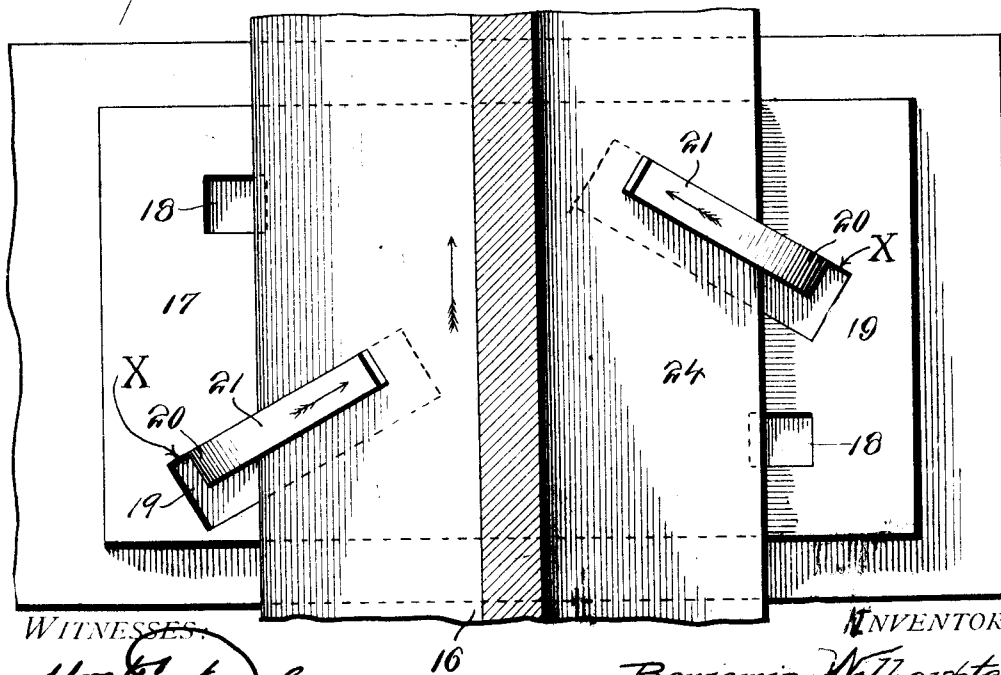


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5 SHEETS—SHEET 1.



~~WITNESSES:~~

Wm. H. Coff.

