July 7, 1931. H. L. ROGERS 1,813,200

COVER FOR THIRD RAIL AND OTHER ELECTRIC CONDUCTORS

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Fig. 1.

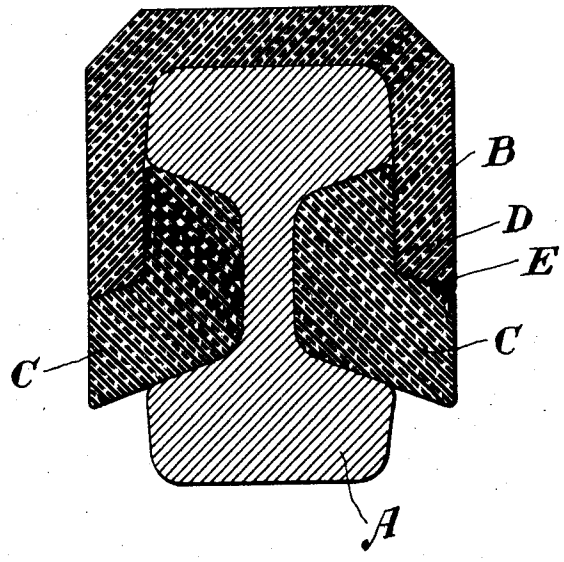
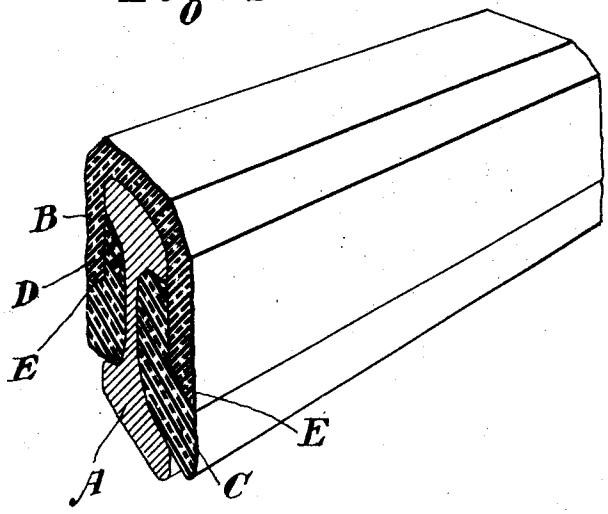


Fig. 2.



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Fig. 3.

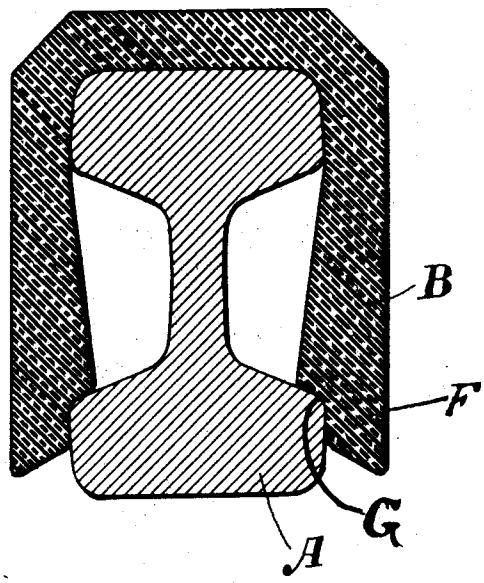
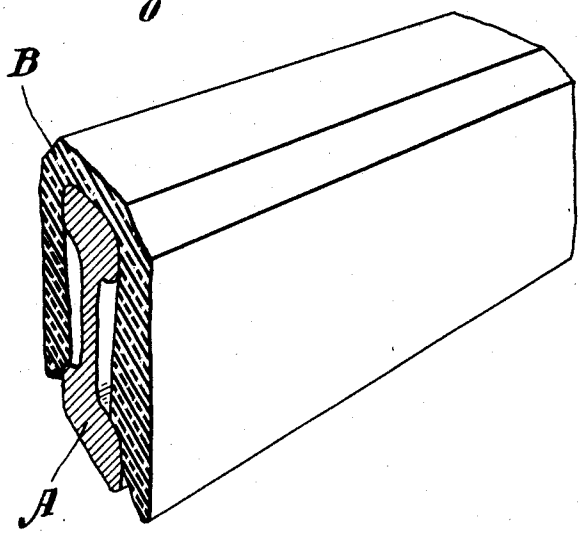


Fig. 4.



