Oct. 7, 1930. G. L. MOORE ET AL 1,777,991

RAIL ANCHOR

Filed Feb. 6, 1929

Fig. 1.

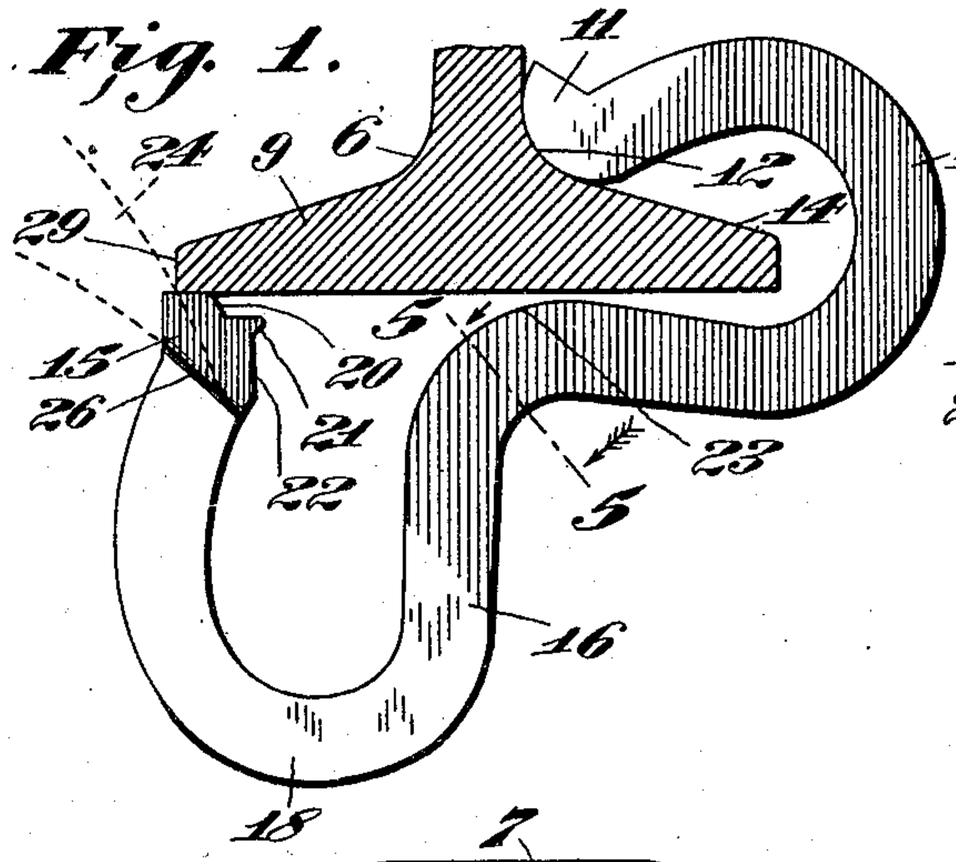


Fig. 2.

