May 25, 1937. A. F. FIFIELD 2,081,621

RAIL ANCHOR

Filed July 31, 1934

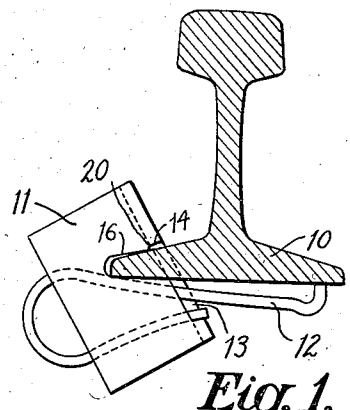


Fig. 1.

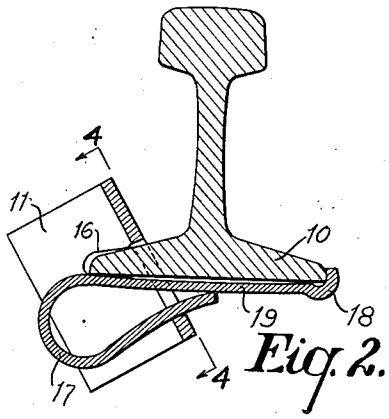


Fig. 2.

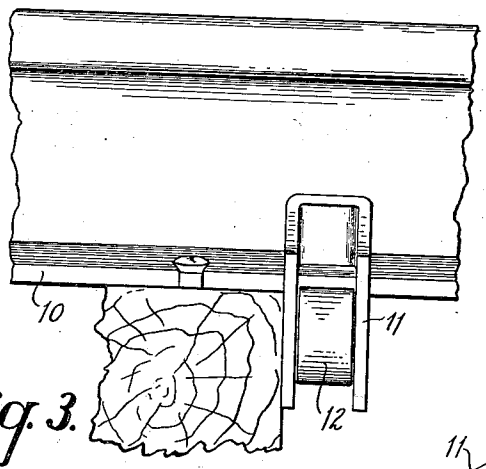


Fig. 3.

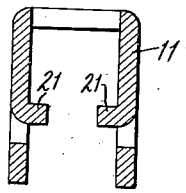


Fig. 6.

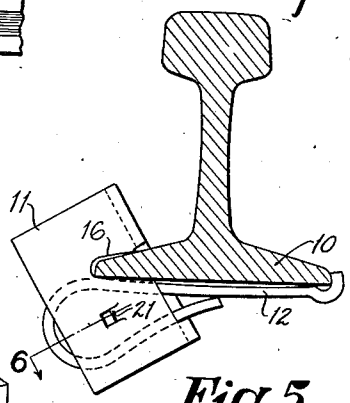


Fig. 5.

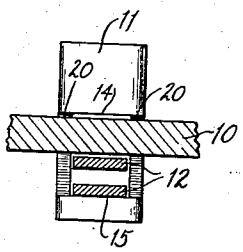


Fig. 4.

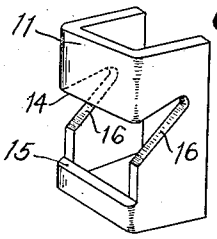


Fig. 7.

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RAIL ANCHOR

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Application July 31, 1934, Serial No. 737,796

2 Claims. (Cl. 238—329)

My invention relates to rail anchoring devices of the general type adapted to grip the base portion of a railroad rail which when applied to the rail will maintain its grip thereon by reason of a relatively rigid part of the anchor having a tight frictional grip on the rail base, and the spring pressure exerted against the rail base by part of the anchor device.

The primary object of my invention is to provide an improved rail anchor which will be easy to apply, reliable in operation, and inexpensive to manufacture.

Another object of my invention is to provide an improved two-piece rail anchor, the parts of which are susceptible of manufacture by rolling and shearing operations.

A further object of my invention is to provide an improvel rail anchor formed of two pieces and adapted to be movably interlocked at the point of manufacture to prevent separation during shipment, handling and application to the rail.

Other objects of my invention and the invention itself will become increasingly apparent from a consideration of the following description and drawing, wherein:

Fig. 1 is a view taken transversely of a rail showing a preferred embodiment of my invention being applied to a rail;

Fig. 2 is a transverse sectional view generally similar to Fig. 1 showing the embodiment of Fig. 1 applied to the rail;

Fig. 3 is an elevational view showing the rail anchor of Figs. 1 and 2 applied to the rail and abutting a cross side;

Fig. 4 is a section taken along the lines 4—4 of Fig. 2;

Fig. 5 is a transverse view of a rail showing a modification of my invention applied thereto;

Fig. 6 is a section taken along the line 6—6 of Fig. 5 with the retaining clip omitted; and,

Fig. 7 is a perspective view of the rail gripping member illustrated in Figs. 1 to 4.

Referring now to the drawing, I have illustrated generally at 10 the base flange of a conventional rail and at 11 a generally U-shaped rail flange gripping member having a retaining clip 12 projected through a perforation indicated at 13 provided in the web portion of member 11.

As best illustrated in Fig. 7, the rail gripping member 11 has a portion of the web cut away to provide generally horizontally aligned upper and lower edges indicated at 14 and 15, respectively, the upper edge 14 being preferably beveled as indicated in Figs. 1, 2 and 5 to effect a biting action on the upper face of the rail base flange. Generally V-shaped aligned notches 16—16 conforming generally to the contour of the outer portion of the rail base flange are provided in the legs of the gripping member 11, the notches initiating at the upper edge 14, then inclining upwardly and terminating at a point spaced upwardly from lower edge 15 to provide a space intermediate the base of the rail when in applied position and the edge 15 through which the ends of the retaining member 12 may be projected.

