

May 27, 1924.

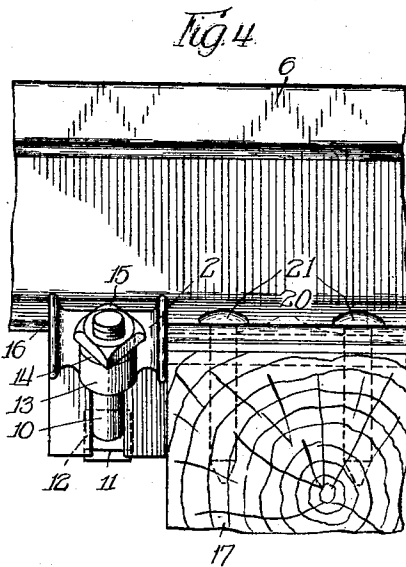
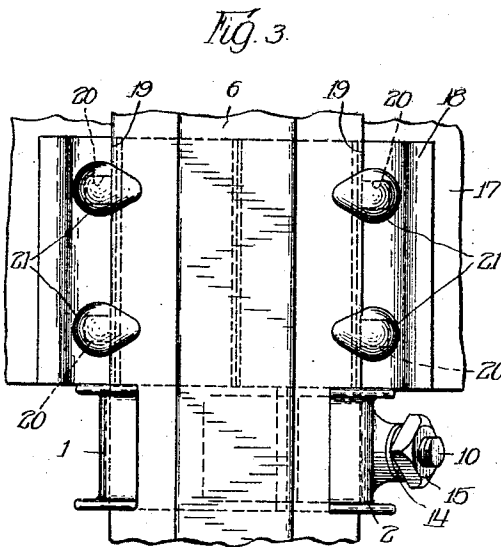
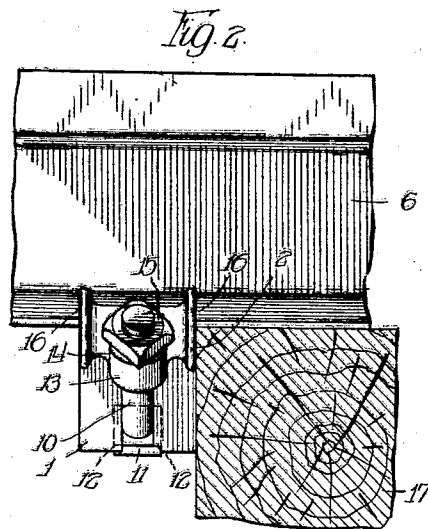
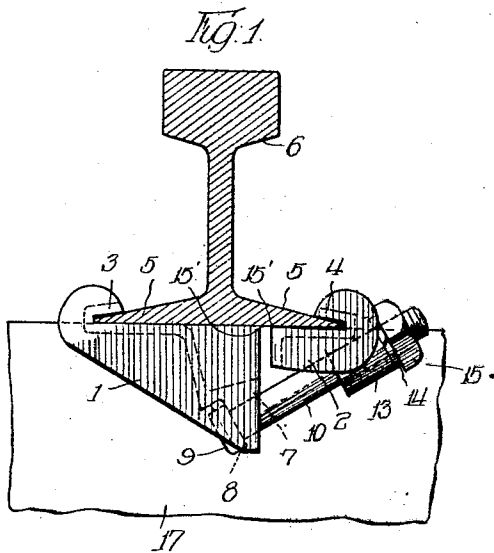
J. R. CALDERON

