E. H. TAYLOR.

TIE PLATE AND RAIL CLAMP.

APPLICATION FILED NOV. 3, 1915.

1,174,638. Patented Mar. 7, 1916.

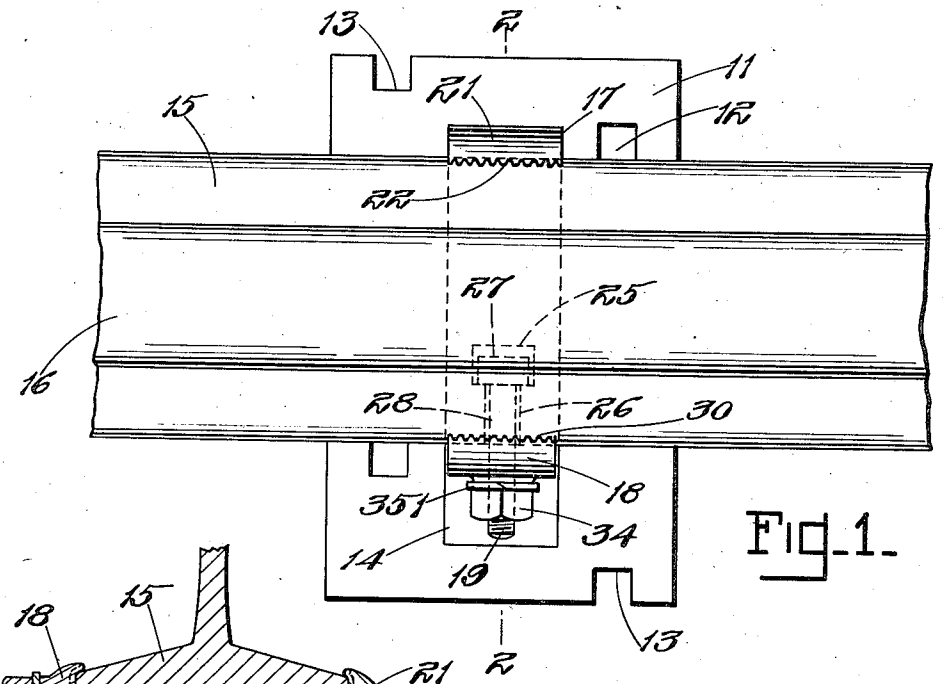


Fig. 1.

Fig. 7.

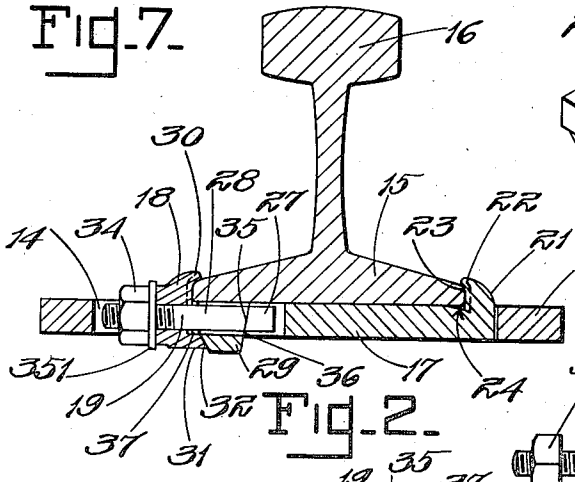


Fig. 2.

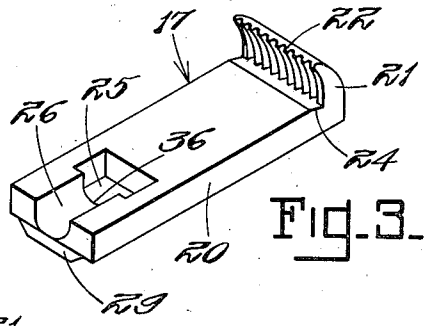


Fig. 3.

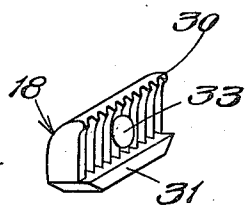


Fig. 4.

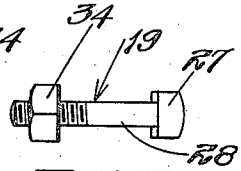


Fig. 5.

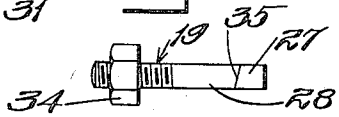


Fig. 6.

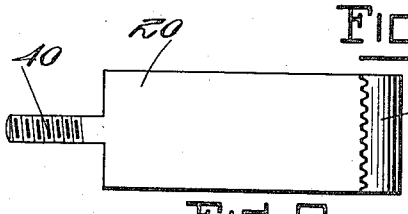


Fig. 8.

