B. S. RUPP.

METALLIC RAILWAY TIE.

APPLICATION FILED JAN. 8, 1912.

1,044,918.

Patented Nov. 19, 1912.

2 SHEETS—SHEET 1.

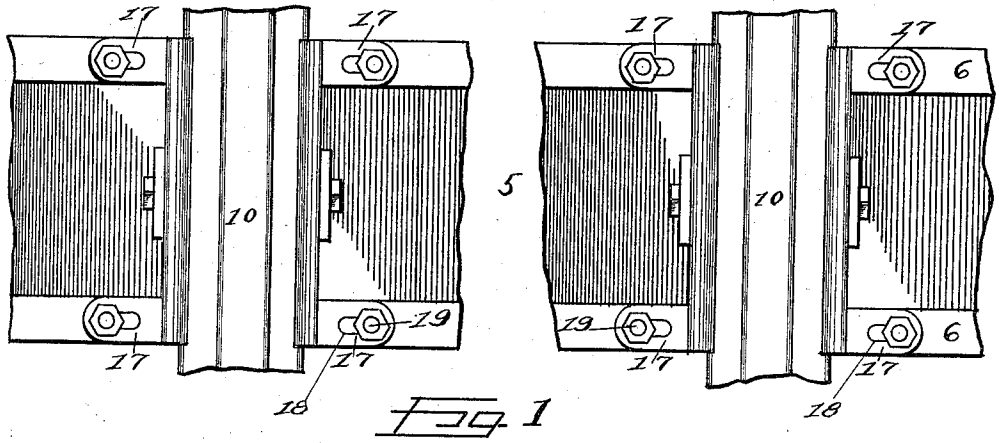

Fig. 1

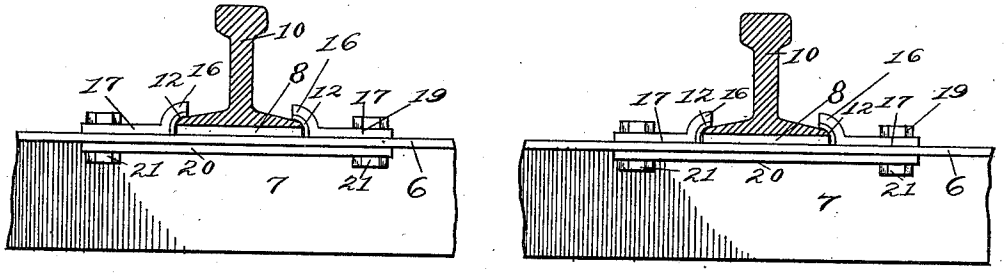

Fig. 2.

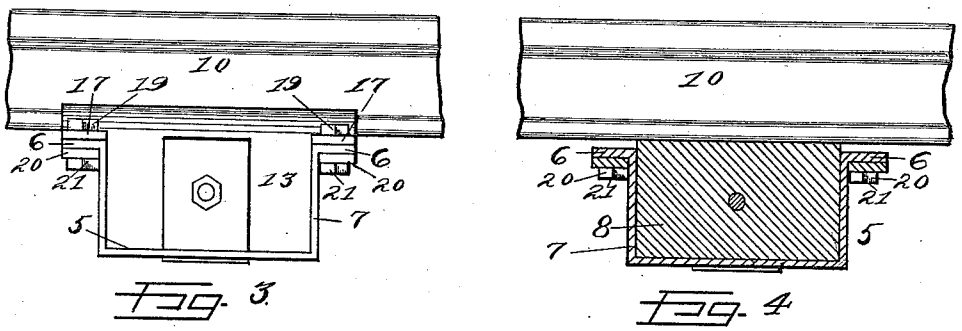

Fig. 3

Fig. 4

Witnesses
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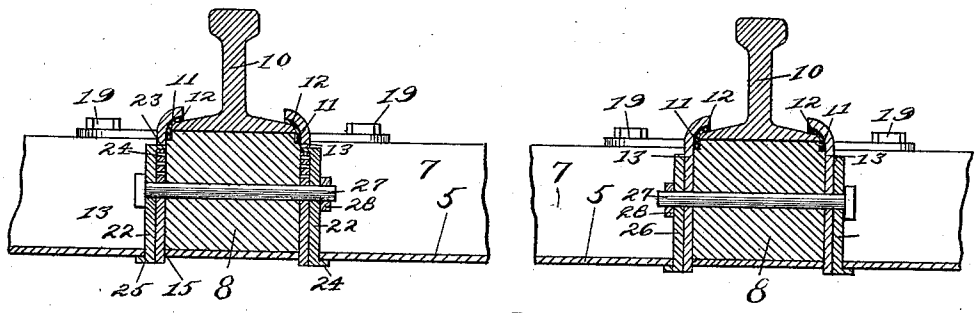

Fig. 5

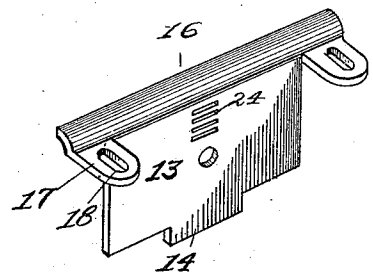

Fig. 6

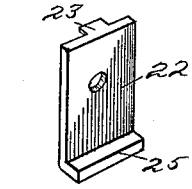

Fig. 7

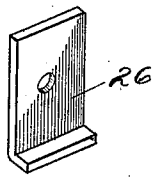

Fig. 8

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UNITED STATES PATENT OFFICE.

