No. 768,443. PATENTED AUG. 23, 1904.

W. FRAZER.

RAILROAD TIE.

APPLICATION FILED MAY 3, 1904.

NO MODEL.

Fig. 1.

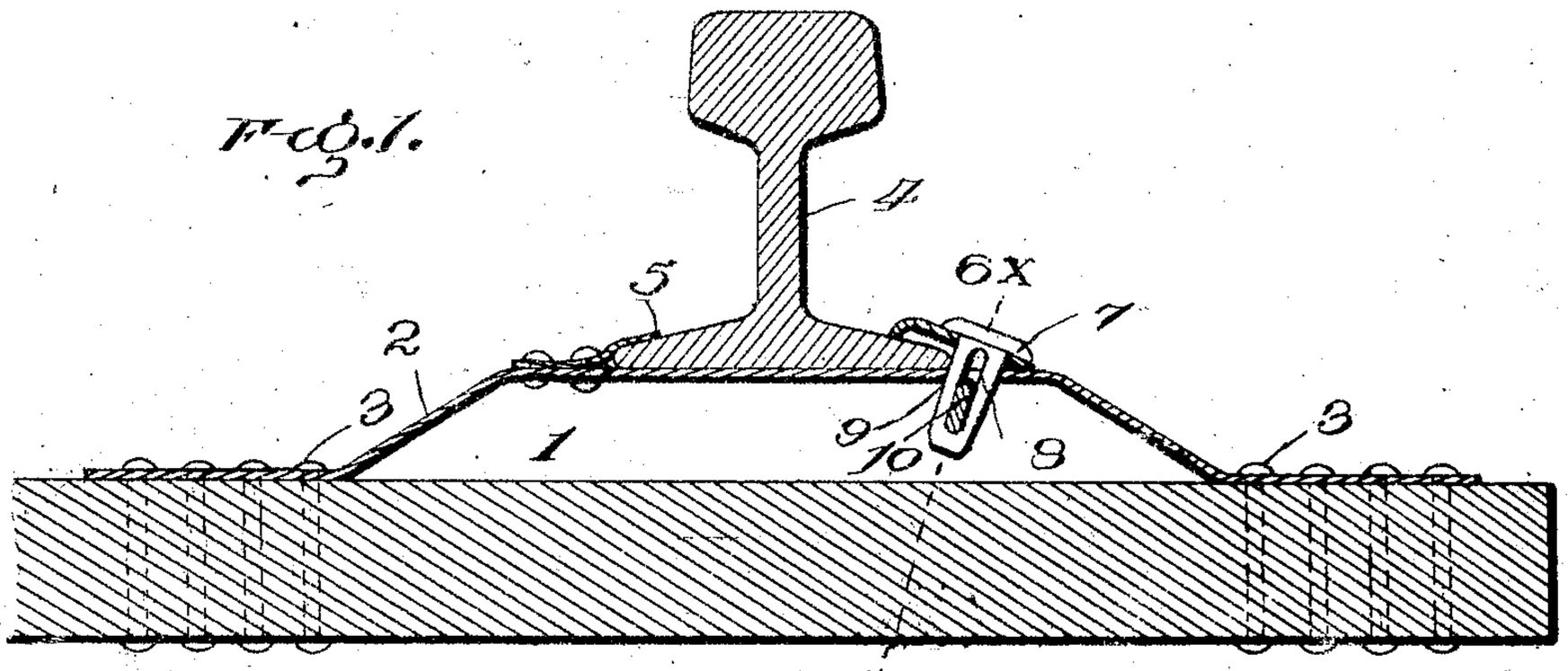


Fig. 2.

