W. F. WALKER.

RAILWAY TIE.

APPLICATION FILED JAN. 22, 1910. RENEWED JAN. 19, 1911.

985,381. Patented Feb. 28, 1911.

Fig. 1.

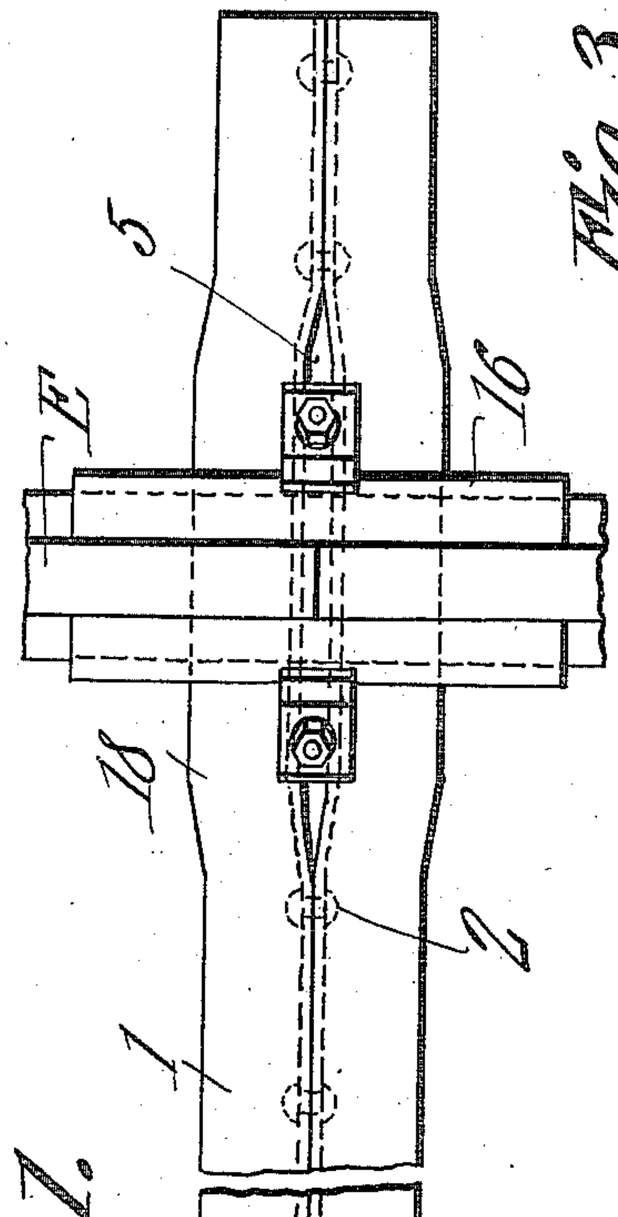


Fig. 2.

