rail section 19 is preferably connected with the switch points so as to move with the latter, and the switch may be opened and closed by hand, by an electric motor, or by a compressed air motor.

Having thus described my invention, what I claim is—

1. In a third rail electric system, the combination of a live rail, a pair of vertical plates contiguous thereto, separated from each other, and a guard and protector having a member fitting between said plates and overhanging the rail.

2. In a third rail electric system, the combination of a live rail, a pair of vertical plates contiguous thereto, separated from each other, a guard and protector having a member fitting between said plates and overhanging the rail, and insulating material interposed between said guard and protector and said plates.

3. In a third rail electric system, the combination of a live rail, a pair of vertical plates contiguous thereto, separated from each other, a guard and protector having a  
5 member fitting between said plates and overhanging the rail, and insulating material interposed between said guard and protector and said plates, consisting of sheets of ma-

terial affixed to opposing surfaces of the plate.

In testimony that I claim the foregoing I have hereunto set my hand.

ISAAC L. EDWARDS.

Witnesses:

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