

F. J. PETERSON.
RAILWAY TIE AND FASTENER.
APPLICATION FILED APR. 22, 1912.

1,034,644.

Patented Aug. 6, 1912.

Fig. 1.

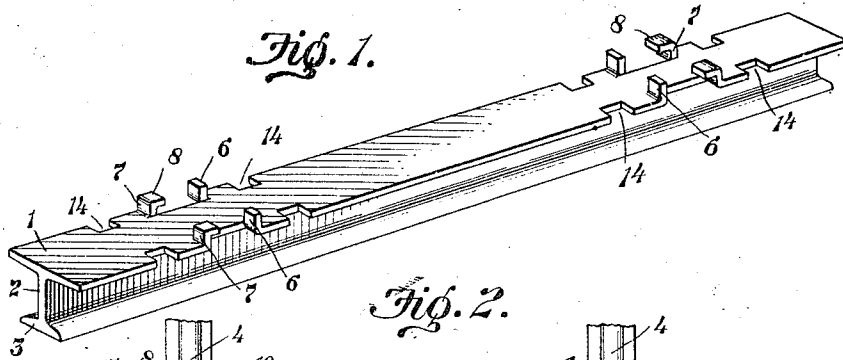


Fig. 2.

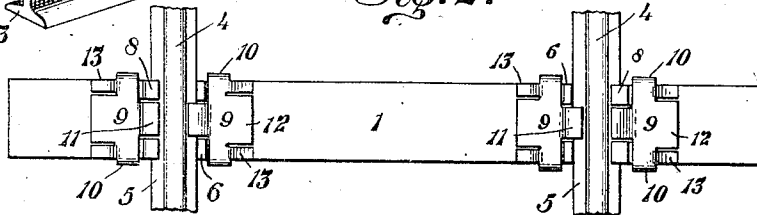


Fig. 3.

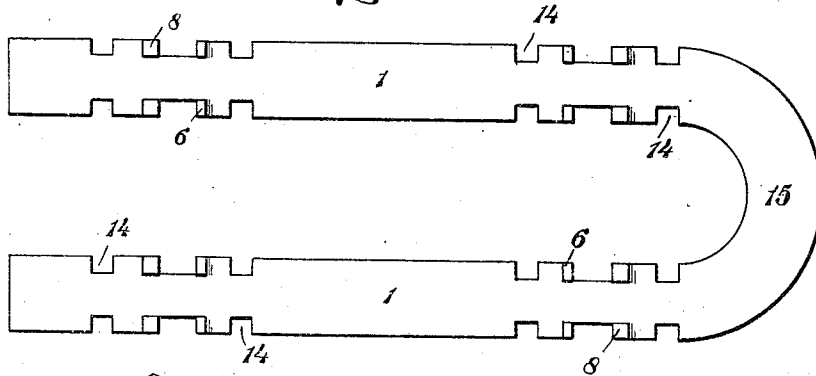


Fig. 4.

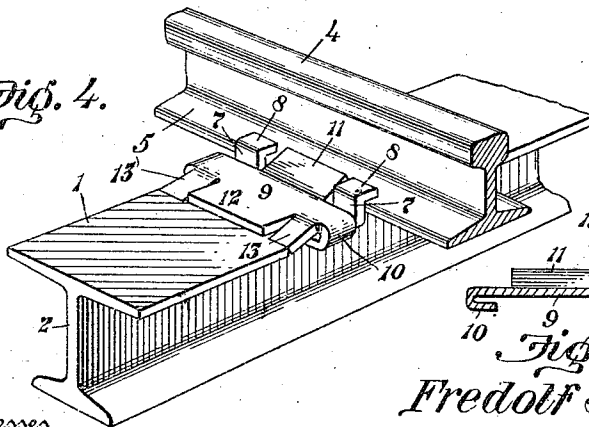


Fig. 5.

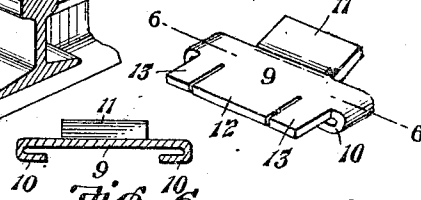


Fig. 6.

