

No. 757,264.

PATENTED APR. 12, 1904.

D. J. CABLE.
ELECTRIC RAILWAY.
APPLICATION FILED MAR. 11, 1903.

NO MODEL.

Fig. 1.

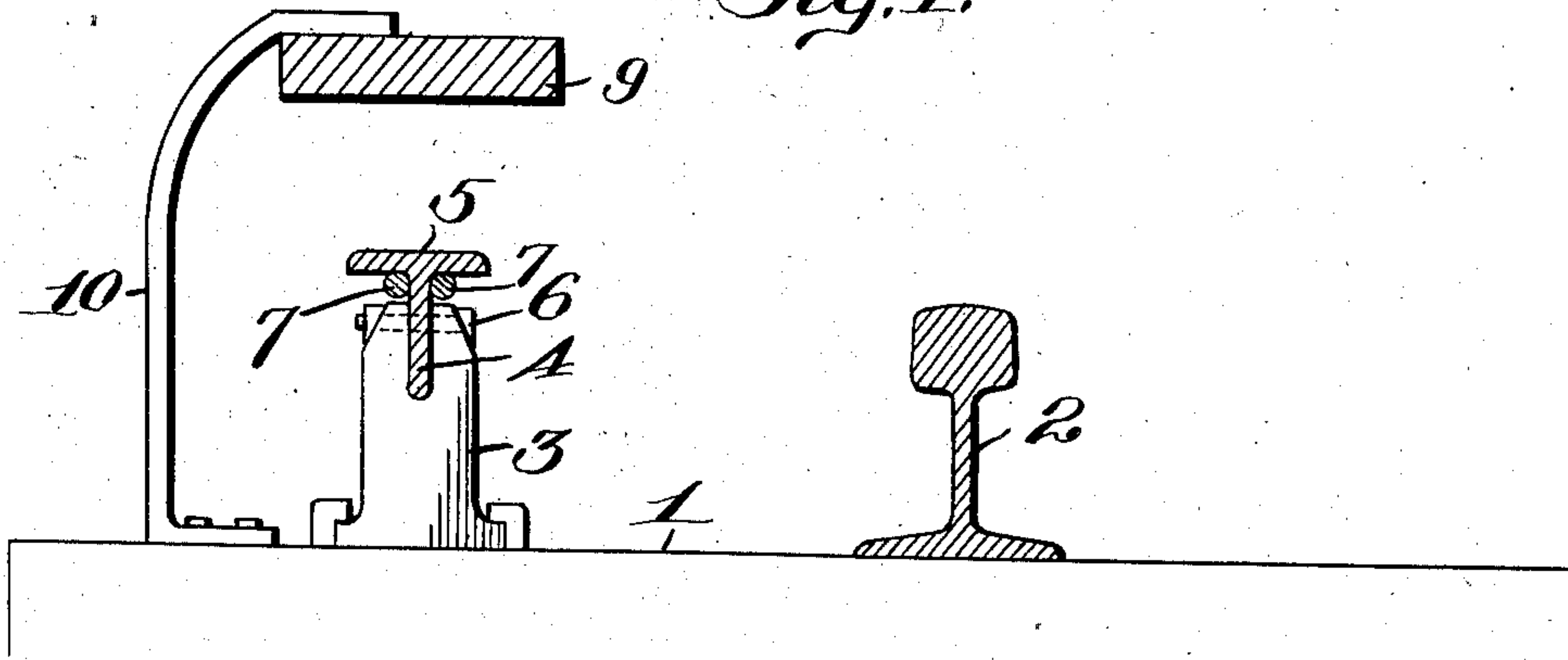


Fig. 2.

