A. A. WHITBRED.

RAILROAD TIE.

APPLICATION FILED JUNE 5, 1907.

898,709. Patented Sept. 15, 1908.

Fig. 1.

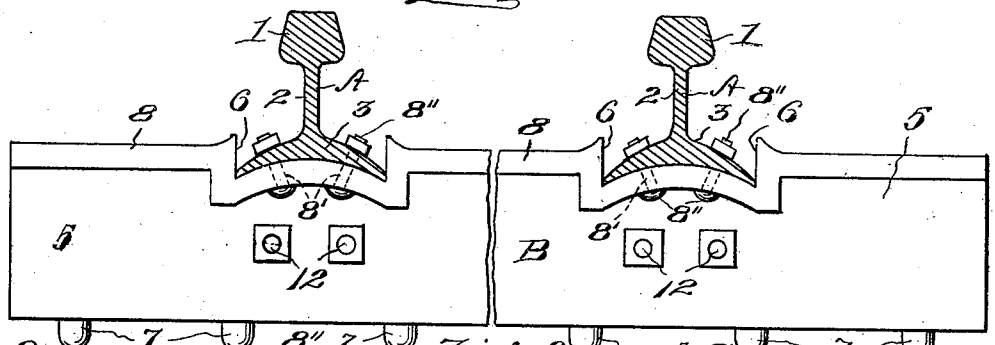


Fig. 2.

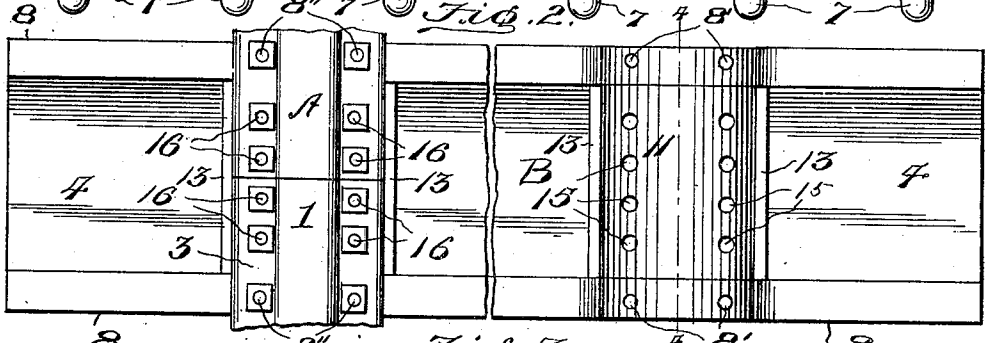


Fig. 3.

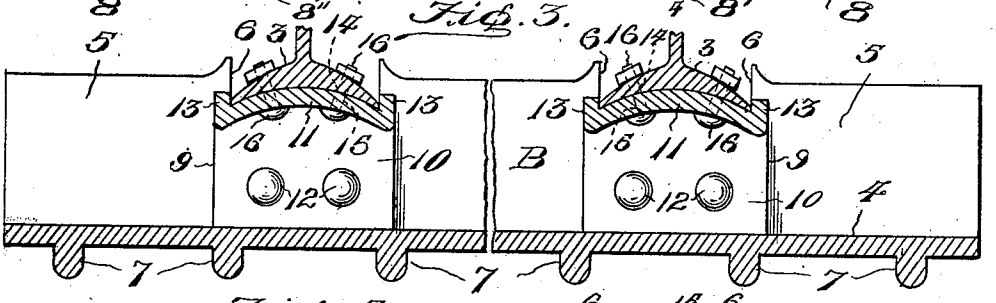


Fig. 5.

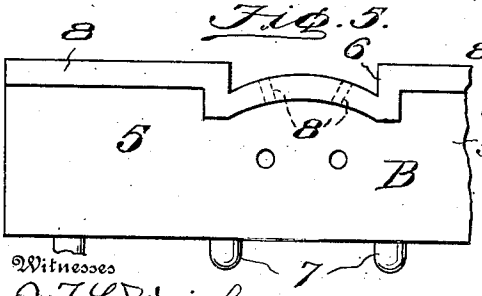
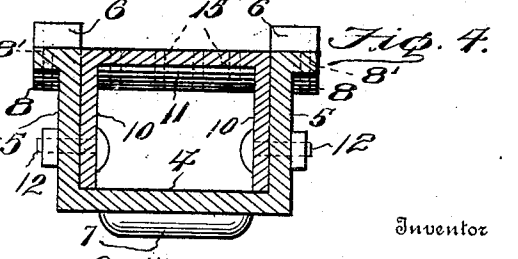


Fig. 4.



Witnesses

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RAILROAD-TIE.

No. 898,709. Specification of Letters Patent. Patented Sept. 15, 1908.

Application filed June 5, 1907. Serial No. 377,392.

To all whom it may concern:

Be it known that I, ANDREW A. WHITBRED, a citizen of the United States, residing at Altoona, in the county of Blair and State of Pennsylvania, have invented new and useful Improvements in Railroad-Ties, of which the following is a specification.