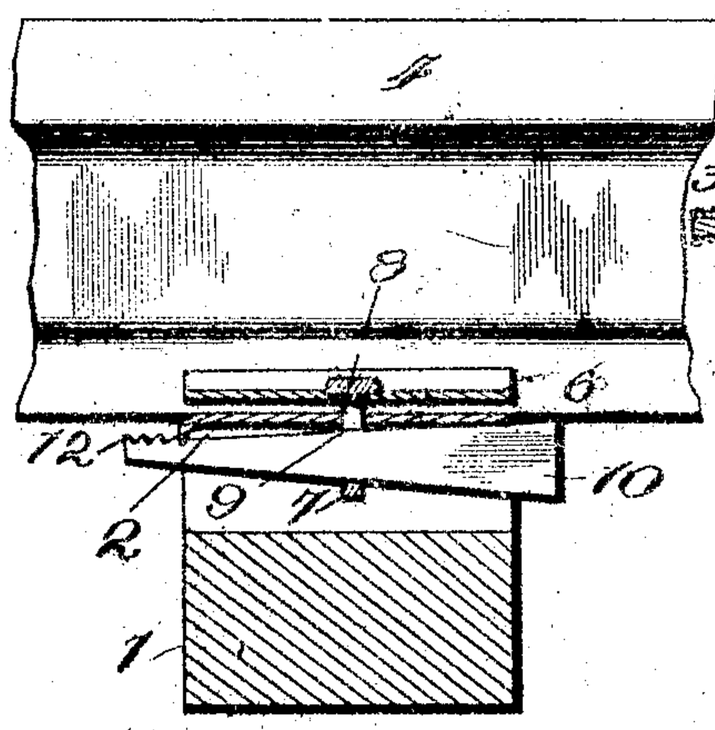


Fig. 5.

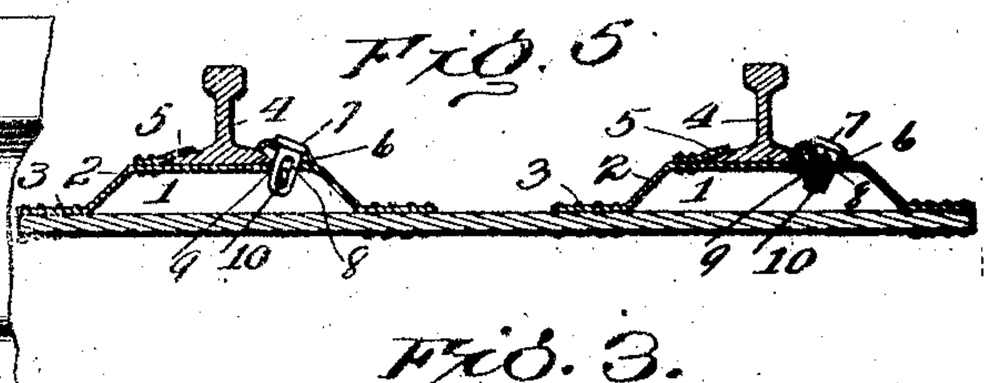


Fig. 3.

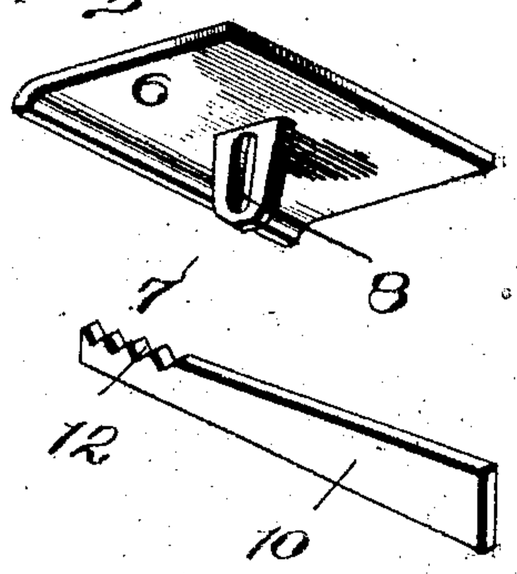
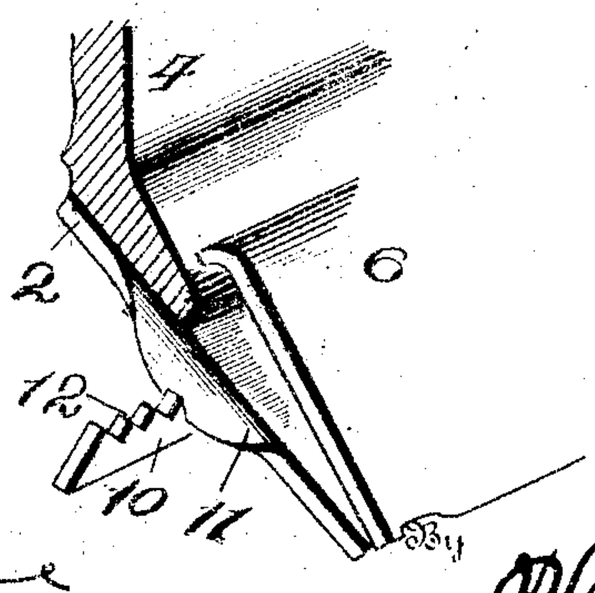