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UNITED STATES PATENT OFFICE.

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RAILWAY-TIE AND FASTENER.

1,034,644.

Specification of Letters Patent.

Patented Aug. 6, 1912.

Application filed April 22, 1912. Serial No. 692,221.

To all whom it may concern:

Be it known that I, FREDOLF J. PETERSON, a subject of the King of Sweden, residing at Salem, in the county of Columbiana and State of Ohio, have invented a new and useful Railway-Tie and Fastener, of which the following is a specification.

My invention relates to improvements in railway ties and fasteners and especially to a form of the same made from rolled shapes of steel or similar material, such as I beams, old rails and the like.

The objects of the invention are to generally improve devices of the character mentioned and to provide a railway tie and rail fastener of simple construction, having few parts and capable of being easily and quickly installed and very efficient and strong after such installation. These objects, together with other objects apparent to those skilled in the art, may be attained by the construction illustrated in the accompanying drawings, although the invention may be embodied in other forms, the construction illustrated being chosen by way of example.

In the drawings, Figure 1 is a perspective view of a railway tie made in accordance with my invention. Fig. 2 is a top view of the same with fragmentary portions of rails fastened to said tie by my invented rail fastener. Fig. 3 is a top view of a modified form of rail embodying my invention. Fig. 4 is an enlarged perspective fragmentary view of a portion of a tie and rail fastened thereto in accordance with my invention. Fig. 5 is a perspective view of one of the rail fasteners. Fig. 6 is a vertical sectional view on the line 6-6 of Fig. 5.

Throughout the several views similar reference numerals indicate similar parts.

More specifically describing the construction disclosed in said drawings, the numeral 1 indicates the upper horizontal flange, the numeral 2 the integral vertical web and the numeral 3 the integral lower horizontal flange of the tie. While in cross-section the ties illustrated in the drawings are of the I beam shape it will be understood that other shapes may be employed, such for instance as an old or discarded railway rail turned with its bottom flange up.

The essential characteristic of the tie proper embodying my invention is that it shall have sufficient vertically disposed body to give the proper rigidity, and a

horizontal upper flange adapted to bear the weight of the rails and which may be cut and fashioned as hereinafter described.

The numeral 4 indicates the rails of the track having their base flanges 5 resting upon the flange 1 of the tie. It will of course be understood that each tie will support a rail 4 at both ends and in the further description of my invention reference will be made to but one rail and one end of the tie, it being understood that the construction at the other end of the tie is a duplicate of the construction described, as will be well understood by those skilled in the art. At that point on the tie where the rail 4 rests the two side edges of the upper flange 1 are cut and inner vertically disposed stop lugs 6 and outer rail holding lugs 7 provided with integral base flange retaining portions 8 are provided. The stop lugs 6 are spaced from the rail holding lugs 7 substantially the width of the base flange 5 of the rail 4, and the portions 8 of the lugs 7 are off-set upwardly from the plane of the flange 1 a sufficient distance to receive the edge of the base flange 5 between said portions 8 and said flange 1. It will be understood that the rail 4 is arranged upon the tie by inclining the head of the rail outwardly toward the end of the tie and inserting the outer edge of the flange 5 under the portions 8 until the inner edge of the flange 5 is free to be lowered to the flange 1 on the outer side of the lugs 6, as shown in Fig. 2. It will be understood that the lugs 6 and 7 will prevent any lateral movement of the rails 4.

In order to fasten the rails 4 to the tie I provide a fastener such as clearly illustrated in Fig. 5 and which comprises the body portion 9 having at its two ends the underturned holding flanges 10, the integral laterally extending rail engaging portion 11, and the oppositely extending lateral tie engaging extension 12 and the integral locking lugs 13 adjacent said extension 12.