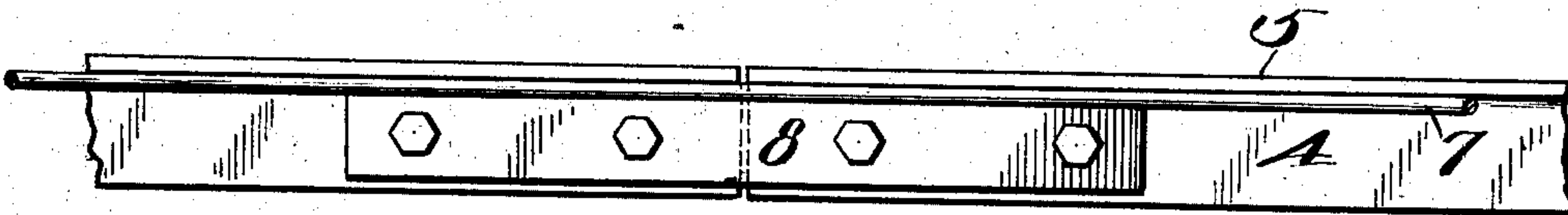
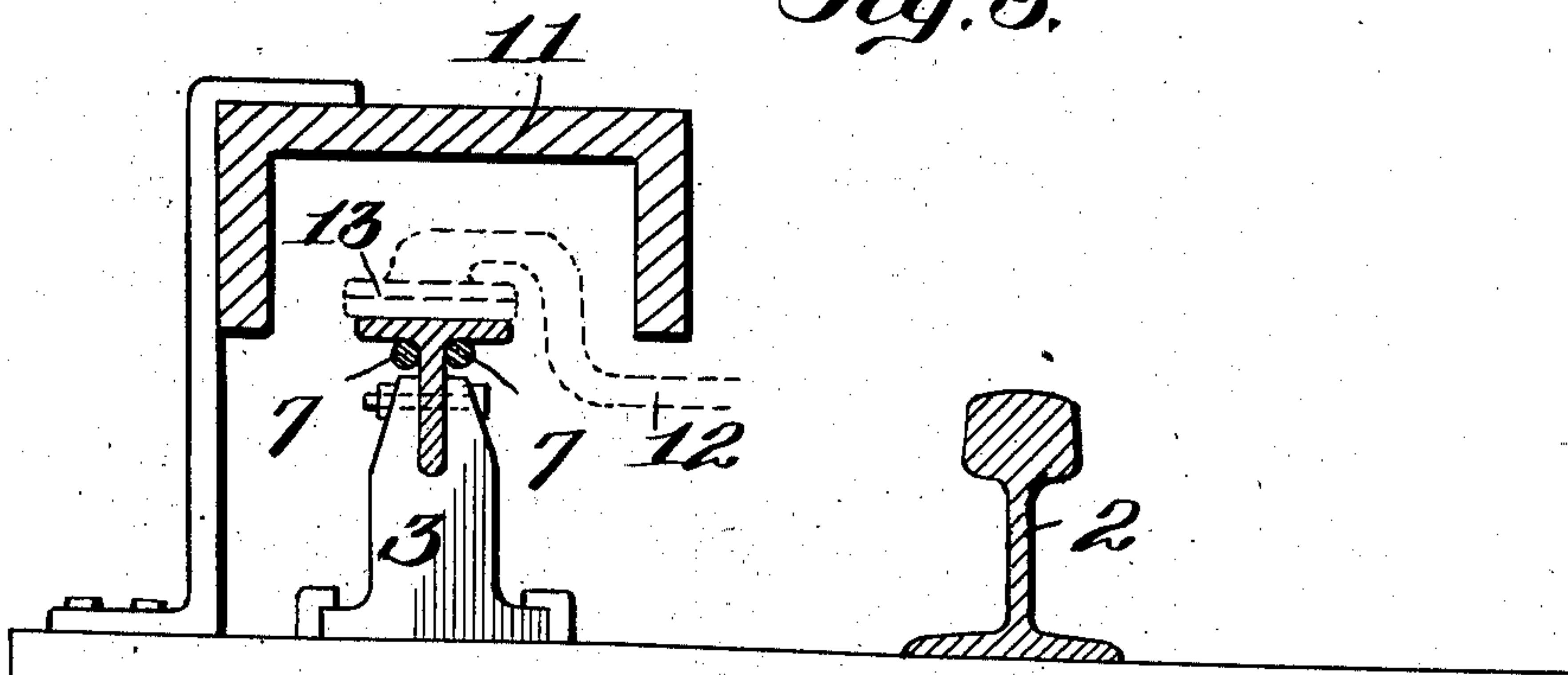


Fig. 3.



Witnesses:
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UNITED STATES PATENT OFFICE.

DAVIS J. CABLE, OF LIMA, OHIO.

ELECTRIC RAILWAY.

SPECIFICATION forming part of Letters Patent No. 757,264, dated April 12, 1904.

Application filed March 11, 1903. Serial No. 147,325. (No model.)

