F. A. GINNEL.

METALLIC TIE AND RAIL FASTENER.

APPLICATION FILED OCT. 7, 1909.

944,857. **Patented Dec. 28, 1909.**

Fig. 1.

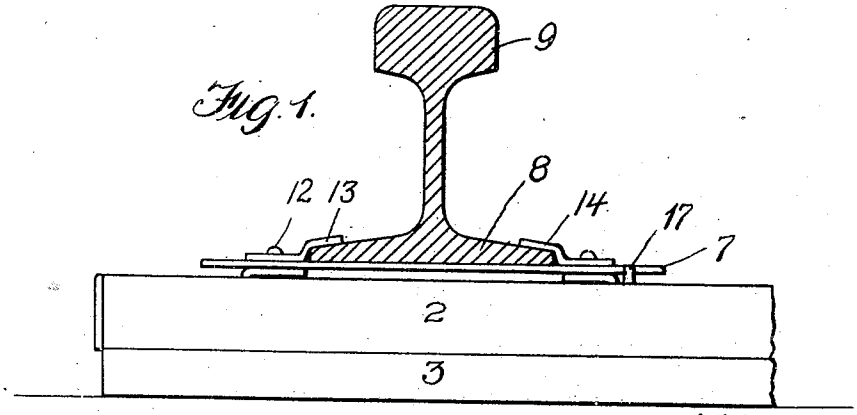


Fig. 3.

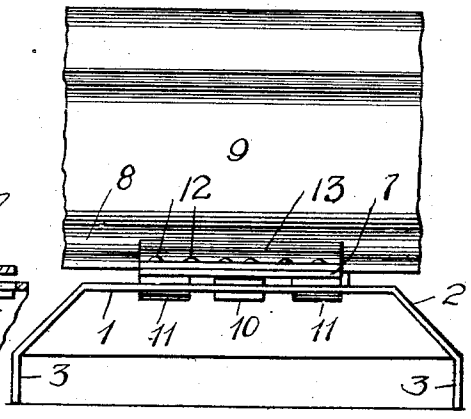
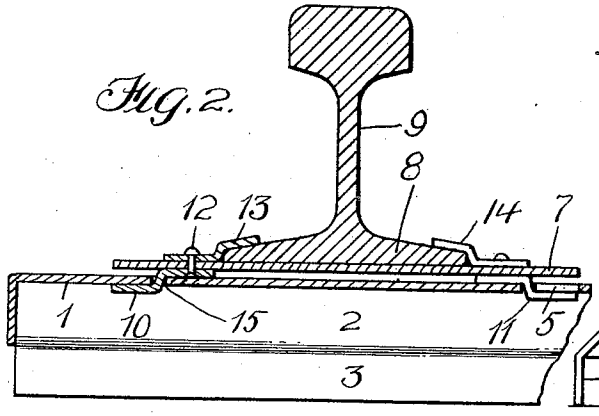


Fig. 2.



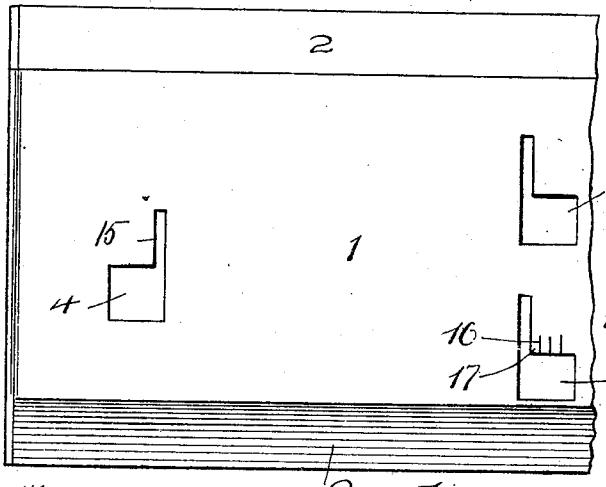


Fig. 4.

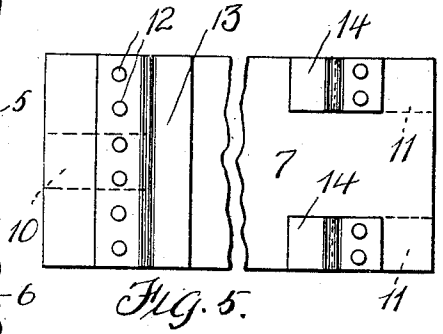


Fig. 5.

WITNESSES:—

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METALLIC TIE AND RAIL-FASTENER.

944,857. Specification of Letters Patent. Patented Dec. 28, 1909.

Application filed October 7, 1909. Serial No. 521,471.

