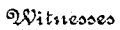


941,225.

4 SHEETS--SHEET 1.



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APPLICATION FILED JULY 10, 1909.

Patented Nov. 23, 1909.
4 SHEETS—SHEET 2.

Fig. 2.

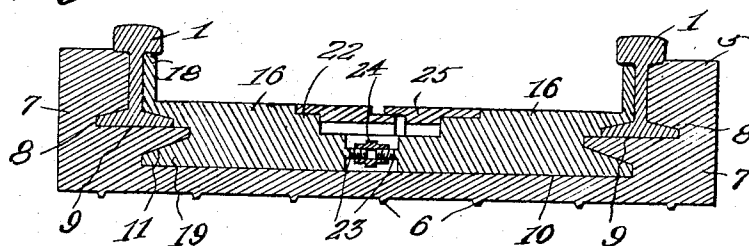


Fig. 3.

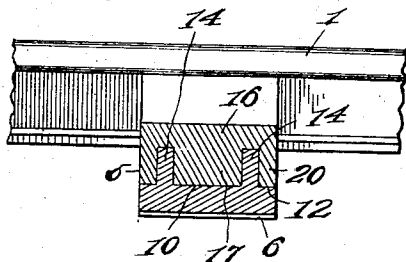


Fig. 4.

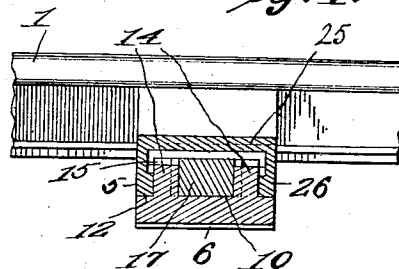
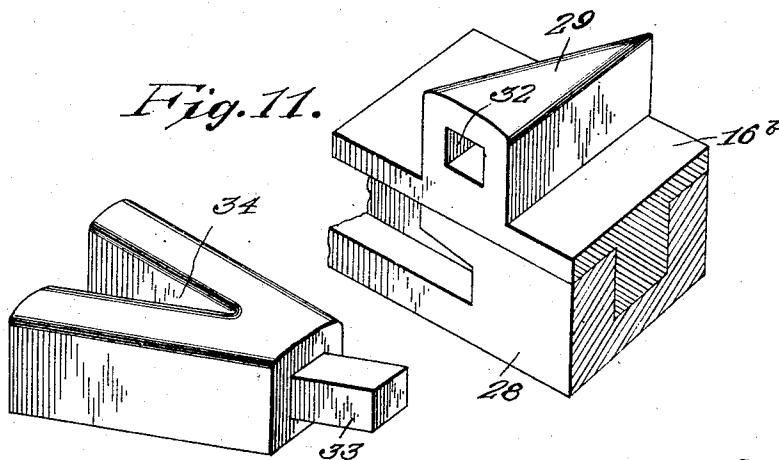


Fig. 11.



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Fig. 5.

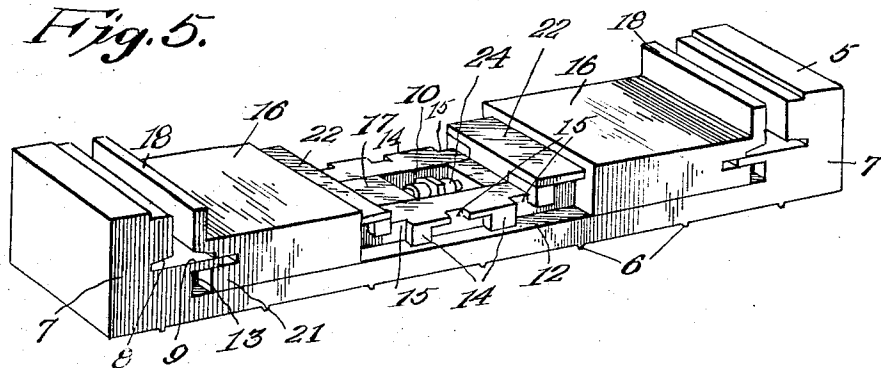
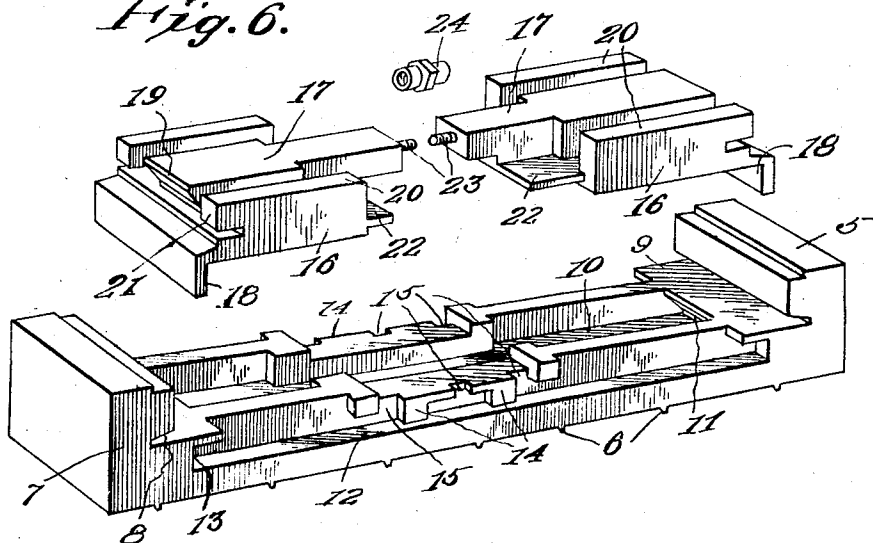