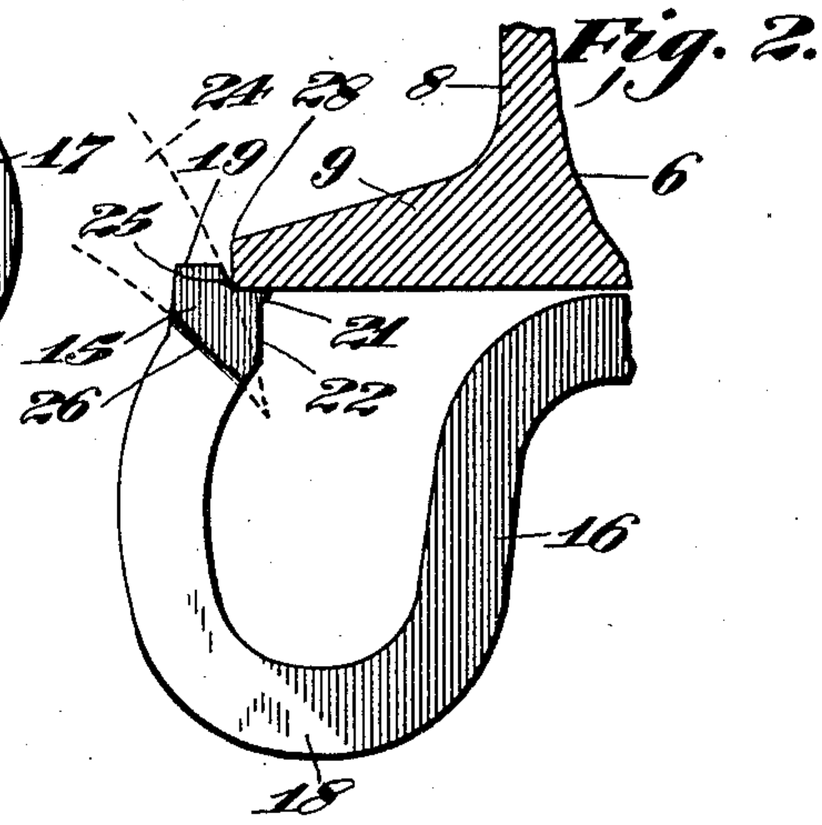


Fig. 3.