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UNITED STATES PATENT OFFICE

HOMER L. ROGERS, OF CINCINNATI, OHIO, ASSIGNOR TO THE PHILIP CAREY MANUFACTURING COMPANY, A CORPORATION OF OHIO

COVER FOR THIRD RAIL AND OTHER ELECTRIC CONDUCTORS

Application filed June 27, 1928. Serial No. 288,721.

My invention relates to protective and insulation covers for third rail and other electric conductors.

My invention is particularly addressed to protective covers and insulating means for electric conductors, a portion of which, by reason of their use, must be exposed so as to contact with a moving member, such as the shoe which contacts with the third rail conductor.

My invention is addressed to providing such conductors with a protective cover which affords protection against any person or thing from coming in contact with the conductor, insulates the greater portion of the conductor, protects conductor from water and moisture, provides a cover that will not absorb moisture, will not decay or deteriorate under use, which may be readily applied to or removed from the electric conductor, and which, under ordinary use, will far outlast protective covers heretofore in use and will also assist to prolong the life of the electric conductor.

While in the specification and the drawings I have shown my improved cover applied to a typical third rail in which the shoe on a moving vehicle contacts with the lower side of the rail, it will be readily understood that my cover may be applied to other conductors, especially those in which it is desired to leave a portion exposed for contact, and that the form and shape of my cover depends upon the conductor to which it is to be applied.

In the drawings, Fig. 1 is a cross section of third rail with my conductor applied thereto. Fig. 2 is a perspective view of Fig. 1. Figs. 3 and 4 are respectively, a cross section and a perspective view, of a modification.

In Figs. 1 and 2, A is the third rail to which is shown applied my cover composed of three members; the top member B which encloses the top and side of the top ball of the rail and the two members C. C. which cover the underside of the top ball of the rail, the upper side of the lower ball of the rail and are in contact with the web of the rail. The members C. C. in Fig. 1 are preferably provided with a longitudinal groove or cut out portion formed by surfaces D and E so arranged that the lower portion of the member B will engage with and lock the member C in place on the conductor.

As shown in Figs. 3 and 4, the cover is of one piece. The cover B has aprons F which extend down and enclose or cover the space formed between the top and lower ball of the rail. The cover being plastic and flexible and slightly resilient is as shown in Figs. 3 and 4 sprung over the ball of the rail. The inner lower portion of the two aprons of the cover are shown as provided with longitudinal channels engaging on the lower ball of the rail to support the cover against lateral movement.

I prefer to make my cover from a mixture composed of bituminous material, preferably asphalt that is not too hard when cool; fibrous material and a small amount of comparatively fine mineral material, either a powdered mineral or a fine granular mineral, mixed together while the bituminous material is heated to form a homogeneous mass. The fibrous material may be any suitable fibrous material but I have found a very satisfactory cover may be made using macerated or fiberized prepared roofing scrap. I have found that a very satisfactory cover may be made by using a mix consisting of by weight a major proportion of asphalt, say 50 to 75 per cent; 20 to 40 per cent of a fibrous material, and 5 to 10 per cent of mineral, although the mineral may be omitted. This mixture or homogeneous mass of bitumen is then, while in a heated condition, moulded or formed, under pressure sufficient to compact the mass into the desired shape so that the cover will conform to the contour of the surface to which it is to be applied. In moulding the covers care must be used to avoid excessive pressure that would make the mass too dense and thereby cause the cover to be too hard. This can be readily determined depending upon the mix used.

This moulding or forming of the cover members B, CC., under pressure compacts the mass sufficiently so that when it has cooled the cover will be a comparatively rigid board-like yet plastic, slightly flexible, slightly resilient, preformed cover that is tough, grain-

less, waterproof, and form sustaining, is readily workable, is comparatively easy to cut, will not crack, split or spall, permits nails to be readily driven into it, and will maintain its preformed shape under ordinary handling, while being worked and in use. If desired, to prevent adhesion of covers or parts of covers with each other in shipment or storage, one or more of the surfaces of the cover may be coated with a suitable powdered material, such as soap-stone, talc or other powdered mineral, or the same may have applied to it a film of non-adhesive material which can be readily removed by water or a suitable solvent so that the cover or separate members of the cover may be brought into adhesive contact with the rail and with each other at their adjacent surfaces. If desired a layer of saturated felt such as asphalt saturated felt could be applied over the surface of the cover that is exposed when in use. This felt could be applied in the form shown in Fig. 1 over the outside surface of member B cemented to it and an extrusion below the lower end of B which would overlap and could be cemented to the outer adjacent surface of members C.

