A. F. CHAMBLISS.

TIE.

APPLICATION FILED FEB. 11, 1911.

999,094.

Patented July 25, 1911.

2 SHEETS—SHEET 1.

Fig. 1

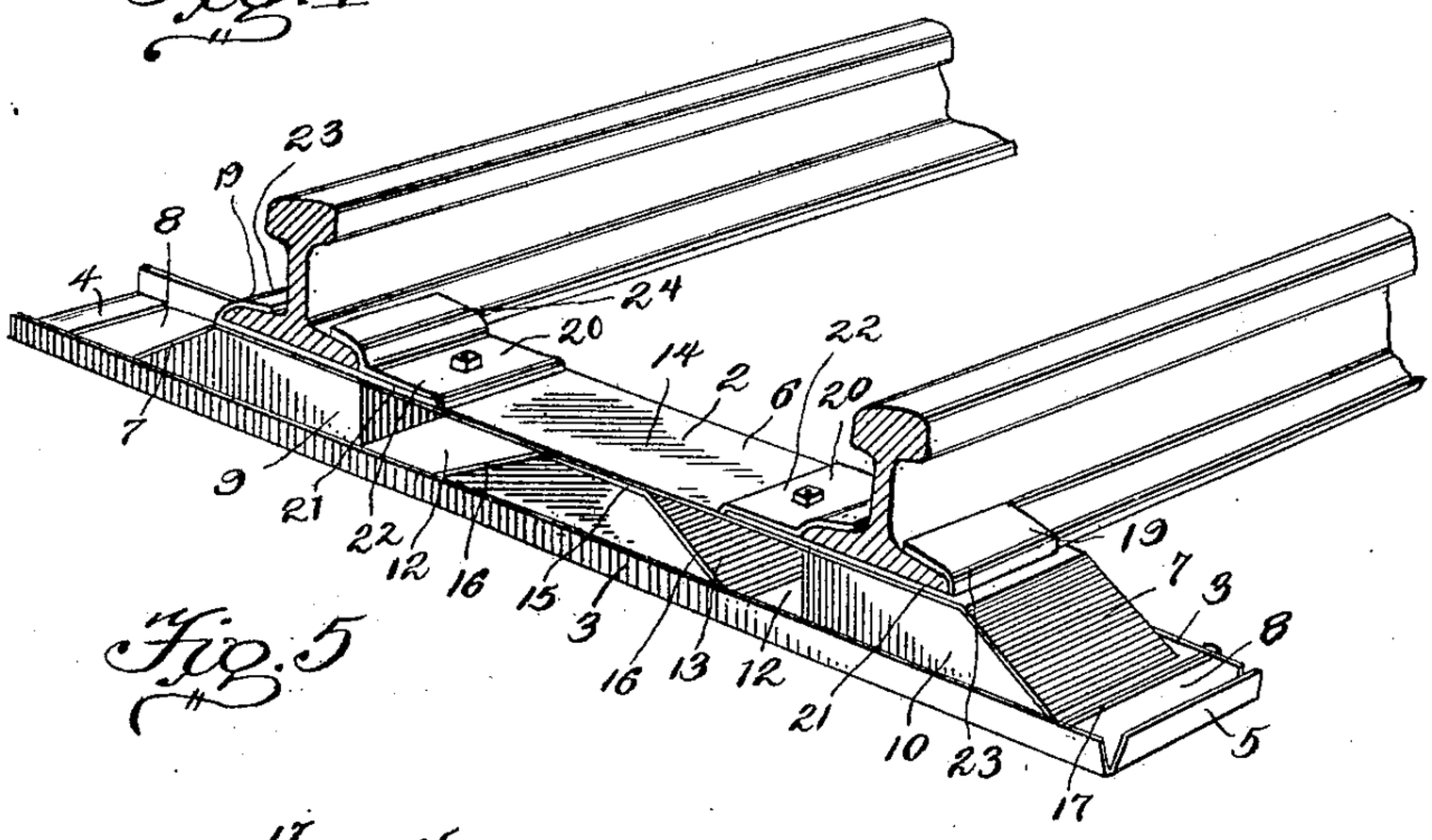


Fig. 5

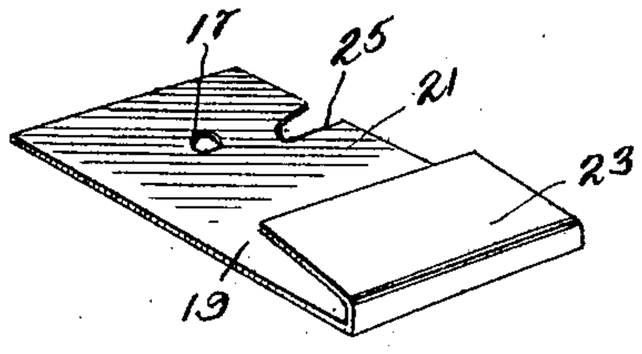


