G. H. HILL.

RAIL BOND.

APPLICATION FILED DEC. 19, 1907.

919,577. Patented Apr. 27, 1909.

Fig. 1.

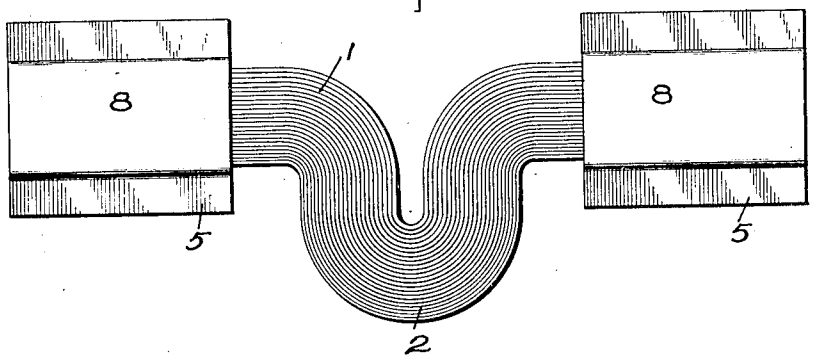


Fig. 2.

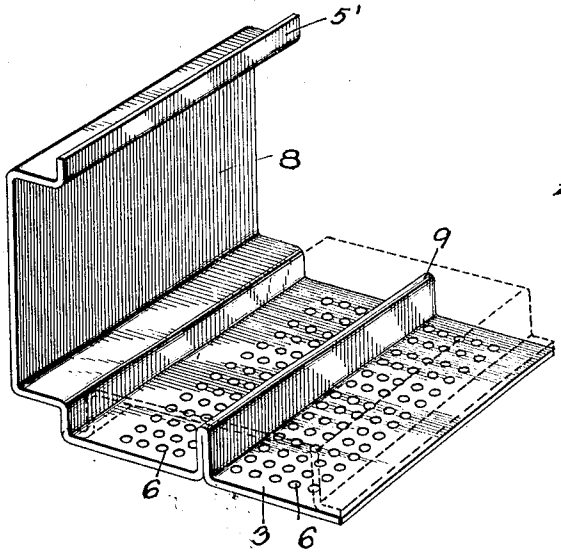
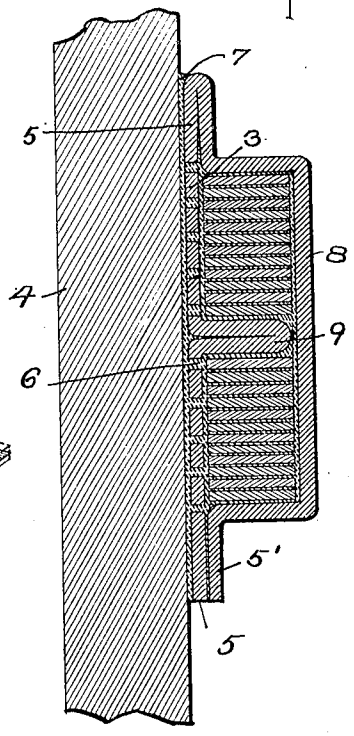


Fig. 3.



WITNESSES

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ATTY.

UNITED STATES PATENT OFFICE.

GEORGE H. HILL, OF SCHENECTADY, NEW YORK, ASSIGNOR TO GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

RAIL-BOND.

No. 919,577. Specification of Letters Patent. Patented April 27, 1909.

Application filed December 19, 1907. Serial No. 407,100.

To all whom it may concern:

Be it known that I, GEORGE H. HILL, a citizen of the United States, residing at Schenectady, county of Schenectady, State of New York, have invented certain new and useful Improvements in Rail-Bonds, of which the following is a specification.

This invention relates to bonds for electrically connecting the rails of a railway track, and it consists in a bond composed of laminations of copper or other suitable conducting metal, the ends of the bond being inclosed in a sheet metal terminal of peculiar construction, as hereinafter set forth and particularly pointed out in the claims.

In the accompanying drawing, Figure 1 is a front elevation of a rail bond embodying my invention; Fig. 2 is a perspective view of one of the terminals before its application to the bond; and Fig. 3 is a cross-section of one of said terminals as applied to the bond and to the web of a rail.

The body of the bond is composed of a plurality of laminations 1 of good conducting material, preferably copper. This, as is well known, forms a flexible strip, which can be flexed at the middle, as at 2, to provide for relative movements of the ends of the two rails, due to vibration, expansion and contraction and other causes. Each end of this body is inclosed in a terminal or cap of sheet metal, preferably copper. The cap has a base portion 3 adapted to lie flat against the web 4 of the rail, and preferably wider than the body of the bond so that it will extend beyond the same, forming flanges 5 above and below said body. The base is also provided with a number of perforations 6 to permit the solder 7, which unites the terminal to the rail, to flow freely into the terminal and between the laminations, as indicated in Fig. 3.

The cover portion 8 of the terminal is formed preferably by doubling over the sheet of metal of which it is composed, thereby making one of the flanges of double thickness. The cover is bent to conform to the size and shape of the body of the bond, fitting it closely, and terminating with a flange 5′ which lies upon the other flange 5.

At some suitable point in the sheet which forms the terminal, and preferably in the base portion 3, is formed one or more integral ribs 9, running lengthwise of the cap. The height of this rib is preferably about equal to the width of the laminations composing the body, so that it will extend between two of said laminations to the opposite side of the body, as indicated in Fig. 3. The terminal is secured to the laminations by solder, and the intervening rib or ribs lying between pairs of said laminations not only gives increased electrical contact between the cap and the body, but materially strengthens the structure, and renders it less likely that the base of the cap will be pulled off the laminations. The flanged base gives a broad surface between the terminal and the rail, and the perforations insure an interlocking of the solder which makes a strong joint.

What I claim as new and desire to secure by Letters Patent of the United States, is,—

1. A rail bond comprising a laminated body and a sheet metal cap inclosing an end thereof and having a perforated base, and a rib integral with said base and extending between two of said laminations.

2. A rail bond comprising a laminated body and a sheet metal cap inclosing one end thereof and having a perforated base, a rib integral with said base and extending between two of said laminations, and flanges extending beyond the body of said bond.

In witness whereof, I have hereunto set my hand this 18th day of December, 1907.

GEORGE H. HILL.

Witnesses:
BENJAMIN B. HULL,
HELEN ORFORD.