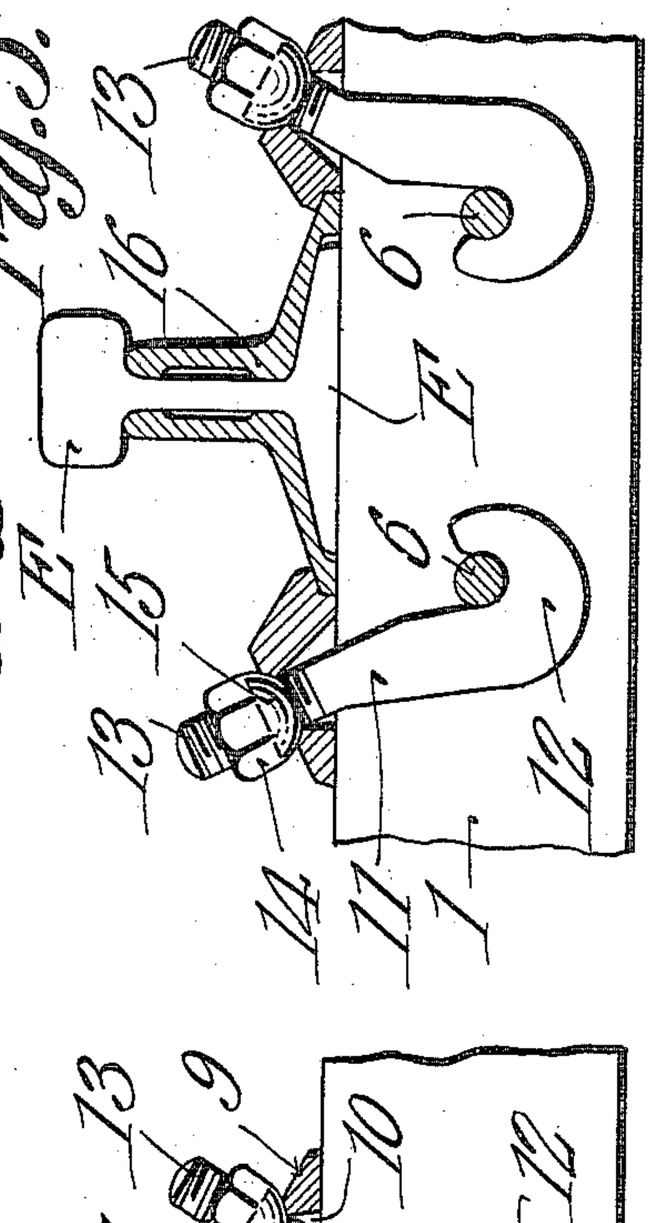


Fig. 3.

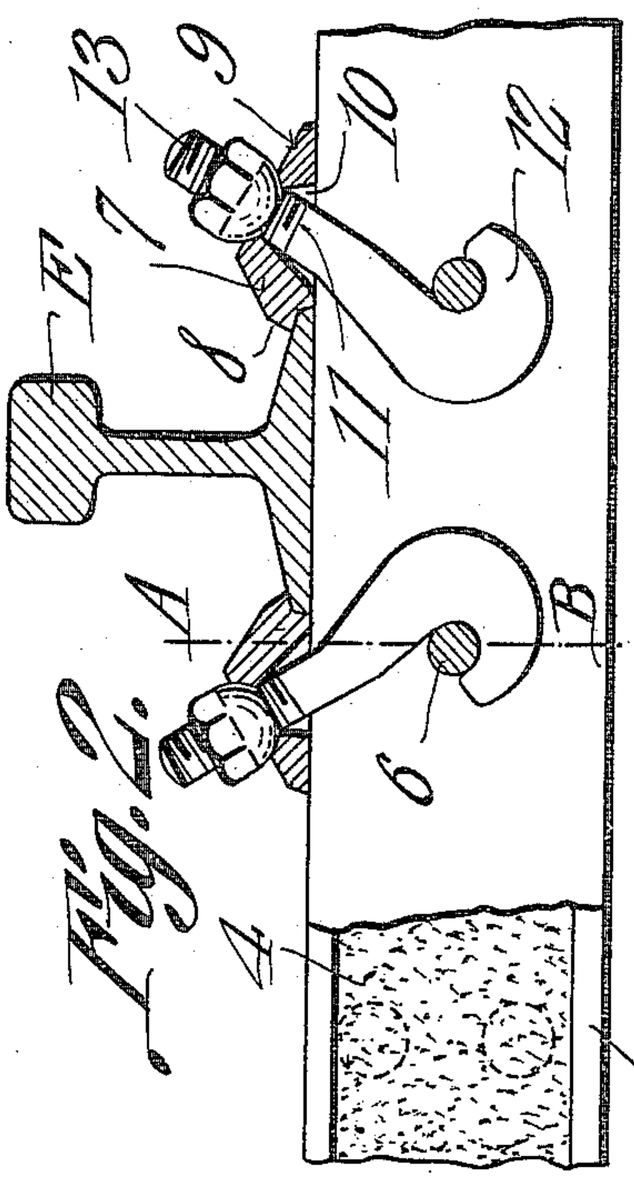


Fig. 5.

