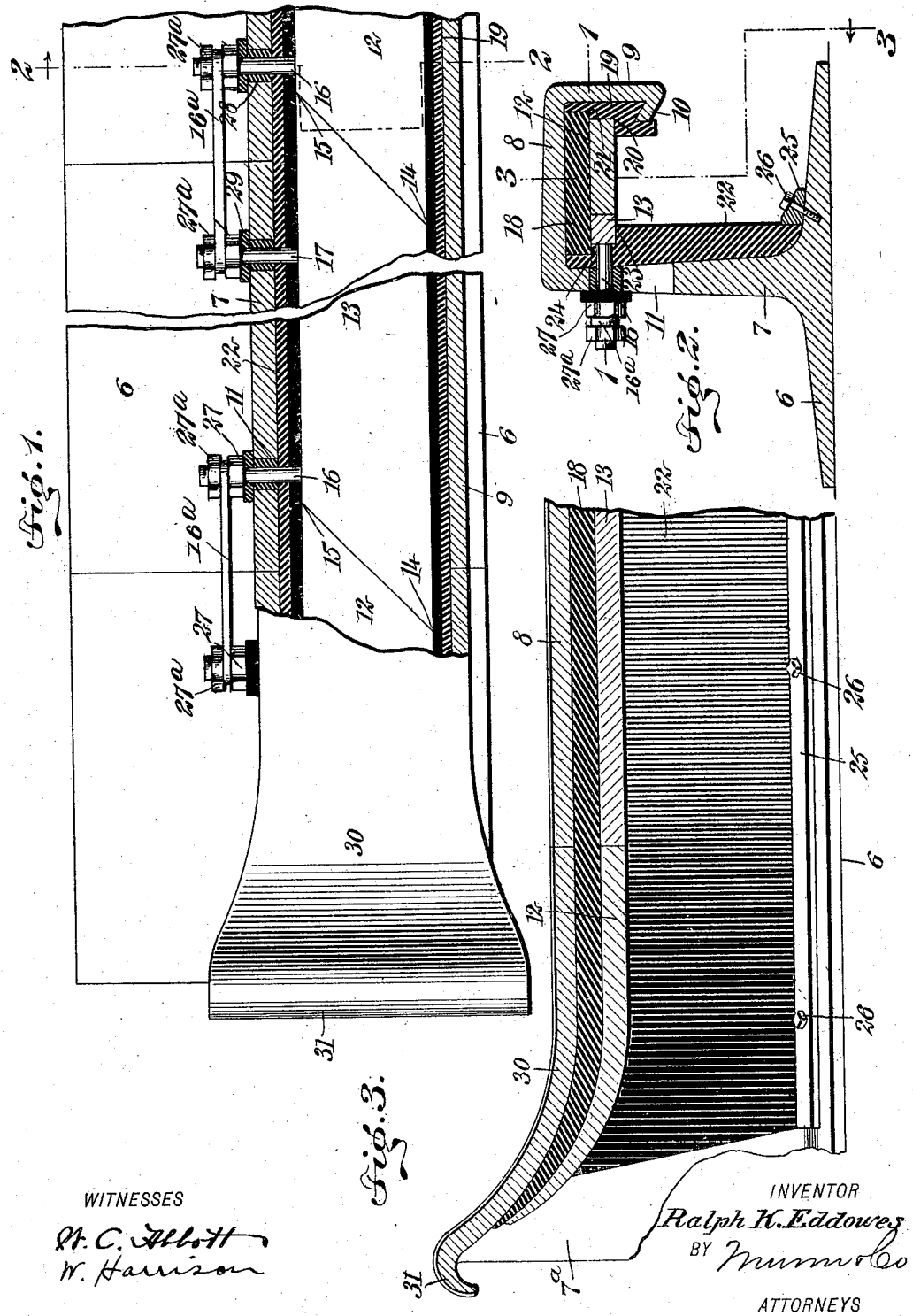
No. 873,522. PATENTED DEC. 10, 1907.

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THIRD RAIL.

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WITNESSES

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THIRD RAIL.

No. 873,522. Specification of Letters Patent. Patented Dec. 10, 1907.

Application filed December 7, 1906. Serial No. 346,704.

To all whom it may concern:

Be it known that I, RALPH KENRICK EDDOWES, a citizen of the United States, and a resident of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and Improved Third Rail, of which the following is a full, clear, and exact description.

My invention relates to third rails, my more particular object being to provide a type of rail consisting of an outer body portion supporting the conducting member or members, face downward, and so connected electrically as to possess certain advantages hereinafter set forth.

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 all the figures.

Figure 1 is a fragmentary plan, partly in section on the line 1—1 of Fig. 2, showing one form of third rail made in accordance with my invention, the conductor forming part of the rail being made up of sections and provided with means for bonding them together; Fig. 2 is a section on the line 2—2 of Fig. 1, looking in the direction of the arrow, and showing the relative arrangement of the conducting section, the insulation therefor, and the bonded bosses projecting through the body portion of the rail; Fig. 3 is a fragmentary vertical section upon the line 3—3 of Fig. 2, looking in the direction of the arrow, and showing the end of the rail as formed for the purpose of guiding the trolley upon the conductor, for instance, at a street intersection.