To all whom it may concern:

Be it known that I, FRANZ ALBIN GINNEL, a subject of the King of Saxony, residing at McKeesport, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Metallic Ties and Rail-Fasteners, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to metallic ties and rail fasteners, and the objects of my invention are, first, to provide a metallic tie of a strong and durable construction; second, to provide a tie that can be easily rolled and then punched to accommodate my improved rail fasteners; third, to provide a rail fastener that will positively retain a rail upon a tie; fourth, to eliminate the use of fish-plates, bolts and nuts, and spikes as a fastening medium for rails; fifth, to furnish a metallic tie with a fastener that can be easily and quickly installed without the use of skilled labor; and sixth, to provide a metallic tie that can be easily anchored in a road-bed while the fastener thereof prevents lateral and vertical displacement of a rail.

The above objects are attained by a construction that will be hereinafter described in detail and then claimed, and reference will now be had to the drawing forming a part of this specification wherein there is illustrated a preferred embodiment of my invention, but it is to be understood that the structural elements thereof can be varied or changed without departing from the spirit of the invention.

In the drawings:—Figure 1 is a side elevation of a portion of a tie constructed in accordance with my invention. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is an end view of the tie. Fig. 4 is a plan of a portion of the tie, and Fig. 5 is a plan of a portion of a tie plate adapted to form a part of my improvement.

In the accompanying drawings the reference numeral 1 denotes an oblong metallic plate having the longitudinal edges thereof inclined downwardly, as at 2, and terminating in vertical side walls 3 adapted to rest upon the foundation or ballast of the road-bed. The ends of the plate are bent downwardly approximately two-thirds the depth of the tie, otherwise the ends are open permitting of the ballast being tamped under the plate 1, consequently the vertical walls 3 of the tie can be positively anchored in a roadbed. This structure can be easily rolled or pressed from steel, whereby I am enabled to produce a tie structure that can not be easily collapsed.

The oblong plate 1 adjacent to the ends thereof is provided with L-shaped openings, 4, 5 and 6, the lateral portion of said openings being of a greater width than the other portions to provide entrance openings for my fastener which will be presently described. The opening 4 is located approximately central of the plate 1, the openings 5 and 6 are located adjacent to the inclined edges of said plate, whereby two fasteners can be used upon the inner side of the rail and one fastener upon the outer side.

The reference numeral 7 denotes a rail plate which is rectangular in plan and is adapted to support the base 8 of a rail 9. The rail plate 7 adjacent to one edge is provided with a depending angular shaped clip 10, while said plate adjacent to the opposite edge is provided with two depending angular shaped clips 11. These clips are secured to the plate 7 by rivets 12, said rivets also securing clamps 13 and 14 to the upper surface of the plate 7, the clamp 13 corresponding in length to the width of the plate 7 while the clamps 14 are of less width than the plate and are secured at the longitudinal edges of said plate.

The clamps 13 and 14 are adapted to extend over the base flanges of the rail 9 and firmly hold said rail upon said plate. After the plate 7 has been connected to the rail 9, said plate is placed upon the tie with the clips 10 and 11 extending through the entrance ends of the openings 4, 5, and 6. The plate 7 is then shifted transversely of the plate 1 until the neck portions 15 of the clips engage in the narrow parts of the openings 4, 5, and 6. It is then impossible for the clips to become vertically displaced relative to the tie, and to prevent lateral displacement, the plate 1 bordering upon the opening 6 is slit, as at 16, to provide a plurality of lugs 17. One of these lugs is bent upwardly, as shown in Fig. 1 of the drawings to engage the edge of the plate 7. Should one of the lugs be broken another of the lugs can be used.

From the foregoing it will be observed that I have devised positive and reliable means for securing a rail to a metallic tie, and that the tie can be easily laid and bal-

lasted to provide a durable road-bed for track.

Having now described my invention, what I claim as new is:—

1. In a metallic tie and rail fastener, an oblong plate having the longitudinal edges thereof inclined and terminating in vertical side walls, said plate adjacent to the ends thereof having L-shaped openings with the material bordering upon one of the openings at each end of said tie slit to provide a plurality of lugs, one of which is adapted to be bent upwardly, a plate adapted to support a rail, said plate being provided upon the under side with angularly disposed clips adapted to extend through the openings of said tie and be shifted to engage the under side of said tie, and clamps secured to the top of said rail plate and adapted to engage the base flanges of a rail placed thereon, substantially as described.

2. In a metallic tie and rail fastener, the combination of a plate having the longitudinal edges thereof inclined and terminating in vertical side walls, said plate having openings formed therein, a rail plate adapted to support a rail, angularly disposed clips carried by the bottom side of said rail plate and adapted to extend into said openings and be shifted to engage the under side of said tie, clamps carried by the upper side of said rail plate and adapted to engage the base flanges of a rail mounted thereon, and means in connection with said tie adapted to engage one edge of said rail plate to prevent lateral displacement of said plate.

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

FRANZ ALBIN GINNEL.

Witnesses:

A. H. Rabsag,

Mary M. Hedden.