

B. S. RUPP & J. W. JOHNSON.
METALLIC TIE.

APPLICATION FILED JAN. 4, 1911.

1,005,318.

Patented Oct. 10, 1911.

2 SHEETS—SHEET 1.

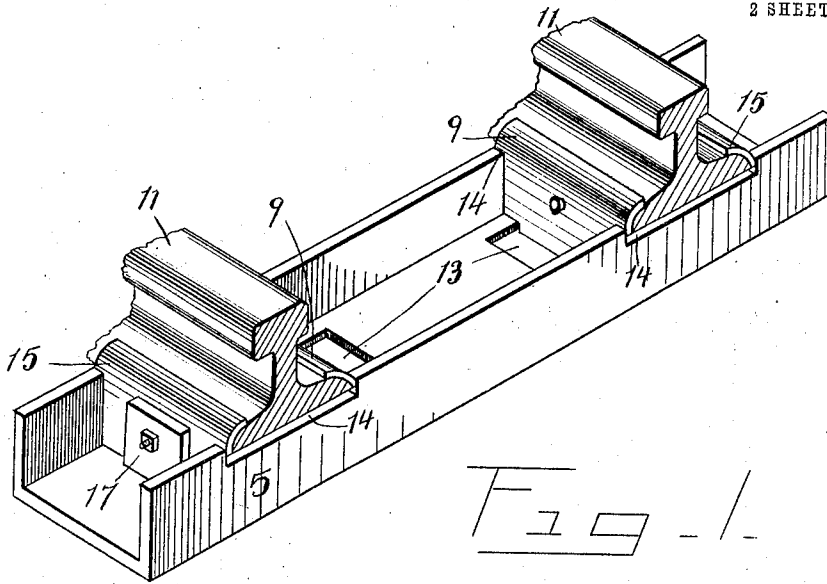


Fig. 1.

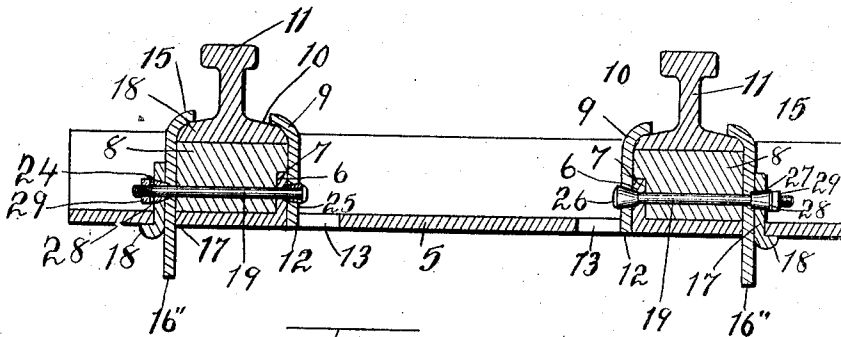


Fig. 2.

Witnesses
Clayton F. Dyer.
Anna Murray.

Inventors
Burt S. Rupp.
Jesse W. Johnson.
by *Harold H. H. H.* Attorney

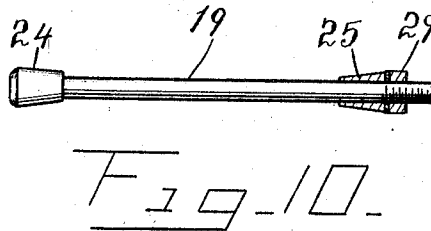
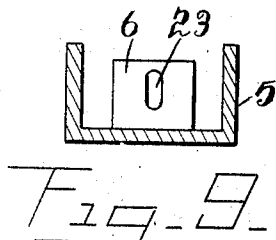
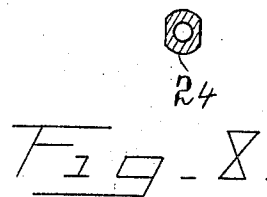
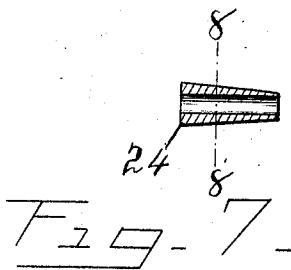
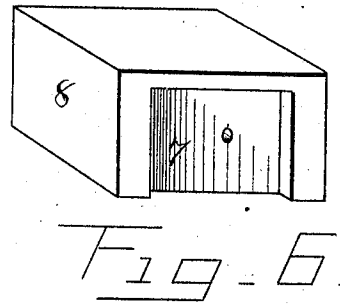
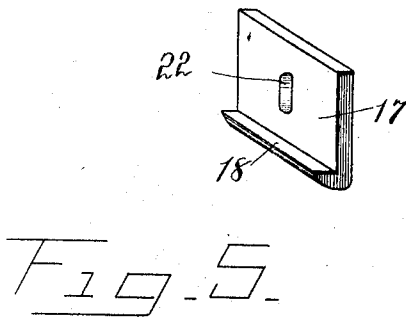
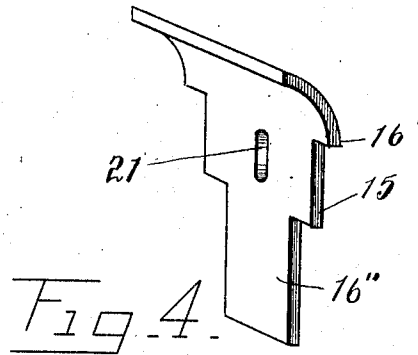
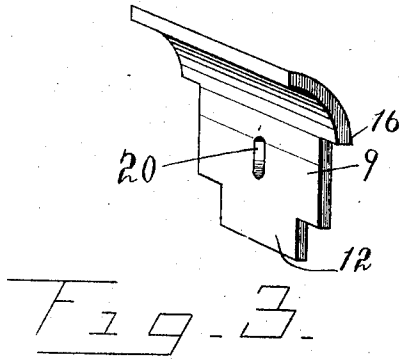
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2 SHEETS—SHEET 2.