BURTON S. RUPP, OF SALT LAKE CITY, UTAH, ASSIGNOR TO UNIVERSAL METALLIC TIE COMPANY, A CORPORATION OF UTAH.

METALLIC RAILWAY-TIE.

1,044,918. Specification of Letters Patent. Patented Nov. 19, 1912.

Application filed January 8, 1912. Serial No. 670,001.

To all whom it may concern:

Be it known that I, BURTON S. RUPP, citizen of the United States, residing at Salt Lake City, in the county of Salt Lake and State of Utah, have invented certain new and useful Improvements in Metallic Railway-Ties, of which the following is a specification.

This invention relates to metallic railway ties and means for securing rails thereon, the object of the invention being to provide an improved device of this character constructed in such manner that rails of varying sizes and weights may be secured firmly to said tie.

A further object of the invention is the provision of means for mounting the rails upon metallic ties in such manner that they will be effectively insulated therefrom.

Further objects and advantages of the invention will be set forth in the detailed description which now follows.

In the accompanying drawing, Figure 1 is a plan view of a portion of the metallic tie illustrating the rails and the securing means for said rails. Fig. 2 is a side elevation thereof. Fig. 3 is an end view. Fig. 4 is a transverse sectional view of the tie with the rail in elevation. Fig. 5 is a longitudinal sectional view of the tie. Fig. 6 is a detailed perspective view of a clamping plate hereinafter described. Fig. 7 is a detailed view of a clip plate hereinafter described, and Fig. 8 is a detailed view of a tie engaging plate, hereinafter described.

Like numerals designate corresponding parts in all of the figures of the drawing.

Referring to the drawing the numeral 5 designates a tie of channel form, having outturned flanges 6. Disposed between the side walls 7 of the tie, are cushioning blocks 8 of wood or other non-conductive substance. The rails 10 rest upon the blocks 8 and the blocks are cut out at 11 for the reception of the lower edges of curved insulating strips 12. Clamping plates 13 are provided with downwardly extending lugs 14 which pass through openings 15 formed in the bottom of the tie. These clamping plates have their upper edges curved as at 16 to take over the strips of insulation 12 and over the base flanges of the rails 10 to thereby secure and bind said rails in position. The clamping plates 13 are provided with ears 17 which overlie and rest upon the flanges 6. These ears are provided with slots 18 through which bolts 19 pass. These bolts 19 pass through the slots, through the flanges 6 and through the strengthening bars 20 located upon the underside of the flanges 6 (see Fig. 2). By virtue of the provision of the slots 15 in the ears 17, it is possible to transversely adjust the clamping plates 13 with relation to the rails to provide for the reception of rails having base flanges of different widths. Furthermore, by the provision of these slots, extreme accuracy in boring the holes in the flanges 6 for the passage of the bolts 19 is rendered unnecessary. Nuts 21 are threaded upon the lower ends of the bolts 19 and bind the parts secured thereby, firmly together.

The structure so far described, is duplicated at each of the rails 10 (see Fig. 5) and the same reference numerals have been applied. The structures shown differ slightly in that securing means for the left hand rail in Fig. 5 comprises clip plates 22 having inturned lips 23 adapted to engage in openings 24 of plates 13. These clip plates are provided with outturned lower ends 25 which pass through the openings 15 and engage the undersides of the tie. In the structure shown at the right hand side of Fig. 5, the lips 23 and openings 24 have been omitted, and the tie engaging plates 26 have been substituted for the clip plates 22. Bolts 27 pass through the various members described and have nuts 28 threaded thereon for binding all of these parts together. The blocks 8 are of such height as to space the rails above the flanges 6. Since the strips of insulation 12 insulate the base flanges from the clamping plates 13 it is apparent that the rails will be entirely insulated from the ties. This is highly desirable where the metallic ties are to be used upon electric railways.

From the foregoing description it will be seen that simple and efficient means are herein provided for accomplishing the objects of the invention, but while the elements shown and described are well adapted to serve the purposes for which they are intended, it is to be understood that the invention is not limited to the precise con-

struction set forth, but includes within its purview such changes as may be made within the scope of the appended claims.

