

No. 610,090.

Patented Aug. 30, 1898.

B. C. SEATON.
ELECTRIC RAILROAD.

(Application filed Apr. 5, 1897.)

(No Model.)

Fig. 1.

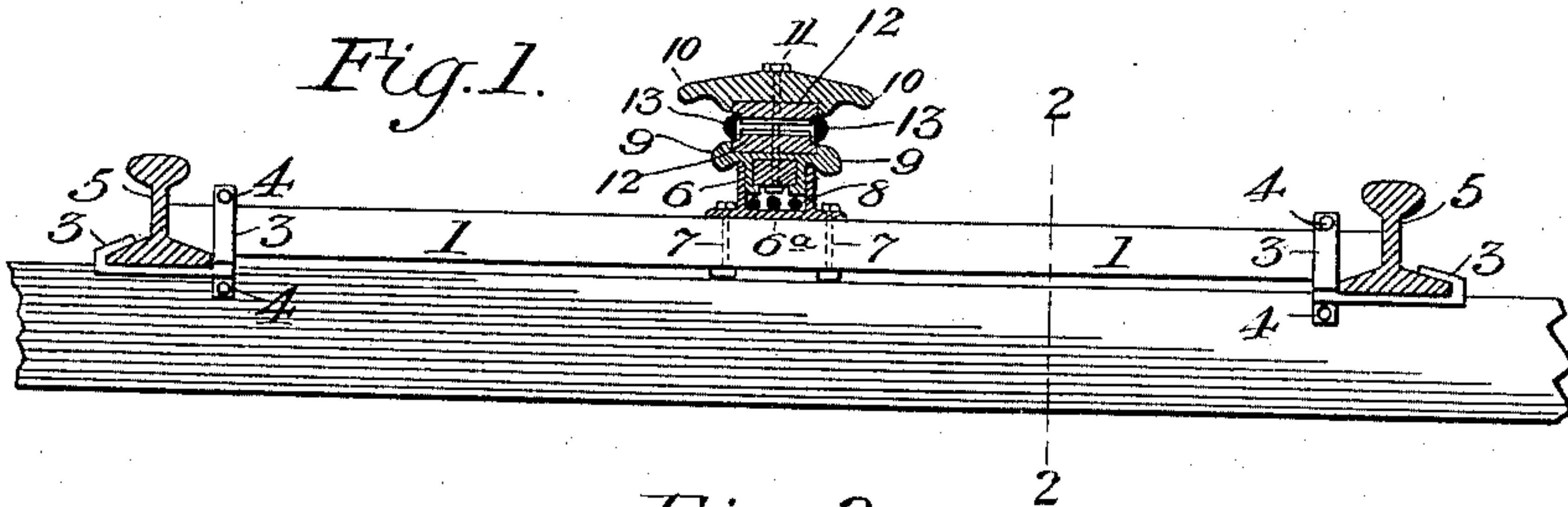


Fig. 2.

