T. H. ALFREDS.

ANTICREEPING DEVICE FOR RAILROAD RAILS.

APPLICATION FILED SEPT. 8, 1917.

Patented Nov. 27, 1917.

1,248,240.

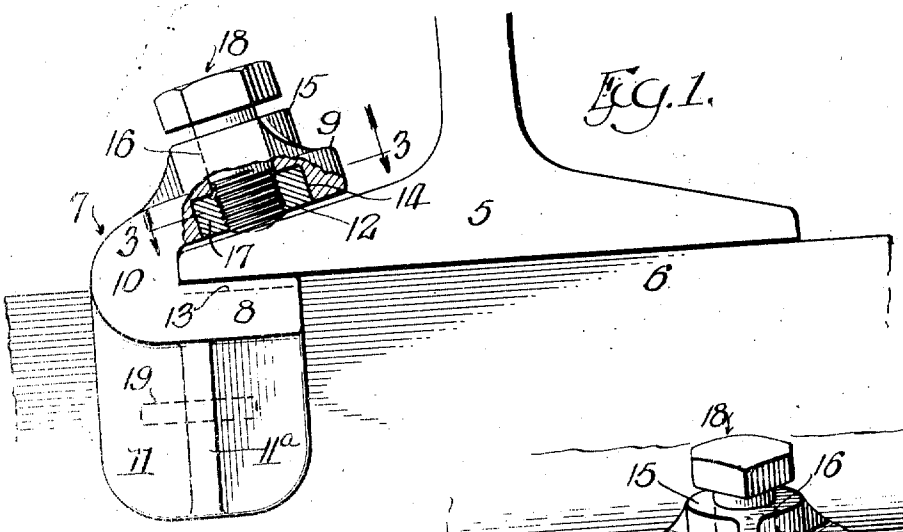


Fig. 1.

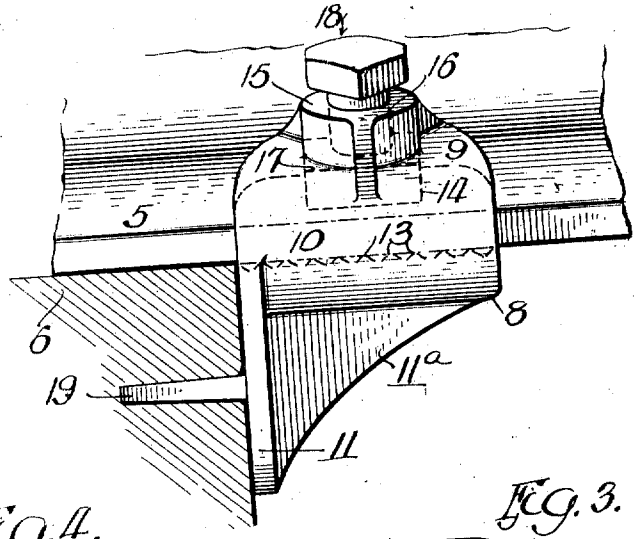


Fig. 2.

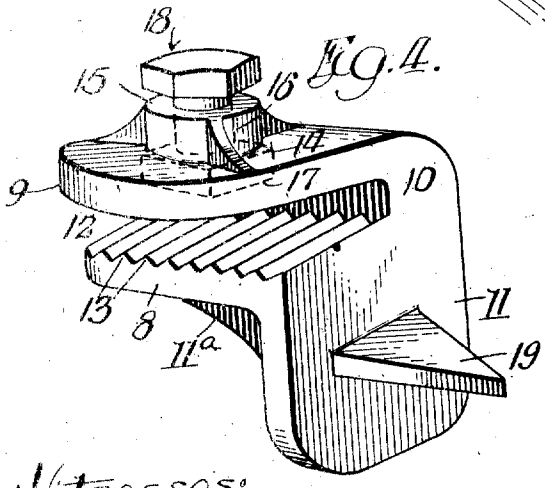


Fig. 4.

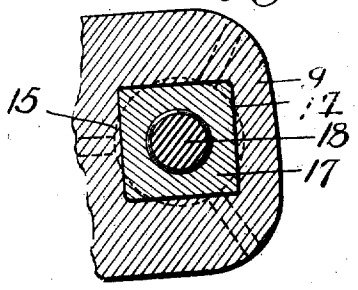


Fig. 3.