Witnesses
Clayton S. Shaw
Anna Murray.

Inventors
Benton S. Rupp.
Jesse W. Johnson.
by *Harold H. Hines* Attorney

UNITED STATES PATENT OFFICE.

BURTON S. RUPP AND JESSE W. JOHNSON, OF SALT LAKE CITY, UTAH.

METALLIC TIE.

1,005,318.

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Application filed January 4, 1911. Serial No. 600,332.

To all whom it may concern:

Be it known that we, BURTON S. RUPP and JESSE W. JOHNSON, citizens 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 Ties, of which the following is a specification.

This invention relates to metallic railway ties and has for its object the provision of an improved metallic railway tie comprising means for firmly clamping the rails upon the ties and for holding said rails firmly against movement in any direction.

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

In the accompanying drawings, Figure 1 is a perspective view of a tie constructed in accordance with the invention, Fig. 2 is a longitudinal sectional view thereof, Fig. 3 is a detail perspective view of one of the inner clamping plates hereinafter described, Fig. 4 is a detail perspective view of one of the outer clamping plates hereinafter described, Fig. 5 is a detail perspective view of a tie engaging plate, Fig. 6 is a detail perspective view of one of the cushion blocks, Fig. 7 is a longitudinal sectional view of a tapered bushing hereinafter described, Fig. 8 is a transverse section upon line 8-8 of Fig. 7, Fig. 9 is a transverse section of the tie illustrating one of the upstanding lips hereinafter described, and Fig. 10 is a detail side elevation of one of the bolts and the bushings carried thereby.

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

Referring to the drawings, the numeral 5 designates a metallic railway tie of channel form, the bottom of which has upstanding lips 6 struck therefrom, these lips engaging in recesses 7 formed in one of the sides of cushion blocks 8 (see Figs. 2 and 6). Inner clamping plates 9 (see Figs. 2 and 3) have their upper edges inwardly curved to engage over the base flanges 10 of rails 11. These clamping plates at their lower portions are provided with extensions 12 which enter the openings 13 formed in the bottom of the tie by the striking up of the lips 6. The side walls of the tie are recessed at 14. Outer clamping plates 15 have their upper

edges inwardly curved to engage the base flanges of the rail. These clamping plates are substantially like the clamping plates 9 except that their lower extensions 16 are longer than the corresponding extensions 12 of the clamping plates 9. Both the plates 9 and 15 however, are provided with shoulders 16, 16' which extend into the recessed portions 14 of the side walls of the tie.

The engaging plates 17, having outstanding lips 18 along their lower edges, project through the bottom of the tie, the lips 18 preventing upward movement of said plates after they abut against the underside of the tie. Bolts 19 pass through both the inner and outer clamping plates 9 and 15, through the lips 6, through the tie engaging plates 17, and through the cushion blocks 8. The inner clamping plates have elongated openings 20 formed through them. The outer clamping plates have elongated openings 21 formed through them. The tie engaging plates have elongated openings 22 formed through them and the lips 6 have elongated openings 23 formed through them. Tapering sleeves 24, 25, 26, and 27 engage in the elongated openings 20, 21, 22, and 23 of the clamping plates, tie engaging plates and lips hereinbefore described, the sleeves 25 and 26 having their outer ends engaged by the heads of the bolts 19, and the sleeves 24 and 27 having their outer ends engaged by washers 28. Nuts 29 threaded upon the bolts 19 serve to force the sleeves toward each other.

As is best illustrated in Fig. 8, the sides of the sleeves are flattened whereby these sleeves are prevented from turning and are caused to fit snugly in the elongated openings 20, 21, 22 and 23.