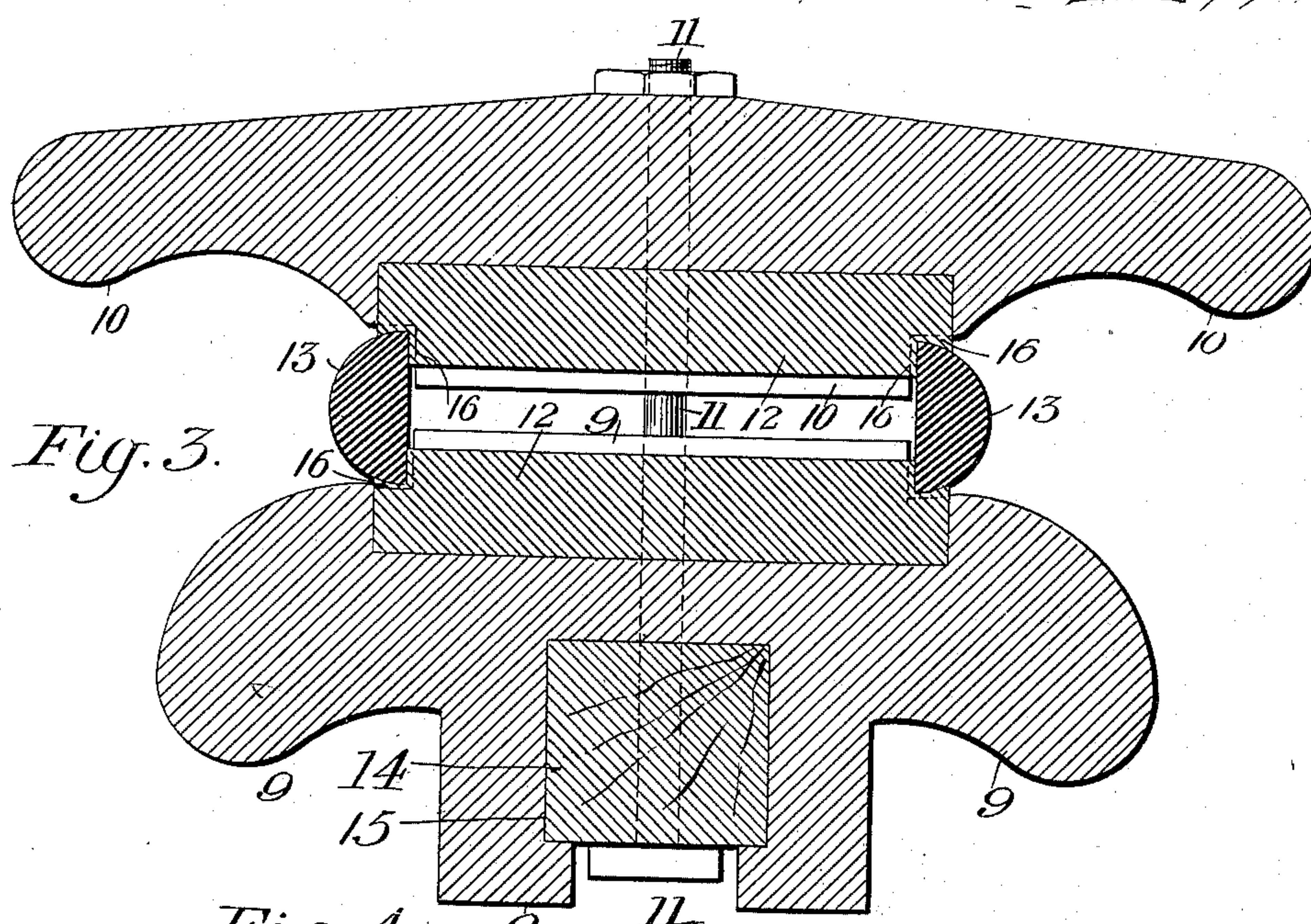
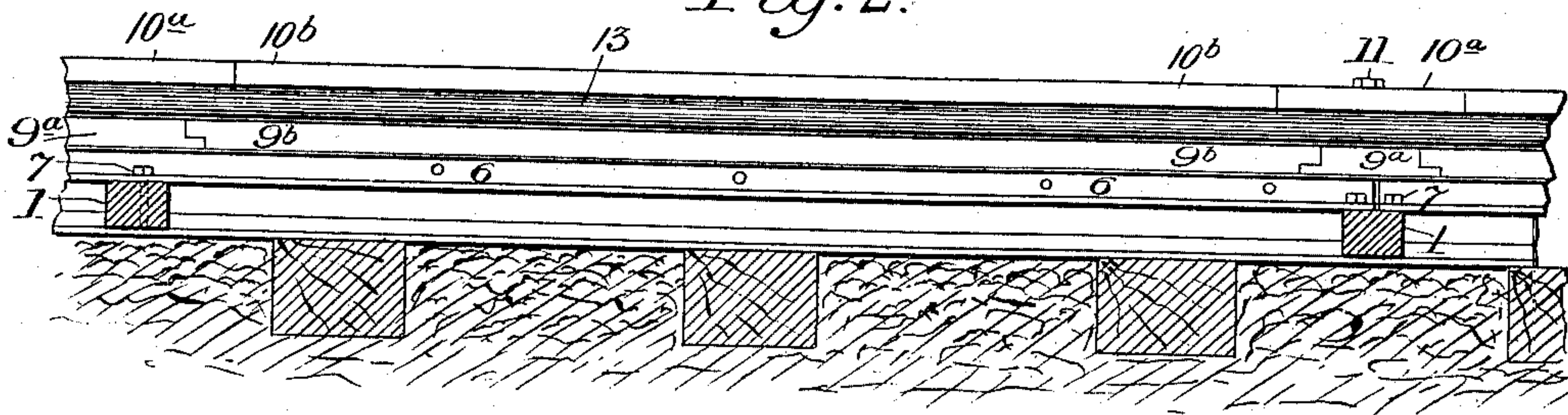