Having described my invention what I claim is:—

1. In a device of the character described, the combination with a tie of channel form, of cushioning blocks disposed between the side walls thereof, said tie having outturned flanges extending longitudinally of the upper edges of the side walls, rail-retaining clamping plates having vertical portions which depend between and fit snugly between the side walls of the tie, inturned upper edges upon said clamping plates, ears formed upon said plates, said ears extending longitudinally of and resting upon said flanges of the tie and fastening devices passing through said ears and through said flanges.

2. In a device of the character described, the combination with a tie of channel form, of cushioning blocks disposed between the side walls thereof, said tie having outturned flanges extending longitudinally of the upper edges of the side walls, rail-retaining clamping plates having vertical portions which depend between and fit snugly between the side walls of the tie, inturned upper edges upon said clamping plates, ears formed upon said plates, said ears extending longitudinally of and resting upon said flanges of the tie, and fastening devices passing through said ears and through said flanges and said ears having elongated slots formed therein for the passage of said fastening devices.

3. In a device of the character described, the combination with a tie of channel form of cushioning blocks disposed between the side walls thereof, said tie having outturned flanges extending longitudinally of the upper edges of its side walls, rail-retaining clamping plates having vertical portions which depend between and fit snugly between the side walls of the tie, inturned upper edges upon said clamping plates, ears formed upon said plates, said ears extending longitudinally of and resting upon said flanges of the tie, and fastening devices passing through said ears and through said flanges and an insulating strip located beneath the inturned upper flanges of the rail retaining clamping plates.

4. In a device of the character described the combination with a metallic tie of channel form, of cushioning blocks of non-conductive material disposed between the side walls of said tie upon which the rails rest, said blocks being of such height as to space the rails from the side walls of the tie, said blocks having their upper edges recessed, clamping plates having their curved upper edges disposed between the side walls of the tie, insulating strips disposed between the said clamping plates and the base flanges of the rail, the lower edges of said insulating strips lying in the recessed portions of said blocks and means for binding the clamping plates to said blocks.

5. In a device of the character described, the combination with a metallic tie of channel form, of cushioning blocks of nonconductive material disposed between the side walls of said tie, upon which the rails rest, said blocks being of such height as to space the rails from the side walls of the tie, said blocks having their upper edges recessed, clamping plates having curved upper edges disposed between the side walls of the tie, insulating strips disposed between said clamping plates and the base flanges of the rail, the lower edges of said insulating strips lying in the recessed portions of said blocks, means for binding the clamping plates to said blocks, said clamping plates having ears extending longitudinally of the tie and said tie having horizontal flanges at the upper edges of its side walls upon which said ears rest, and fastening devices through said ears and through said flanges.

6. In a device of the character described, the combination with a metallic tie of channel form, of cushioning blocks of nonconductive material disposed between the side walls of said tie upon which the rails rest, said blocks being of such height as to space the rails from the side walls of the tie, said blocks having their upper edges recessed, clamping plates having curved edges disposed between the side walls of the tie, insulating strips disposed between said clamping plates and the base flanges of the rail, the lower edges of said insulating strips lying in the recessed portions of said blocks, means for binding the clamping plates to said blocks, said clamping plates having ears extending longitudinally of the tie and said tie having horizontal flanges at the upper edges of its side walls upon which said ears rest, fastening devices through said ears and through said flanges, and stiffening strips underlying said flanges through which said fastening devices also pass.

7. In a device of the character described, the combination with a metallic tie of channel form, of cushioning blocks of nonconductive material disposed between the side walls of said tie upon which the rails rest, said blocks being of such height as to space the rails from the side walls of the tie, said blocks having their upper edges recessed, clamping plates having curved edges disposed between the side walls of the tie, insulating strips disposed between said clamping plates and the base flanges of the rail, the lower edges of said insulating strips lying in the recessed portions of said blocks, means for binding the clamping plates to

said blocks, said clamping plates having ears extending longitudinally of the tie and said tie having horizontal flanges at the upper edges of its side walls upon which said ears rest, fastening devices through said ears and through said flanges, stiffening strips underlying said flanges through which said fastening devices also pass, and means having elongated slots formed in them for the passage of said fastening devices.

8. In a device of the character described, the combination with a tie of channel form, of cushioning blocks formed between the side walls thereof, clamping plates disposed upon opposite sides of said cushioning blocks, clip plates disposed upon the outside of said clamping plates and having portions adapted to engage in openings of the clamping plates.

9. In a device of the character described, the combination with a tie of channel form, of cushioning blocks formed between the side walls thereof, clamping plates disposed upon opposite sides of said cushioning blocks, clip plates disposed upon the outside of said clamping plates and having portions adapted to engage in openings of the clamping plates, said clip plates passing through the bottom of the tie and having out-turned lower ends which engage the under side of the tie.

In testimony whereof I affix my signature in presence of two witnesses.

BURTON S. RUPP.

Witnesses:
J. T. HAMMOND, Jr.,
J. T. HAMMOND.