We are aware of the fact that it has heretofore been proposed to use metallic railway ties of channel form. The present structure however, embodies certain improvements over the structures heretofore employed. The downward extensions 16' of the clamping plates engage in the earth and resist sidewise movement of the rails and endwise movement of the ties. The passing of the bolts 19 through the upstanding lips 6 and through the tie engaging plates 17, prevents any tendency of the rails to lift.

The main or body portions of the clamping plates lie snugly between the side walls

of the tie and are thereby held against endwise movement, while the shoulders 16, 16', of these plates, by reason of the cut-out portions 14 of the tie, are braced against sidewise displacement.

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

Having described our invention, what we claim is:

1. The combination with a metallic railway tie, of cushion blocks supported thereon, a clamping plate upon each side of said cushion block and adapted to engage the base flange of a rail, an upstanding lip integral with and struck from the bottom of the tie, and a bolt traversing both of said clamping plates and said lip, said lip being embedded in the cushion block with its outer face flush with the outer face of said block.

2. The combination with a metallic railway tie, of a cushion block supported thereon, an integral lip upstanding therefrom, a pair of clamping plates, one located upon each side of said cushion block and adapted to engage the base flange of a rail, a tie engaging plate, and a fastening member traversing both of said clamping plates, said lip, and said tie engaging plate, said integral lip being embedded in the cushion block with its outer face flush with the outer face of said block.

3. The combination with a metallic railway tie, of a cushion block supported thereon, a lip upstanding therefrom, a pair of clamping plates, one located upon each side of said cushion block and adapted to engage the base flange of a rail, a tie engaging plate, a fastening member traversing both of said clamping plates, said lip and said tie engaging plate; tapered sleeves mounted upon said fastening member, and means mounted upon the fastening member and bearing against one of said tapered sleeves to force said tapered sleeve toward the other of said tapered sleeves.

4. In a device of the character described, the combination with a metallic tie of channel form, upstanding lips projecting from the bottom of said tie, cushion blocks having their side walls recessed for the reception of said lips, a clamping plate upon each side of each of said cushion blocks, separate tie engaging plates projecting through the tie and having lips formed thereon for engagement with the underside of the tie, said tie engaging plates lying against the outermost

of said clamping plates, and bolts traversing said clamping plates, said upstanding lips, and said tie engaging plates, for binding them together.

5. In a device of the character described, the combination with a metallic tie of channel form, upstanding lips projecting from the bottom of said tie, cushion blocks having their side walls recessed for the reception of said lips, a clamping plate upon each side of each of said cushion blocks, separate tie engaging plates projecting through the tie and having lips formed thereon for engagement with the underside of the tie, said tie engaging plates lying against the outermost of said clamping plates, and bolts traversing said clamping plates, said upstanding lips and said tie engaging plates, for binding them together; some of said clamping plates having downward extensions which project below the bottom of the tie.

6. In a device of the character described, the combination with a metallic tie of channel form, of upstanding lips projecting from the bottom of said tie, cushion blocks having their side walls recessed for the reception of said lips, a clamping plate upon each side of each of said cushion blocks, separate tie engaging plates projecting through the tie and having lips formed thereon for engagement with the underside of the tie, said tie engaging plates lying against the outermost of said clamping plates, bolts traversing said clamping plates, said upstanding lips and said tie engaging plates for binding them together, said clamping plates, said lips and said tie engaging plates having elongated openings formed therein, tapered sleeves having flattened sides for engaging in said openings, and means inclusive of said bolts for drawing said sleeves toward each other.

7. In a device of the character described, the combination with a metallic tie of channel form, upstanding lips projecting from the bottom of said tie, cushion blocks having their side walls recessed for the reception of said lips, a clamping plate upon each side of each of said cushion blocks, separate tie engaging plates projecting through the tie and having lips formed thereon for engagement with the underside of the tie, said tie engaging plates lying against the outermost of said clamping plates, and bolts traversing said clamping plates, said upstanding lips and said tie engaging plates for binding them together, said clamping plates fitting snugly between the side walls of the tie.

8. In a device of the character described, the combination with a metallic tie of channel form, upstanding lips projecting from the bottom of said tie, cushion blocks having their side walls recessed for the reception of said lips, a clamping plate upon each side of each of said cushion blocks, separate tie

engaging plates projecting through the tie
and having lips formed thereon for engage-
ment with the underside of the tie, said tie
engaging plates lying against the outermost
5 of said clamping plates, bolts traversing said
clamping plates, said upstanding lips and
said tie engaging plates for binding them
together, said clamping plates fitting snugly
between the side walls of the tie, the side
10 walls of the tie being cut out, and shoulder

extensions upon said clamping plates for en-
gaging in said cut-out portions.

In testimony whereof we affix our signa-
tures in presence of two witnesses.

BURTON S. RUPP.
JESSE W. JOHNSON.

Witnesses:

I. A. CLAYTON,
I. A. CLAYTON, Jr.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."