H. G. GILLMOR.

ANTICREEPER FOR RAILS.

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1,257,994.

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FIG. 2.

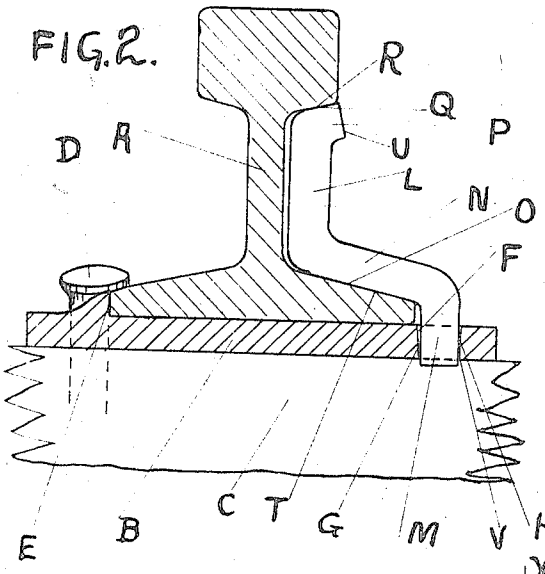
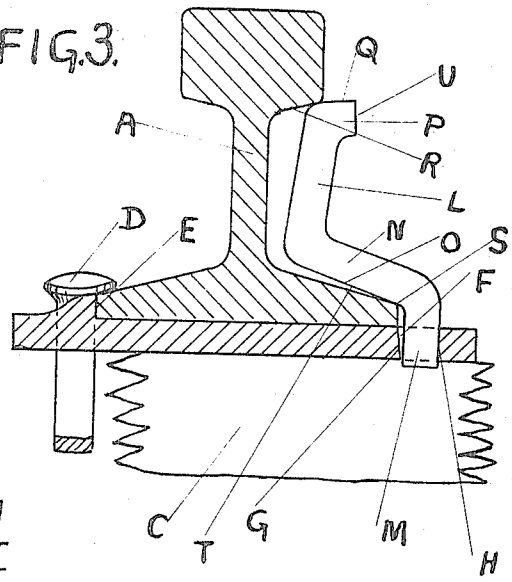


FIG. 3.



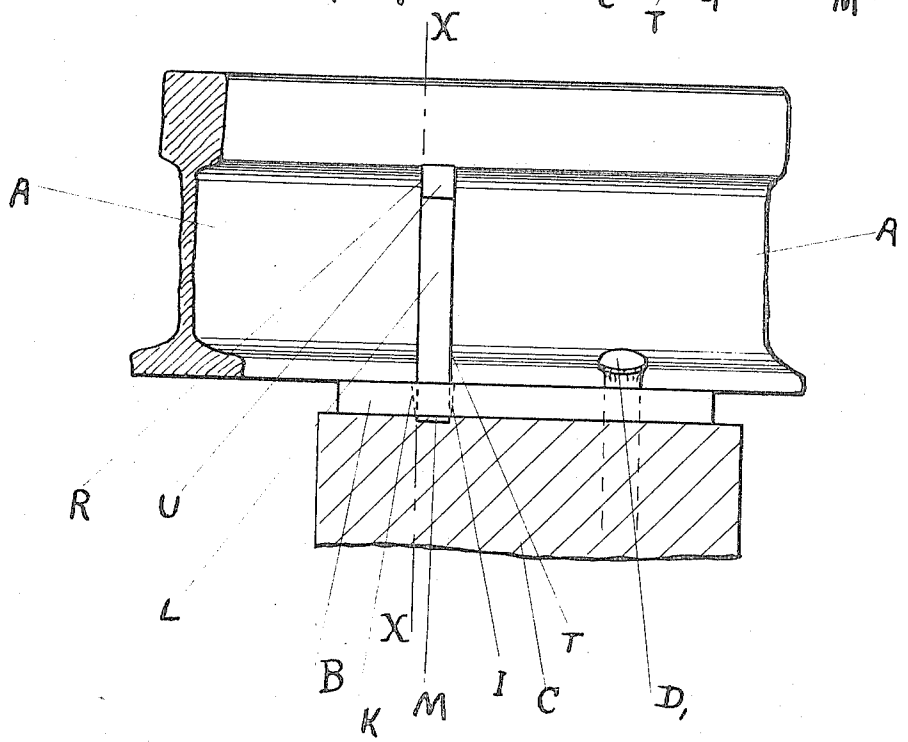


FIG. 1.

Witnesses

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ANTICREEPER FOR RAILS.

1,257,994. Specification of Letters Patent. Patented Mar. 5, 1918.

Application filed November 1, 1915. Serial No. 59,069.