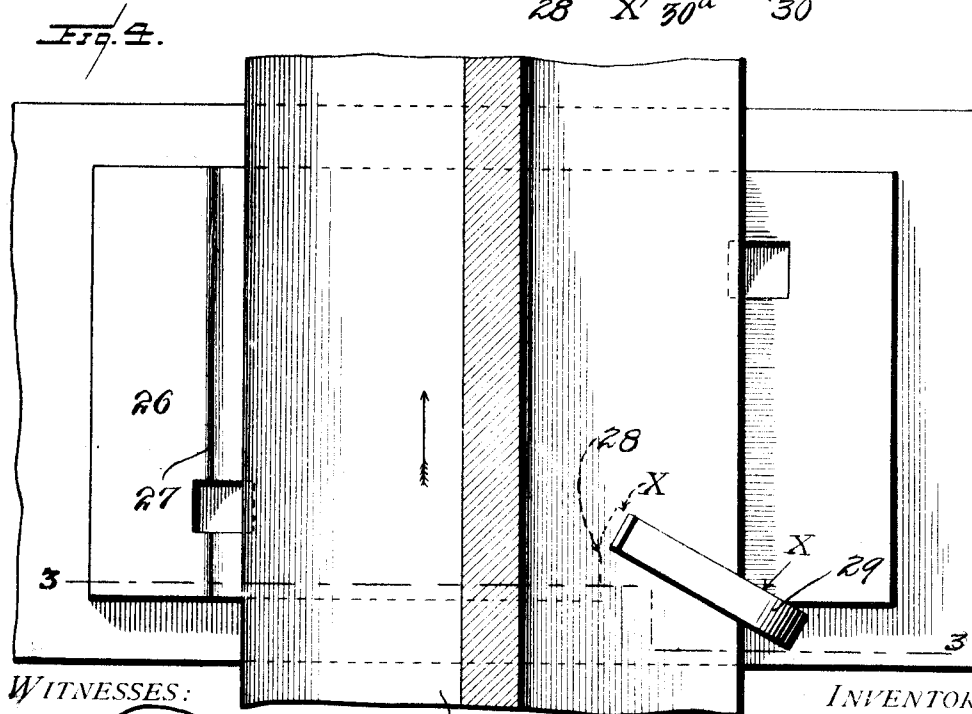
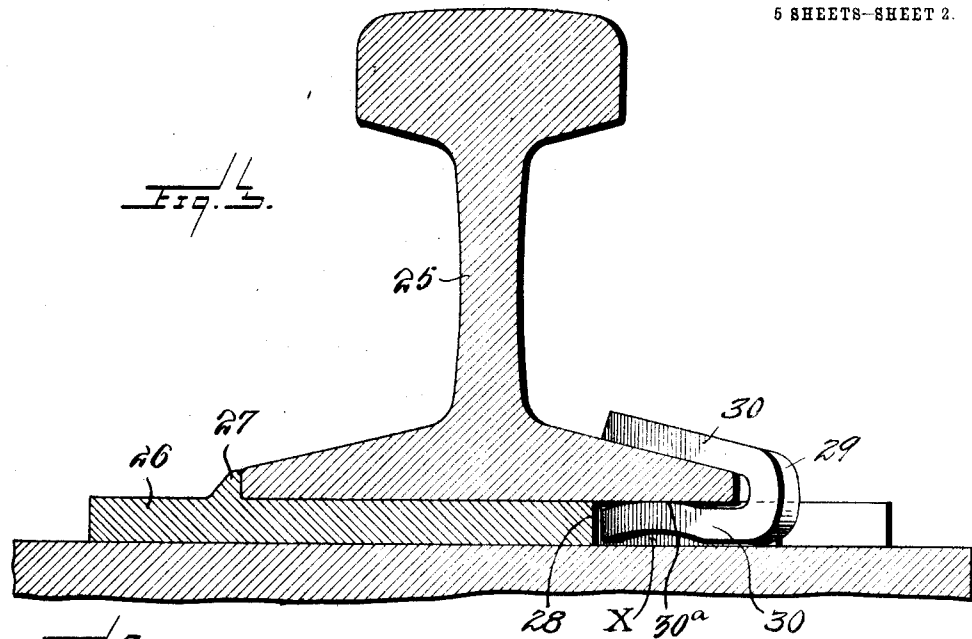
 Bv

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 APPLICATION FILED JAN. 25, 1910.

1,058,127.

Patented Apr. 8, 1913
 5 SHEETS-SHEET 2.



WITNESSES:

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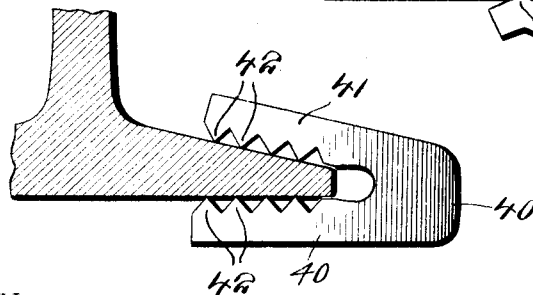
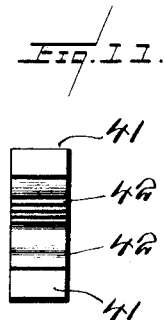
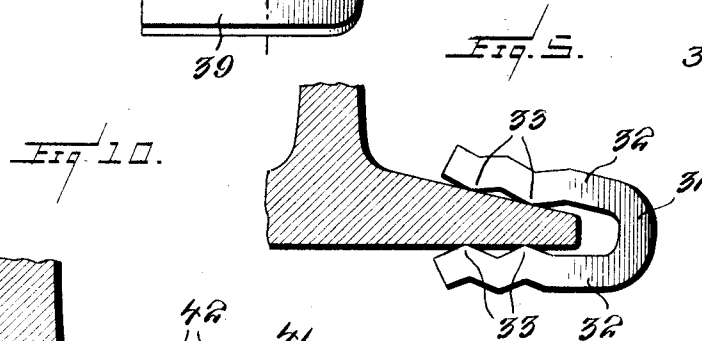
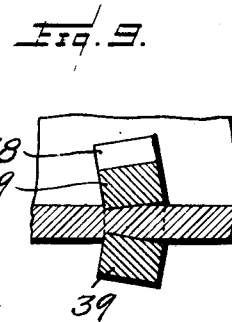
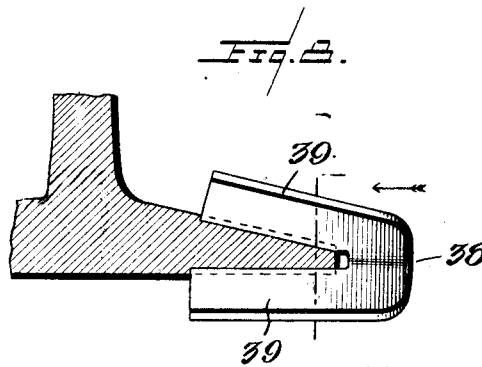
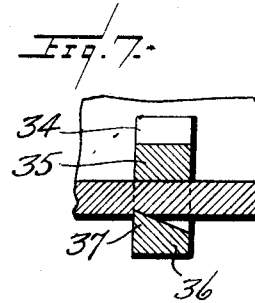
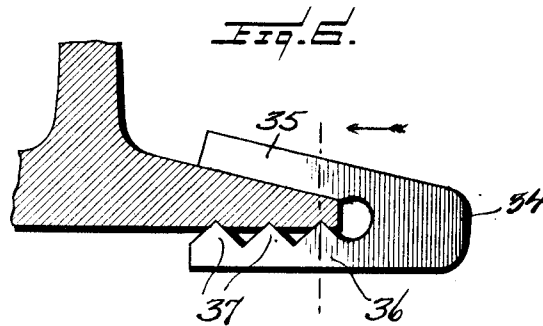
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1,058,127.

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5 SHEETS-SHEET 3.



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Patented Apr. 8, 1913.

5 SHEETS-SHEET 4.

1,058,127.

Fig. 12.

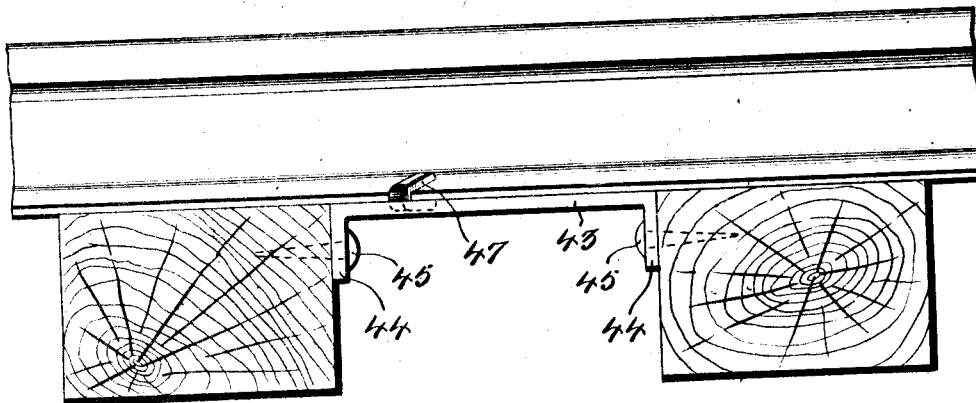
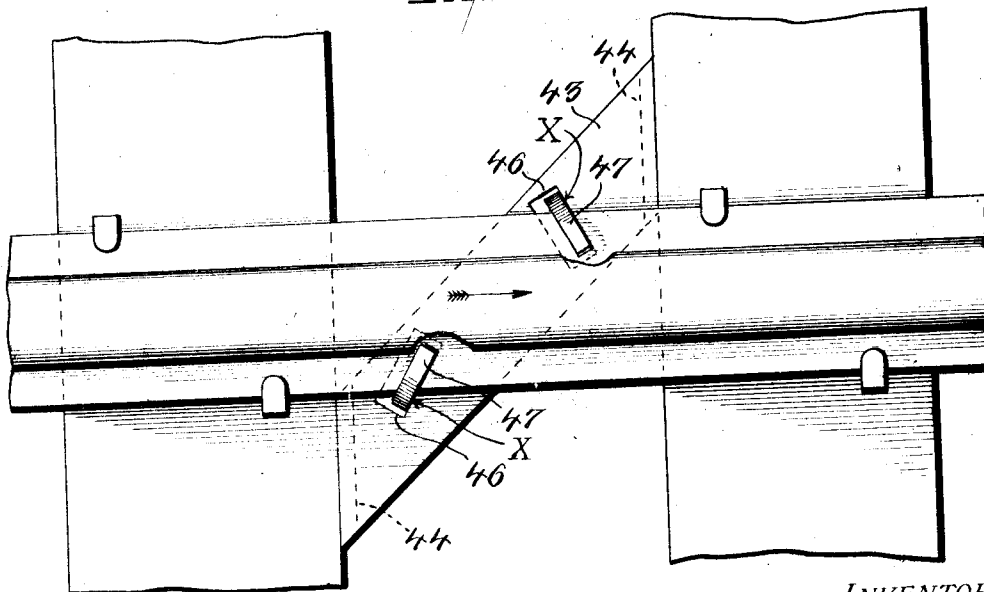