1,495,380

DEVICE FOR PREVENTING THE CREEPING OF RAILS

Filed Aug. 23, 1923

2 Sheets-Sheet 1



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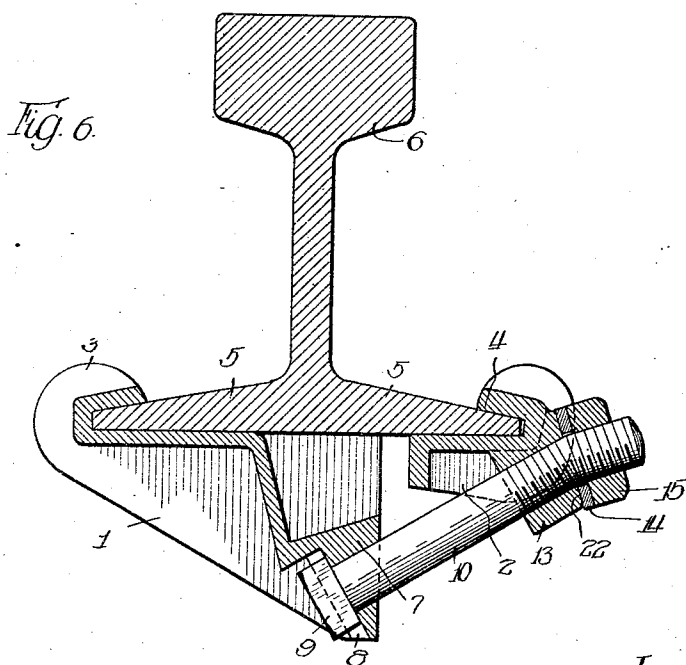
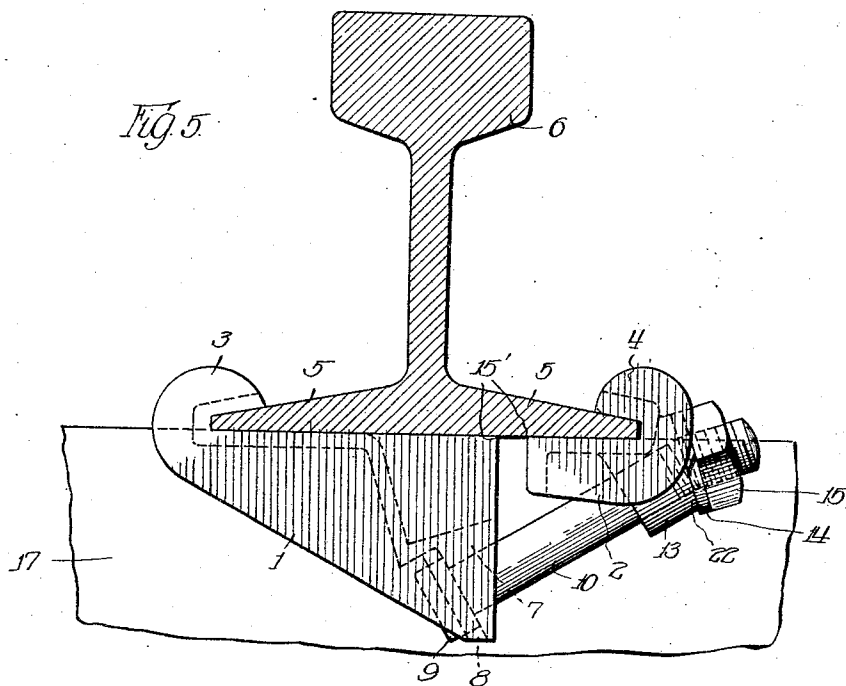
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DEVICE FOR PREVENTING THE CREEPING OF RAILS

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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE.

JOHN R. CALDERON, OF CHICAGO, ILLINOIS, ASSIGNOR TO ILLINOIS MALLEABLE IRON CO., OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

DEVICE FOR PREVENTING THE CREEPING OF RAILS.

Application filed August 23, 1923. Serial No. 658,863.

To all whom it may concern:

Be it known that I, JOHN R. CALDERON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Devices for Preventing the Creeping of Rails, of which the following is a specification.

The present invention relates to improvements in devices for preventing the creeping of rails.

Many devices are known and are being used in connection with railroad rails for preventing the longitudinal creeping thereof. As now known and used, such devices are open to criticism for various reasons, among which may be noted the fact that they afford only a very poor holding effect upon the rail and the fact that they are hard to reach for attachment and adjustment.

An object of the present invention is to provide holding means for firmly gripping a railroad rail.