Fig. 3.

Fig. 4.

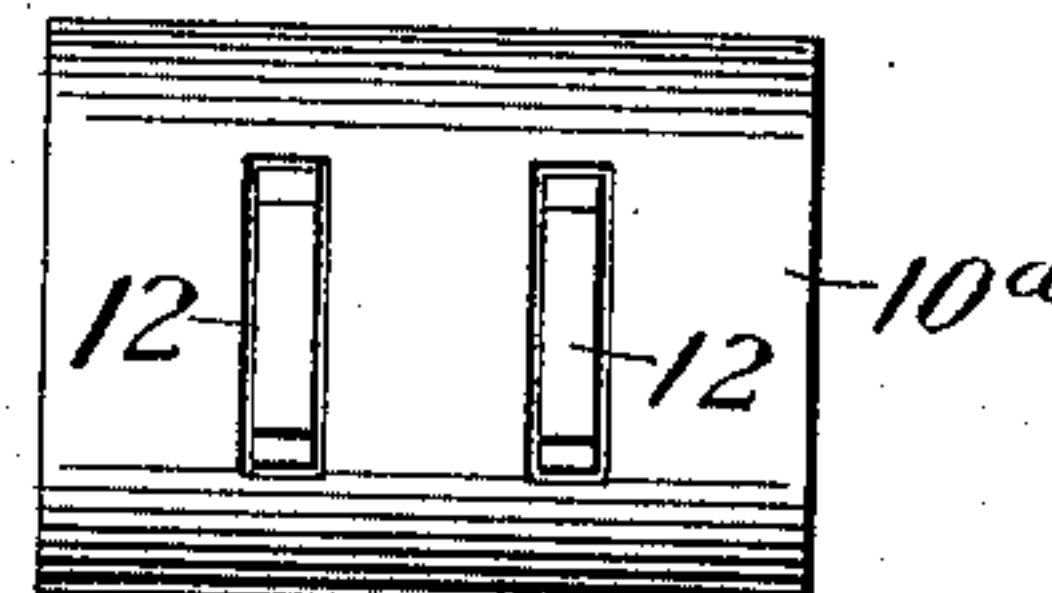
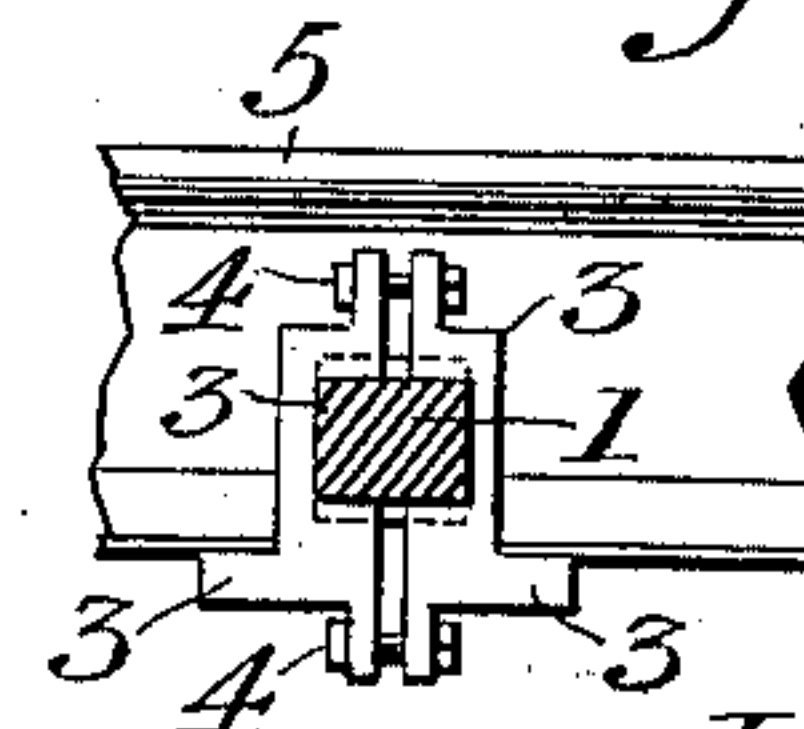


