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DEVICE FOR PREVENTING MOVEMENT OF RAIL
ANCHORS RELATIVE TO A CROSS TIE
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FIG. 1.

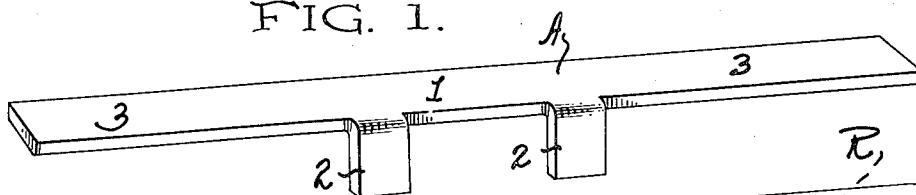


FIG. 2.

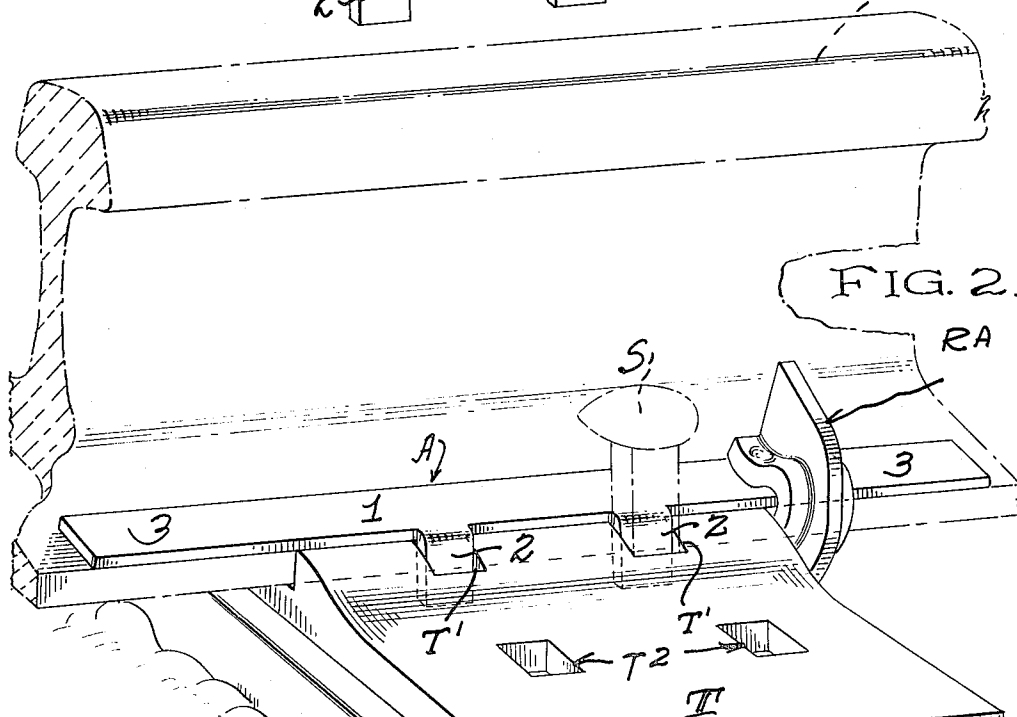


FIG. 4.

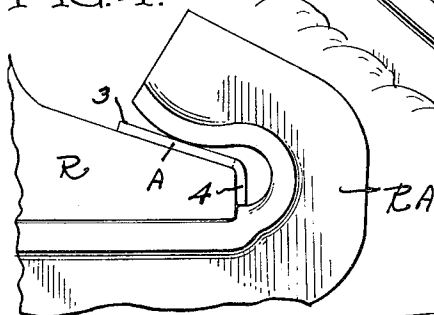


FIG. 3.

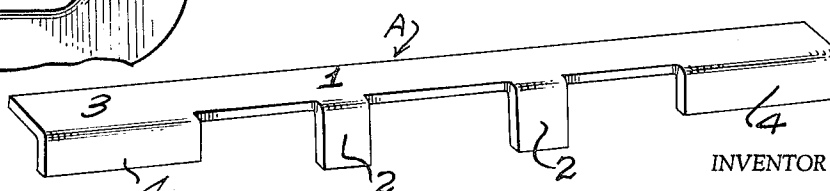
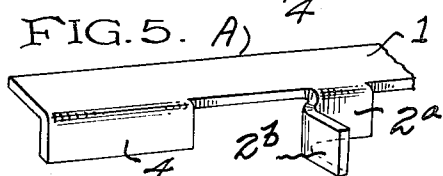


FIG. 5. A)



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DEVICE FOR PREVENTING MOVEMENT OF RAIL ANCHORS RELATIVE TO A CROSS TIE

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This invention relates to a simple and practical device for use with rail anchors applied to the base flanges of railway rails, to render a single anchor capable of securing the rail to which it is applied against two-way creeping.