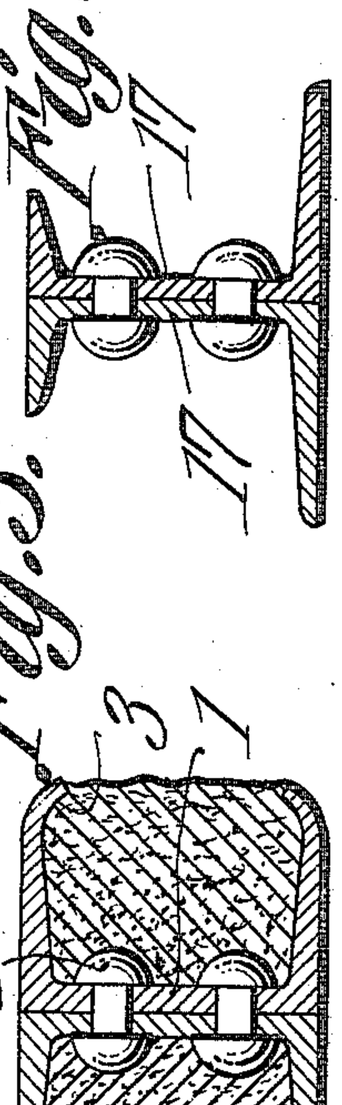
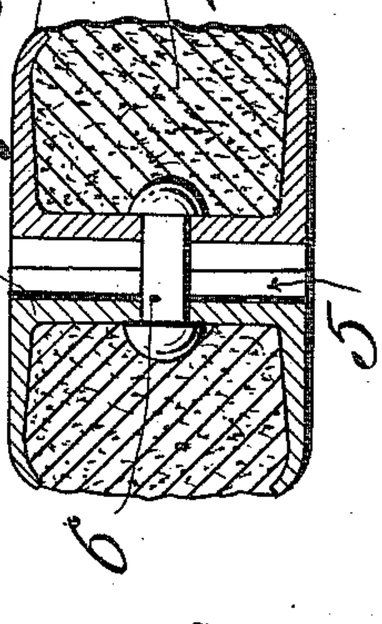


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

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RAILWAY-TIE.

985,381. Specification of Letters Patent. **Patented Feb. 28, 1911.**

Application filed January 22, 1910, Serial No. 539,469. Renewed January 19, 1911. Serial No. 603,596.

To all whom it may concern:

Be it known that I, WILLIS F. WALKER, a citizen of the United States, residing at Seisholtzville, in the county of Berks and State of Pennsylvania, have invented a new and useful Railway-Tie, of which the following is a specification.

This invention relates to metallic railway ties and to rail fasteners for use in connection therewith.

Metallic railway ties such as heretofore devised have been objectionable mainly because it has been apparently impossible to employ in connection therewith, rail fastening devices which are sufficiently reliable to permit their adoption.

One of the objects of the present invention is to provide a rail fastener which can be readily applied to a tie such as constitutes a part of the present invention and which, when once applied, will not break loose and will hold the rails securely in position upon the tie.

Another object is to provide a rail fastener which can be reversed so as to adapt it for use at joints where fish plates are employed or at intermediate points upon the rails.

A still further object is to provide a metallic railway tie which is simple in construction, comparatively cheap to manufacture, and which will lie firmly upon the roadbed.

Another object is to provide a railway tie the metal portions of which are so shaped as to constitute means whereby fillings of concrete or the like may be securely anchored thereto.

With these and other objects in view the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claims.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings, Figure 1 is a plan view of a tie and rail fastener embodying the present improvements, rails being shown in position thereon. Fig. 2 is a view partly in section and partly in elevation of a portion of the tie and the fasteners mounted thereon. Fig. 3 is a similar view showing the fastener retaining members reversed for use in connection with fish plates. Fig. 4 is an enlarged section on line A—B Fig. 2, the fasteners being removed. Fig. 5 is an enlarged section on line C—D Fig. 1. Fig. 6 is a transverse section through a modified form of tie.

Referring to the figures by characters of reference 1, 1 designate opposed elongated channel irons placed with their intermediate portions in contact, the said channel irons being held together by means of rivets or the like such as shown at 2. The longitudinal edge portions of the flanges of the channel irons may be bent toward each other as shown at 3 in Figs. 4 and 5 and fillings 4 of concrete or the like may be placed within the channel irons and will, obviously, be anchored therein by said edge portions 3. The adjoining faces of the two channel irons are spread apart at those points where the track rails E rest upon the tie and certain of the rivets extend transversely through the slots 5 formed at these points, said rivets being indicated at 6.

The fasteners used in connection with the tie consist of blocks 7 each of which has an overhanging rail engaging shoulder 8 designed to lap the side edge of the base flange of a rail, one face of the block being inclined as shown at 9 and having an opening 10 therein, the said opening extending entirely through the block and gradually increasing in diameter toward its lower end. Said opening is designed to receive a shank 11 extending from a hook 12, the free end of the shank being screw threaded as shown at 13 and adapted to be engaged by a nut 14. This nut has a rounded face 15 adapted to bear upon the block 7. As shown in Figs. 2 and 3 each shank gradually increases in width toward the hook 12.

