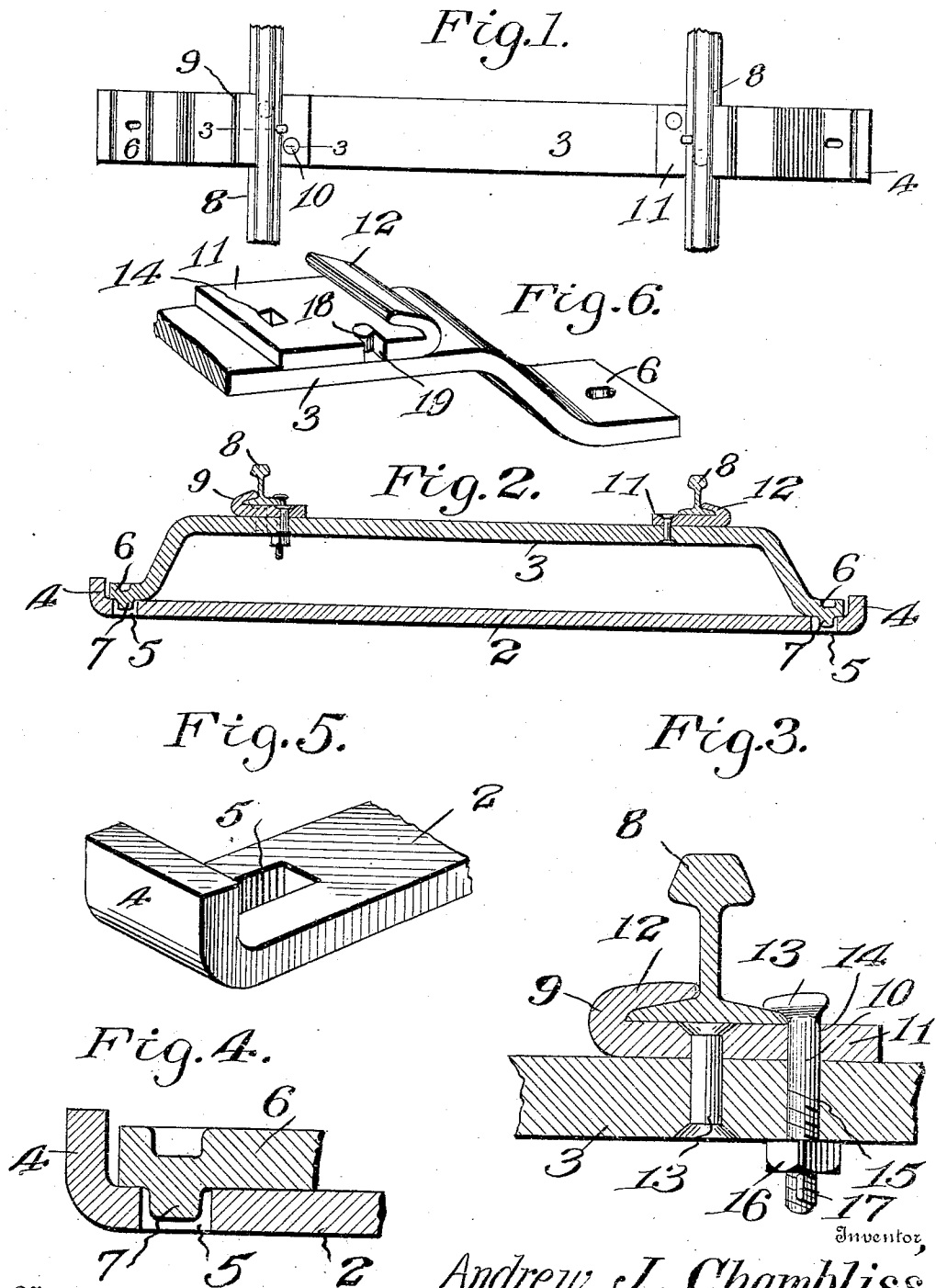


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RAIL TIE.  
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939,801.

Patented Nov. 9, 1909.



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# UNITED STATES PATENT OFFICE.

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## RAIL-TIE.

939,801.

Specification of Letters Patent.

Patented Nov. 9, 1909.

Application filed May 25, 1909. Serial No. 498,188.

*To all whom it may concern:*

Be it known that I, ANDREW J. 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 Rail-Ties, of which the following is a specification.

My invention relates to improvements in rail ties.