Fig. 6

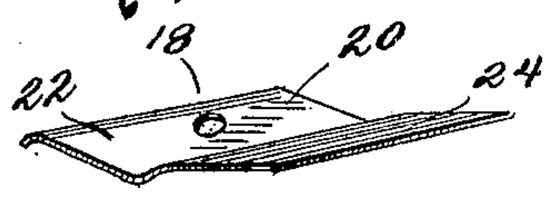
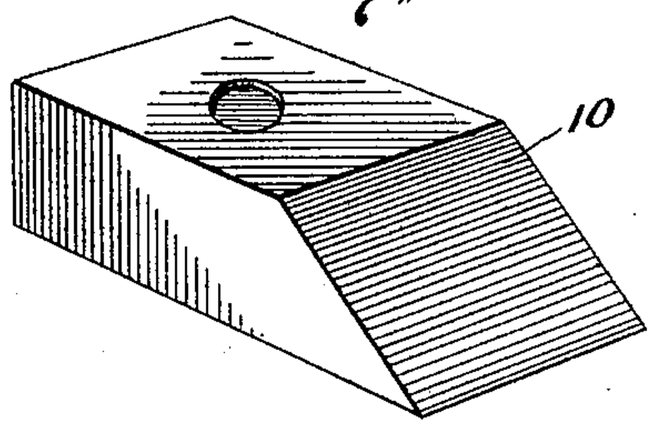


Fig. 7



Witnesses

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2 SHEETS—SHEET 2.

