No. 730,059. PATENTED JUNE 2, 1903.

J. H. VAN TASSEL & J. M. THORNTON.

METALLIC RAILWAY TIE.

APPLICATION FILED AUG. 19, 1902.

NO MODEL.

Fig. 1.

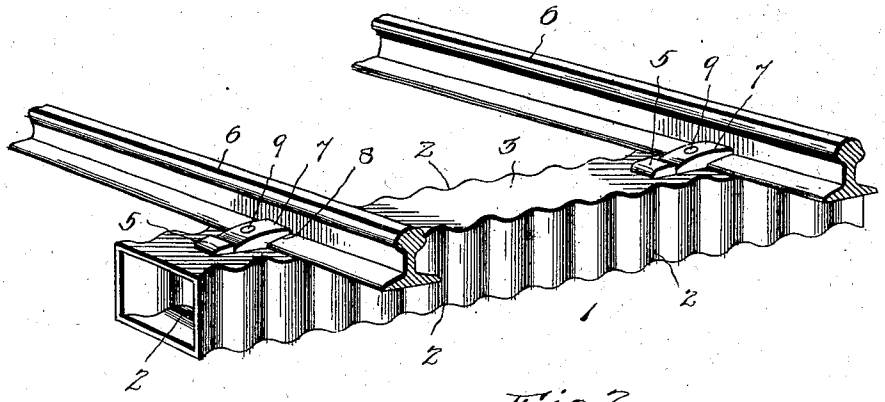


Fig. 2.

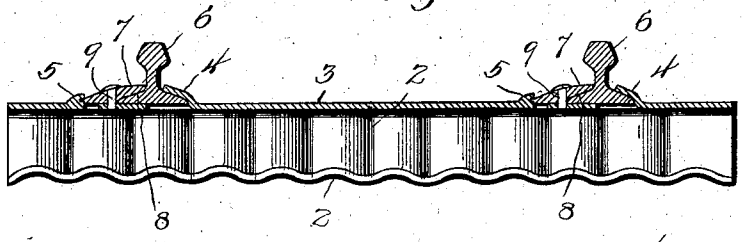


Fig. 3.

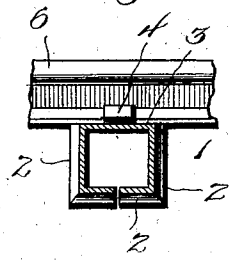


Fig. 4.

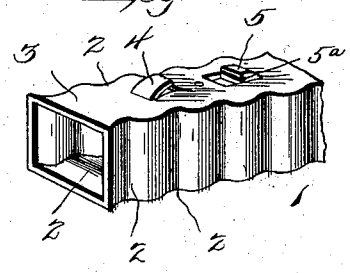


Fig. 5.

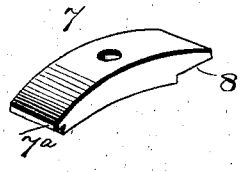
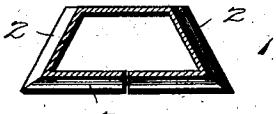


Fig. 6.



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No. 730,059. Patented June 2, 1903.

UNITED STATES PATENT OFFICE.

JAMES H. VAN TASSEL AND JAMES M. THORNTON, OF ELMIRA, NEW YORK.

METALLIC RAILWAY-TIE.

SPECIFICATION forming part of Letters Patent No. 730,059, dated June 2, 1903.

Application filed August 19, 1902. Serial No. 120,242. (No model.)

To all whom it may concern:

Be it known that we, JAMES H. VAN TASSEL and JAMES M. THORNTON, citizens of the United States, residing at Elmira, in the county of Chemung and State of New York, have invented certain new and useful Improvements in Metallic Railway-Ties; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

Our invention relates to improvements in metallic railway-ties and means for securing the rails in position.

The object of our invention is to provide a metallic-tie and rail securing device which is durable in construction, made of a minimum number of parts, readily placed in position and removed therefrom, and which will be securely held in operative position.

Other objects will appear as the invention is hereinafter described.

To these and other ends the invention consists in the improved construction and combination of parts hereinafter fully described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims.

In the drawings, Figure 1 is a perspective view of a metallic tie, showing the rails in position thereon. Fig. 2 is a central longitudinal sectional view of the structure shown in Fig. 1. Fig. 3 is a cross-sectional view of the tie. Fig. 4 is a perspective view of a portion of the tie, showing the formation of the struck-up lugs. Fig. 5 is a detail of the strap or clamp. Fig. 6 is a cross-sectional view of a modified form of tie.