Fig. 4.



Witnesses

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No. 768,443. Patented August 23, 1904.

UNITED STATES PATENT OFFICE.

WILLIAM FRAZER, OF SHERRETT, PENNSYLVANIA.

RAILROAD-TIE

SPECIFICATION forming part of Letters Patent No. 768,443, dated August 23, 1904.

Application filed May 3, 1904. Serial No. 206,213. (No model.)

To all whom it may concern:

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

This invention relates to an improved structure of railway-tie; and the essential feature of the invention resides in the provision of a metallic tie combining the advantageous qualities of the ordinary wooden tie relative to elasticity and the rigid and lasting qualities attained by the use of a metallic construction.

My invention embodies, further, specific means, forming a part of the tie construction for securing rails to the tie.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result reference is to be had to the following description and accompanying drawings.

While the essential and characteristic features of the invention are susceptible of modification, still the preferred embodiment of the invention is illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal vertical sectional view showing the general structure of my invention. Fig. 2 is a vertical transverse sectional view taken on the line *x x* of Fig. 1 and looking in the direction of the arrow to bring out more clearly the arrangement of the clamp means for holding the rails in position upon the tie. Fig. 3 is a detail perspective view of the clamp-plate, the coöperating wedge member being shown spaced therefrom. Fig. 4 is a perspective view, broken away, showing the engaging coöperation of the wedge member by which the clamp-plate is secured in position with the supporting-plate of the tie. Fig. 5 is a longitudinal sectional view showing the mounting of the rails upon the tie.

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

Specifically describing my invention, the tie in its organization comprises, essentially, a bed-plate 1, upon which are carried rail-supporting plates 2, the latter being located adjacent the end portions and upon the upper side of the bed-plate aforesaid. The supporting-plates 2 are of bow form preferably, being secured at their ends by means of suitable fastenings 3, such as bolts or the like, the central portions of the supporting-plates being upwardly deflected to space the same from the bed-plate. The rails, which are designated 4, are designed to rest upon the central bowed portions of the supporting-plates 2, and because of the structure of these plates 2 a certain amount of elasticity is secured, which is a prerequisite to a practical railway-tie, as will be readily understood by those versed in the art to which my invention relates. In other words, the bowed form of the plates 2 is advantageous in that a flexible or spring support is obtained upon which the rails may be readily mounted when in operative position.