The rail-base is shown at 6, and extending upwardly from it is a central web 7 provided with a substantially horizontal portion 8, and a vertical portion 9, the lower edge of which is bent obliquely upward and inward at 10. The web 7 is provided with slots 11.

A number of separate sections 12, 13, of metal are beveled off at their ends so as to form acute angles 14, 15, as indicated in Fig. 1. Bonding bosses 16, 17 are mounted rigidly upon the sections 12, 13 and are preferably integral therewith. These bonding bosses 16, 17 are threaded and have in appearance the form of bolts. A slab 18 of insulating material rests upon the sections 12, 13, as indicated in Fig. 2. A supporting strip 19 of insulating material is provided with steps 20, 21, engaging respectively the sections 12 and the slab 18. Another supporting strip 22 is provided with steps 23, 24, which also engages the sections 13 and slab 18. An angle strip 25 engages the lower edge of the supporting strip 22 and holds the same firmly against the web 7. This angle strip 25 is held in position by means of bolts 26. Revoluble nuts 27 and 27^a are screwed upon the outer threaded ends of the bosses 16, 17, and may be employed for the purposes of bonding. For this purpose, bonds 16^a of plain wire may be employed. Of course, the bosses 16, 17, may be connected together in any other manner used for bonding bolts or projecting members together. Annular sleeves 28 and annular washers 29 of insulating material, encircle the bosses 16, 17.

At the end of a rail section, as for instance at a crossing, the web is made higher as shown at 7^a and is surmounted by a curved web 30, the highest point of which appears at 31. The insulation and other parts are made to match this conformity, which is useful in facilitating the entrance of the trolley shoe to the conductor when the car first moves on to this section.

In assembling the rail above described, the supporting strip 19 is first placed in position so as to rest upon the flange 10; next the slab 18 is raised into position and one of its edges rested upon the shoulder 21. The rail sections 12, 13, are next put in position from the under side of the body portion and the supporting strip 22 is pushed upwardly thereagainst from below, so as to force the sections 13 tightly upward against the slab 18, the angle strip 25 is next secured in position by the bolts 26, and the rail structure is complete, after which, it is bonded.

It will be noted that the sections are firmly held in position upon four sides and that the lower faces of these sections are not readily accessible to man or beast, so that there is little probability of accident occurring.

From the above description, the operation of my invention will be readily understood, the conductor being simply a so-called "inverted face conductor", which is inclosed so as to prevent access of rain and sleet to it, and also to safeguard against danger.

The construction shown at the left of Figs. 1 and 3 facilitates the entrance of the trolley shoe as above explained. The conductor may be made of any material which is a good conveyer of electricity, and the outer casing, consisting of the parts 6, 7, 8, 9, 10 can be readily formed by rolling.

In the rail above described, the essential factor is safety. Danger of accidental shocks to men or animals is reduced to a minimum. The construction is such that there are no bolts or screws passing through the conductor, and the latter is not weakened by the existence of holes through it. This feature diminishes the chances of a short circuit.

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

1. A third rail comprising a longitudinal body portion of metal provided with slots disposed transversely of the general length thereof, a conductor mounted within said body portion and provided with bonding bosses extending through said slots, a member of insulating material engaging said conductor and supported by said body portion, a second member of insulating material engaging said conductor, and means for detachably securing said second member of insulating material to said body member.

2. A third rail, comprising an outer metallic body, a strip of insulating material mounted therein and provided with a step, a rail member partially inclosed within said metallic body and engaging said step, and a second strip of insulating material engaging said rail member, said last mentioned strip of insulating material resting upon its own edge.

3. A third rail, comprising an outer metallic body provided with a vertical portion, the lower edge of which is bent obliquely upward and inward, a supporting strip fitted upon said portion thus bent upward and inward, said supporting strip being provided with steps, a rail member having a portion in engagement with one of said steps, a strip of insulating material provided with a portion engaging the opposite edge of said rail member, said supporting strip resting upon its own edge.

4. A third rail, comprising a metallic body, a supporting strip mounted therein, a rail member engaging said supporting strip, another supporting strip engaging said rail member, and an angle strip connected with said metallic body and engaging said last-mentioned supporting strip for the purpose of holding the same in position.

5. A third rail, comprising an outer metallic body provided with a depending portion, the lower edge of which is bent upward and inward, a supporting strip mounted upon said portion thus bent upward and inward, the third rail having one of its edges in engagement with said supporting strip, another supporting strip engaging the opposite edge of said rail member, and a strip of insulating material engaging both of said supporting strips and also engaging said rail member.

6. In a third rail, the combination of an outer metallic body bent upward at its end, a rail member mounted within said metallic body and bent upward and inward at its end for the purpose of guiding a trolley shoe striking the end of said rail body, and means for insulating said rail body from said outer metallic body.

7. A third rail comprising a body portion of metal having a web provided with longitudinal slots extending transversely of the general length of said body portion, a rail body provided with bonding bosses for extending through said slots so as to allow said rail body to be turned slightly in relation to said body portion of metal, and means for insulating said rail body from said body portion.

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

RALPH KENRICK EDDOWES.

Witnesses:
JOHN H. CARBERRY,
CHARLES M. NELSON.