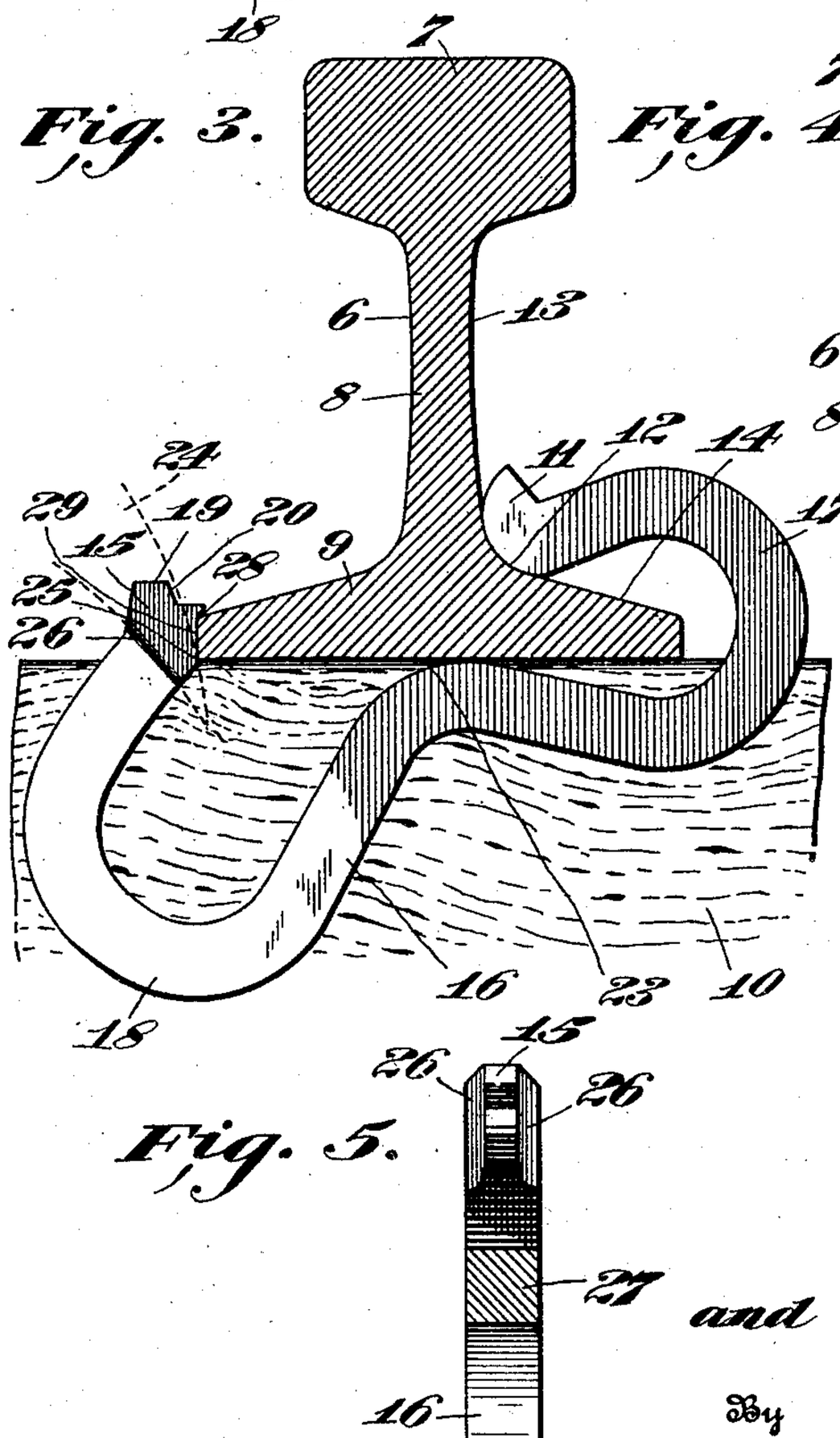


Fig. 4.

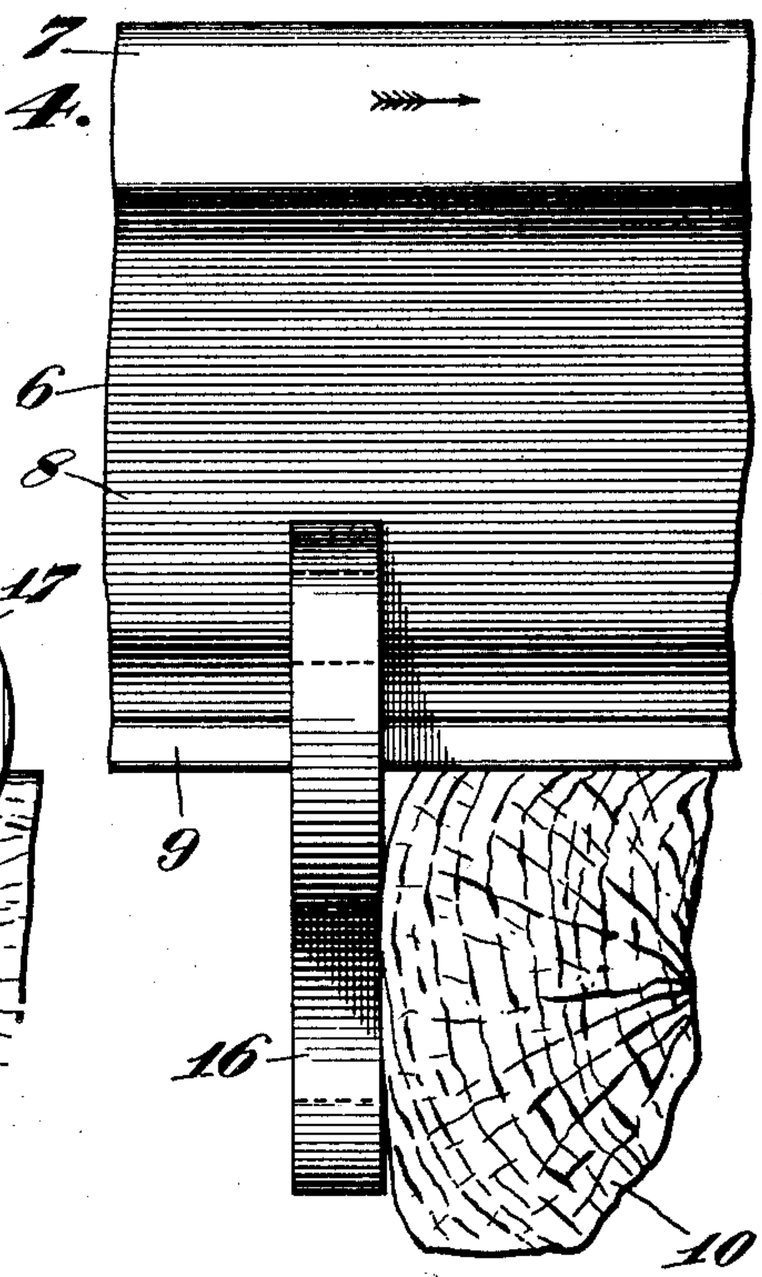
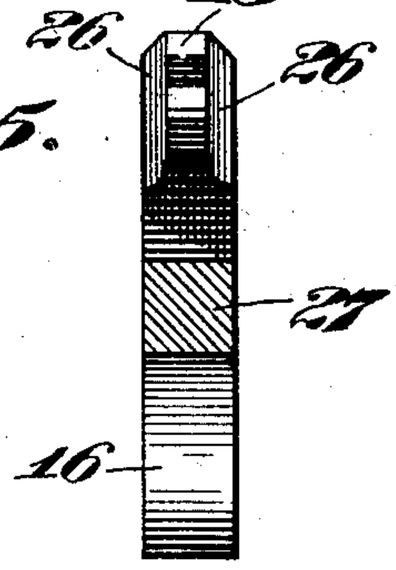