Fig. 13.



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APPLICATION FILED JAN. 25, 1916.

1,058,127.

Patented Apr. 8, 1913

5 SHEETS—SHEET 5.

Fig. 15.

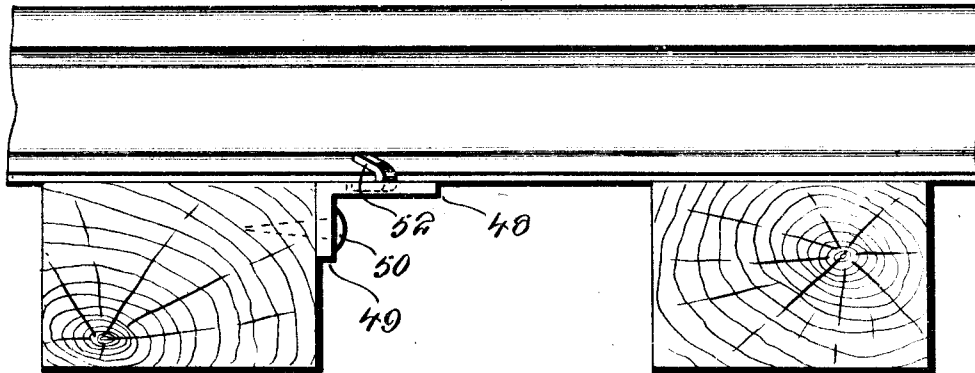
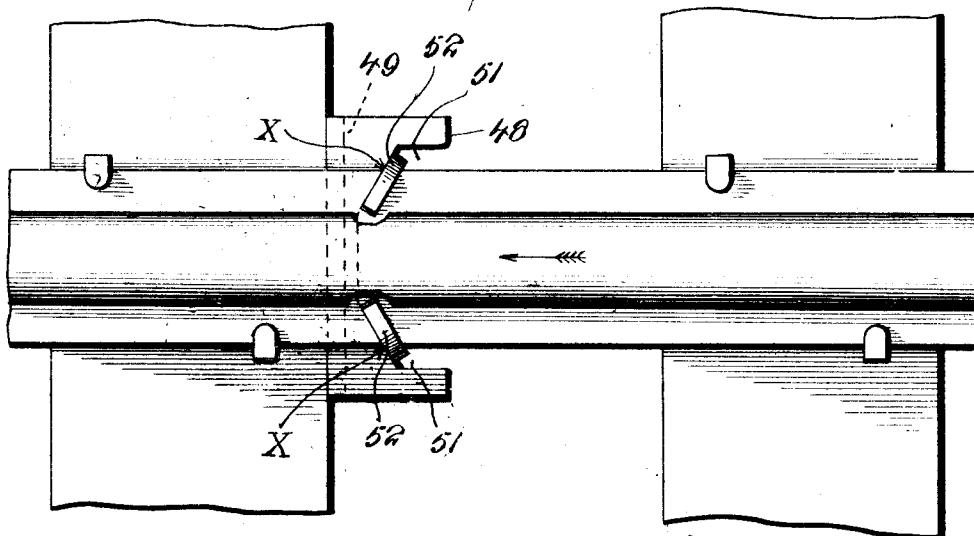


