No. 873,469. PATENTED DEC. 10, 1907.

W. D. TURNER.

METALLIC TIE.

APPLICATION FILED DEC. 13, 1906.

FIG. 1

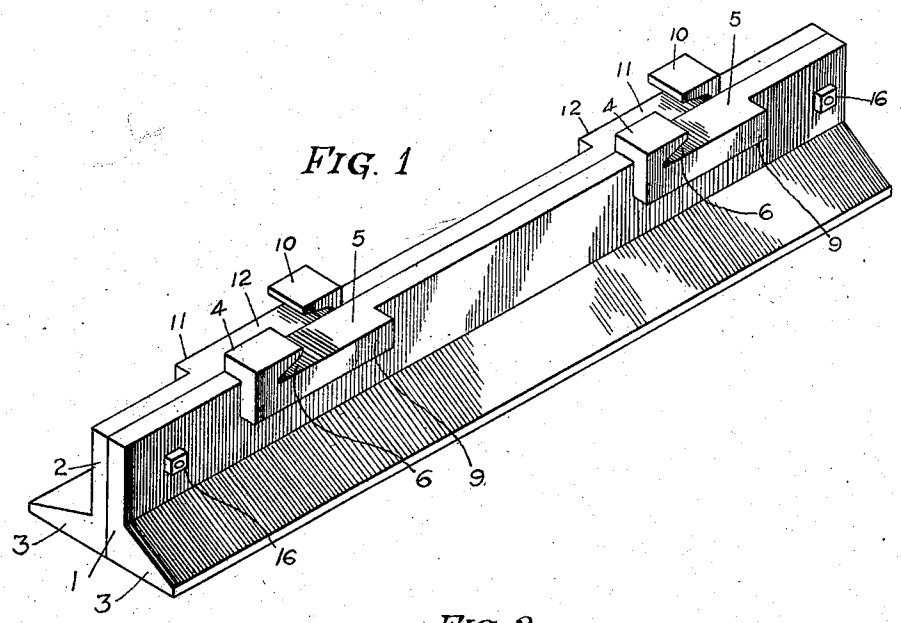
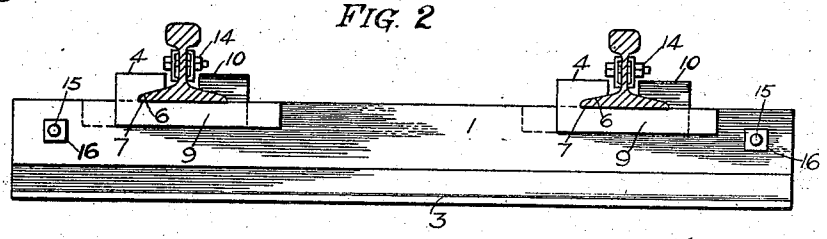


FIG. 2



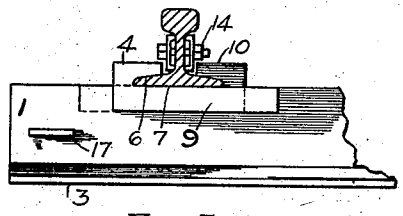


FIG. 3

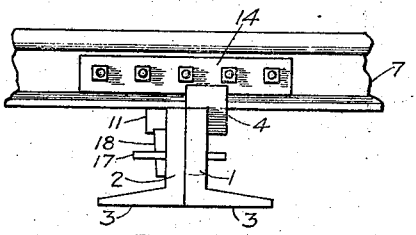


FIG. 4.

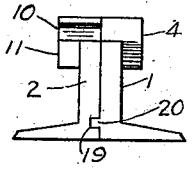


FIG. 5

WITNESSES:

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METALLIC TIE.

No. 873,469. Specification of Letters Patent. Patented Dec. 10, 1907.

Application filed December 13, 1906. Serial No. 347,647.

To all whom it may concern:

Be it known that I, WILLIAM D. TURNER, a citizen of the United States of America, residing at Mars, in the county of Butler and State of Pennsylvania, have invented certain new and useful Improvements in Metallic Ties, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to metallic railway ties and fasteners, and its primary object is to provide a metallic tie of simple and comparatively inexpensive construction so constructed as to adapt it to serve as a combination tie and rail fastener.

The invention comprises a metallic tie consisting of separable longitudinal sections provided with reinforced lugs adapted to overlap the base portions of the rails to secure the latter upon the ties, and reinforced rail seats.

The construction of the improvement will be fully described hereinafter in connection with the accompanying drawing which forms a part of this specification, and its novel features will be defined in the appended claims.

In the drawing, Figure 1 is a view in perspective of a tie embodying the invention, Fig. 2 is an elevation of the tie showing rails in position thereon, in transverse section, Fig. 3 is a fragmentary side elevation of a modification, Fig. 4 is an end view of the modification, and Fig. 5 is an end view of a modified form of tie.