To all whom it may concern:

Be it known that I, HORATIO G. GILLMOR, a citizen of the United States, residing at Washington, in the District of Columbia, have invented a new and useful Anticreeper for Rails, of which the following is a specification.

This invention relates to devices known as anticreepers, rail anchors or rail stays and one of its objects is to provide a simple device to prevent the creeping of the rails of railways.

Other objects are to provide a device, which shall be effective to prevent longitudinal or creeping movement in either direction, which may therefore be applied to either side of the rail, which may when desired be used in conjunction with a tie plate and which will, when so used, leave the rail free to slight vertical movements in relation to the tie plate.

In the accompanying drawings, in which one embodiment of the invention is illustrated,

Figure 1 is a side elevation showing the device in operative position on the rail.

Fig. 2 is a sectional view at the plane indicated by the line X X in Fig. 1.

Fig. 3 is a sectional view at the same plane illustrating the mode of applying the device.

Similar letters refer to similar parts throughout the several views.

In the form of the invention illustrated in the drawings, A represents the rail resting upon a tie plate B, which in turn rests upon the ties or sleepers, a portion of one of which is shown at C and is fastened thereto by spikes or screws D and D_1. The tie plate may be provided with a portion engaging one edge of the rail base flange, as at E in Figs. 2 and 3, or the spikes D may serve a like purpose. At the other side of the base flange of the rail, the tie plate B is provided with an aperture F, the sides G and H of which may be slightly inclined as may also be the sides I and K, shown dotted in Fig. 1, so that the aperture F may be slightly larger at the upper face of the plate B than it is at the lower face. L is a bar, arranged with a portion M projecting into the aperture F of the plate B, a portion N, the surface O of which is adapted, when the bar is in operative position, to engage with the upper surface of the base flange of the rail and a portion P, the surface Q of which, in the operative position, engages with the under surface R of the head of the rail. The relation of the portions M and N to the remainder of the bar L is such that, when the portion M of the bar L is inserted in the aperture F of the plate B, the surface O of the portion N of the bar L will engage the upper edge or corner of the rail base flange, as at S in Fig. 3, and the portions M and N of the bar L must be sprung, strained or deflected, under stresses to be hereafter described, to bring the surface O into engagement with the upper surface T of the base flange of the rail, as shown in Fig. 2.

In applying the anticreeper to the rail the plate B is first placed in position and the spikes D and D_1 placed. The bar L is then placed with the portion M inserted in the aperture F of the plate B and the portion N engaging and fulcrumed upon the top or corner of the edge of the rail base flange, as illustrated in Fig. 3. With the parts in this position the surface Q of the portion P will begin to engage the surface R of the under side of the rail head. By driving the upper part of the bar L, preferably by striking the surface U with a hammer or maul, the surface Q will be forced to move over the surface R and stresses will thereby be transmitted to the portions N and M of the bar L which will strain or deflect these portions. The portion M of the bar L will be forced into close engagement with the side H of the aperture F in the plate B at V and lateral forces causing the spikes or screws D and D_1 and the surface E of the plate B to be pressed against the opposite edge of the base flange of the rail will be produced and the portion N, bearing at first upon the rail base flange at S, will be forced downward. By driving the bar L to the position shown in Figs. 1 and 2, the surface O of the portion N of the bar L will be forced into contact with the upper surface T of the rail base flange and caused to press downwardly upon that surface with pressures, the intensity and distribution of which will depend upon the elastic strength of the material of which the bar L is made. At the same time the surface Q of the bar L will engage and press upwardly upon the surface R of the rail head.

It will thus be seen that the parts will be effectually locked in position so as to prevent accidental dislodgment, the stresses acting to hold the parts in place; and, at the same time, the pressure of the surfaces O and Q of the bar L upon the surfaces T and R of the rail and the pressure of the surfaces E and the spikes or screws D and D_1 upon the opposite edge of the rail will hold the rail against movement in relation to the bar L and the plate B, in the direction of length of the rail. The spikes or screws D and D_1 securely fasten the plate to the tie C so that longitudinal movement of the rail, in either direction, will be effectually prevented. The engagement of the portion M of the bar L with the aperture F of the plate B and the pressing of the surfaces E of the plate B against the edge of the rail base permit slight vertical movement of the rail in relation to the plate B without affecting the tightness of the parts upon the rail or their efficacy in preventing longitudinal movement of the rail.

It will be obvious that the plate B, instead of being fastened to the ties C might be provided with one or more flanges or abutments arranged to engage the faces of the ties C to hold the plate B and therefore the bar L and the rail against the creeping forces. While I have described my invention in one embodiment it will be understood that modifications might be made as to details of construction without departure from the principles of the invention; therefore, I do not wish to be understood as limiting the invention to the devices, construction and arrangement shown and described except so far as such limitations are expressed in the claims.