The special form of securing means for holding the rails 4 in place upon the plates 2 is also an essential feature of the invention. This securing means consists of a rigid chair-plate 5, secured to each of the supporting-plates 2, each plate being adapted to engage the basal portion at one side of the adjacent rail. The opposite side of the basal portion of the rail adjacent the chair-plate 5 is positively engaged by a clamp-plate 6, one of which is also provided upon each supporting-plate 2. The chair-plates 5 are rigidly mounted, wherein the clamp-plates are removably held in place in the preferred contemplation of the invention. The clamp-plates 6 are preferably transversely curved, being adapted to engage the basal portion of an adjacent rail. Each of the clamp-plates is attached by means of a rigid securing member 7, projected from the under side thereof, which securing member is provided with an elongated slot 8. The securing member of each clamp-plate 6 is adapted to be passed through the opening 9 in the supporting-plate 2, upon which the clamp-plate is disposed. When the securing member 7 has been passed through the supporting-plate 2, a transverse wedge member 10 is adapted to be forced through the slot 8 of the securing member 7,

and by transverse movement thereof this wedge member will cause a positive clamp action of the clamp-plates 6 against the base of the rail 4. The wedge member 10 obtains a bearing against the under side of the supporting-plate 2, upon which the clamp-plate 6 is disposed, and is adapted to be adjustably moved to effect a greater or less clamping action of the clamp-plate 6. In order to prevent accidental displacement or play of the wedge member 10, the latter is locked in position after it has been forced through the slot 8 of the securing member. The lock means utilized for preventing displacement of the wedge 10 comprises an integral lock member 4, flange 11, formed upon one of the longitudinal edges of the supporting-plate 2, which flange depends from the supporting-plate so as to be engaged by teeth 12, provided upon the smaller end of the wedge. A plurality of the teeth 12 are provided at intervals in the length of the wedge 10, and it will be noted from this that the wedge can be located at an ascertained and any desired adjustment found most suitable and necessary in the practical use of the invention. Further, because of the adjustability of the wedge 10 the same may be operated so as to take up any wear or looseness in the mounting of the clamp-plate 6 which may be caused by long-continued use of this member 6.

The railroad-tie when constructed in accord with my invention, as before described, is comparatively simple, and the parts thereof may be made of iron, steel, or other metal, as found best. Further, the relative arrangement and construction of the parts of the tie admit of quickly and readily securing the rails in position or removing said rails, as the case may be.

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

1. In a railway-tie, and in combination, a bed-plate, a supporting-plate provided with an opening, a curved clamp-plate mounted upon the supporting-plate, a securing member projected from the under side of the clamp-plate through the opening in the supporting-plate, and a wedge securing the securing member to the supporting-plate.

2. In a railway-tie and in combination, a supporting-plate provided with an opening therein, a clamp-plate adapted to engage a rail, a securing member projected from the clamp-plate through the opening in the supporting-plate, and an adjustable wedge disposed beneath the supporting-plate and coöperating with the said securing member for the purpose described.

3. In a railway-tie, the combination of a bed-plate, supporting-plates disposed upon the bed-plate and located adjacent the ends thereof, a chair-plate secured to each of the supporting-plates, a clamp-plate mounted upon each of the supporting-plate a securing member projected from the clamp-plate and passing through the adjacent supporting-plate, said securing member being provided with an opening, and a wedge passing through the opening in the securing member to hold the clamp-plate in place.

4. In a railway-tie, the combination of a supporting-plate, a clamp-plate mounted upon the supporting-plate, a securing member projected from the clamp-plate and passing through the supporting-plate, a wedge engaging the securing member aforesaid, and an integral lock member projected from the supporting-plate and engaging the wedge for the purpose described.

5. In a railway-tie, the combination of a supporting-plate, a clamp-plate mounted upon the supporting-plate, a securing member projected from the clamp-plate and passing through the supporting-plate, a toothed wedge engaging the securing member aforesaid and having its teeth in engagement with the supporting-plate for the purpose described.

6. In a railway-tie, the combination of a supporting-plate, a clamp-plate mounted upon the supporting-plate, a securing member projected from the clamp-plate and passing through the supporting-plate, a toothed wedge passing through the securing member of the clamp-plate, and a flange projected from the supporting-plate and coöperating with the toothed portion of the wedge to prevent displacement of the wedge.

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

WILLIAM FRAZER. [L. S.]

Witnesses:

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IRA LEASURE.