(No Model.)

J. MEYER.

BOND FOR ELECTRIC RAILWAYS.

No. 515,478. Patented Feb. 27, 1894.

Fig: 1.

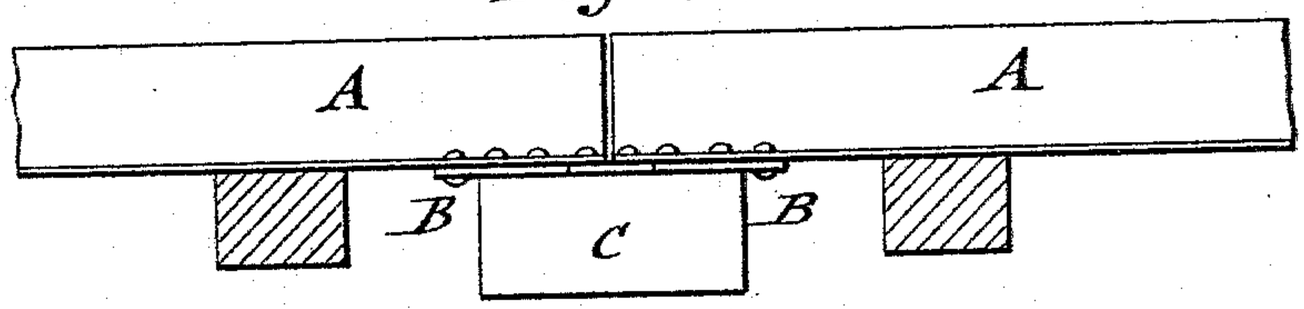


Fig: 2.

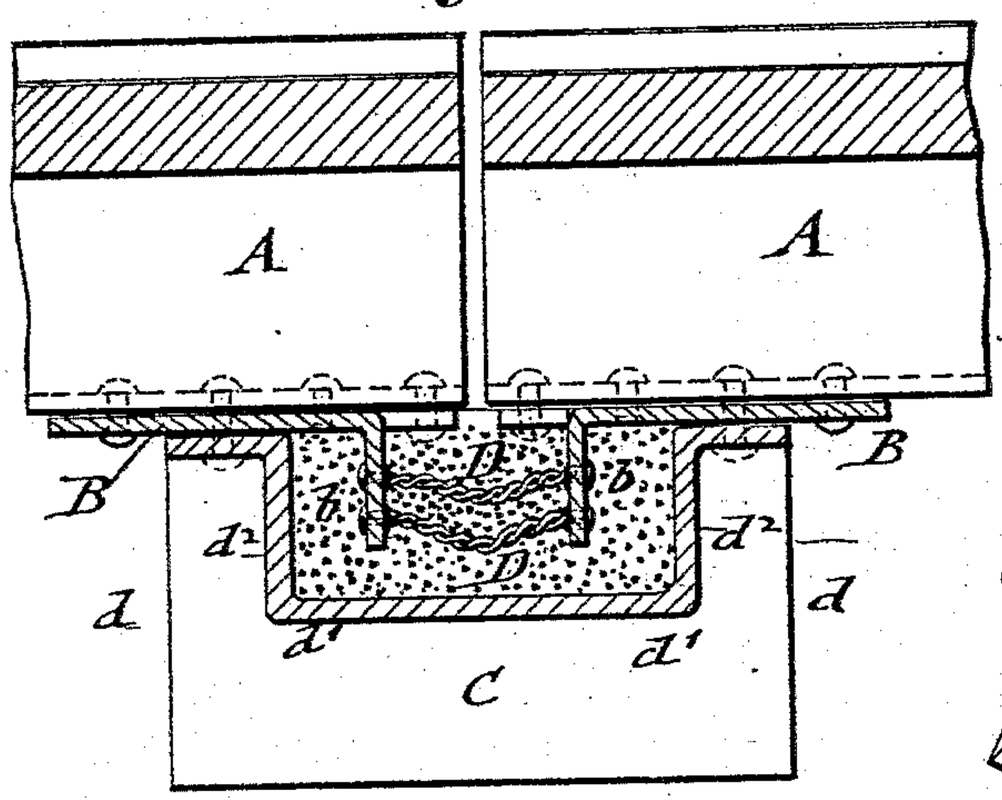


Fig: 3.