Fig. 5.



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UNITED STATES PATENT OFFICE.

BENJAMIN C. SEATON, OF ST. LOUIS, MISSOURI, ASSIGNOR TO THE ELECTRIC
THIRD RAIL AND SIGNAL COMPANY, OF SAME PLACE.

ELECTRIC RAILROAD.

SPECIFICATION forming part of Letters Patent No. 610,090, dated August 30, 1898.

Application filed April 5, 1897. Serial No. 630,852. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN C. SEATON, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented a new and useful Improvement in Electric Railroads, of which the following is a specification.

My invention relates to improvements in the arrangement of working conductors applicable to electric railways in general, but more especially intended for localities where the surface of the road-bed is not preserved in condition for travel of other vehicles; and the objects of my improvements are, first, to provide a well-insulated conductor; second, to provide a conductor that will be thoroughly protected from rain, sleet, snow, dirt, and ice; third, to provide one that will be proof against accidental contact with both man and beast; fourth, to provide a construction and arrangement of conductor and supports therefor that will be cheap, substantial, and accessible. I attain these objects by the construction and arrangement illustrated in the accompanying drawings, in which—

Figure 1 is a cross-sectional view of a railroad embodying my improvement; Fig. 2, a longitudinal section of the same, taken on the dotted line 2 2 of Fig. 1; Fig. 3, a full-sized detail view, in transverse section, of the conductor and its housing at one of the points of support for the conductor; Fig. 4, a plan view of the under surface of the upper member of the insulating support and housing at a point of support, showing metallic strips gained into the insulating-housing; and Fig. 5, a detail view intended to more clearly show the method of attaching my system to the rails of the track.

Similar reference-numerals refer to similar parts throughout the several views.

The wooden cross-pieces 1 serve as the foundation for my structure, and these are located, preferably, above the ballast and fastened to the rails by the metallic clamps 3, two of which latter are bolted together by bolts 4 and thus made to grasp and support the ends of each cross-piece 1 and fasten the latter to the rails 5. Supported upon these cross-pieces are two lines of angle-irons 6, which serve to carry the insulating support and housing for the

conductor and also go to form, in connection with the flooring 6^a and the said housing, a closed conduit for the feed-wires. These angle-irons are bolted to the cross-pieces 1 by bolts 7, located at definite distances from the ends of the said cross-pieces.