The tie comprises two sections, each consisting of a vertical body portion, designated respectively by the reference numerals 1 and 2, and a base flange 3. The body portion 1 is formed adjacent to each of its ends with a lug 4, said lugs projecting in the same direction and overhanging a rail-seat 9, the upper faces 5 of which seats are flush with the upper edge of the tie. The under sides 6 of said lugs are beveled to adapt them to fit over the base 7 of the rails. The vertical portion 2 of the other tie section is formed with lugs 10 and rail seats 12, the upper faces 11 of these seats being flush with the upper edge of the tie, these seats and lugs conforming to the seats 9 and lugs 4 of the other section, but disposed oppositely thereto so that the lugs 4 of one section overlap the bases of the rails on one side of the latter, and the lugs 10 of the other tie section overlap the bases of the rails on the opposite sides thereof. The seats 9 and 12 are in the form of substantially rectangular enlargements projecting from the outer face of the respective sections, and free from engagement with the base of said sections, whereby to save material, lighten the tie, and thereby reduce the cost of manufacture.

As shown in Figs. 2, 3 and 4 of the drawing, the lugs 4 and 10 overlap the base portions of the rails a sufficient distance to firmly clamp the latter but leave room for the application of fish-bars 14 to the rails. After the tie sections are placed together in proper position they are secured by bolts 15, and nuts 16 as shown in Figs. 1 and 2, or by wedge-plates 17, as shown in Figs. 3 and 4 said plates extending through suitable registering openings formed in the vertical portions of the tie sections and being held by wedge-keys 18 driven through openings in said wedge-plates.

In Fig. 5 of the drawing, I have illustrated a slight modification wherein the section 2′ is provided with a longitudinally disposed groove 19 adjacent to its base while the section 1′ is provided with a rib 20 adapted to fit in said groove. The modification has certain advantages over the preferred form of construction in so much as the pressure and strain upon the bolts 16 is equalized, and weight upon the other of said sections being borne by both sections.

Other means than those here shown may be utilized for connecting the tie sections. The reinforcing ribs projecting from the outer sides of the tie sections afford extended bearings or seats for the rails, and the said ribs constitute extensions of the overlapping lugs 4 and 10, materially strengthening these parts, and insuring firm and rigid supports for the rails.

As shown in Figs. 1, 2, 3 and 4 of the drawings, the enlargements 9 are located on the outer side of the web and are longitudinally extended beyond the plane of the base of the rail, the rail fastening 4 being of equal width with such enlargement. This provides a construction in which the angular faces of greatest width of each of the sections are entirely free from projections or overhanging parts, and permits the two sections to be readily placed in position to be simply placed back to back, no particular adjustment being required, one member being placed in position and the other member dropped alongside of it, the rails placed thereon and

the members moved longitudinally relatively to each other to provide the engagement of the rail-fastening and the base of the rail. By providing sections or members of angular structure, great strength and rigidity of the tie with a minimum weight is obtained, thereby decreasing the cost of manufacture without sacrificing strength; in addition the angular structure permits of the placing of ballast within the angle to a point adjacent the web of the tie. By providing the enlargements of a length to extend beyond the plane of the base of the rail there is no liability of the weakening of the support of the rail under the continual use to which the rail is put, there being no weakened portion subjected to the pressure developed by the passage of trains, etc. over the rail, in addition to which the wearing life of the tie is lengthened; furthermore, the width of the enlargements laterally is such as to tend to withstand the creeping of the rails in use.

What I claim and desire to secure by Letters Patent, is:—

1. A combined metallic tie and rail-seat comprising two tie members each formed angular in cross-section, the inner vertical faces of the members abutting, rail seats formed on said members, each seat projecting laterally of the vertical web and extending longitudinally of the web to points beyond the edge of the rail resting thereon, and a rail-engaging lug extending upwardly from and of equal width with the upper surface of the rail seat, the angular faces of greatest width of each of the members being free from projections or portions overhanging the plane of the opposing member, and means for removably securing the members in position relatively to each other.

2. A metal tie comprising two counterpart angle sections having their webs placed back to back and secured together, the opposing backs of the webs being free from projections or overhanging portions, each web formed adjacent each end with a substantially rectangular enlargement projecting from the outer faces of the webs and free from engagement with the base flange of the section with the upper face of said enlargement flush with the upper edge of the sections, said enlargements projecting laterally beyond the plane of the base of the rail and rail-clamping lugs integral with and of a width equal to the enlargements and sections at the ends of said enlargements, substantially as described.

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

WILLIAM D. TURNER.

Witnesses:
MAX H. SROLOVITZ,
A. J. TRIGG.