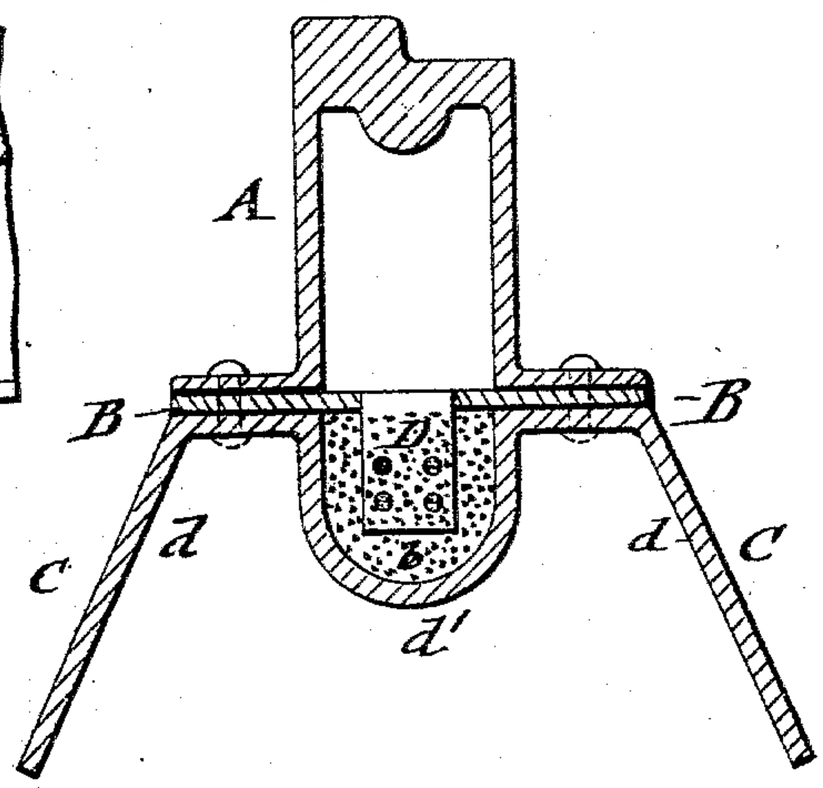


Fig: 4.

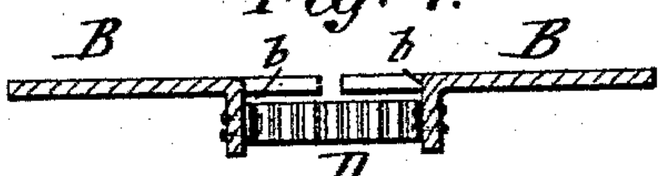


Fig: 5.

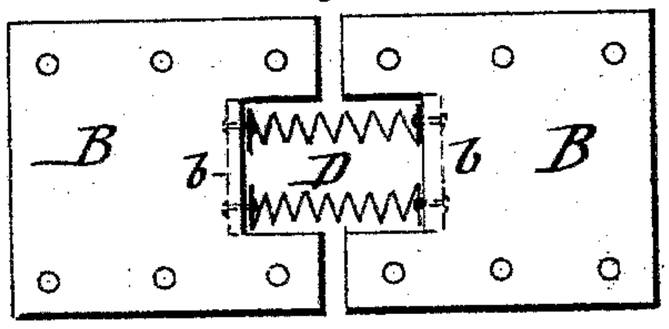


Fig: 6.

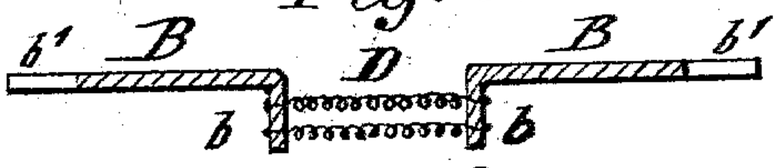


Fig: 7.

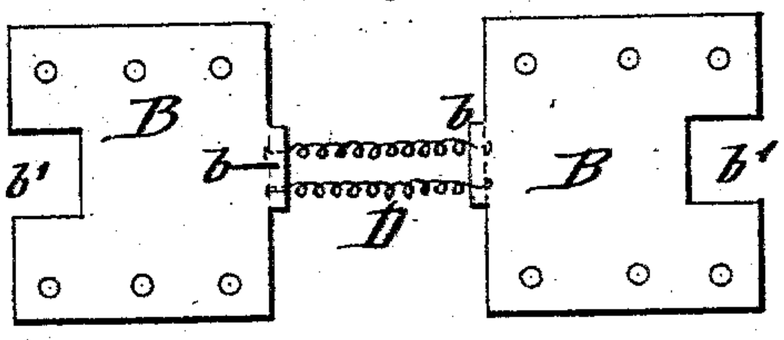
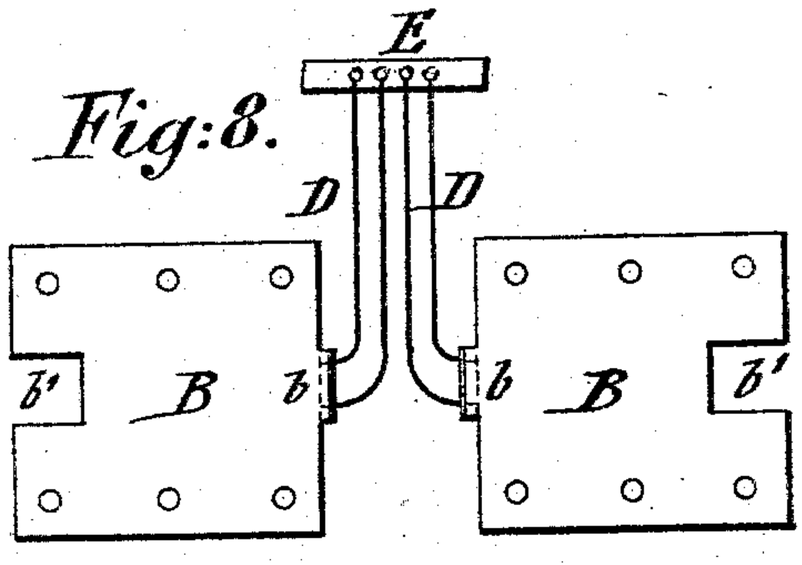


Fig: 8.