Fig. 6.



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4 SHEETS—SHEET 4.

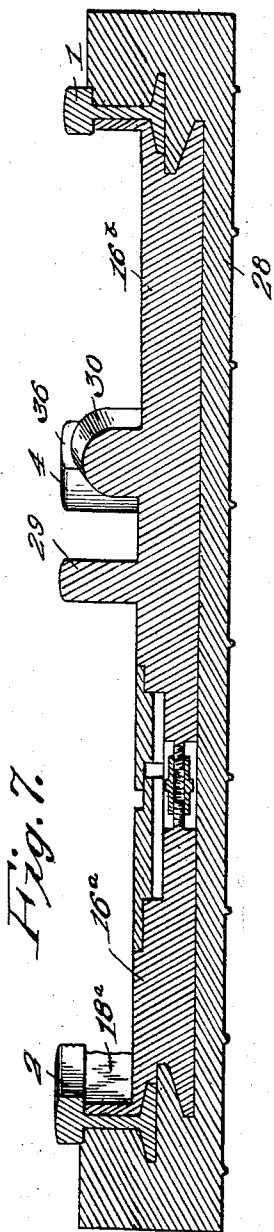


Fig. 7.

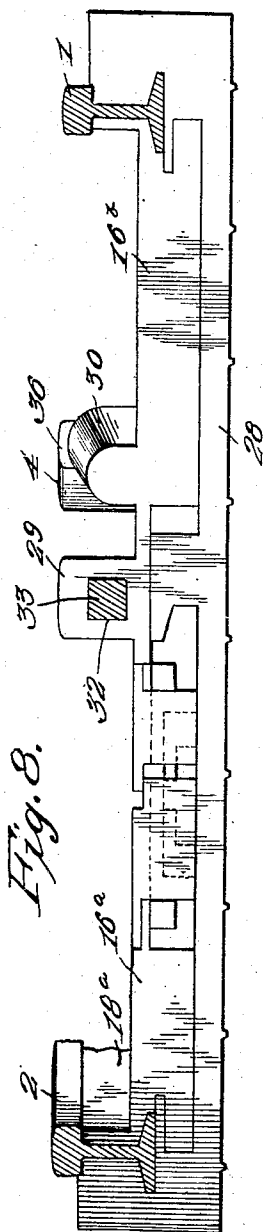


Fig. 8.

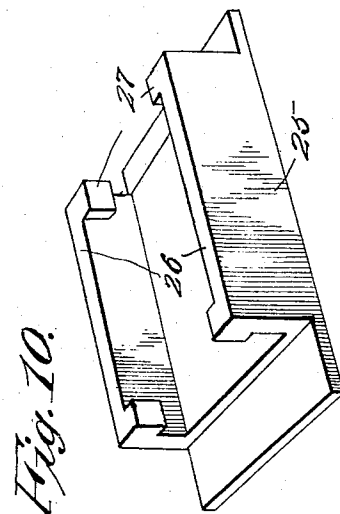


Fig. 10.

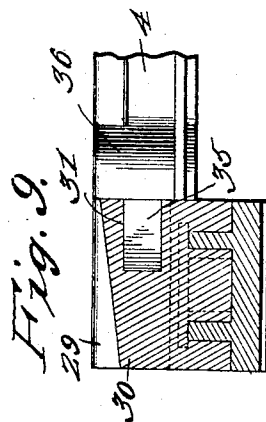


Fig. 9.

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UNITED STATES PATENT OFFICE.

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CROSS-TIE AND RAIL-FASTENER.

941,225.

Specification of Letters Patent.

Patented Nov. 23, 1909.

Application filed July 10, 1909. Serial No. 506,962.

To all whom it may concern:

Be it known that I, ALBERT BIROCHIK, a subject of the Emperor of Austria-Hungary, residing at Glenwhite, in the county of Blair and State of Pennsylvania, have invented certain new and useful Improvements in Cross-Ties and Rail-Fasteners, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to improvements in metallic cross ties and track rail fasteners.