8 represents the closed conduit for the feed-wires, formed by the angle-irons 6, the flooring 6^a, and the housing. The insulating support and housing for the conductor is divided horizontally into two members, an upper and a lower member, the lower member being represented by the numeral 9 and the upper one by 10. These members are fastened together by bolts 11, and the conductor is thus clamped between the two, being firmly grasped by the suitably-notched metallic strips 12, gained into the insulating-housing at suitable intervals—say every ten to fifteen feet. The electric conductor is represented by 13. This is preferably formed of two parts, for the reason that greater radiating and contact surface is thus afforded, as well as increased certainty of action secured. While the members of the insulating support and housing may be made out of a uniform material, such as prepared wood, throughout its entire course, I, however, prefer to vary it by making short sections of from eight to ten inches, at the points of support, of some vitreous material, such as glass, and fill in the spaces between these points of support by some less expensive insulating material, such as wood saturated with asphalt or other insulating compound. Such short vitreous sections are shown at 9^a and 10^a, Fig. 2, and the intermediate sections of prepared wood are shown at 9^b and 10^b, Fig. 2. Under this preferred construction I introduce a rod of wood 14 in the space 15, Fig. 3, to better facilitate the fastening of the two members 9 and 10 together. It will be observed that the insulating support and housing nowhere comes in contact with the conductor, the latter being grasped solely by the metallic strips 12, located at the points of support. The contour line of the insulating support and housing as it exists about the conductor throughout its entire course is indicated by the dotted lines 16, Fig. 3. It is apparent that the space thus formed between the insulating support and

housing and the conductor may be as great as desired. It is manifest that by this construction and arrangement of the conductor and insulating-supports therefor I provide
 5 ample means of making intentional contact with the conductor, either by rolling or sliding contact, while yet protecting the conductor against snow, sleet, rain, ice, and dirt and accidental contact with both man and
 10 beast. The construction and repairs are both cheap and simple. The physical relationship between the conductor and the rails is maintained constant by reason of the whole structure being supported by and firmly attached to the rails rather than supported
 15 upon the ties or ground.

Having thus fully described my invention, what I desire to claim is—

1. In an electric railroad, a conductor for
 20 supplying current to an electrically-propelled car, located above ground and beneath the said car and carried between supports made of insulating material, which insulating-supports also form a housing for said conductor
 25 adapted to protect the latter against snow, rain, sleet, and accidental contact, substantially as shown and described.

2. In an electric railroad, a conductor for supplying current to an electrically-propelled
 30 car, located above ground and beneath the said car and supported upon a structure carried by wooden cross-bars fastened to both the railroad-rails of a single track independently of the ordinary cross-ties which support
 35 the said rails, substantially as shown and described.

3. In an electric railroad, a conductor for supplying current to an electrically-propelled car, said conductor being carried by an insulating support and housing, composed of two
 40 members arranged one above the other, and suitably fastened together, the said conductor being clamped between the two said members.

4. In an electric railroad, a working conductor for supplying current to an electrically-propelled car, located above ground and beneath the said car, and carried between supports composed of insulating material,
 45 which supports form a housing for said conductor and also serve as the roof of a closed conduit designed to carry feed-wires.

5. In an electric railroad, a working conductor therefor, insulating-supports for said conductor composed of two members, and
 55 notched metallic strips gained into said insulating-supports and arranged to grip the said conductor when the two members of said insulating-supports are fastened together, and means of fastening the latter together.
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6. In an electric railroad, a working conductor therefor divided into two parts arranged parallel with each other, one upon
 either side of an insulating support and housing for said conductor, and metallic strips for
 65 holding said conductor and electrically connecting the two said parts of the conductor together.

7. In an electric railroad, the combination of the cross-pieces, 1, the angle-irons, 6, the
 70 insulating support and housing, 9, and 10, the metallic strips, 12, the clamping-bolts, 11, and the conductor, 13, substantially as shown and described.

8. In an electric railroad, the combination
 75 of the cross-pieces, 1, the insulating support and housing, 9, and, 10, the clamping and fastening devices, 11, and the conductor, 13, substantially as shown and described.

9. In an electric railroad, a working conductor therefor, an insulating support and housing for the conductor formed of some material impervious to moisture, such as glass
 80 or some other equally good insulating material, at the points of support, and a housing for said conductor intermediate between said points of support, composed of some cheaper material such as wood.
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10. The combination, in an electric-railroad conductor system, of the glass insulators 9^a,
 90 and 10^a, the wooden housing 9^b, and, 10^b, and the working conductor, 13, with means of fastening said conductor to said insulators.

11. An insulating-support for an electric-railroad conductor, made of some vitreous insulating material, and formed of two members having a form substantially as shown,
 95 the lower member having a wooden core, substantially as shown.

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