Fig. 5.



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UNITED STATES PATENT OFFICE

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RAIL ANCHOR

Application filed February 6, 1929. Serial No. 337,863.

This invention relates to rail anchoring devices, adapted to prevent the longitudinal creep of railroad rails, and particularly to that type of anchor which is applied to the rail by means of a claw bar.

An object of this invention is to provide a device of this type which will be simple in construction, inexpensive to manufacture, light in weight, and capable of taking a firm hold on the rail.

Another object is to provide a device whose grip upon the rail will not be affected by vibration and likely to lose its gripping action.

A further object is to provide a device constructed on one piece, which may be quickly and conveniently applied to the rail by unskilled labor.

The novel features will be more fully understood from the following description and claims taken with the drawings, in which:

Fig. 1 is an elevation, with a rail base in section, showing the anchor in its initial position on the rail;

Fig. 2 is a view similar to Fig. 1 with the anchor in its intermediate assembled position;

Fig. 3 is an elevation showing the anchor in its final and operative position on the rail;

Fig. 4 is an end view of the anchor when assembled on the rail and its position relative to a cross tie; and,

Fig. 5 is a cross section taken on line 5—5 of Fig. 1.

The rail 6 is of the usual construction with a head 7, web 8, and base 9, and rests upon cross ties 10.

The rail anchor is constructed with a portion 11 adapted to engage the fillet 12 which is tangent to the outside line 13 of the web and the top of the base 14 at one side of the rail, a portion 15 adapted to engage the edge of the rail base at the other side, and a resilient body portion 16 adapted to engage the bottom of the rail base when in operative position. The end portions 11 and 15 are connected to the body portion 16 by hook shaped members 17 and 18 respectively. The portions 16, 17 and 18 serve as a means of engagement of the anchor with the cross tie 10.

The end portion 15 is constructed with a flat top portion 19, a beveled portion 20, a projecting lip 21, and a flat side portion 22 for purposes of assembling and to secure the anchor in its operative position.

The several portions of the anchor are so constructed and related that when placed on a rail in the position as shown in Fig. 1 the end portion 11 will rest in the fillet 12 of the rail, the portion 19 of the opposite end will abut the bottom of the rail base, the portion 16 intermediate the ends will be in spaced relation to the bottom of the rail, and the hooked end 17 free of the rail. It will be noted that in this unstressed position, before application to the rail, the end 15 is nearer to the end 11 than after 15 has been brought to its final gripping position on the rail as shown in Fig. 3. To apply the anchor to the rail a claw bar 24 of suitable type is introduced between the edge 25 of the rail base and the inclined surfaces 26 of the end 15. The portion 15 is made of less width than the normal section 27 of the anchor to accommodate the claw ends of the bar 24. With the point 25 of the rail acting as a fulcrum the bar is moved in the direction of the rail and the anchor is caused to assume the position as shown in Fig. 2, with the edge 25 of the rail bearing against the beveled portion 20 of the anchor. This beveled portion 20 is inclined so as to prevent the anchor from slipping from this position. With the anchor as shown in Fig. 2, the bar 24 is pushed farther into the space between the edge 25 of the rail and the inclined surfaces 26 of the anchor and the bar 24 again moved in the direction of the rail which causes the lip 21 to be forced outwardly and upwardly over the top edge 28 of the rail base. In this final position, as shown in Fig. 3 the distance between the ends 11 and 15 has been further increased which flexes the several members of the anchor to cause it to firmly grip the rail between the fillet 12 and the outside edge 29 of the rail base. The lip 21 prevents the anchor from slipping off due to vibration or other causes.