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EUGENE H. TAYLOR, OF HYDE PARK, MASSACHUSETTS.

TIE-PLATE AND RAIL CLAMP.

1,174,638. Specification of Letters Patent. Patented Mar. 7, 1916.

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To all whom it may concern:

Be it known that I, EUGENE H. TAYLOR, a citizen of the United States, residing at Hyde Park, county of Suffolk, State of Massachusetts, have invented a certain new and useful Improvement in Tie-Plate and Rail Clamps, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention has for its object an improved tie plate and rail clamp for securing steel rails to wood ties or other equivalent rail supporting means in order to prevent the rails from creeping longitudinally or spreading on the members on which they are supported. As is well known to those skilled in the art, rails have a tendency to creep lengthwise along the ties so as to become materially displaced from their original position. One place where this is especially true is on grades where traffic is in one direction and the brakes are customarily applied approximately in the same place. Heretofore so far as known to me there has been no satisfactory device which can be readily and easily installed and which will entirely prevent the creeping of the rails.

The device embodying my invention affords means by which the tie plate may be clamped to the rail at any point throughout its length and when desired may be quickly released from the rail and adjusted longitudinally thereof and then again spiked to the tie or other support.

The invention will be fully understood when taken in connection with the accompanying drawings and the novel features thereof will be pointed out and clearly defined in the claims at the close of this specification.

In the drawings,—Figure 1 is a top plan view of a portion of a rail and a device embodying my invention. Fig. 2 is a section on line 2—2 of Fig. 1. Figs. 3 and 4 are views in perspective of the clamping members of the device embodying my invention. Figs. 5 and 6 are a top plan view and side elevation respectively of the bolt or locking member. Fig. 7 shows a modified form of device, being a section of the base of a rail with clamping members secured to it. Fig. 8 is a plan view of one of the clamping members and the shank shown in Fig. 7.

Having reference to the drawings, there is shown a tie plate 11 of metal, having spike holes 12 and notches 13 adapted to receive spikes or bolts, by which the plate is secured to the tie or other rail support. The plate 11 is provided preferably centrally thereof with a rectangular opening 14 which extends lengthwise of the plate and which has a length greater than the width of the base 15 of the steel rail 16 to be employed.

The clamping mechanism consists of members 17 and 18 with a bolt connection 19. The member 17 preferably consists of a metal shank 20 which is slightly longer than the width of the base 15 of the rail 16, the width of the member being such that it makes a loose fit within the rectangular opening 14 of the plate 11. The shank 20 is preferably equal in thickness to that of the tie plate 11, so that it will rest on the tie or other support. At one end of the shank is a clamp 21 having a hook shaped end 22 adapted to contact with the edge of the base 15 of the rail as shown in Fig. 2. A portion of the shank 20 is cut away adjacent the inner surface of the clamp 21 as shown at 24 in order to cause the clamp member to grip the rail more tightly when pressed against it than would otherwise be the case. The clamp 21 is so arranged that the hook member 22 binds against the rail at 23 and tends to spring the edge of the base 15 downwardly when pressure is applied which sets the members in position. This insures a firm frictional contact owing to the natural spring of the metal.

The clamp 18 is similar in shape to the end 22 of the member 21 hereinabove described. The length of the clamping member 18 is equal to the width of the shank 20 and its height is such that it will extend over one edge of the base 15 of the rail 16 and project downwardly slightly below the shank 20 as shown in Fig. 2. The lower part of the clamping member 18 has an inwardly projecting portion 31 which is adapted to contact with a member 29 on the shank 20 both members being beveled as shown at 32. It is provided with a hole 33 adapted to make a loose fit with the threaded shank of a bolt 19.

The opposite end of the shank 20 from that on which the clamp 21 is located is pro-

vided with a T-shaped opening consisting of the portions 25 and 26 which is adapted to receive a head 27 and shank 28 respectively of the bolt 19. The head 27 of the bolt 19 is beveled as shown at 35 to coöperate with a bevel 36 below the opening 25. This construction permits the bolt to be dropped in place from the top, and yet the bolt is prevented from rising out of the slot in which it is received. A suitable nut 34 and lock washer 35′ are provided to force the clamping members together.