Fig. 2

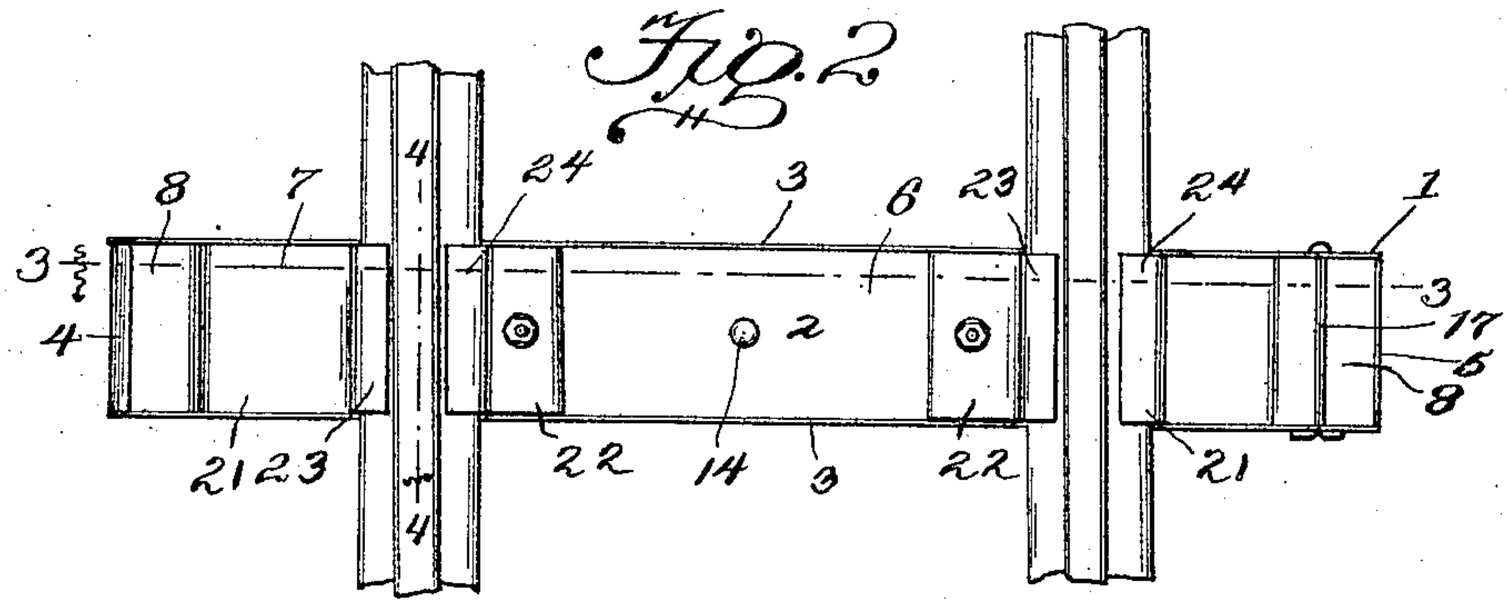


Fig. 3

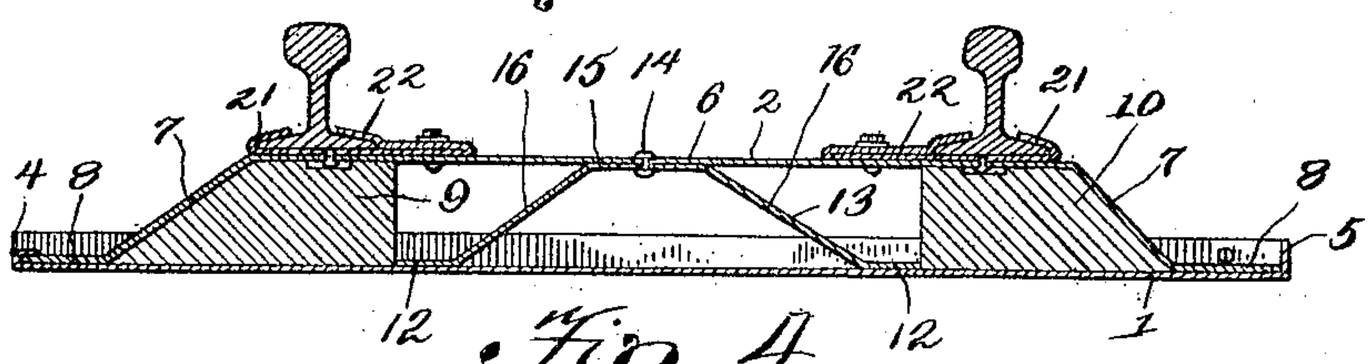


Fig. 4

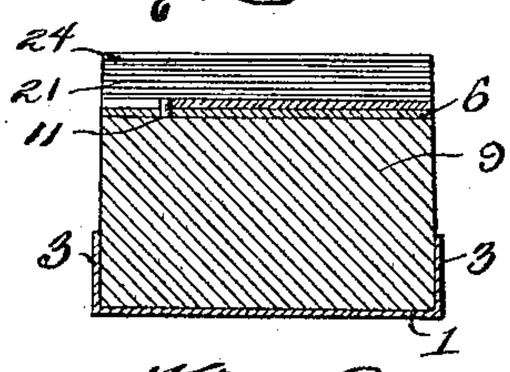
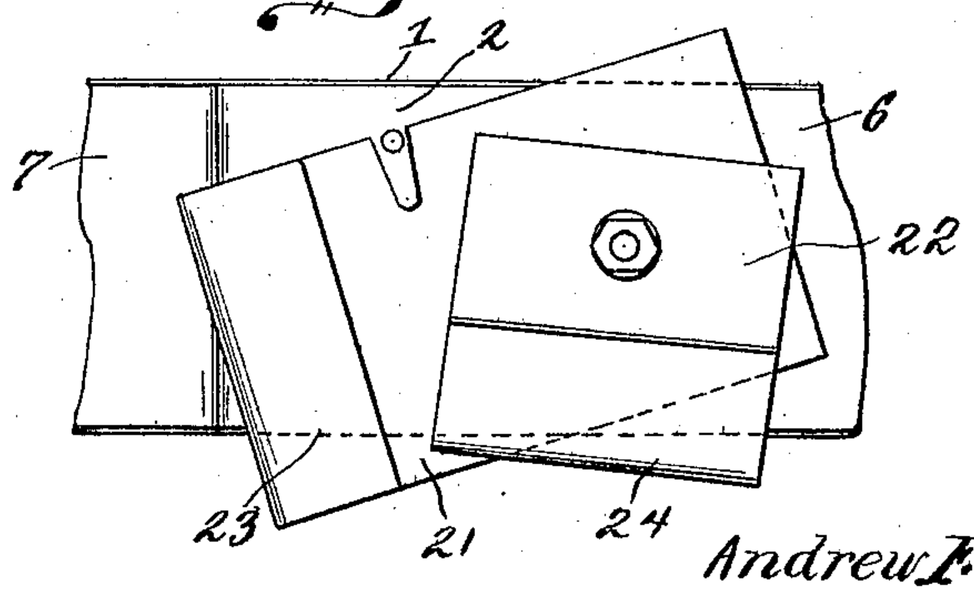


Fig. 8



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UNITED STATES PATENT OFFICE.

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TIE.

999,094. Specification of Letters Patent. Patented July 25, 1911.

Application filed February 11, 1911. Serial No. 608,038.

To all whom it may concern:

Be it known that I, ANDREW F. CHAMBLISS, a citizen of the United States, residing at Xenia, in the county of Greene and State of Ohio, have invented new and useful Improvements in Ties, of which the following is a specification.

This invention relates to improvements in rail ties.

The principal object of the invention is the provision of a metallic tie which will yieldably support the rails, whereby to take up and dissipate all shocks and jars incident to the moving train.

A further object of the invention is the provision of a metallic rail tie which comprises few parts, which is simple in construction, which is thoroughly effective and which will provide means whereby the rails may be readily detached when desired.

A still further object of the invention is to improve the device upon which I received United States Letters Patent, #939,801, dated November 9th, 1909.