Fig. 14.



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UNITED STATES PATENT OFFICE.

BENJAMIN WOLHAUPTER, OF NEW YORK, N. Y.

ANTICREEPING DEVICE.

1,058,127.

Specification of Letters Patent.

Patented Apr. 8, 1913.

Application filed January 25, 1910. Serial No. 539,970.

To all whom it may concern:

Be it known that I, BENJAMIN WOLHAUPTER, a citizen of the United States, residing at New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Anticreeeping Devices, of which the following is a specification.

The present invention relates to rail anchors or means for preventing the longitudinal creeping of railway rails, and the primary object is to produce a device that is not only effective for the purpose, but is simple and inexpensive, inasmuch as the parts are small and can be cheaply produced, and may also be employed with structures or elements already used for other purposes.

A further and practical object of the present invention is to construct an anticreeeping device wherein provision is made to accommodate the rail-engaging or rail-gripping means to the expansion and contraction of the rails, so as to obviate the loosening of the rail-engaging or rail-gripping elements from this cause, thus providing a construction of anti-creeper which remains operative and effective at all times.

In order to quite fully indicate the scope of the invention, a plurality of embodiments are herein disclosed, and it will be obvious from an inspection of the claims that said invention is not limited solely to the forms of construction illustrated.

In the drawings: Figure 1 is a sectional view through a rail and a tie plate showing the novel anti-creeeping means. Fig. 2 is a horizontal sectional view through the rail, illustrating the anti-creeeping means and tie plate in top plan. Fig. 3 is a view similar to Fig. 1, but showing a modified form of construction, this figure of the drawings being a sectional view on the line 3—3 of Fig. 4. Fig. 4 is a top plan view of the form of the invention shown in Fig. 3 of the drawings. Fig. 5 is a detail view, illustrating a modified form of clip. Figs. 6 to 11 inclusive are respectively side elevations and projected end views of other forms of clips that may be employed. Fig. 12 is a side elevation showing a different form of holding member for the clips. Fig. 13 is a plan view of the structure illustrated in Fig. 12. Fig. 14 is a plan view of still another modification of holding member for the clips. Fig. 15 is a side elevation of the same.

Similar reference numerals designate cor-

responding parts in all the figures of the drawings.

In all embodiments of the invention it is the intention to provide a rail-gripping member, preferably in the form of a rail-flange-embracing clip, which is so constructed as to firmly and rigidly bind or bite against the flange or rail, especially upon a tendency of the latter to creep in a longitudinal direction. And to secure the most effective and practical gripping action for said rail gripping members or clips, the various forms of construction all involve the feature of the individual gripping member or clip having a binding or biting engagement with the bottom side or lower face of the rail flange. This is regarded as a necessary and practical feature of the invention whether provision is or is not made for a definite biting or locking engagement of the gripping member or clip with the upper side of the rail flange. Furthermore, in carrying out the invention due allowance and consideration is made for the contraction and expansion of the rails, in order that the anti-creeeping device may remain operative and effective under all conditions. As well-known to railway engineers, the theoretical contention is that the rails should be immovably fixed at their centers midway between their ends, and the ends allowed to contract and expand, while, as a matter of fact, in actual practice it often happens that when the rails contract upon chilling at night or in cold weather, long sections of the rails will hold together and the extreme ends of such section will move to a considerable extent, so it is the intention with all forms of the device to provide for contraction and expansion of the rails, thus safeguarding the rail-gripping member or clips against loosening.