A further object is to provide means for preventing creeping of a railroad rail, which means is simple to attach and adjust.

A further object is to provide an anti-creeper which may be readily attached to a railroad rail and by utilizing the resilience of the metal of said rail provide a tight grip upon said rail.

A further object is to provide an anti-creeper which combines the advantages of a tight grip on a railroad rail, readiness of applicability and adjustment, sturdiness, and cheapness of manufacture.

A further object is to provide an anti-creeper which combines the advantages of readiness of applicability with nut locking features whereby there is little danger of the anti-creeper becoming loose in service.

A further object is to provide an anti-creeper which serves to firmly grip a rail with a leverage action and by the same leverage action performs nut locking functions.

Further objects will appear as the description proceeds.

Referring to the drawings—

Figure 1 is a view of one embodiment of the present invention applied to a railroad rail, said rail being shown in section;

Figure 2 is another view of the embodi-

ment of the present invention illustrated in Figure 1, the rail being shown in side view;

Figures 3 and 4 are views of a modification of the structures shown in Figures 1 and 2, said Figures 3 and 4 showing an embodiment of the invention applied to a railroad rail, said views being taken respectively from above the rail and from the side of the rail; and

Figures 5 and 6 are views in elevation and in section respectively, illustrating the nut locking features above referred to.

Referring first to Figures 1 and 2, the members 1 and 2 are complementary members having the hooked over end portions 3 and 4 respectively. The hooked over end portions 3 and 4 are adapted to hook over the opposite flanges 5—5 of the rail 6. The members 1 and 2 may be composed of malleable iron, steel, or other tough material capable of withstanding the shocks encountered in railroad service. The member 1 is provided with the downwardly extending portion 7, which provides a seat 8 for the head 9 of a bolt 10. Said bolt 10 normally occupies a position inclined to the horizontal and to the vertical, for which reason the seat 8 should be arranged in a corresponding angular position. The downwardly extending portion 7 is provided with a slot 11 for the reception of the bolt 10, said slot being bounded longitudinally of the railroad rail by the undercut shoulders 12—12, the undercut portions of which form the seat 8. The member 2 is provided with the outstanding portion 13, which is provided with a hole for the reception of the bolt 10. Any preferred means, such as the lock washer 14 and nut 15, may be provided for holding the bolt 10 and consequently holding the members 1 and 2 in gripping relation to the railroad rail. For the purpose of providing a strong leverage action, the members 1 and 2 are formed to provide portions adapted to engage the under side of the rail at lines 15'—15' relatively distant from the side edges of the flanges of said rail.

The members 1 and 2 are coextensive in their dimensions longitudinally of the railroad rail and are indicated as having flat side faces 16—16. One of the flat faces 16—16 is adapted to abut against the cross tie 17. By reason of the fact that the mem-

bers 1 and 2 have gripping engagement with the flanges of the rail, and by reason of the fact that the bolt 10 exerts a leverage action on each of the members 1 and 2 about the lines 15'—15', the net effect is a very firm gripping engagement between the flanges of the rail 6 on the one hand and the members 1 and 2 on the other hand. By reason of the fact that the members 1 and 2 contact with the bottom of the rail at lines spaced materially from the edges thereof, said members 1 and 2 are drawn into such tight engagement with the rail that slippage is effectually prevented. The angular position of the bolt 10 accomplishes the further advantage that a workman may effectually tighten said bolt in an expeditious manner. In practice a workman may proceed along the track with a socket wrench and turn down the nuts on a succession of the bolts 10, working rapidly and with assurance that a non-slipping engagement with the rail will be accomplished. By reason of the engagement of the side face 16 with a railroad tie, the structure illustrated in Figures 1 and 2 will prevent creepage in one direction of traffic, that is to say—to the right as viewed in Figure 2.