Customarily, rail anchors are applied to the base flanges of railway track rails in a manner to abut against one side of a tie, or both the tie and a tie plate, in the direction of traffic. This has long been satisfactory in installations where traffic moves in one direction. However, in cases where the track carries two-way traffic, it normally becomes necessary to use two rail anchors to box the tie. That is to say, in a single track handling two-way traffic, a separate rail anchor must be secured to the rail flanges at each side of the tie so as to prevent movement of the rails in either longitudinal direction due to wave motion set up in the rails by the rolling wheel loads and the pressure imposed on the rails as a result of friction between the wheel treads and the rail heads, particularly during starting and stopping.

While it has heretofore been proposed to provide means for providing two-way rail anti-creepers, nevertheless, with a view to further economy in manufacture, handling, and simplicity in installation, the present invention has for its primary object a relatively small device which may be readily applied to the upper surface of the base flange of the rail and held thereon by the gripping force of the rail anchor itself, the said device also having means for interengaging with the gauge or line spike holes of the tie plate. It will of course be understood that in accordance with usual practice, the tie plates have outer holes for receiving spikes or equivalent fastenings to secure the plate to the tie.

Another object of the invention is to provide a device which lends itself to standard commercial practices such as stamping or other simple metal forming procedures. In that connection, the present device is in the nature of a strip including a body portion adapted to overlie the upper edge portion of either flange of the rail base, depending on whether the anchors are applied from the field side or the gauge side of the rail, and also has an end portion projecting beyond the tie and tie plate with which the rail anchor engages when it is driven on the rail so that the anchor and the body of the strip are firmly secured to the rail base. At least one edge portion of the body of the strip is provided with tie plate interengaging means such for example as offset, preferably angularly disposed fingers, certain of which may be inserted in the line spike holes before the spikes are driven, and another of which may directly engage a side of the tie plate or tie. The present device is applied by the simple act of placing it on the base flange of a previously laid rail with the fingers entering the line spike holes. Thus, these fingers also serve as shims in the holes to take up punching tolerances and also more adequately secure the spikes to line or gauge while also securing the present device in place. It will thus be seen that since the body of the strip is held against longitudinal movement when the rail anchor is applied to the rail base, and also against the extended end of the strip, the anchor itself will be held against movement in either direction and in turn prevent two-way creeping.

With the above and other objects in view which will more readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts herein-after more fully described, illustrated, and claimed.

A preferred and practical embodiment of the invention is shown in the accompanying drawing, in which:

FIG. 1 is a perspective view of a preferred form of anti-creeper device as it is manufactured for use.

FIG. 2 is a perspective view illustrating the application of the invention of FIG. 1.

FIG. 3 is a perspective view of a modified form of the invention wherein additional fingers are used at the ends and straddle opposite edges of the tie plate.

FIG. 4 is an enlarged detail side elevation of the rail anchor applied to the modification shown in FIG. 3.

FIG. 5 is a detail perspective view of a modified form of finger.

Similar reference characters designate corresponding parts throughout the several figures of the drawings.

Referring to FIG. 1, it will be seen that the device designated generally as A includes a strip of metal of appropriate gauge including a body 1 having a plurality of angularly disposed and medially located fingers 2—2 at one edge thereof. Both ends of the body of the strip, for example the ends 3—3 as shown in the drawings, provide extensions disposed beyond the adjacent related down-turned fingers 2—2 and also beyond the tie plate and tie so that when the body overlies the base flange of the rail, the rail anchor will engage and press the related extension 3 tightly against the flange. This arrangement is universal in its application and no so-called "rights" or "lefts" are required.

As will be seen from FIG. 2, the body 1 of the device is laid over the standard railroad rail R mounted upon a tie plate T. This tie plate has line spike openings T¹ and the securing spike openings T². As usual, the latter openings receive the spikes or equivalent fastenings to secure the tie plate T to the tie in addition to the line spikes driven into the openings T¹ for holding the rails to gauge. The fingers 2—2 are long enough to extend substantially in contact with the tie.