The direction in which the rail 6 tends to creep is indicated by the arrow in Fig. 4. Contact of the body portion 16 of the anchor

with the cross tie 10 prevents forward movement of the anchor and its grip upon the rail thus holds the rail and prevents its creeping movement. Engagement of the body portion 16 with the cross tie 10 will generally be at some distance below the bottom of the base 9 of the rail so that any tendency of the rail to move forward will tend to tilt the anchor and thus increase its grip upon the rail. Also, contact of the body portion 16 with the base of the rail at point 23 serves as a stop to limit the upward movement of the end 15 when being applied to the rail.

It will be readily seen that after the anchor has been forced to its final gripping position on the rail, as shown in Fig. 3, the portion 11 will be firmly pressed against the fillet 12 and the portion 15 against the edge 29 of the rail base. The rail is thus firmly gripped by the anchor and the lip 21 prevents its dislocation. Contact of the body portion 16 with the cross tie 10 prevents movement of the anchor in the direction of the cross tie and its grip upon the rail thus holds the rail and prevents its creeping movement.

If it is desired to remove the anchor from the rail, the operation is just the reverse from that of applying it, that is, the claw bar is positioned as shown in Fig. 3 and moved in a direction away from the rail which causes the anchor to assume the position as shown in Fig. 2. The bar is again moved in the same direction and the anchor is freed from the rail as shown in Fig. 1. The anchor in this position having assumed its initial or unsprung condition may be removed from the rail by hand.

It will be obvious that a rail anchor embodying our invention may be easily and cheaply fashioned from a rolled bar of suitable metal; that it may be applied with ease by unskilled labor; and that, while effectually locked in position so as to prevent accidental displacement or loosening upon the rail, it may be easily and rapidly removed from the rail in a condition suitable for reuse.

While we have shown our invention in one form, it will be obvious to those skilled in the art that it is not so limited, but is susceptible of various other changes and modifications without departing from the spirit thereof, and we desire, therefore, that only such limitations shall be placed thereupon as are imposed by the prior art, or as are specifically set forth in the appended claims.

It will be easily seen that our anchor can be sprung from its position shown in Fig. 1 to that shown in Fig. 2 by striking the outside of the loop 17 with a sharp hammer blow then the anchor can be brought to its final position by means of the claw, as described above.

Having thus described our invention, what we claim and desire to secure by Letters Patent is:

1. A rail anchor comprising an under-rail portion which is looped downwardly, a rail flange overhanging portion adapted to engage the rail at one side in proximity to the junction between the web and flange of the rail, and a portion adapted to engage the edge of the flange at the opposite side of the rail, the last mentioned portion being provided with an abutment adapted for engagement with an anchor applying tool.

2. A rail anchor comprising a downwardly looped under-rail portion, a rail flange overhanging portion adapted to engage the web at one side of the rail, and a portion adapted to engage the edge of the flange at the other side of the rail and having a projecting member adapted to extend upwardly over said edge, the last mentioned portion being adapted to be engaged by an applying tool.

3. A rail anchor comprising a downwardly looped under-rail portion, a rail flange overhanging portion adapted to engage the web at one side of the rail, and a portion adapted to engage the edge of the flange at the opposite side of the rail and also overhang the flange at the latter side of the rail whereby when the anchor is sprung from its normal condition during its application to a rail a strong gripping pressure is exerted upwardly against the bottom of the rail and also in the direction of a plane passing through said edge of the rail and the region of the rail at the junction of the flange with the web at the other side of the rail.

4. A rail anchor comprising an under-rail portion, a rail flange overhanging portion adapted to engage one side of a rail, a portion having a surface adapted to engage the edge of the base flange at the other side of the rail, and a member extending inwardly from said surface over said base flange, the distance between the free end of said overhanging portion and said surface being less than the shortest distance between the web at one side of the rail to which the anchor is to be applied and the edge of the base flange at the other side of said rail, the last mentioned portion being adapted to be engaged by an applying tool.