My cover may be provided in any suitable lengths although lengths from 3 to 5 feet are probably preferable as a matter of convenience in handling. When applied the adjacent ends of the cover are preferably cemented by suitable adhesive cement such as asphalt, or if desired, the adjacent ends could be provided, one with a tongue and the next adjacent section with a groove so as to break the joint where they were brought together, in this way assisting in obviating the possibility of moisture passing between the ends of adjacent sections of the cover.

Claims:

1. A cover for third rail electric conductors consisting of a plurality of plastic form-retaining members each containing bitumen preformed to conform to the contour of a conductor, one of said members having a portion integral therewith adapted to hold another member in position on a rail.

2. A cover for third rail electric conductors consisting of a body of plastic form-retaining material containing bitumen and a fibrous material.

3. A cover for third rail electric conductors consisting of a body of plastic form-retaining material containing bitumen, a fibrous material and a mineral material.

4. A cover for third rail electric conductors consisting of a plurality of members each formed of water-impervious, electrically non-conducting material and adapted when assembled to cover a conductor except along a longitudinal contact portion thereof, one of said members provided with integral means for retaining another of said members in place on a conductor.

5. An electric third rail cover composed of a plurality of preformed waterproof members each containing bituminous and fibrous materials so arranged as to enclosed the top and the sides of the rail, one of said members provided with integral means for holding another of said members in position on the rail.

6. An electric third rail cover composed of of plurality of members each containing bituminous and fibrous materials, one of said members adapted to enclose the rail on three surfaces thereof and another of said members adapted to enclose a portion of the side of the rail below the first mentioned surfaces, one of said members having a portion integral therewith adapted to retain the other member in position on a conductor.

7. An electric third rail cover composed of a plurality of separate members each containing bituminous and fibrous materials, one of said members adapted to enclose a portion of the side of the rail, another of said members adapted to contact with said first mentioned member below the top of the rail so as to enclose a portion of the side of the rail and a portion of the top above the first mentioned member.

8. An electric third rail cover composed of a plurality of separate members each containing bituminous and fibrous materials, one of said members covering the top of the rail and two other of said members adapted to be brought into contact with said first mentioned member so as to enclose in part opposite sides of the rail.

9. An electric third rail cover composed of a plurality of members each containing bituminous and fibrous materials, one of said members covering the top of the rail and two other of said members adapted to enclose in part the two opposite sides of the rail, and means for holding said cover parts together on a rail, said means being integral with said first mentioned member.

10. A cover for electric conductors to partially enclose same, consisting of a preformed body of plastic form-retaining material containing a bituminous material in which are distributed fibres of suitable material constituting a compact, plastic, grainless, tough body the bituminous material and fibres being in such proportions that said body is penetrable by nail without fracture.

11. A cover for electric conductors composed of a plurality of members each formed of water-impervious, electrically non-conducting material and preformed to cover a conductor, one of said members having a depending apron adapted to overlap and interlock with another member to support same in position on a conductor.

12. A cover for a third rail of dumb-bell cross-section comprising separate pre-formed top and side sections each of water-imper-

vious, electrically non-conducting material, the top section being adapted to extend across the top and downwardly over both sides of the head of the rail, the side sections being adapted to extend over the web of the rail and also contact with the top section when assembled on the rail.

13. A cover as in claim 12 in which the downward extensions of the top section overlap the side sections.

14. An electric conducting system composed of an electric conductor, a cover for same consisting of a plurality of plastic form-retaining members preformed from a material containing bitumen and fibres to conform to the contour of the greater portion of the conductor.

15. A system of third rail installation comprising a third rail, a cover composed of a plurality of members each formed of water-impervious, electrically non-conducting material, one of said members conforming to the contour of and in contact with a longitudinal side portion of the rail, another of said members formed separate from the first member conforming to and in contact with the top portion of the rail and the longitudinal sides of the top portion, said second member provided with integral means for locking the first member in position on the rail.

16. A system of third rail installation comprising a third rail, a cover composed of a plurality of members, one of said members conforming to the contour of and in contact with a longitudinal side portion of the rail, a separate member conforming to and in contact with the top portion of the rail and the longitudinal sides of the top portion, said last mentioned member provided with means for locking the first mentioned member in position on the rail, said means consisting of a portion adapted to overlap the first mentioned member.

17. A cover for a third rail composed of a plurality of members, two of which are arranged to cover opposite sides of a rail and a third member arranged to cover another portion of the conductor and to support said two members in position on opposite sides of the rail.

In testimony whereof, I have signed my name to this specification.

HOMER L. ROGERS.