

(No Model.)

3 Sheets—Sheet 1.

E. M. BOYNTON.  
ELECTRIC CONDUCTOR SUPPORT.

No. 457,105.

Patented Aug. 4, 1891.

Fig. 1.

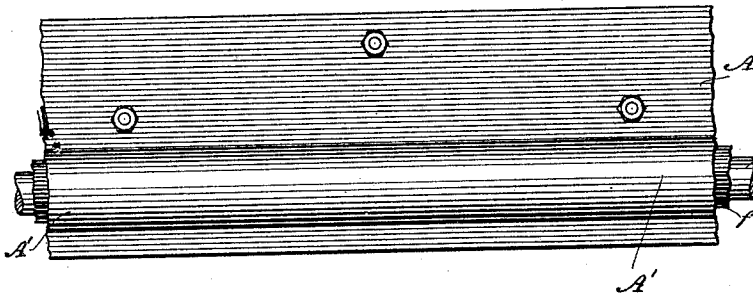


Fig. 2.

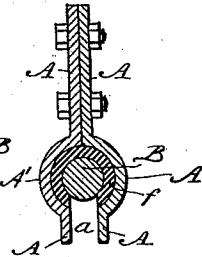


Fig. 3.

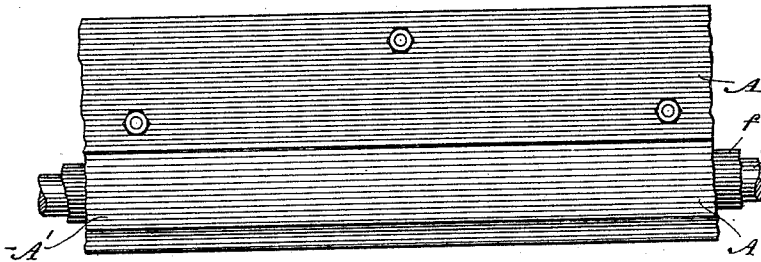


Fig. 4.

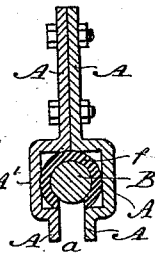


Fig. 10.

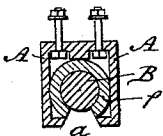


Fig. 9.

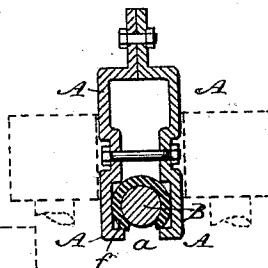


Fig. 5.

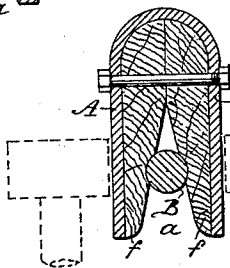


Fig. 6.

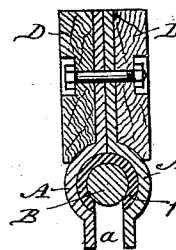
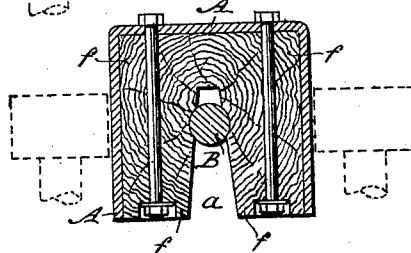


Fig. 8.



Fig. 7.



WITNESSES:

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D. Farrington

INVENTOR

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Fig. 13.

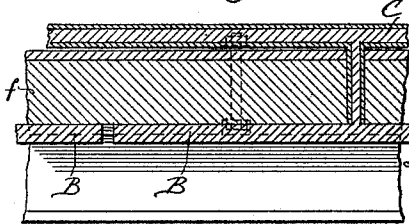


Fig. 11.

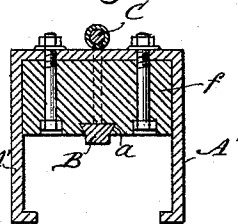


Fig. 14.