When the device is laid on the outer edge portion of the base of the rail, the fingers 2—2 enter the line spike holes T¹ while a selected extension 3 is engaged by the under side of the arcuate jaw of a rail anchor RA. These extensions are long enough to enable the anchor to be readily driven in place regardless of slight variations in the width of a tie. As usual, the under arm portion of the anchor has a locking lug which engages the opposite edge of the base flange of the rail. As previously indicated, when the anchor is applied, the body 1 is firmly secured in place and likewise the anchor RA is positioned in abutting relation with the tie plate or tie, or both.

Referring to the modification shown in FIG. 3, the opposite ends of the extensions 3—3 are provided with down-turned portions 4—4. These down-turned portions need not necessarily be as long as the pair of intermediate tongues 2—2, but their edges are intended to embrace opposite sides of the tie plate. The tongues 2—2 are longer than the down-turned portions 4 for the reason previously given. When the rail anchor RA is driven on to the modified structure of FIG. 3, the down-turned portions 4—4 will lie in the right portion of the jaw of the anchor as shown in FIG. 4.

The medial down-turned fingers 2—2 as shown in FIGS. 1—4 serve to partially fill or shim the line spike openings T¹—T¹, but, in order to make them snugly fit the full cross-sectional area of the line spikes, they may be modified as shown in FIG. 5. That is to say the fingers 2a may be provided with right angular portions

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2b which will engage the side of the line spike opening opposite that engaged by the down-turned finger 2a.

When the line spikes S are driven in the openings T¹, the body 1 is further locked against movement in a longitudinal direction relative to the rail, while the fingers 2 and 2 or 2a—2a serve as shims to take up the usual play in the line spike openings. It will thus of course be understood that the heads of the spikes S engage the top surface of the body 1.

Assuming that traffic is moving toward the left of the illustration shown in FIG. 2, it will be understood that the rail anchor is in abutting engagement with the tie or tie plate, or both. In the event that traffic moves in the opposite direction, that is, to the right looking at FIG. 2, since the body 1 and extension 3 are firmly secured to the rail, and in effect become a part of the rail through the extension, the rail anchor will not move away from the tie or tie plate.

Thus, the present invention effectively provides a simple and practical form of two-way anti-creeping device.

It will now be seen that the present device provides a unique accessory for preventing two-way anti-creeping of a single anchor, and which may be readily made in large quantities and stocked for use. Moreover, the device lends itself to ready bundling for shipment to the point of installation. When it reaches the site of use, it can be easily and quickly installed with the minimum expenditure of time and labor.

I claim:

1. As an article of manufacture, a two-way anti-creeper unit for use with rail anchors applied to the base flange of a rail and a tie plate having line spike holes and disposed on a tie,

comprising a flat strip-like body having an upper surface co-planar from end to end and adapted to be held to the upper side of said flange against longitudinal slippage in either direction solely by the clamping effect of the spring jaw of the applied rail anchor,

said body including a plurality of integral fingers located medially of the body and depending angularly from the outer side edge thereof, to enter related line spike holes,

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said body having extensions projecting from opposite ends thereof to be clear of the tie plate and tie to provide opposite exposed portions accessible from either side of the tie or tie plate to enable the spring jaw of said rail anchor to hold the said body to the rail flange with a force equal to the magnitude of the clamping force of the rail anchor relative to the rail.

2. An article of manufacture according to claim 1, wherein the extensions of said flat strip-like body have down-turned end portions.

3. As an article of manufacture, a two-way anti-creeper unit for use with rail anchors applied to the base flange of a rail and a tie plate, having line spike holes and disposed on a tie, comprising a flat strip-like body, having an upper surface generally co-planar from end to end and adapted to be held to the upper side of said flange against longitudinal slippage in either direction solely by the clamping effect of the spring jaw of the applied rail anchor, said body including at least one integral finger depending angularly from the body to enter a related line spike hole, said body having at least one extension projecting from an end thereof a distance sufficient to be clear of the tie plate and tie, to provide an exposed portion accessible from the side of the tie and tie-plate to enable the spring jaw and the rail anchor to hold the strip-like body to the rail flange with a force equal to the magnitude of the clamping force of the rail anchor relative to the rail, the wedging effected from the clamping force of the rail anchor being the sole force clamping the body to the rail flange.

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