Witnesses:
D. Darrenougue.
B. L. MacGregor

Inventor
Torris H. Alfreds
by Brown & Mitchell Attys

UNITED STATES PATENT OFFICE.

TORRIS H. ALFREDS, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE P & M COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

ANTICREEPING DEVICE FOR RAILROAD-RAILS.

1,248,240. Specification of Letters Patent. Patented Nov. 27, 1917.

Application filed September 8, 1917. Serial No. 190,281.

To all whom it may concern:

Be it known that I, TORRIS H. ALFREDS, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Anticreeping Devices for Railroad-Rails; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in anti-creeping devices for railroad rails and consists of the matters hereinafter described and more particularly pointed out in the appended claims.

The object of the invention is to produce a device which is adapted to be attached to but one edge of a railroad rail and to so coact with the associated tie as to prevent the creeping movement of the rail under the action of passing trains.

Another object of the invention is to provide such a device as can be made from a minimum of metal and yet provide a maximum in efficiency for its intended purpose.

A further object of the invention is to provide such a device as can be shipped as a single complete member, to the place of installation or attachment to the rail.

Still a further object of the invention is to provide such a device as can be secured to the tie adjacent the rail so as to provide a proper support for the device, in a position facilitating its attachment to the rail.

These objects as well as the several advantages of my invention will more fully appear as I proceed with my specification.

In the drawings:

Figure 1 illustrates an end view of my improved anti-creeping device as when attached upon a railroad rail.

Fig. 2 illustrates a side elevation view of the same.

Fig. 3 illustrates a horizontal, detail sectional view through the anti-creeping device, the plane of the section being indicated by the line 3—3 of Fig. 1.

Fig. 4 illustrates a perspective view of the device as it appears when ready to be applied in track.

Referring now in detail to that embodiment of my invention illustrated in the accompanying drawings:—5 indicates as a whole the base of a railroad rail; 6 indicates the usual cross-tie upon which the rail rests in a familiar manner; and 7 indicates as a whole, my improved anti-creeping device or rail anchor, as it is sometimes called.

The anti-creeping device consists of a block comprising a horizontally disposed bottom flange or member 8, of a suitable length, a top flange or member 9, which is inclined to the horizontal and which is substantially the same length as the bottom member, the said members being integrally connected along one edge as at the elbow or bend 10, and a vertically disposed flange 11 which depends from one end of the block and which is of a width equaling the combined width of said bottom member and said elbow. A bracing web 11^a connects said depending flange with the bottom surface of the bottom member 8.

The said top and bottom members together with the elbow or bend 10, define a horizontally disposed groove 12 which is adapted to receive one edge of the rail base so that said members 8 and 9 straddle the same when the device as a whole is applied in track.

On the top surface of the bottom member 8 which is preferably made of a width less than that of the top member 9, is formed a plurality of transversely extending, spaced ribs 13 which are adapted to engage with the bottom surface of the edge of the rail base, said ribs providing a better friction surface than a plain flat surface and assisting in reducing the amount of metal going into each individual block. In the bottom surface of the top member 9, which is inclined to extend in a plane parallel with the top inclined surface of the rail base, midway between its ends and nearer to the free edge thereof, is provided a rectangular recess 14. On the top surface of said top member, centrally above said recess, is provided a boss 15 having a central aperture 16 which opens into the rectangular recess 14.

17 indicates a nut which is non-rotatively seated in the recess 14 with its bottom face flush with the bottom surface of the top member 9, said recess and nut in this instance being square in plan. The fit between said nut and recess is such that the nut will not drop from the recess after once in place. 18 indicates a setscrew in the form of a relatively short bolt, which extends through the aperture in the boss 15 and has threaded

engagement with and through the nut 17. The said bolt has the usual head at its top end for the application of a wrench or like device. 19 indicates a horizontally disposed, wedge-shaped lug which is made integral with the depending flange 11 on its outer face. This lug tapers horizontally to a point as shown in Fig. 4.

To apply the device in track, the top and bottom flanges 9 and 8 are placed upon the edge of the rail base so as to straddle the same with the depending flange 11 adjacent a tie and with the lug 19 in engagement with said tie. The outer end of the elbow 10 is struck with a sledge or maul in a manner to drive the said lug into the tie. As said lug enters the tie, the block as a whole is caused to shift or move closer to the rail by reason of the taper on the lug. When the depending flange engages the tie, the use of the sledge or maul is discontinued. By reason of the entering of the lug 19 into the tie, the block as a whole is suitably supported in operative position on the rail base without the aid of any hook for engagement with the other edge of the rail base, until the block is securely clamped to the rail, as will presently appear.