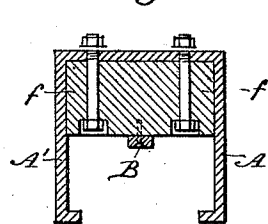


Fig. 15.

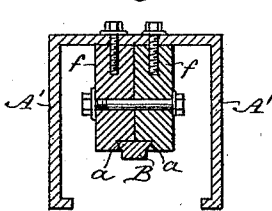


Fig. 16.

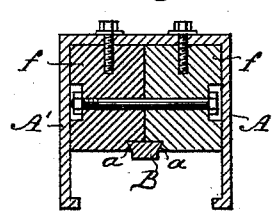


Fig. 12.

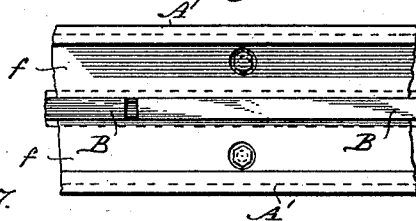


Fig. 17.

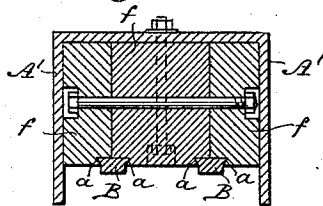


Fig. 18.

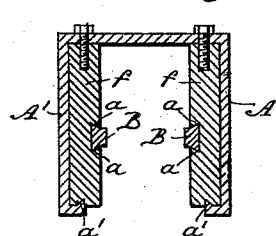
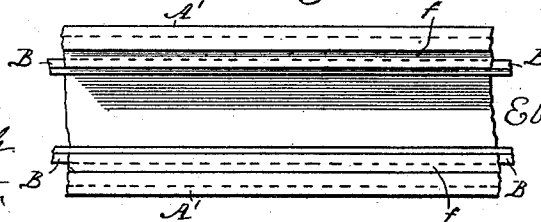


Fig. 19.



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Eben Moody Boynton

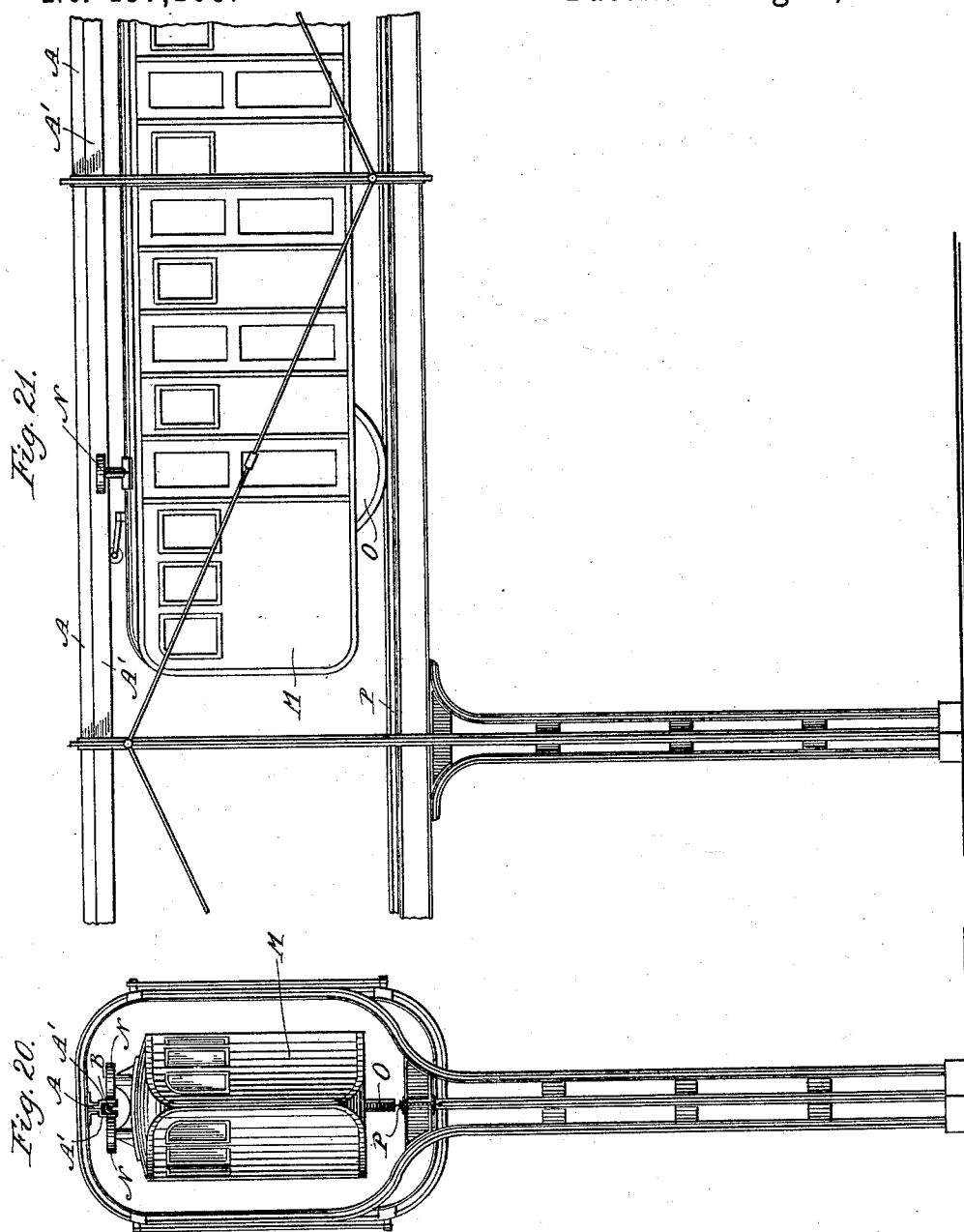
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WITNESSES:

*D. C. Reusch.*

*E. M. Boynton*

INVENTOR

*E. Moody Boynton*

# UNITED STATES PATENT OFFICE.

EBEN MOODY BOYNTON, OF WEST NEWBURY, MASSACHUSETTS, ASSIGNOR  
TO THE BOYNTON BICYCLE RAILWAY COMPANY.

## ELECTRIC-CONDUCTOR SUPPORT.

SPECIFICATION forming part of Letters Patent No. 457,105, dated August 4, 1891.

Application filed October 17, 1890. Serial No. 368,456. (No model.)

*To all whom it may concern:*

Be it known that I, EBEN MOODY BOYNTON, of West Newbury, county of Essex, and State of Massachusetts, have invented certain new and useful Improvements in Electric-Conductor Supports and Protectors for which United States Patent No. 427,221 was issued on May 6, 1890, and is relating to an overhead continuous electric-conductor support, protector, and guide-rail for a bicycle-railroad of the Boynton system, of which the following is a specification.

Reference is to be had to the accompanying drawings, forming part of the specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 represents a side elevation of one form of my improved combined electric-conductor support, protector, and overhead guide-rail. Fig. 2 is a transverse sectional elevation of the same. Fig. 3 represents a side elevation of another form of my combined electric-conductor support and overhead guide-rail. Fig. 4 is a transverse sectional elevation of the same. Figs. 5, 6, 7, 8, 9, and 10 represent, respectively, transverse sections of other forms thereof. Figs. 11, 12, and 13 are respectively transverse section, plan view, and longitudinal section of another variation in the forms of conductor and slot. Figs. 14, 15, 16, and 17 are all transverse sections illustrating different combinations of insulating-rails and conductor. Figs. 18 and 19 are transverse section and plan views of a form in which the two conductors and insulating-rails are placed at the side wall of guide-beam instead of at the top, as otherwise shown. Fig. 20 is an end elevation of an elevated structure for an electric bicycle-road with a car in position. Fig. 21 is a side elevation of same.

In the drawings, B represents the electric conductor, that may be of any desired figure in cross-section; *f*, the insulating material surrounding the same, having a slot *a* at the bottom, permitting the electrical contact with the trolleys or brushes connected with the motor.