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

15 A further object of the invention is the provision of a metallic rail tie which shall be simple in construction and which may be made by the rolling process, whereby to enable the tie to be manufactured and sold at a comparatively low cost.

With the above and other objects in view, the invention consists in the construction, combination and arrangement of parts hereinafter fully described and claimed.

25 The preferred embodiment of the invention is disclosed in the accompanying drawing, wherein:—

Figure 1 is a top plan view of a metallic rail tie constructed in accordance with my invention. Fig. 2 is a sectional view taken on a plane extending vertically and longitudinally through the tie. Fig. 3 is a sectional view taken on the vertical plane indicated by the line 3—3 of Fig. 1, illustrating the manner in which the rails are secured to the tie and the manner in which the clamps are secured to the tie. Fig. 4 is a sectional view illustrating the connection between the lower and upper members or bars of the tie. Fig. 5 is a detail perspective view of a fragmentary portion of the lower member or bar of the tie, and Fig. 6 is a detail perspective view illustrating a modified manner of securing the clamps to the tie.

Like numerals of reference are used to designate the same parts in the several figures of the drawing.

30 The rail tie comprises a lower member or bar 2 and an upper rail supporting member or bar 3 which are connected together in a manner to permit the upper bar to yield downwardly under the weight of a passing train. At its ends the lower member or bar is provided with upstanding stops 4 which

are formed by bending the ends of the member or bar upwardly. Adjacent the stops 4 the lower member or bar is provided with elongated openings 5. The upper member or bar 3 is arched and is provided at its ends with horizontally disposed and laterally projecting bases 6 which rest upon the lower member or bar 2 and which are connected to the lower member of bar for limited lateral movements, such movements permitting the upper member or bar 3 to yield downwardly under the weight of a passing train. The connection between the bases 6 of the upper member or bar 3 and the lower member or bar 2 is effected through the medium of downwardly extending lugs 7 formed in the bases 6 and located in the openings 5, the lugs 7 being smaller than the length of the openings. The lateral movements which may be imparted to the bases 6 are limited by the stops 4 of the lower member or bar 2. The downward yielding of the upper member or bar 3 takes up and dissipates all shocks and jars incident to the moving train. As the upper member or bar 3 is arched, the tie may be embedded in the ballast of the roadbed in a manner to prevent its casual movement, and the tie may be readily and quickly tamped.

The rails 8 are secured to the tie through the medium of clamps 9 and bolts 10. The clamps 9 comprise base plates 11 upon which the rails 8 rest, and hooks 12 which engage the outer base flanges of the rails. The clamps 9 are secured to the upper member or bar 3 by rivets 13. The bolts 10 are provided with heads 13 which engage the inner base flanges of the rails 8, and pass through openings 14 in the bases 11 of the clamps 9 and through openings 15 in the upper member or bar 3. The bolts 10 are secured in applied position by nuts 16, and the nuts are secured against casual displacement by pins 17. The clamps 9 and bolts 10 secure the rails 8 to the tie against lateral or longitudinal movements. In the modification, the clamps 9 are removably secured to the upper member or bar 3 of the tie by the bolts 10 and pins 18 which are formed on the member or bar 3 and which engage in recesses 19 formed in the base plates 11, as fully shown in Fig. 6 of the drawing.

The parts of the tie may be constructed of any metal or other material suitable for the

purpose, it being preferable, however, to construct the upper and lower members or bars of the tie of flat rolled metal.

From the foregoing description, taken in connection with the accompanying drawing, it should be apparent that I provide a metallic tie which has the desired resiliency, which is simple, durable and efficient of construction, and which may be manufactured and sold at a comparatively low cost.

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

1. A rail tie comprising a lower member provided with openings, and an upper member provided with lugs fitting in the openings.

2. A rail tie comprising a lower member provided with openings and stops, an upper member mounted upon the lower member within the stops and provided with lugs fitting in the openings.

3. A rail tie comprising a lower member provided with stops and openings, and an

upper arched member having horizontally disposed ends provided with lugs fitting in the openings.

4. A rail tie comprising a lower member, an upper yielding member, pins formed on the upper member, clamps provided with recesses receiving the pins, and bolts passing through the clamps and upper member.

5. A rail tie comprising a lower member, and an upper rail supporting member provided with bases connected to the lower member for limited lateral movements.

6. A rail tie comprising a lower member and an upper rail supporting member having its ends connected to the lower member for limited lateral movements.

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

ANDREW J. CHAMBLISS.

Witnesses:

HERBERT DAVIS,  
LESTER ARNOLD.