With the above, and other objects in view, which will appear as the description progresses, the invention resides in the novel construction and combination of parts hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 is a perspective view of a rail tie constructed in accordance with the present invention and showing the same in applied position under a pair of rails. Fig. 2 is a top plan view of the device. Fig. 3 is a central longitudinal section of the same. Fig. 4 is a transverse sectional view taken upon the line 4—4 of Fig. 2. Fig. 5 is a detail perspective view of one of the rail clamping plates. Fig. 6 is a similar view of the coacting clamp. Fig. 7 is a detail perspective view of one of the cushion blocks. Fig. 8 is a top plan view of a portion of the tie showing the clamping members swung at angles to each other.

The rail tie comprises essentially a lower member 1 and an upper rail supporting member 2 which are connected together in a manner so as to permit the upper plate to yield a slight distance downwardly under the weight of a passing train. The lower plate 1 comprises a rectangular metallic member being provided with sides 3 and ends 4 and 5. The sides 3 are arranged at a substantially right angle to the base of the plate 1 while one of the ends 4 is bent over to provide a lip, and the opposite end 5 may be, if desired, also bent to provide a second lip, but it has been found preferable to arrange the second end 5 at a substantially right angle to the base. By this arrangement, it will be noted that the base 1 comprises a box-like structure and the sides 3 adjacent the upright end 5 are provided with alining openings, adapted for a purpose presently to be set forth.

