E. BORGER.

RAILWAY TIE.

APPLICATION FILED NOV. 13, 1911.

1,040,264.

Patented Oct. 8, 1912.

Fig. 1.

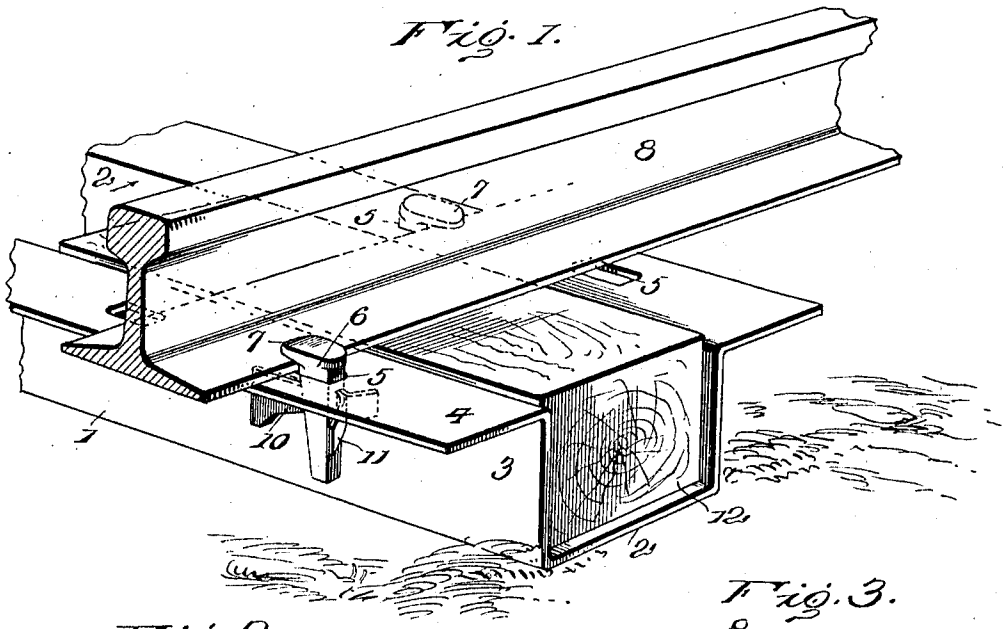


Fig. 2.

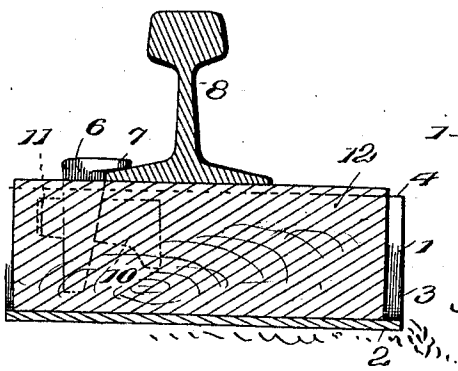
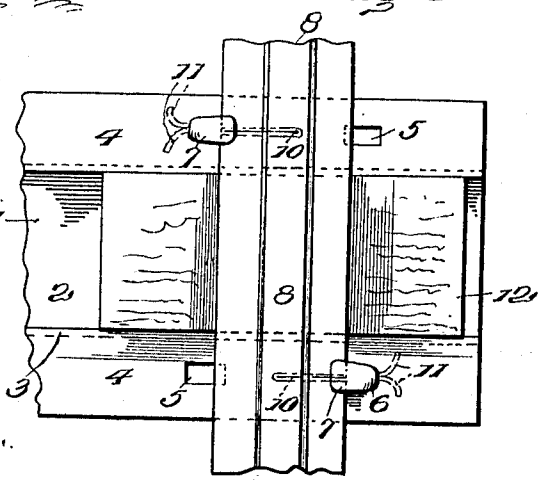


Fig. 3.



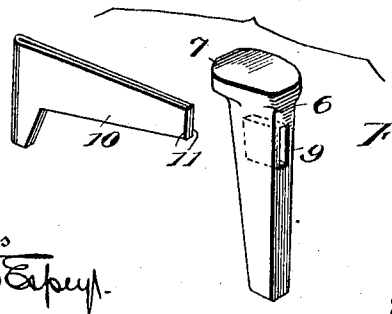


Fig. 4.

Witnesses

Richard Eaton.

Joana M. Fallin

Inventor

Erastus Borger.

By A. Peabody, Attorney.

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ERASTUS BORGER, OF KUNKLETOWN, PENNSYLVANIA.

RAILWAY-TIE.

1,040,264. Specification of Letters Patent. Patented Oct. 8, 1912.

Application filed November 13, 1911. Serial No. 660,056.

To all whom it may concern:

Be it known that I, ERASTUS BORGER, citizen of the United States, residing at Kunkletown, in the county of Monroe and State of Pennsylvania, have invented certain new and useful Improvements in Railway-Ties, of which the following is a specification.