5. A rail anchor comprising a resilient body including end portions adapted to engage the fillet adjoining the web and the base of the rail at one side and the edge of the rail base at the other side of the rail, and a portion adapted to be engaged by trackman's claw bar, said body being adapted to be sprung so as to cause a strong gripping action between said ends when one of said ends is forced outwardly and upwardly over the edge of the rail base by means of said claw bar being fulcrumed about said edge.

6. A rail anchor comprising a resilient body including end portions adapted to engage and grip only the fillet adjoining the

web and the base of the rail at one side and the edge of the rail base at the other side of the rail when one of said ends is sprung outwardly and upwardly over the edge of the rail base, said body being adapted to abut the base of the rail to limit the upward movement of said end.

7. A rail anchor comprising a body adapted to bear against a cross tie, an end portion adapted to engage and grip only the fillet adjoining the web and the base of the rail at one side, a second end portion adapted to engage and grip the edge of the rail base at the other side of the rail, and means adapted to prevent the displacement of said second end from its operative position when mounted upon a rail.

8. A rail anchor comprising a resilient body adapted to bear against a cross tie and the bottom of a rail, and end portions adapted to engage and grip the fillet adjoining the web and the base of the rail at one side and the edge of the rail base at the other side of the rail, whereby the gripping action of the anchor will be increased upon the forward movement of the rail relative to the cross tie.

9. In a rail anchor, a single piece rail gripping member comprising a resilient bar extending beneath the rail base and adapted to abut the bottom of said base and having one hooked end comprising an upwardly and inwardly extending portion adapted to bear solely against the fillet adjoining the web and the base of the rail at one side, a second end being upturned and adapted to engage the edge of the rail base at the other side of the rail, and means to prevent the displacement of said second end from its operative position when mounted upon a rail.

10. In a rail anchor, a single piece rail gripping member comprising a resilient bar extending beneath the rail base and adapted to abut the bottom of said base, and end portions adapted to engage and grip the fillet adjoining the web and the base of the rail at one side and the edge of the rail base at the other side of the rail, one of said ends being adapted to be engaged by an applying tool.

11. In a single piece rail anchor comprising a resilient body portion and end members adapted to engage and grip the fillet adjoining the web and the base of the rail at one side and the edge of the rail base at the other side of the rail, the end of one of said ends being of less width than the body portion and provided with surfaces adapted to be engaged by an applying tool.

12. A rail anchor comprising a resilient body portion and end members adapted to engage and grip the fillet adjoining the web and the base of the rail at one side and the edge of the rail base at the other side of the rail, the end of one of said ends being of less width than the body portion and provided with surfaces adapted to be engaged by an applying tool and a projection on said end adapted to prevent its displacement when in operative position on the rail.

13. In a rail anchor comprising a body portion, an end member adapted to engage the fillet adjoining the web and the base of a rail at one side, a second end portion adapted to engage the edge of the rail base at the other side of the rail, said second end having a top portion of less width than the body portion, a beveled portion extending downwardly from said top portion, a lower flat portion extending inwardly from said beveled portion, and a lip portion forming an extension of said lower flat portion.

14. In a rail anchor comprising a body portion, an end portion adapted to engage the fillet adjoining the web and the base of a rail, a second end portion adapted to engage the edge of the rail base at the other side of the rail, said second end having projections in spaced relation to the top of said second end and forming abutments adapted to be engaged by the forked end of a claw bar.

15. In a rail anchor comprising a body portion, an end portion adapted to engage the fillet adjoining the web and the base of a rail, a second end portion adapted to engage the edge of the rail base at the other side of the rail, said second end having projections in spaced relation to the top of said second end and forming abutments adapted to be engaged by the forked end of a claw bar, said projections being in spaced relation to the lower edge of the rail base when the anchor is applied to a rail.

16. In a rail anchor comprising a body portion, an end portion adapted to engage the fillet adjoining the web and the base of a rail, a second end portion adapted to engage the edge of the rail base at the other side of the rail, said second end having a flat top portion, a rail base edge engaging portion, a projecting portion extending inwardly from said rail base engaging portion and abutments adapted to be engaged by an applying tool.

In testimony whereof we hereunto affix our signatures.

GEORGE LOOP MOORE.
JAMES ROBERT STEELE.