The object of the invention is to provide an improved construction, whereby track rails may be securely fastened at switches and curves as well as upon straight tracks, so that there will be no danger of the rails spreading and creeping.

With the above and other objects in view, the invention consists of the novel features of construction and the combination and arrangement of parts hereinafter fully described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of portions of a main line track and a siding showing my improved cross ties and rail fasteners; Fig. 2 is a vertical section taken on the plane indicated by the line 2—2 in Fig. 1; Figs. 3 and 4 are detail cross sections taken on the planes indicated by the lines 3—3 and 4—4 in Fig. 1; Figs. 5 and 6 are perspective views of the cross tie shown in Fig. 2; Fig. 7 is a vertical section taken on the plane indicated by the line 7—7 in Fig. 1; Fig. 8 is a side elevation of the cross tie shown in Fig. 7, the track rails being in section; Fig. 9 is a cross section taken on the plane indicated by the line 9—9 in Fig. 1; Fig. 10 is a bottom perspective of one cover plate; Fig. 11 represents a detail perspective view of the two rail sections used at the switch; and Fig. 12 is a detail section taken on the plane indicated by the line 12—12 in Fig. 1.

In the drawings 1 denotes the straight rail track rails of a main line, 2 denotes the curved rails of a siding, 3 denotes a short rail section forming a part of the main line and extending diagonally across the siding and 4 denotes a movable switch point rail section forming a part of the siding and arranged diagonally across the main line. These several track rails are mounted upon and fastened to my improved cross ties, as shown in Fig. 1.

5 denotes one of my improved cross ties of

the usual form for uniting and fastening two straight track sections, said tie comprising a rectangular body of metal having its flat bottom formed with transverse ribs 6 to prevent it from shifting upon the road bed. Formed in the top of the tie 5 adjacent its ends are transverse enlargements 7 having undercut portions or recesses 8 to receive the outer base flanges of the track rails, which latter rest upon flat portions 9 of the tie. Formed in the top of the tie body is a longitudinally extending centrally arranged recess 10, the ends of which extend under the portions 9 of the tie to provide undercut recesses 11. Formed in the upper portions of the sides of the tie body are longitudinally extending recesses 12, the ends of each terminating in seats 13 and the intermediate portions of which have projecting from their vertical walls horizontally disposed longitudinally extending flanges 14 provided with notched portions 15.

16, 16 denote two similar rail clamping members having body portions 17 to enter the ends of the recess 10 and also having at their outer ends undercut transversely extending enlargements 18 to receive the inner base flanges of the track rails. The outer ends of the body portions 17 have tongues 19 to enter the undercut recesses 11 and depending from the sides of said members 16 are flanges 20 which enter the recesses 12 in the tie and which have at their outer ends tongues 21 to enter the seats 13. These parts form an interlocking connection between the members 16 and the tie and it will be seen that said members 16 are applied by lowering the flanges 20 into the recesses 12 and then moving said members 16 outwardly to cause the tongues 21 to enter the seats 13 and the tongues 19 to enter the recesses or seats 11. The opposing inner ends of the members 16 have their upper portions recessed and shouldered, as shown at 22 and the ends of said body portions 17 are extended and formed with reduced screw threaded stems 23. The stems 23 on the opposing members 16 are oppositely screw threaded and they are adapted to receive a turn buckle or adjusting sleeve 24, which latter when rotated will move the members 16 longitudinally toward or from each other.

The members 16 have the recessed portions 22 provided for the reception of two cover members or plates 25 which are adapted to extend over the central portion of the

recess 10 so as to cover the turn buckle 24 to protect it from dirt, the weather and also from being tampered with. Said cover plates 25, as shown in Fig. 10, have depending side flanges 26 which extend into the recesses 12 and upon the inner faces of which are formed inwardly projecting lugs 27 adapted to enter the notches 15 and to be then shifted under the flanges 14 so that said cover plates will be retained upon the tie body. Owing to this construction, it will be seen that the cover plates have bayonet slot and pin connections with the tie body and may be readily applied to or removed from the same.

All of the other cross ties shown in Fig. 1 of the drawings are similarly constructed and they have some means for fastening the different track rail sections, such fastening means, however, being adapted to receive the ordinary or the peculiarly shaped rails which rest upon them. For example, the cross tie 28 which extends across both the main line and siding has, as clearly shown in Fig. 7, two clamping members 16^a, 16^b. These members are similar to the members 16 above described, only the member 16^a has its track rail receiving portion 18^a angularly arranged and the member 16^b is made much longer and has formed upon its top an integral rail point 29 and an integral enlargement 30 having a socket 31. The rail point 29 has its large end formed with a socket 32 to receive a tongue or projection 33 formed on a V-shaped rail section 34, the ends of which latter are suitably secured to two of the track rails 1, 2. The socket 32 in the enlargement 31 is adapted to receive a tongue 35 formed on a laterally offset end 36 of the rail section 4. The other cross ties shown in Fig. 1 which receive curved or angularly disposed track rails have their rail clamping members provided with recesses or seats to receive said peculiarly shaped track rails, as will be readily understood on reference to the drawing and from the above description.