To all whom it may concern:

Be it known that I, DAVIS J. CABLE, a citizen of the United States, residing at Lima, in the county of Allen and State of Ohio, have invented new and useful Improvements in Electric Railways, of which the following is a specification.

This invention relates to electric railways of the kind which employ a third rail for conducting the electric motive force, and has for its object to provide an improved third rail which is simple and inexpensive in construction, effective in operation, and adapted for quick application to a traction system.

Other objects and advantages of the invention will be apparent from the following detail description, and those features which are held to be new will be set forth in the claims.

Referring to the accompanying drawings, forming a part of this specification, Figure 1 is a transverse sectional view of my improved third rail and the cover thereof. Fig. 2 is a side elevation showing the method of retaining the electrical conductors in contact with the wings of the third rail by means of the fish-plates. Fig. 3 is a view similar to Fig. 1, showing a modified form of protective casing for the third rail.

The reference-numeral 1 indicates a tie upon which the tracks or rails of the electric railway are supported, one of said rails being designated by the reference-numeral 2. Bolted or otherwise attached to the outer end of the tie 1 is a pedestal 3, which is composed of any suitable non-conducting material, such as wood, reconstructed granite, or the like. In the upper end of the pedestal 3 is embedded the web 4 of an approximately T-shaped rail 5. Suitable bolts 6 are passed through the pedestal 3 and web 4 to retain the rail 5 firmly in position. A pair of electrical conductors 7, preferably of the form of copper wires, is extended along the sides of the web 4 beneath the wings or extensions of the T-shaped rail. The electrical conductors 7 are firmly retained in position beneath the wings of the rail by the fish-plates 8, which connect the rails 5 together. Each fish-plate is firmly clamped

against the under side of the adjacent conductor 7 in such manner that displacement of said conductor is prevented.

The electrical conductors 7 are not provided with any form of insulating material. For this reason the rails 5 are constantly supplied with sufficient electrical energy to satisfy the demands of the system.

The broad upper surface of the rail 5 provides ample contacting area for the shoe which travels thereon, and as said rail is constantly supplied with electrical energy from the conductor 7 the results obtained from the use of the rail 5 are the same as those which would be obtained if the shoe contacted directly with a small copper conductor.

The rails 5 are made of iron or any other suitable material, and as they require much less material in their construction than the rails heretofore used the cost of a railway system constructed in accordance with my invention is greatly decreased. By employing the fish-plates in the manner described to retain the conductors in place against the under surfaces of the rails I avoid the necessity of providing other clamping means—such as staples, bolts, or the like—and in this way further decrease the expense of applying the system.

It will be understood, of course, that it is only necessary to provide the pedestals 3 at intervals along the railway to support the rail 5, though the rigidity of said rail will be enhanced by providing supporting pedestals at frequent intervals.

In order to protect the rail 5 from snow, sleet, and the like, I provide a guard 9, which is supported by the iron standards 10, bolted or otherwise attached to the tie 1.

If desired, the rail 6 may be protected by a casing 11. In this event it is necessary that the arm 12 of the contacting shoe 13 be curved, as shown, to fit the edge of the casing 11. The method of attaching the arm 12 of the shoe 13 to the electric car forms no part of my present invention, and I therefore illustrate this construction only in a general way.

It will be understood, of course, that the shoe 13 travels upon the upper surface of the

rail 5 and derives electrical energy therefrom, which is transmitted to the car through the rod or conductor 12.

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

1. In an electric-railway system, a continuous third rail comprising a plurality of substantially T-shaped rails arranged end to end and each consisting of a vertical web provided on its upper end with laterally - extending flanges, in combination with fish-plates uniting the adjacent ends of said rails and bare electrical conductors arranged in contact with the under sides of said flanges and clamped between the same and the upper edges of the fish-plates, substantially as described and for the purpose specified.

2. In an electric-railway system, a continuous third rail comprising a plurality of sub-

stantially T-shaped rails arranged end to end and each consisting of a vertical web provided on its upper end with laterally - extending flanges, fish-plates uniting the adjacent ends of said rails, bare electrical conductors arranged in contact with the under sides of said flanges and clamped between the same and the upper edges of the fish-plates, and pedestals of insulating material in which the webs of the rails are embedded and fastened, substantially as described and for the purpose specified.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

DAVIS J. CABLE.

Witnesses:

HENRY W. NEFF,
J. H. A. O'CONNOR.