The upper plate 2 is provided for a portion of its length with a longitudinally extending horizontally straight portion 6. The ends of the horizontal portion are inclined downwardly in opposite directions as at 7, and the same terminate in horizontally straight portions 8. The member 2 is of a width equalling the distance between the sides 3 of the lower plate or member, and one of the horizontally straight portions 8 of the said member is adapted to engage beneath the lip provided by the end 4, and the opposite horizontally straight lower portion 8 of the member 2 is adapted to lie adjacent to or to contact the vertical end 5 of the said plate 1. Positioned beneath the ends of the horizontally straight portion 6 of the member 2 and adapted to lie between the sides 3 of the lower member 1 are cushion blocks 9 and 10. These blocks have their outer ends inclined to correspond with the inclined portions 7 of the plate 2. The cushions 9 and 10 are adapted to lie directly below that portion of the plate 2 upon which the rails are positioned. The cushions 9 and 10 are entirely free of connection from either the members 1 or 2 and the said cushions are retained in proper position through the medium of the inclined walls of the said plate 1 and through the medium of the offset feet 12 of a truss member 13 which is centrally connected with the plate 1 as designated by the numeral 14. This truss member comprises a horizontally straight portion 15 having oppositely arranged inclined walls 16 which terminate in the feet 12 and the said truss is constructed of some yieldable material so that it provides a yieldable connection between the central portion of the plate 1 and the lower plate 2, and it will be noted that any weight upon the central portion of the upper plate 1 will be imparted to the plate 2 and through the medium of the feet 12 to force the latter against the blocks 9 and 10 and more securely retain the same in their proper posi-

tion in relation to both the upper and the lower plates.

In order to secure the upper plate upon the lower plate, the openings within the sides 3 of the said lower plate are adapted for the reception of a suitable securing device 17, such as a cotter pin or the like. When a cotter pin is employed, as illustrated in the figures of the drawing, the split ends thereof are bent in opposite directions, and in most instances it has been found preferable to employ cotter pins.

The horizontally straight portion 6 of the member 2, adjacent the inner faces of the blocks 9 and 10, is formed with suitable openings, the same registering with openings 17 and 18 formed in the securing clamps 19 and 20, and the said openings are adapted to receive connecting elements, such as bolts and nuts, and whereby the said clamps 19 and 20 are sustained upon the member 6. One of these clamps 19 is of a greater length than the opposite clamp 20 and each of the clamps is provided with what may be termed overlying or rail flange engaging portions 23 and 24. The smaller clamp has its end bent downwardly to provide a lip which contacts with the free end of the longer clamp, as clearly illustrated in the drawings and the longer clamp is provided with a lateral notch 25 which is adapted to engage a pin or projection provided upon the plate 2 so that when the rail is in position a movement of the clamping members is entirely obviated. However, if desired the central portion of the longer rail clamp may be rigidly secured to the top plate 2, as illustrated in Fig. 3 of the drawings. When it is desired to replace a broken rail upon the tie it is merely necessary to remove the securing element to allow the smaller clamp to become disengaged from the larger clamp and the plate. By this movement, it will be noted that the rail may have its flange freely removed from the overlying flange of the opposite clamp. It is to be understood that when the sections comprising the tie are in position the same is to be embedded within the ballast of the roadbed in a manner to prevent its longitudinal or lateral movement, and the tie may be readily and quickly tamped.

From the above description, taken in connection with the accompanying drawings, it will be noted that I have provided an extremely simple and thoroughly effective device for the purpose intended, and while I have illustrated and described the preferred embodiment of the improvement, as it now appears to me, changes in the minor details of construction, within the scope of the following claims may be resorted to if desired.

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

1. A rail tie comprising a lower member and an upper rail supporting member connected to the lower member for limiting lateral movement of the said supporting member, a truss between the upper and the lower members, rail securing clamps upon the upper member, and bearing blocks adjacent the truss and between the upper and the lower members.

2. A rail tie comprising an upper member having a horizontally straight longitudinally extending face, the said member having its portions adjacent its ends bent in opposite directions and terminating in horizontally straight extensions, blocks each having one of its faces inclined to correspond with the inclined portion of the upper member loosely positioned beneath the upper member, rail securing clamps above the blocks, a resilient truss connected with the upper member and having its ends engaging the bearing blocks, and a substantially rectangular base member, and means for connecting the upper with the base member for limited lateral movements.

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

ANDREW F. CHAMBLISS.

Witnesses:
W. B. McCallister,
William F. Orr.