I claim and desire to secure by Letters Patent:

1. A part for anticreepers, comprising a resilient bar constructed to engage the under surface of the head and the upper surface of the base flange at one side of and above the rail base flange and to engage a transversely disposed member below the rail base flange.

2. A part for rail anchors, comprising a spring construction to engage a rail base engaging element and to be forced in between the head and the base flange of the rail.

3. A tie plate attachment for preventing the creeping of rails, comprising a bar of substantially uniform section so formed that when in engagement at its lower end with an aperture in the tie plate the upper end and an intermediate portion may be forced in between the head and base flange of the rail.

4. A rail anchor part, comprising a bar arranged to engage the under surface of the head and the upper surface of the base flange of a rail, the base flange engaging portion of said bar being initially inclined upwardly from the rail base and arranged to be forced downwardly into contact with the rail base by a wedging action of the upper end of said bar upon the under side of the rail head.

5. A part for anticreepers, comprising a bar constructed to engage at one side of and below the rail base an aperture in a holding plate and to be forced into engagement with the under side of the head and upper surface of the base flange of the rail by forced angular movement of the upper portion of said bar in relation to the rail and distortion of the lower portion thereof.

6. In an anticreeper for rails, the combination of a transversely disposed part provided with means for engaging one edge of the base flange of a rail and arranged to extend beyond the other edge of the rail with an aperture in said extended portion, and a resilient part adapted to traverse the transversely disposed part and engage the head and base flange of the rail.

7. An anticreeper, comprising a transversely extending part, provided with means for engaging the edge of the base flange of the rail at one side, and a resilient vertically extending part constructed to engage the transversely extending part at the opposite side of the rail and to be driven in between the head and the base flange of the rail to effect the gripping action.

8. In a rail stay, the combination of a vertical member adapted to extend below the rail base at one side of the rail and provided with means for engaging the head and base flange at one side of the rail, a member adapted to extend under the base flange and provided with means for engaging the edge of the base flange at the opposite side of the rail, and means for effecting the engagement of said members one with the other which clamps the rail between said members and subjects said vertical member to a bending strain.

9. In a rail anchor, the combination of a vertical member adapted to extend below the rail base at one side of the rail and provided with integral portions for engaging the head and base flange at one side of the rail, a member adapted to extend under the base flange and provided with means for engaging the edge of the base flange at the opposite side of the rail, and means for effecting the engagement of said members one with the other which clamps the rail between them and subjects said vertical member to a bending strain.

10. The combination with a cross tie and a railroad rail having a head, a vertical web and a base flange, of an anticreeper, comprising a transversely disposed part engaging with the cross tie and one edge of the

rail base, and a resilient vertically disposed part engaging with said transversely disposed part and the under side of the rail head for locking the parts in operative position on the rail.

11. A rail anchor, comprising a part arranged for transverse disposition beneath the rail and provided with means for engaging one edge of the rail base, a resilient part arranged for vertical disposition so engaging said transverse part the head and the base flange of the rail at the other side of the rail that said resilient part may be driven into engagement with the head and base flange of the rail and a transverse pull thereby exerted upon said transverse part, and means for preventing the lower end of said resilient part from moving forward with the rail.

12. A rail anchor, comprising a transversely extending part provided with means for engaging the edge of the base at one side and with an aperture at the other side of the rail, and a vertically extending part so engaging said aperture and the head and base flange of the rail as to hold the rail against longitudinal movement in relation to said parts while permitting slight vertical movement of the rail in relation to said transversely extending part.

13. A rail stay, comprising a tie plate provided with means for engaging the edge of the base at one side of the rail and a rail engaging part so engaging the rail and said tie plate at the other side of the rail as to subject said tie plate to a transverse stress, pressing said edge engaging means against the rail base edge and said rail engaging part to a bending strain.

14. An anticreeper for rails, comprising a vertically extending member engaging the head and base of the rail at one side of the rail and a transversely extending part provided with means for so engaging the opposite edge of the base of the rail and said vertically extending member as to subject said vertically extending member to a bending strain.

15. A rail anchor, comprising a rail head and base flange engaging member provided with a downwardly extending portion at one side of the rail base flange, means for engaging with said downwardly extending portion for subjecting said head and base flange engaging member to a bending strain and means for so securing said member to a tie as to prevent longitudinal movement.

16. An anticreeper, comprising a rail head and base flange engaging member constructed of resilient material and provided with a downwardly extending portion adapted to engage, below the rail base at one side of the rail, a rail base engaging member, and means engaging with a cross tie and preventing forward movement of said member, said member being pressed upward against the rail head by the spring action of said member.

17. An anticreeper, including an element adapted to engage the rail head and a tie plate at one side of the rail and exerting pressure thereon in tending to assume a position from which said element has been sprung.