A A are the metal flanges or rails carrying the conductor and connecting the same with the overhead structure. These metal flanges

A A are designed to extend continuously overhead the length of the railway, and, besides carrying the conductor at the same time, also serve as a guide for the overhead rollers of my bicycle-railroad.

In Figs. 1, 2, 3, and 4 the casing and guide A is composed of two separate rails joined together with bolts, and serves the portion marked A' as guide for the rollers. The upper part of A may be fastened in any suitable way to the overhead structure.

Fig. 6 is mainly the same as Fig. 2, with the difference that the upper portion of the protector is covered with wood on each side, serving as a guide for the rollers instead of the lower portion A', as shown in Fig. 2.

In Figs. 5 and 7 the conductor is inserted directly into the wood and held there by friction. The wooden rails themselves are surrounded by a channel-shaped beam or rail and fastened to the same with bolts, the channel-iron serving as a guide for the rollers, as shown in dotted lines.

Fig. 9 is a variation of Fig. 4, giving a larger surface for the roller.

Figs. 8 and 10 are further variations of Figs. 2 and 4 without having the upper flanges and instead fastening the roller-guide directly to the overhead structure in any suitable manner.

In the forms thus far mentioned the whole section of the conductor has been placed in the groove, with the latter extending beyond the same as well above as below, or only below; but I desire further to include in this specification forms in which the conductor completely fills the groove and extends outside the same. Figs. 11, 12, and 13 show such a form, in which the conductor B is bevel-shaped to engage with and be carried by a correspondingly-formed slot *a* in the insulating-rail *f*. The latter is fastened to the channel-beam A' with bolts or in any other suitable way. A' serves the same purpose as in the previous cases mentioned—namely, as a guide for the overhead rollers. In this case B may be a continuous rod and serve as the sole conductor for the current, or it may be divided in sections, as represented in these figures, and be fed by a conductor C.

In Fig. 14 I show another way of fastening

the conductor to the insulating-rail *f*, doing away with the groove *a* and fastening the rod on *f* by screws or other means.

In Figs. 15, 16, and 17 the insulating material *f* is divided in two or more rails and clamped together around the rod B with bolts.

Instead of utilizing the top of my guide for fastening the rods *f* to, I may also use the sides for that purpose, as shown in Figs. 18 and 19. The casing A' may have some projections *a'*, engaging with a corresponding groove in *f*, that, together with the bolts shown, will hold the rails *f* in position.

Figs. 20 and 21 show a bicycle-car in position on an elevated structure. The rollers N N run along the rails A A in contact with that part of the same that is designated with the letters A' A', thus serving as a guide for these rollers, keeping the car M in an upright position, and in conjunction with the supporting-rail P is guiding the same along curves, &c.

I do not confine myself to any particular cross-section of support or guide, as the lines of both are capable of many variations within the scope of my invention, which, essentially, is to provide a device that shall hold and support an overhead electric conductor by lateral compression, protect it from the interference of rain, snow, and ice, and also serve as a guide for the upper rollers of my bicycle-car.

Having thus described my invention, I

claim as new and desire to secure by Letters Patent—

1. The combination, with an overhead electric conductor, of a support and protector consisting of a rail having a longitudinal groove cut through its inferior face, in which groove the said conductor is held by lateral pressure, and a surrounding metal covering serving as a guide, substantially as herein shown and described.

2. The combination, with an overhead electric conductor having an insulating-covering, of a rail having a longitudinal groove wherein the conductor is held by the lateral pressure upon it of the walls of the said groove, and a surrounding metal covering serving as a guide, substantially as herein shown and described.

3. The combination, with an overhead electric conductor having an insulating-covering, of a surrounding metallic covering in which the conductor is held by lateral pressure, substantially as herein shown and described.

In testimony that I claim the foregoing I have hereunto set my hand, in the presence of two witnesses, this 16th day of October, 1890.

EBEN MOODY BOYNTON.

Witnesses:

D. C. REUSCH,

D. FARRINGTON.