The construction illustrated in Figures 3 and 4 is designed particularly for rails in which traffic is likely to occur in both directions. The construction shown in Figures 3 and 4 is similar to that shown in Figures 1 and 2 in most respects. According to the structure shown in Figures 3 and 4, the member 1 has integral therewith a bed plate 18. Said bed plate 18 extends from one of the sides 16 of said member 1 in a direction longitudinally of the railroad rail and is provided with a pair of shoulders 19—19 spaced apart a distance to receive the base of the rail 6. Said bed plate is provided with spike holes 20—20 for the reception of the spikes 21—21, the heads of said spikes 21—21 being adapted to overlie the flanges 5—5 of the rail 6. Said spikes also serve to prevent movement of the anchor plate 18 longitudinally of the rail.

It will be clear that the construction shown in Figures 3 and 4 provides a practical structure for preventing creeping of the rails in either direction longitudinally of said rails. The members 1 and 2 cooperate in the manner discussed in connection with Figures 1 and 2 to form a tight grip on the rail whereby slippage of the same is prevented. Movement of the member 1 and consequently of the rail is prevented by reason of the spikes 21—21 which engage the ties 17.

Referring now to Figures 5 and 6, it will be apparent that the present invention adapts itself readily to nut locking features. As will be clear from an inspection of Figures 5 and 6, the outstanding portion 13 is

chamfered off, as indicated by the line 22, on an angle relative to the axis of bolt 10, which is different from a right angle. It will be obvious to those skilled in the art that when the nut 15 is turned to home position upon the bolt 10, the engagement of the nut face of said nut 15 with the chamfered face 22, will produce a bending of the bolt 10. When the nut 15 has reached its home position the bolt 10 will have been bent materially at its threaded portion. The threads on the concave side of the bent bolt 10 will be compressed and the threads on the convex side of the bent bolt 10 will be spread. By reason of this action the nut 15 will be effectually prevented from backing off, though said nut may be removed by a workman provided with a proper tool. The lock washer 14 may or may not be used, as desired, in the construction shown in Figures 5 and 6. It will be clear that the nut locking features shown in Figures 5 and 6 are applicable to the structures shown in Figures 1 to 4.

Though certain practical embodiments of the invention have been illustrated, it will be clear that many modifications are possible and will occur to those skilled in the art. It is intended in this patent to cover all such modifications which fall within the scope of the invention as defined by the appended claims.

What is claimed is:

1. A device of the character described, comprising a pair of members adapted to hook over the opposite flanges of a railroad rail, a bolt and a nut cooperating with said members occupying a position angularly of the rail engaging position of said members.

2. A device of the character described, comprising a pair of members adapted to hook over the opposite flanges of a railroad rail, said members also being provided with portions adapted to abut the bottom of said railroad rail at regions relatively distant from the side edges of said flanges, the hooking portions of said members and the rail bottom abutting portions of said members lying approximately in the same plane, and a bolt arranged angularly of said plane having abutting cooperation with said members.

3. In combination, a flange of a railroad rail, an anti-creeping device comprising a pair of members adapted to hook over the opposite side edges of said flanges, and a bolt having cooperative relation with said members and lying in angular relation with the bottom of said rail for holding said members in tight gripping relation to said rail.

4. In combination, a railroad rail having a bottom flange, a pair of members each having a portion adapted to hook over a side edge of said flange, each of said members also being provided with a portion adapted

to abut the under side of said rail, said hooked over portions and said bottom abutting portions being in substantial alignment, and a bolt lying at an angle to the bottom of said rail and having a nut presented laterally of said rail.

5. In combination, a railroad rail having a bottom flange, a pair of holding members, each of said holding members being provided with a hooked over flange engaging portion and a portion adapted to abut the bottom of said rail, and bolt means disposed angularly with reference to the base of said rail, said bolt means cooperating with said members adapted to exert a leverage action on each of said members about said bottom abutting portions as fulcrums.

6. In combination, a railroad rail having a bottom flange, a pair of holding members, each of said holding members being provided with a hooked over flange engaging portion and a portion adapted to abut the bottom of said rail, and bolt means disposed angularly with reference to the base of said rail, said bolt means cooperating with said members adapted to exert a leverage action on each of said members about said bottom abutting portions as fulcrums, said bolt means being provided with a nut presented laterally of said rail.