The usual track wrench is now brought into use by engaging its jaws upon the head of the setscrew or bolt 18. Said setscrew is rotated in the usual manner, threading through the nut 17 and engaging and indenting the top surface of the edge of the rail base, until further turning movement of said bolt is unnecessary. When the set screw is thus being tightened, it will tend to draw up the bottom flange or member into close engagement with the bottom of the rail base, thus securely locking the block as a whole to the rail against any independent movement, the one relative to the other. With the block thus fixed to the rail, any creeping movement of the rail for any reason whatsoever, is resisted by the engagement of the block as a whole with the tie.

Wave movement of the rail under the load of passing trains is resisted somewhat by reason of the entrance or penetration of the lug 19 into the tie and even though said lug breaks off from the flange 11, its primary function, which is that of holding the block in position upon the rail so that the setscrew can be tightened, has been fully performed. However, conditions in the road bed might sometimes be such that even the wave motion of the rail will be permanently resisted by said lug 19.

It is apparent that by locating the nut in the recess in the bottom surface of the top member 9, the expense and necessity for providing screw threads in the block as a whole, is eliminated, thus reducing the cost of manufacture, the bolt and nut used being of a standard size and easily purchased in the open market. Again by placing the nut in the recess as described, instead of threading it through the boss, the lifting stress imparted to the top member 9 by tightening the setscrew, is imparted to the said top member so that there is less danger of breaking the block as a whole through the elbow or bend 10.

It is apparent that each individual device can be made of less metal than other anti-creepers having the same efficiency, because no hook for engaging the other edge of the rail base need be provided for, to support the block with reference to the rail, during its application thereto.

My improved anti-creeping devices possesses other advantages in that, should there be a variation or irregularity in shape of the block, due to its warping or shrinking, as it is made in the foundry, this warping or shrinking will be of no moment because there is no companion engaging piece to be accommodated. Therefore, there is less waste of metal in the manufacturing thereof.

As all of the parts of each individual device, are fully exposed, the workman applying the device in track can always see just what is going on and need not guess, as he must do when the devices comprise two parts which must be connected or interengaged beneath the rail, and furthermore, no ballast need be removed from between the ties to apply the device in track. The workman receives each device fully assembled and therefore wastes no time in mating up parts before applying the same in track. Each device readily accommodates for any variation in size of the rail base to which it is applied.

While in describing my invention I have referred to certain details in construction and form and in arrangement of parts, I do not wish to be limited thereto except as may be pointed out in the appended claims.

I claim as my invention:

1. A device of the kind described comprising a block adapted to engage against a tie, said block including top and bottom members adapted for engagement with one edge of the base of a rail, a setscrew or bolt, and means in one of said members providing a screw threaded engagement for said bolt.

2. A device of the kind described comprising a block adapted to engage against a tie, said block including top and bottom members adapted for engagement with one edge of the base of a rail, a nut non-rotatively fixed to one of said members and a set screw or bolt operatively engaged with said nut.

3. A device of the kind described comprising a block adapted to engage against tie, said block including top and bototm members adapted for engagement with one edge of the base of a rail, one of said mem-

bers having a recess therein, a nut in said recess, and a bolt threaded through said nut and adapted to engage the rail base.

4. A device of the kind described comprising a block adapted to engage against a tie, said block including top and bottom members adapted for engagement with one edge of the base of a rail, said top member having a recess in its bottom surface, a nut non-rotatively secured in said recess, and a bolt threaded through said nut and adapted to engage the top surface of the rail base.

5. A device of the kind described comprising a block adapted to engage against a tie, said block including top and bottom members adapted for engagement with the base of a rail, said top member having a recess in its bottom surface and an apertured boss on the top surface, a nut non-rotatively fixed in said recess, and a bolt extending through the aperture in said boss and threading through said nut and adapted to engage the top surface of the rail base.

6. A device of the kind described, comprising a block having top and bottom members adapted to be engaged upon the marginal part of a railroad rail, an upright flange made integral with said block and adapted to abut against a tie, said top member having a recess therein, a nut non-rotatively secured in said recess and a bolt having threaded engagement through said nut and being adapted to engage the top surface of the rail base.