In Fig. 12 of the drawings the cross tie is very similar to the cross tie above described but it has on one of its rail clamping members a groove 37 to receive the stationary rail section 3. On the top of its other member is a flat surface 38 on which the switch point rail 4 is adapted to slide. An integral enlargement 39 is formed on the cross tie shown in Fig. 12 to limit the outward sliding movement of the switch rail. In all other respects the construction and operation of this device is the same as that of the ones above described.

From the foregoing it will be seen that my invention provides an exceedingly effective means for supporting and fastening track rails and that it may be adapted for use upon tracks of all kinds and shapes.

Its peculiar construction causes the track rails to be securely fastened so that they cannot spread or creep and, should they become loosened and should the fastening become loose, from wear or other causes, it may be quickly and easily tightened.

Having thus described the invention what is claimed is:

1. In a device of the character described, the combination of a tie body having undercut enlargements to receive the outer base flanges of the track rails, the intermediate portion of the top of the body having a longitudinal recess terminating in undercut portions or seats, the sides of said body being also formed with longitudinal recesses terminating in seats, the last mentioned recesses having notched outwardly extending flanges in their upper portions intermediate their ends, rail clamping members having undercut outer ends to receive the inner base flanges of the track rails, said members having body portions to enter the recess in the top of the body, said body portions having their outer ends terminating in tongues to enter the seats at the ends of said recess in the top of the body, the inner ends of said body portions of the members being reduced and terminating in screw threaded stems, the stems of the two members being oppositely threaded, said clamping members being also formed with depending side flanges to enter the recesses in the sides of the body, said depending flanges having their outer ends formed with projecting tongues to enter the seats at the ends of the side recesses in the tie body, a turn buckle upon the screw threaded stems, and a cover plate arranged over the intermediate portion of the tie body and the recessed inner ends of said clamping members, said cover plate having depending side flanges to enter the side recesses in the tie body and also having inwardly projecting lugs to enter the notches of the flanges in said side recesses of the tie body, substantially as described.

2. In a device of the character described, the combination of a tie body having at its ends under cut enlargements to engage the outer sides of track rails and receive the outer base flanges thereof, the intermediate portion of the top of the tie body having a longitudinally extending recess terminating in under cut portions or seats, the sides of said body being also formed with longitudinal recesses terminating in seats, the last mentioned recesses having notched outwardly extending flanges in their upper portions intermediate their ends, rail clamping members having under cut outer ends to engage the inner sides of track rails and receive the inner base flanges thereof, said members having body portions to enter the recesses in the top of the tie body, said body portions of the members having their outer

ends terminating in tongues to enter the
seats at the ends of said recesses in the top
of the tie body, said clamping members be-
ing also formed with depending side flanges
5 to enter the recesses in the sides of the tie
body, said depending flanges having their
outer ends formed with projecting tongues
to enter the seats at the ends of the side re-
cesses in the tie body, an adjusting means
10 arranged between the inner ends of the rail
clamping members and in said tie body, and
a cover plate arranged over the intermediate
portion of the tie body and formed with de-
pending side flanges to enter the side recesses
15 in the tie body, said flanges of the cover
plate having inwardly projecting lugs to
enter the notches of the flanges in said side
recesses of the tie body.

3. In a device of the character described,
20 the combination of a tie body having at its
ends under cut enlargements to engage the
outer sides of track rails and receive the
outer base flanges thereof, the intermediate
portion of the top of the tie body having a
25 longitudinally extending recess terminating
in under cut portions or seats, the sides of

said body being also formed with longi-
tudinal recesses terminating in seats, rail
clamping members having under cut outer
ends to receive the inner base flanges of the 30
track rails, said members having body por-
tions to enter the recess in the top of the tie
body, said body portions of the members
having their outer ends terminating in
tongues to enter the seats at the ends of said 35
recess in the top of the tie body, said clamp-
ing members being also formed with depend-
ing side flanges to enter the recesses in the
sides of the tie body, said depending flanges
having their outer ends formed with pro- 40
jecting tongues to enter the seats at the ends
of the side recesses in the tie body, and ad-
justing means arranged in the tie body be-
tween the inner ends of said clamping
members. 45

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

ALBERT BIROCHIK.

Witnesses:

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L. O. LITTLE.