Similar reference-numerals indicate similar parts.

1 designates a metallic tie stamped out and bent into quadrangular shape, with the meeting edges of the tie located at the center of the bottom. The sides and bottom are provided with deep corrugations 2, as shown, said corrugations running transversely of the tie and being continuous from the sides into the bottom, thereby not only strengthening the sides and bottom, respectively, but also the angles where side and bottom join. These corrugations are located throughout the length of the tie and form means for positively retaining the tie against endwise movement when the track has been ballasted.

The upper surface 3 of the tie is free of corrugations and is provided at each end with struck-up portions 4 5, forming lugs at points where the rail is to be laid. The lugs 4 are bent up and shaped to fit the base of the rail 6, said lugs being adapted to receive one side of such base, as shown in Fig. 2, and forming the rail-retaining means for one side of the rail. The lugs 5 are also struck up and spaced relatively to the base of the rail, so as not to contact therewith, and are each provided with a recess 5^a. Said lugs 5 are adapted to form abutments for the outer end of the strap or clamp 7, the inner end of which forms the rail-retaining means opposed to the lugs 4. The straps 7 are shaped as shown, having an undercut portion 8, adapted to fit over the base of the rail and is of a width slightly less than that of the length of the lug 5, so that there is less liability of the straps working sidewise, the strap 7 being provided with a lip 7^a, fitting in the recess 5^a. The strap is secured in position by the passage of a rivet or bolt 9 through the strap and tie at a point adjacent to the edge of the base of the rail. The strap is preferably riveted in position, the ends of the tie being open and affording ready access to the interior to aid in the riveting operation; but bolts may be used, if desired. As the rivets are adjacent to the edge of the rail-base, it will be apparent that they not only form means for securing the strap in position, but also in themselves prevent the rail from moving away from its position relative to the lugs 4.

As will be seen, the relative location of the lugs 4 and 5 is the same at each end—that is to say, both lugs 4 are on the right or left sides of the rails, as the case may be, both lugs being on the same side. By this arrangement the tie can be removed without disturbing the rail itself, a removal of the straps 7 permitting the rail to be moved in a direction to free the rail from the lugs 4. In order to remove liability of the lugs 4 being broken off under strain, as when used around a curve,

the ties are preferably arranged with alternate ties presenting the same character of retainer, either permanent or removable, on the same side. In case of breakage of a lug 4 a new lug can be riveted in position, and, if desired, the tie may be galvanized.

In the structure shown in Fig. 6 the quadrangular shape is changed, the bottom of the tie being of greater width than the top, the tie in other respects being the same.

It will be obvious from the above that the tie and rail retaining means is formed with a limited number of parts, consisting of the tie, the two straps, and the rivets or bolts, the latter of any preferred number, one for each strap being sufficient, however. Furthermore, the tie and rail can be readily placed in position without the necessity of special tools being used and is of such simplicity as to be readily put in place by the ordinary track-laying gang. When riveted in position, difficulty would be presented in removing a section of the rail, and therefore, in connection with the corrugated surfaces, there is little liability of the rails spreading.

Having thus described our invention, what we claim as new is—

1. A metallic railway box-tie, having its sides and bottom corrugated transversely throughout the length of the tie, the corrugations being continuous from side to bottom as herein set forth.

2. A metallic railway box-tie, having adjacent to each end, a struck-up clip, adapted to overlap the flange of a rail; an opposing struck-up, spaced lug, provided on its inner face with a recess; a strap or clamp having on one end a lip fitting in the recess of the lug, and on its other end, an undercut shouldered portion, adapted to fit over the flange of the rail, and means for securing the strap to the tie as herein set forth.

3. As a new article of manufacture a sheet-metal railway box-tie, having its sides and bottom provided with transverse corrugations throughout the length of the tie, and continuous from sides to bottom; and adjacent to each end, a struck-up clip adapted to overlap the flange of a rail, and an opposing struck-up lug, recessed on its inner face, and spaced from the opposite clip, to receive a clamp between the lug and the rail, as herein set forth.

4. A sheet-metal railway box-tie, having adjacent to each end a struck-up clip, adapted to overlap the flange of a rail; an opposing struck-up lug, having a recess on its inner face; a strap or clamp adapted to engage the lug at one end and to overlap the flange of a rail at its other end; and means for securing the strap or clamp in place, as herein set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

JAMES H. VAN TASSEL.
JAMES M. THORNTON.

Witnesses:
ROB ERVIN,
THOMAS O'DONNELL.