As illustrated in Figs. 1, 2 and 5, the notches 16 in the legs of member 11 incline generally upwardly whereby the rail gripping member 11 will be inclined upwardly and outwardly relative to the axis of the rail to effect a maximum canting action of the rail gripping member 11 upon the rail base flange 10, as will be hereinafter described.

The retaining member or clip 12 comprises a loop portion 17, an offset hook portion 18 at the opposite end of the clip, and an intermediate arched portion 19 joining the loop and hook portion. The clip 12 is preferably of a width slightly less than the width of the perforation in the rail gripping member 11 and the thickness of clip 12 at the point of engagement with the lower edge 15 of the perforation in member 11 when the anchor is applied to the rail, is sufficient to compressively engage the edge 15 thereby maintaining the arched portion 19 of the clip under tension.

In applying the rail anchor, the notches 16 of the rail gripping member 11 engage the outer portion of the rail base flange, as indicated in Fig. 1, with one leg of the member 11 abutting a tie as illustrated in Fig. 3, the hook portion 18 and a major portion of the arch 19 of the clip being projected through the opening intermediate the base of the rail and the lower edge 15 of perforation 13 in member 11, and upon striking the loop portion 17 with a maul or the like, the hook 18 is sprung over the opposite edge of the rail base flange, locking the anchor in position. To remove the anchor from the rail, the hook portion 18 is struck with a maul and forced out of engagement with the edge of the rail base flange, allowing the anchor to be removed from the rail.

It will be noted by referring to Fig. 1 that the rail gripping member 11 has the V-shaped notches 16 formed so as to only contact the upper face of the rail base flange along the line indicated at 20, preferably extending the thickness longitudinally of the rearwardly disposed legs

of gripping member 11 and the base of the rail contacts the lower portion of the notches 16 only at the outer portion of the rail base whereby a maximum canting action is effected by the loop portion of clip 12 to maintain the gripping member 11 in frictional engagement with the rail.

Although, as best illustrated in Fig. 4, I preferably have intermediate portions of edge 14 of the member 11 spaced from the upper face of the rail flange to best insure adjustment to the flange surface, it is understood that a biting action may be effected along the entire surface of the edge 14 rather than at spaced points.

It will be noted by referring to Fig. 2 that the hook portion 18 of the clip 12 is generally U-shaped and that portion 19 joining the loop 17 and hook 18 is arched away from the rail base whereby clip 12 engages the rail base only at the outer end portion and that the loop 17 has the end thereof preferably slightly curved and engaging the arched portion 19 generally centrally of the rail base, whereby as the rail under load conditions tends to move downwardly relative to the gripping member 11, the loop portion abutting the edge 15 tends to increase the canting action of the rail gripping member 11 on the rail base flange, insuring a positive anchoring action irrespective of load conditions.

I have illustrated in Figs. 5 and 6 a modification of my invention generally similar to that previously described but wherein portions of the laterally disposed legs of rail gripping member 11 are punched inwardly as indicated at 21 to interlock the gripping member 11 and the resilient clip 12, this operation preferably being effected at the point of manufacture so that the clip 12 and the gripping member 11 do not become separated due to the relatively severe usage to which they are subjected during shipping and handling operations. This provides a relatively inexpensive method of removably interlocking the gripping member and the clip whereby the disadvantages of individually handling the clip and the gripping member are eliminated.

Both the rail griping member 11 and the clip 12 can be manufactured from plate material by rolling and shearing operations providing a relatively inexpensive anchor; and by having the U web of the gripping member 11 disposed nearest the median line of the rail, a rugged construction is effected at the point of greatest strain, and which further provides a simple and effective means of lockingly retaining the grip member 11 in applied position by the loop portion 17 of the the clip.

Although I have shown and described preferred embodiments of my invention, I contemplate that numerous and extensive departures may be made therefrom without departing from the spirit of my invention and the scope of the appended claims.

Having thus described my invention, what I claim is:—

1. In a rail anchor, a rail gripping member of generally channel form, the channel base of which has a perforation therein opening into inclined aligned notches in the channel legs which conform generally to the shape of a rail base flange edge and adapted to embrace and grip said edge, the upper side of the base perforation overlying the gripped flange and being spaced therefrom, the base perforation at its lower side terminating in a transverse edge below the rail base, a resilient locking element comprising an arm adapted to be projected through the base perforation and under the rail and terminating in a hook engageable with the opposite rail flange edge and the arm inwardly of the hook end engaging the underside of the rail base at opposite sides thereof and spaced therefrom intermediately thereof, and the locking element comprising a loop portion at the end opposite the hook disposed between the channel sides of the gripping member and having a free end resiliently engaging the said intermediate spaced portion of the arm and outwardly of the free end engaging the said transverse edge and resiliently reacting on said gripping member at said edge only to exert pull on the gripping member to urge it in edge-gripping direction irrespective of minor variations of inclination of said channel base and of said notches.

2. In a rail anchor, a rail gripping member of generally channel form, the channel base of which has a perforation therein opening into inclined aligned notches in the laterally spaced channel legs which conform generally to the shape of a rail base flange edge and adapted to embrace and grip said edge, the upper side of the base perforation overlying the gripped flange and being spaced therefrom, the base perforation at the lower side terminating in a transverse edge below the rail base, a resilient locking element comprising an arm adapted to be projected through the base perforation and under the rail and terminating in a hook engageable with the opposite rail base flange edge, and the locking element comprising a downwardly and inwardly bent loop portion at the end opposite the hook disposed between the channel sides of the gripping member and having an end portion engaging the said transverse edge and the locking element resiliently reacting on the under side of the said gripping member at said edge and on the under side of the rail base flange opposite the hook engaged flange edge to exert pull on the gripping member to urge it in edge gripping direction.

ALBERT F. FIFIELD.