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JULIUS MEYER, OF NEW YORK, N. Y.

BOND FOR ELECTRIC RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 515,478, dated February 27, 1894.

Application filed October 21, 1893. Serial No. 488,782. (No model.)

To all whom it may concern:

Be it known that I, JULIUS MEYER, a citizen of the United States, residing in the city, county, and State of New York, have invented certain new and useful Improvements in Bonds for Electric Railways, of which the following is a specification.

The rail-bonds heretofore in use for the electrical connection of the rail-ends of electric railways connect the rails directly by making a metallic contact with each of them.

My invention is intended to connect the rails indirectly by means of interposed metallic plates, which are connected with the rails and with the bonds; and the invention consists, therefore, of a bond for the rails of electric railways which is composed of metal plates having downwardly projecting lugs, and metallic wires or bands attached to said lugs, the plates being bolted to the base of the rails and to a trough-shaped shoe, the trough of which is filled with a suitable plastic insulating material so as to protect the bonds, as will be fully described hereinafter and finally pointed out in the claims.

In the accompanying drawings, Figure 1 represents a side-elevation of my improved bond for the rails of electric railways. Fig. 2 is a vertical longitudinal section of the same, drawn on a larger scale. Fig. 3 is a vertical transverse section on line 3—3, Fig. 2. Figs. 4, 5, 6 and 7 are different forms of construction of my improved rail-bond, and Fig. 8 is a modified construction of the same.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents the rail-ends, which are supported by means of interposed metal plates B B on a shoe C, which is provided with outwardly and downwardly-extending flanges *d*, and a central trough *d'*, said shoe forming a support for the rail-joint between the ties. The plates B B are made of square or oblong shape, and are provided at one end with a downwardly-bent projecting lug *b* which is formed by cutting incisions into the plate, or with a lug *b* at one end and with a recess *b'* at its opposite end as shown respectively in Figs. 4 and 6. The lug *b* is preferably bent in downward direction at right angles to the body of the plate so as to extend into the trough *d'* of the shoe, the lugs *b* of the metallic plates B being connected by bonds D, which are made of copper or iron wires or bands and provided with coils or corrugations so as to facilitate the connecting of the parts.

The bonds D are attached by means of rivets or otherwise to the lugs *b* of the plates B, and are insulated by means of plastic insulating material, such as asphaltum, which is run in a liquid state into the trough of the supporting shoe, so as to entirely fill the space below the base of the rails for the protection of the bonds against electrolytic action or mechanical injury. The metallic plates B are riveted to the outwardly-extending flanges of the rails, when the rails are of inverted U-shape, as shown in Fig. 3, or to the base of the rails, or attached in any other suitable manner to the rails, according to the type of rail employed. The plates B are also riveted or bolted to the supporting shoe C, so that a combined rail-joint and bond-connection is obtained. The trough of the shoe C is preferably closed at the ends, by means of bent-up portions d^2, so as to retain the plastic insulating material when the same is run into the trough in liquid state.

In some cases, it may be of advantage to form the connection of the metallic plates not directly, as shown in Figs. 2 to 7, but indirectly, as shown in Fig. 8, in which case the lugs *d* are connected by the bonds D with a separate plate E that is located away from the rail ends at any convenient place, the bonds and the connecting plate E being insulated so as to be protected against injury.

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

1. The combination, with the rail-ends, of metallic plates located below the rails and provided with downwardly-extending lugs, and bonds connecting said lugs, substantially as set forth.

2. The combination, with the rail-ends, of a shoe for supporting said rail-ends, said shoe being provided with a center-trough, metallic plates interposed between the base of the rails and the shoe and provided with downwardly-extending lugs, bonds connecting the

lugs of said plates and a filling of plastic insulating material run into the trough so as to inclose the lugs and bonds, substantially as set forth.

3. The combination, of the rail-ends, a supporting shoe provided with a central trough closed at the ends, metallic plates interposed between the base of the rails and the shoe, said plates being provided with downwardly-bent lugs, bonds connecting the lugs of the plates, bolts connecting the rail-ends with the bond-plates and shoe, and a filling of plastic insulating material run into the trough of the base-plate, so as to inclose the lugs and the bonds, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

JULIUS MEYER.

Witnesses:

PAUL GOEPEL,

CHARLES SCHROEDER.