After a tie such as has been described, has been properly placed upon the roadbed, the rails E are placed in position thereon

and the hooks 12 are inserted into the slots 5 and placed in engagement with the adjoining transverse rivets 6. The blocks 7 are then placed upon the shanks 11, and the shoulders 8 are caused to lap the base flanges of the rails. The nuts 14 are then screwed on to the shanks and serve to bind the blocks tightly upon the tie and also upon the base flanges of the rails, thus securely holding the rails in position. At those points upon the track where fish plates are located, as shown at 16 in Figs. 1 and 3, the hooks 12 are reversed so as to bring the wide portions of the shanks 11 farther apart and thus enable the fish plates to be more conveniently received between the blocks than where the shanks extend between the rivets as shown in Fig. 2.

It will be seen that a tie such as has been described can be inexpensively manufactured and will constitute a durable support for rails. Moreover the fasteners employed will not work loose after once being properly assembled with the tie and rails, it being possible, as a result of the peculiar arrangement of the parts as described to obtain the maximum binding action upon the rails.

If desired, and as shown in Fig. 6, the tie may be made of two opposed channel irons 17 the top flanges of which are narrower than the bottom flanges. In this structure it is not designed to use a concrete filling. In other respects, however, a tie made of channel irons such as shown in Fig. 6, is similar to the tie disclosed in Figs. 1 to 5 inclusive.

It is to be understood of course that when the tie members are spread apart as shown at 5 in Figs. 1 and 4, the top and bottom flanges of said members will be bulged laterally as indicated at 18, these bulged portions constituting means for anchoring the tie within the roadbed and preventing it from creeping longitudinally.

As the two channel members are spaced apart or offset at intermediate points the tie is rendered elastic to the same extent as a wooden tie. Moreover by connecting the fasteners in the manner shown and described it becomes possible to adjust or swing them about the rivets 6 so as to enable rails and splices of different sizes and weights to be efficiently held thereby.

Various changes can of course be made in the construction and arrangement of the parts without departing from the spirit or sacrificing any of the advantages of the invention as defined in the appended claims.

What is claimed is:—

1. A railway tie consisting of opposed channeled members having their web portions contacting at their ends and at intermediate points, and means for fixedly securing said web portions together, the said members being spread apart at intermediate points to form fastener receiving spaces extending entirely through the tie and to form laterally bulged flange portions.

2. A railway tie consisting of oppositely disposed channeled members having their web portions contacting at their ends and at intermediate points, said members being spread apart at the rail supporting portions thereof to form spaces extending entirely through the tie and to form bulged flange portions, and non-detachable means extending through the webs of the members for fixedly connecting said members, certain of said means extending transversely through the spaces to constitute fastener anchoring means.

3. A railway tie including opposed channeled members fixedly connected, the flanges of said members having inwardly directed edges, and a filling material interposed between the flanges and retained by said edges.

4. A railway tie consisting of opposed members spread apart to form a fastener receiving space, non-removable means extending through said space and through the members for fixedly connecting said members, rail engaging devices mounted on the tie, and fastener engaging bolts detachably engaging said means, said bolts being reversible to vary the distance therebetween.

5. A railway tie consisting of opposed channeled members having their web portions fixedly connected, said members being spread apart at an intermediate point, to form a space extending entirely through the tie, means extending entirely through the space for securing the members together, said means constituting anchoring devices, rail engaging devices upon the tie, and bolts pivotally and detachably engaging the anchoring devices within the slot, said bolts being reversible to vary the distance therebetween.

6. A railway tie consisting of fixedly connected opposed members having upper and lower longitudinally extending flanges, fillings interposed between the flanges, said flanges having inturned edge portions for retaining the fillings, and non-detachable fastening devices extending transversely through the meeting portions of the members, said members being spaced apart at their rail supporting portions to form fastener receiving slots therebetween.

7. The combination with a tie having spaced slots, and non-detachable transversely extending devices within the slots, of rail engaging elements upon the slotted portions of the tie, shanks adjustably mounted within said elements and projecting into the slots and hooks upon the shanks and movable into and out of engagement with the devices within the slots, said hooks and shanks being reversible to vary the distance therebetween.

8. A railway tie consisting of opposed channeled members having their intermediate or web portions fixedly secured together and spread apart at intermediate points to form laterally bulged flange portions.

9. The combination with a railway tie having spaced anchoring devices therein, of rail engaging devices upon the tie, and bolts pivotally and detachably engaging the anchoring devices, said bolts being reversible to vary the distance therebetween.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

WILLIS F. WALKER.

Witnesses:

ROLAND C. BOOTH,

C. E. DOYLE.