This invention has relation to railway ties, and has for its object to provide a tie the major portion of which is formed from a strip of metal bent up into peculiar configuration, with blocks of wood inserted in the end portions thereof and which serve as foundations or supports for the track rails.

Rail securing devices of peculiar configuration and arrangement are provided and these devices are located the side portions of the tie and bear against the upper surfaces of the flanges of the rails. When the parts of the tie are first assembled the upper surface of the block of wood is above the upper surface of the metallic portion of the tie and consequently as the block shrinks the rails may settle and the securing devices may be tightened so as to hold the parts in proper relation to each other.

Further objects and advantages will appear in the following description, it being understood that various changes in form, proportions and minor details of construction may be resorted to within the scope of the appended claim.

For a full understanding of the invention reference is to be had to the following description and accompanying drawing, in which:

Figure 1 is a perspective view of an end portion of the tie with a rail located thereon; Fig. 2 is a longitudinal sectional view of the same; Fig. 3 is a top plan view of the same; Fig. 4 is a perspective view of a bolt and key used upon the tie.

Corresponding and like parts are referred to in the following description and indicated in all the views of the accompanying drawing by the same reference characters.

As illustrated in the accompanying drawing, the body 1 of the tie is formed from sheet metal, stamped or pressed into the desired configuration and having a flat bottom 2 with parallel upstanding sides 3. At the upper edges of the sides 3 the material is disposed outwardly, forming flanges 4 which lie in the same plane and parallel with the plane of the bottom 2. At the end portions of the body 1 the flanges 4 are provided with openings 5 which are preferably of rectangular configuration. These openings 5 receive wedge shaped bolts 6 which at their upper ends are provided with lugs 7 adapted to lie over the edge portions of the flanges of the track rails indicated at 8. The lower portions of the bolts 7 are provided with transverse slots 9 and these slots receive wedge shaped keys 10. These keys are formed from sheet metal and having opposite side portions 11 which are folded against each other and which are adapted to be passed through the slots 9 and spread apart so that the upper edges of the said side portions 11 at all times bear directly against the lower surfaces of the edge flanges 4 of the body 1. By spreading the ends of the side portions 11 away from each other the keys 10 are prevented from slipping or working out of the slots 9.

Wooden blocks 12 are fitted snugly within the sides 3 of the body 1 at the ends of the said body and lie transversely under the track rails 8. When these blocks are first placed in the body their upper surfaces are at a higher elevation than the upper surfaces of the flanges 4, but as the said blocks shrink or wear, the track rails 8 may settle until eventually the lower surfaces of their bases will rest directly against the upper surfaces of the said flanges 4. At any time that the said blocks shrink or wear to too great an extent, they may be removed and new blocks substituted in their stead. By this assemblage of parts it will be seen that the bolts 6 may be driven through the openings 5 so that the inner edges of the said bolts will bear against the edges of the base flanges of the rails 8 and properly position the rails with relation to the ends of the tie. They will also hold the rails against lateral vibration. The keys 10 are then driven through the slots 9 in the intermediate portions of the bolts 6 and the upper edges of the said keys are forced in close contact with the lower surfaces of the flanges 4 of the body 1. The side portions of the said keys are then spread so that the material of which the flanges 4 are formed is effectually braced about the openings 5 provided therein. Thus the free edge portions of the flanges 4 are supported by the relatively

rigid base flanges of the rails 8 and the spread ends of the keys 10 will have a tendency to prevent the outer edge portions of the said flanges from being broken down or sagging under the weight of the traffic that passes over the track rails.

When the tie is in position upon the roadbed, its intermediate portion may be filled with ballast and ballast may be packed under the flanges 4 and against the sides 3 of the body 1. Thus the tie will be retained in its proper position upon the roadbed. If at any time it is desired to renew the blocks in the end portions of the body, the keys 10 are removed from the bolts 6 and the said bolts are lifted out of the openings 5 in the flanges 4. Then by applying a jack or other device to the track rails 8 they may be lifted sufficiently to permit the said blocks 12 to be slipped out at the ends of the body 1 and new blocks may be substituted for the same. After this has been done the parts are again assembled and secured as hereinbefore described.

Having thus described the invention, what is claimed as new is:

A tie comprising a body formed from sheet metal having a flat bottom, vertical sides and outstanding flanges disconnected from each other and approximately parallel with the bottom of the body, a block inserted in the end portion only of the body and having its upper surface in a plane at a higher elevation than the plane of the upper surfaces of the flanges and fitting snugly between the vertical sides of the body, a rail resting upon the block and having its base flange spaced above the flanges of the body, and traction devices connecting the rail flanges with the flanges of the body and serving as means for gripping the block between the vertical sides of the body.

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

ERASTUS BORGER. [L. S.]

Witnesses:

JOSEPH C. ZIRKLE,

SAMUEL N. ACKER.

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