Inwardly spaced from the stop lugs 6 and outwardly spaced from the rail holding lugs 7 I provide the notches 14 in the edges of the flange 1, said notches being adapted to receive the flanges 10 of the rail fastener. Two of the rail fasteners are used for each rail and in applying said fasteners the flanges 10 are passed down through the notches 14 so that said flanges will engage the underside of the flange 1, the rail en-

gaging portion 11 overlying the base flange 5 of the rail and the body portion 9 and integral extension 12 of the fastener lying flat upon the flange 1. The portion 11 is preferably slightly inclined with reference to the body 9, and by means of a sledge the fastener may then be driven longitudinally with reference to the tie toward the rail by blows from said sledge directed upon the outer edge of the extension 12. The flanges 10 will tightly grip the underside of the flange 1 and the portion 11 will clamp the base flange 5 tightly to the flange 1. When the fastener has been driven sufficiently tight the locking lugs 13 may be bent downward by well directed blows of the sledge until their outer free ends engage the outer edges of the notches 14, as illustrated in Fig. 4, whereupon it will be found that the rail will be tightly clamped to the tie. It does not matter whether the fastener on the inside of the rail 4 or on the outside thereof is first applied, as the lugs 6 and 7 prevent any sidewise movement of the rail 4 during the fastening operation.

It will be noted that the device is entirely free from bolts, wedges, or other similar fastening devices, and when the lugs 13 have been bent down as shown in Fig. 4 there is no tendency for the device to become loosened by use. If it is desired to loosen the fastenings, however, the lugs 13 may be bent upward into the same plane as that of the extension 12, whereupon the fastener may be driven away from the rail 4, as will be well understood by those skilled in the art.

While I have shown the rail engaging portion 11 as of the simplest form it will be readily apparent that said portion may be so formed as to engage the web of the rail to further support the same as for use on curves and the like.

I prefer to form the tie proper from a rolled I beam shape such as illustrated in Fig. 1, but it will be well understood that discarded rails may be fashioned into ties embodying my invention by turning their base flanges upward and providing the lugs and notches as described. It should also be noted that the ties may be of the plain, straight, single form illustrated in Figs. 1 and 2, or they may be made of U shape such as illustrated in Fig. 3, the two ties being united by an integral curve portion 15. Various other shapes may also be formed as may be desired or thought practical.

Various changes of form, design or detail of construction may be resorted to as circumstances may suggest or requirements demand and I do not desire to be limited to the exact form of construction illustrated and described.

I claim:—

1. A device of the character described comprising a metallic tie proper provided with a horizontal flange having free edges, portions of said edges bent upward and forming spaced lugs extending above the plane of said flange and adapted to receive the base flange of a rail therebetween, and means slidably engaging the edges of said upper flange for fastening said rail to said tie.

2. A device of the character described comprising a metallic tie proper provided with a horizontal upper flange, portions of said flange formed into upwardly extending lugs adapted to receive the base flange of a rail therebetween, said flange of said tie also provided with notches, rail fastening means provided with holding flanges adapted to engage the underside of the upper flange of the tie, said notches in said upper flange adapted to receive said holding flanges, and said fastening means adapted for slidable movement upon said tie to bring said fastening means into engagement with the rail.

3. A device of the character described comprising a metallic tie proper provided with a horizontal upper flange, portions of said flange formed into upwardly extending spaced lugs adapted to receive the base flange of a rail therebetween, notches formed in said horizontal upper flange and rail fastening means having upper flange engaging portions receivable by said notches, said rail fastening means adapted for detachable connection with said tie and adapted for slidable movement with relation to said tie while so connected, and means for holding said rail fastening means in fixed position upon said tie.

4. A device of the character described comprising in combination with a metallic tie proper provided with an upper horizontal flange, said flange provided with spaced, integral, upwardly extending lugs adapted to receive the base flange of a rail therebetween, and with notches spaced from said lugs, a rail fastener comprising a body portion adapted for engagement with said upper flange, integral rail engaging means, integral underturned top flange engaging means adapted to be received by said notches, and integral bendable lugs, said lugs being adapted to be bent below the plane of the body of said fastener into said notches.

In testimony that I claim the above, I have hereunto subscribed my name in the presence of two witnesses.

FREDOLF J. PETERSON.

Witnesses:

JOHN H. BISHOP,
WILLIAM H. MILLER.