This invention relates to metal cross ties for railroad tracks of that type in which the rails are bolted to the ties or parts attached thereto.

The invention has for one of its objects to improve and simplify the construction of steel or other metal ties so as to be comparatively easy and inexpensive to manufacture, of substantial and durable design, and whereby the rails can be readily and securely attached thereto.

A further object of the invention is the provision of a cross-tie of U-shaped cross section that has notches in its vertical webs for the reception of the bases of the rails, there being means employed in connection with the tie to which the rails are secured, the said notches serving to prevent lateral displacement or spreading of the rails.

With these objects in view and others, as will appear as the description proceeds, the invention comprises the various novel features of construction and arrangement of parts which will be more fully described hereinafter and set forth with particularity in the claims appended hereto.

In the accompanying drawing, which illustrates one of the embodiments of the invention, Figure 1 is a side elevation of a cross tie showing the rails applied thereto and an intermediate portion broken away. Fig. 2 is a plan view. Fig. 3 is a vertical longitudinal section. Fig. 4 is a transverse section on line 4—4, Fig. 2. Fig. 5 is a fragmentary side elevation of one end of the cross tie.

Similar reference characters are employed to designate corresponding parts throughout the several views.

Referring to the drawing, A designates the rails of a track which have heads 1, webs 2 of usual form, and bases 3 that are concavo-convex in cross section. While I have shown rails of this specific construction, it is to be understood that the tie can be readily designed for use in connection with rails of standard form. The cross tie B is preferably a metal body of U-shaped cross-section and comprises a bottom or base plate 4 and vertical webs 5, the latter having recesses or notches 6 at their inner upper edges to form seats for the bases of the rails A. On the bottom side of the base plate 4 are spaced transversely extending ribs 7 which serve to prevent longitudinal movement of the cross tie. The vertical webs 5 are reinforced along their upper edges by laterally extending flanges 8, and these flanges have apertures 8′ to receive bolts 8″ that pass through apertures in the rail bases for holding the rails securely on the ties.

The ties immediately under the joints between the meeting ends of the rail sections, are provided with supporting members 9, as shown in Figs. 2, 3 and 4, that support the extremities of the rail sections and prevent sagging and shocks as the wheels of a train pass over the joints. Each supporting member comprises a pair of parallel legs or side plates 10, and connected by a top plate 11 which is arched as shown in Fig. 3 so as to conform with the bottom side of the rail base. The members 9 snugly fit between the webs 5 and are secured thereto by bolts 12 passing through the vertical portions 10 and webs 5. Along the side edges of the plates 11 are upwardly-extending flanges 13 between each for engaging the side edges of the bases 3. The rail bases are apertured as indicated at 14, Fig. 3, and these apertures register with apertures 15 in the members 9 for the reception of bolts 16, whereby the rails are secured to the cross tie.

In practice, the cross ties which can be made by rolling or by casting, as desired, are laid in the road-bed and tamped in the usual manner and the rails are applied to the ties by engaging the bases in the recesses 6, the ends of the rails resting on the anchoring members 9 which, of course, are previously applied to the ties. After the ties are adjusted so that the apertures in the flanges and in the members 9 will register with the apertures in the rail bases, the bolts 8″ and 16 are inserted and the rails securely clamped in position. By means of the peculiar form of the anchoring members, the bolts can be inserted underneath and the nuts tightened at the top. It will thus be seen that the rails can be quickly and conveniently laid or taken up for repair when they become worn.

From the foregoing description, taken in connection with the accompanying drawing, the advantages of the construction and of the method of operation will be readily apparent to those skilled in the art to which the

invention appertains, and while I have described the principle of operation of the invention, together with the apparatus which I now consider to be the best embodiment thereof, I desire to have it understood that the apparatus shown is merely illustrative and that such changes may be made when desired, as are within the scope of the claims.

Having thus described the invention, what I claim is:—

1. A railway tie comprising a U-shaped metal structure having laterally extending flanges at the upper edges of the side portions and having rail-receiving recesses and provided with apertures under the recesses, rails seated in the recesses, supporting members disposed in the said metal structure and having their upper surfaces flush with the bottoms of the recesses, bolts passing through the apertures for holding the members in fixed position, bolts passing through the bases of the rails and members for securing the rails in position, and upwardly-extending flanges on the said members engaging the edges of the bases of the rails.

2. A tie comprising a metal structure of U-shaped cross-section having recesses in the top edges of the side portions and provided with laterally-extending perforated flanges at the recesses, rails disposed in the recesses, and bolts passing through the bases of the rails and the flanges.

3. A tie comprising a metal structure of U-shaped cross-section having recesses in the top edges of the side portions and provided with laterally-extending perforated flanges at the recesses, rails disposed in the recesses, bolts passing through the bases of the rails and the flanges, inverted U-shaped supporting members on which the rails rest, upwardly-extending flanges on the members for engaging the bases of the rails, bolts for securing the rails to the supporting members, and bolts for securing the members to the said structure.

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

ANDREW A. WHITBRED.

Witnesses:

W. FRANK VAUGHN,

IDA KITT.