7. A device of the character described, comprising a pair of members each adapted to engage the side edge of a flange of a railroad rail and the bottom of said rail, and means for exerting a leverage action upon said members reacting between the flange engaging and the bottom engaging portions of said members, said means including a bolt disposed angularly with respect to the bottom of said rail.

8. A device of the character described, comprising a pair of members each adapted to engage the side edge of a flange of a railroad rail and the bottom of said rail, and means for exerting a leverage action upon said members reacting between the flange engaging and the bottom engaging portions of said members, one of said members being provided with means adapted to engage a railroad tie, said means including a bolt disposed angularly with respect to the bottom of said rail.

9. In combination, a railroad rail, an anti-creeping device cooperating therewith, comprising a pair of members each having a portion for hooking over the side edge of the flange of said rail and a portion for abutting the bottom of said rail, and common means for exerting leverage action upon said members about said bottom engaging portions as fulcrums, said means including a bolt disposed angularly with respect to the bottom of said rail.

10. In combination, a railroad rail, an anti-creeping device cooperating therewith,

comprising a pair of members each having a portion for hooking over the side edge of the flange of said rail and a portion for abutting the bottom of said rail, and common means for exerting leverage action upon said members about said bottom engaging portions as fulcrums, one of said members being provided with an extension portion adapted to underlie said rail, said extension portion being provided with shoulder means for embracing the flange of said rail and being provided with spike holes for facilitating attachment of said member to a railroad cross tie.

11. In combination, a railroad rail, an anti-creeping device cooperating therewith, comprising a pair of members each having a portion for hooking over the side edge of the flange of said rail and a portion for abutting the bottom of said rail, and common means for exerting leverage action upon said members about said bottom engaging portions as fulcrums, said leverage exerting means comprising a bolt and nut, said bolt being disposed angularly with reference to said rail, said nut being presented laterally of said rail.

12. In combination, a railroad rail, an anti-creeping device cooperating therewith, comprising a pair of members each having a portion for hooking over the side edge of the flange of said rail and a portion for abutting the bottom of said rail, and common means for exerting leverage action upon said members about said bottom engaging portions as fulcrums, said leverage means comprising a bolt extending angularly relatively to the base of said rail and having a nut presented angularly relative to the base of said rail and laterally thereof.

13. In a device of the character described, comprising a pair of members adapted to hook over the opposite flanges of a railroad rail, a bolt and a nut cooperating with said members, the face of one of said members lying at an angle to the axis of said bolt whereby when said nut is turned home to exert force against said face, said bolt will be bent.

14. In combination with a flange of a railroad rail, an anti-creeping device comprising a pair of members adapted to hook over the opposite side edges of said flange, a bolt having cooperative relation with said members and lying in angular relation with the bottom of said rail, said bolt having a nut mounted thereon to exert pressure upon said pair of members to urge them together, one of said pair of members having an abutting face arranged at an angle to the axis of said bolt whereby when said nut is turned to home position, said bolt will be bent for nut locking functions.

15. In combination, a railroad rail hav-

ing a bottom flange, a pair of holding members, each of said holding members being provided with a hooked over flange engaging portion and a portion adapted to abut
5 the bottom of said rail, and bolt means cooperating with said members adapted to exert a leverage action on each of said members about said bottom abutting portions as fulcrums, said bolt means having a nut, one
10 of said holding members having an abutting face for receiving pressure from said nut, said abutting face being arranged at an angle to the axis of said bolt means.

16. In a device of the character described,
15 comprising a pair of members each adapted

to engage the side edge of a flange of a railroad rail and the bottom of said rail, a bolt and nut means for exerting a leverage action upon said members reacting between the flange engaging and the bottom engaging portions of said members, one of said members having an abutting face for receiving pressure from said bolt and nut means, said abutting face being angularly
20 arranged relative to the axis of said bolt and nut means. 25

Signed at Chicago, Illinois, this 14th day of August, 1923.

JOHN R. CALDERON.