7. A device of the kind described, comprising a block having top and bottom members adapted to be engaged upon the marginal part of a railroad rail, a vertically arranged flange depending from one end of said block and adapted to abut against a tie, said top member having a boss on its top surface and a recess in its bottom surface, a nut non-rotatively secured in said recess, and a setscrew or bolt extending through said boss and having threaded engagement in said nut and being adapted to engage the top surface of the rail base.

8. A device of the kind described, comprising a block having top and bottom members adapted to be engaged upon the marginal part of a rail base, and a depending flange adapted to abut against a tie, said top member having a recess in its bottom surface and said bottom member having a plurality of ribs on its top surface, a nut non-rotatively secured in said recess, and a bolt having threaded engagement through said nut and adapted to engage the rail base.

9. A device of the kind described, comprising a block having top and bottom members adapted to be engaged upon the marginal part of a rail base, and a depending flange adapted to abut against a tie, a tie entering lug on said flange, said top member having a recess in its bottom surface, a nut in said recess, and a bolt threaded through said nut and adapted to engage the top surface of the rail base.

10. A device of the kind described, comprising a block having top and bottom members adapted for engagement with one edge of the base of a rail, said block including means for attachment to a tie, and a set-screw or bolt threaded through one of said block members and adapted to engage said rail base.

11. A device of the kind described, comprising a block having top and bottom members adapted for engagement with the edge of a rail base, said block including a depending flange adapted to engage with a tie, means on said flange for securing said block to said tie, and means associated with said top member for preventing movement of the rail relative to said block.

12. A device of the kind described, comprising a block having top and bottom members adapted for engagement upon the edge of a rail base, said block including a depending flange adapted to engage with a tie, a tie entering lug on said flange, said top member having a recess in its bottom surface, a nut non-rotatively secured in said recess, and a set screw or bolt associated with said nut and adapted to prevent movement of the rail relative to said block.

13. A device of the kind described, comprising a block having top and bottom members adapted for engagement upon the edge of the base of a rail, said bottom member being of a width less than that of said rail base, and means associated with one of said members for locking said block to said rail.

14. A device of the kind described, comprising a block having top and bottom members adapted for engagement upon the edge of the base of a rail, and having a depending flange at one end to engage with a tie, said bottom member being of a width less than that of said rail base, and means associated with one of said members for locking said block to said rail base.

15. A device of the kind described, comprising a block having top and bottom members adapted for engagement upon the edge of the base of a rail, a depending flange on one end of the block, adapted to abut against a tie, a tie entering lug on said flange, said bottom member being of a width less than that of the rail base, and means associated with the top member to lock said block to said rail base.

16. A device of the kind described, comprising a block having top and bottom members adapted for engagement upon the edge of the base of a rail, a depending flange at one end of said block adapted to abut against a tie, said top member being greater in width than said bottom member, and

means associated with said top member for locking said block to the rail base.

17. A device of the kind described, comprising a block having top and bottom members adapted for engagement upon the edge of the base of a rail, a depending flange at one end of said block adapted to abut against a tie, said top member being greater in width than said bottom member, and a setscrew or bolt associated with said top member for locking said block to said rail base.

18. A device of the kind described, comprising a block having top and bottom members adapted for engagement upon the edge of the base of a rail, a depending flange at one end of said block adapted to abut against a tie, said top member being greater in width than said bottom member and having a recess in its bottom surface, a nut secured in said recess, and a bolt extending through said top member and having threaded engagement with the nut to lock said block to said rail base.

19. A block for a device of the kind described, comprising an inclined top member and a horizontally disposed bottom member integrally connected together along one edge, a vertically arranged flange depending from one end of said bottom member, a brace web connecting said flange with said bottom member, said top member being greater in width than said bottom member, and having an apertured boss on its top surface and a rectangular recess in its bottom surface, the aperture in said boss opening into said recess.

20. A device of the kind described, comprising a block having a tie engaging member at one end and having top and bottom members adapted for engagement upon one edge of the base of a rail, said bottom member being of a width less than that of said rail base, and means for locking said block to said rail base.

21. In combination with a railway tie and a rail resting thereon, a block adapted to engage said tie and having top and bottom members adapted for engagement upon an edge of the base of said rail, said bottom member being of a width less than that of said rail base, and means for locking the block to the base of said rail.

In testimony that I claim the foregoing as my invention I affix my signature, in the presence of two witnesses, this 18th day of August, A. D. 1917.

TORRIS H. ALFREDS.

Witnesses:
KARL W. DOLL,
D. DARRENOUGUE.