When the parts are in the position shown in Fig. 2, the projecting portion 31 of the member 18 contacts with the downwardly projecting portion 29 of the shank 20 and the hooked end 30 binds on the edge of the base 15 of the rail. As the nut 34 is turned to bring pressure upon the parts the clamp 18 pivots on the portion 29 of the shank 20, the clamp being forced inwardly and downwardly against the edge of the base 15 of the rail. The bevels 32 prevent the clamp 30 from lifting under the pressure and on the contrary causes it to be forced downwardly. This construction enables the clamp 30, the base of the rail, and the end of the shank 20 to be brought into frictional contact with each other so forcibly that it is practically impossible to slide the rail and the tie plate relatively to each other. It will be noted that a space 37 is left between the end of the shank 20 and the member 18 which corresponds in effect to the cut away portion 24 at the other end of the strip 20 and causes the edge of the base 15 of the rail to be unsupported beneath the hooked end of the member 18, as in the case of the clamping member 21. The natural spring of the metal assists the clamping action so that the rail is firmly and securely bound to the clamping members.

In Figs. 7 and 8 I have shown a modified form of device embodying my invention. In this form the bolt 40 is integral with the shank 20 being secured to it at the opposite end from the clamp 21 and being adapted to be received within the detachable clamp 18 in the manner described above. The shank 20 is provided with a beveled projection 29 on its lower surface at one end which is adapted to engage with the beveled projection 31 of the detachable clamp 18. The bolt 40 is secured to the shank slightly below its upper surface in order to provide a space below the outer edge of the base 15 of the rail for the reasons set forth above in connection with my preferred form. While this device may be employed with results equal to those obtained by that shown and described above I have found that the other form of construction is to be preferred.

In practice the tie plate is placed on the rail support, the clamping members are put together and placed in the rectangular opening in the tie plate, the rail is placed between the clamping members and the nut is turned up with sufficient pressure to securely lock the clamping members to the base of the rail to hold it firmly in position. The tie plate is then spiked or otherwise fastened down.

I regard my invention as important for by the use of my device rails may be readily and securely clamped in position in such a way that creeping is entirely prevented.

What I claim is:

1. The improved rail tie plate and clamp comprising a plate, having an opening therein, a pair of clamping members adapted to enter said opening and engage the rail, and a bolt connection between said two clamping members whereby the two may be secured together and clamped about the rail.

2. The improved rail tie plate and clamp comprising a tie plate having an opening therein, a clamping member having a shank portion adapted to fit in said opening and having a bevel on one end thereof, a bolt secured to said shank portion, a second clamping member having a hole therein adapted to receive said bolt and having a bevel thereon to coöperate with said bevel on the shank portion, said bevel acting as a pivot about which the said second clamping member swings, and a nut on said bolt for drawing said clamping members together to clamp them about the rail.

3. The improved rail tie plate and clamp comprising a tie plate having an opening therein, a clamping member having a shank adapted to fit in said opening, and rest on the tie, a hooked end on said clamping member for engaging the base of the rail, a bolt secured to said shank and a projection on said shank beneath said bolt having a beveled portion and a second clamping member having a hooked end adapted to engage the edge of the base of a rail and having a hole for the reception of said bolt there being a projecting portion on said clamping member having a bevel coöperating with the bevel on the projecting member of said shank portion, and a nut for drawing said clamping members together to clamp them about the rail.

4. The improved rail tie plate and clamp comprising a tie plate having an opening therein, a clamping member having a hook portion at one end to engage the rail and having a shank adapted to fit in the said opening and rest on the tie, said shank having a T-shaped slot in the end opposite the hooked end, there being a transverse connecting member bridging the sides of the slot on the underside of the shank, a second clamping member having a hook portion to engage the rail and resting against the end

of said shank, and a bolt lying in said slot to cause the said two clamps to engage the rail forcibly.

5. The improved rail tie plate and clamp comprising a tie plate having an opening therein, a clamping member having a hook portion at one end to engage the rail and having a shank adapted to fit in the said opening and rest on the tie, said shank having a T-shaped slot in the end opposite the hooked end, there being a transverse connecting member bridging the sides of the slot on the underside of the shank, a second clamping member having a hook portion to engage the rail and resting against the end of said shank, and a bolt lying in said slot to cause the said two clamps to engage the rail forcibly, the portion of the shank which engages the head of the bolt and the corresponding surface of the head of the bolt being beveled to prevent the head of the bolt rising out of the slot.

6. The improved rail tie plate and clamp, comprising a tie plate having an opening therein, a clamping member having a shank adapted to fit in said opening, a hooked end on said clamping member for engaging the base of the rail, a second clamping member having a hooked end for engaging the base of the rail, said shank being cut away at one end adjacent said first mentioned clamp and being spaced apart from said second mentioned clamp, said cut away portion and space portion being directly beneath the hooked ends of said clamping members, and means for drawing said clamping members together to clamp them about the rail.

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

EUGENE H. TAYLOR.

Witnesses:
JOHN H. PARKER,
ALICE H. MORRISON.