18. An anticreeping device, including a rail engaging member adapted to grip the rail, and a spring engaging said member and arranged to be driven transversely of the rail and wedged between the head and base flange thereof.

19. A device for preventing the creeping of rails, including a part arranged to be applied to the rail between the head and base flange and engage a tie plate at one side of the rail and to be locked in position by the engagement of said part with the under surface of the rail head.

20. A rail anchor provided with means for giving it a stationary position with respect to the roadbed and with rail clamping means, comprising a transverse element engaging the rail base at one side, and a resilient bar engaging said element and the rail edge at the other side of the rail and forced in between the head and the base flange of the rail.

21. A device for preventing the creeping of rails, comprising a spring adapted to engage an aperture in a tie plate and to be driven in between the head and base of the rail at one side thereof.

22. A rail anchor, comprising a spring constructed to engage a tie plate at one side of the rail having portions engaging and pressing upon the under side of the head and the upper side of the base of the rail.

23. An anticreeper, comprising a transverse member having means for engaging the edge of the rail base at one side of the rail, and a spring at the other side of the rail with portions which engage the head and base of the rail and prevent creeping of the rail.

24. A rail anchor, comprising a member held to the tie having an abutment at one side of the rail, and a spring on the other side of the rail which engages the corner of the rail base and the head of the rail and holds the rail against creeping.

25. A device for preventing the creeping of rails, comprising a tie plate having means for engaging the rail at one side of the rail, and a spring which engages the tie plate, the corner of the rail base and the rail head at the other side of the rail and prevents the rail from creeping.

26. A device for preventing the creeping of rails, comprising a tie plate provided with means for engaging the rail base edge at one side of the rail, and a spring engaging

the rail head and base flange at the other side of the rail, locked in position by the lateral pressure of said spring against the tie plate and the upward pressure thereof upon the rail head.

27. A rail anchor provided with means for giving it a fixed position with respect to the roadbed and with rail clamping means, comprising a spring which engages the rail base edge and is forced in between the head and base flange of the rail.

28. An anticreeper provided with means for giving it a stationary position with respect to the road bed and with rail clamping means, comprising co-engaging members one of which is a spring provided with a portion engaging the under side of the rail head.

29. A device for preventing the creeping of rails provided with means for giving it a stationary position in the roadbed, comprising co-engaging members one of which is resilient and provided with rail head and base flange engaging portions, said members interlocking and exerting transverse and vertical gripping pressure upon the rail.

30. A rail anchor, comprising a transversely disposed part arranged to be held in fixed position in the roadbed and provided with means for engaging one edge of the base flange of the rail and arranged to extend beyond the other edge of the rail with an aperture in said extended portion, and a resilient part adapted to traverse the transversely disposed part and engage the head and base flange of the rail.

31. A device for preventing the creeping of rails, comprising a tie plate provided with means for engaging the rail base edge at one side of the rail and having an aperture at the other side of the rail, and a bar adapted to engage the aperture in said tie plate and the head and base flange of the rail and to be driven in between the head and the base flange of the rail to effect the gripping action.

32. An anticreeper, comprising a transversely extending part provided with means for engaging the edge of the base flange of the rail at one side, and a vertically disposed part constructed to engage the transversely extending part at the opposite side of the rail and to be driven in between the head and the base flange of the rail to effect the gripping action.

33. The combination, with a cross tie and a railroad rail having a head a vertical web and a base flange, of an anticreeper, comprising a transversely arranged part engaging the cross tie and one edge of the rail base, and a vertically disposed element engaging with said transversely disposed part and the underside of the rail head for locking the parts in operative position on the rail.

34. An anticreeper, comprising a part engaging one side of the rail base flange and extending transversely beyond the other edge of the rail base, and a member engaging said part at the other side of the rail and constructed with portions adapted to engage the under side of the head and the upper surface of the base flange, the base flange engaging portion being initially inclined upwardy and forcibly bent down into contact with the base flange.

35. A rail anchor, comprising a part, having a rail head and an initially upwardly inclined base flange engaging portion and a portion extending downwardly at one side of the rail base flange, and means for engaging the opposite side of the rail base and said part which subjects said part to a bending strain and causes the initially upwardly inclined portion to bear upon the upper surface of the rail base.

36. A device for preventing the creeping of rails, comprising a part provided with means for giving it a fixed position in the roadbed in opposition to the tendency of the rail to creep engaging the rail base at one side of the rail and extending transversely underneath the rail, and a resilient vertically extending part constructed to engage the transversely extending part at the opposite side of the rail and to be driven in between the head and the base flange of the rail to effect the gripping action.

37. A device for preventing the creeping of rails, including an element adapted to grip the rail, a spring engaging said member and arranged to be driven transversely of the rail and wedged in between the head and base flange thereof, and means whereby one of said elements is held in fixed position in the roadbed.

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Witnesses:
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