A simple and basic embodiment of the invention is disclosed in Figs. 1 and 2 of the drawings, and though this embodiment illustrates a flat engagement of the rail clips with both the upper and lower faces of the rail flanges it will, of course, be understood that this form of the invention is intended to include the feature of the clips having a definite binding or biting engagement with the lower face or side of the rail flange. Referring particularly to this embodiment of the invention, as shown in Figs. 1 and 2 of the drawings, the number 16 designates the rail seated on a tie plate 17,

which can be fastened to the tie in the usual manner by spikes driven through openings 18 formed in the said plate. According to the present invention the plate is constructed with diagonal abutments X. These may be provided, as shown in Figs. 1 and 2, by forming in the plate a pair of inwardly convergent elongated slots 19 that are arranged at diagonally opposite points in the plate and are disposed diagonally to the rail 16, one wall or side of said slots forming the abutments X referred to. Said slots 19 receive the gripping members in the form of rigid rail-flange-embracing clips 20, which are preferably constructed of a single piece of hardened steel bent to U-form, and thus producing upper and lower jaws 21 and 22. The jaws 21 and 22 are divergently disposed and form between them a tapered flange-receiving socket 23, so arranged that said jaws will bind against or grip the upper and lower faces of the flange 24 of the rail, the connecting portion between the jaws being spaced from the flange in order to provide the necessary clearance and adjustment for the clip to adapt itself to the rail flange when driven thereon.

In use the clips are driven onto the opposite flanges of the rail, and are disposed in oblique or diagonal directions, with their inner ends pointing in the direction in which the rail tends to move when creeping. The slots 19 are punched or otherwise cut in the tie plate to correspond to the direction of the clips, and are longer than said clips to allow for movement of the latter, and it will be observed that the said slots 19 are also sufficiently wide to take care of even the theoretical or practical conditions referred to in connection with the expansion and contraction of the rails.

The action of the structure is as follows: As the rail 16 tends to move in the direction of the arrow shown in Fig. 2 it will cause the clips to bear against the diagonal abutments X. Further movement of the rail forces the clips along said abutments in the direction of the arrows, thus forcibly crowding the clips farther onto the rail flange, making them more secure by powerfully binding them tighter to the rail, consequently preventing further movement of said rail.

It will, of course, be understood that the slots may be formed at different angles, as desired, and by using a clip on each side of the rail, said rail is held in alinement, as the action of one clip in its slot, tending to throw the rail laterally, is neutralized by the opposition of the other clip.

A modification of the invention is suggested in Figs. 3 and 4 of the drawings. In this embodiment, the rail 25 rests upon a tie plate 26, and has one of its flanges bearing against a stop shoulder 27 upon the tie

plate. From one edge of the tie plate a triangular or equivalent shaped piece is removed, thus providing an open reentrant notch 28, one side or edge of which presents the diagonal abutment X against which bears and slides the U-shaped rail-flange-embracing clip 29. It will be obvious that this construction involves the same mechanical action as the construction shown in Figs. 1 and 2, while at the same time permitting the rail to expand backward, and carrying the clip with it, to any extent without making the clip loose on the rail flange. The rail clip 29 shown in Figs. 3 and 4 of the drawings is constructed with a pair of jaws 30 that bear respectively against the upper and lower faces of the rail flange, and another feature of the invention suggested in this embodiment is that of having the lower jaw 30 slightly bowed to produce a single gripping point 30^a engaging against the bottom of the rail flange. In this form of the invention only one gripping device is employed inasmuch as the lateral movement of the rail under the action of said device is checked by the stop shoulder 27.

In Fig. 5 a clip 31 is disclosed having upper and lower gripping jaws 32, these jaws being crimped or corrugated to produce transverse teeth 33 that bite into the upper and lower faces of the rail flange. It will be obvious that this device is intended to be employed with a diagonal abutment, as already disclosed.

Other forms of clips that may be employed are illustrated in Figs. 6 to 11 inclusive. Thus, in Figs. 6 and 7 the clip 34 has divergent rail-embracing jaws 35 and 36, the upper one having a substantially smooth rail-engaging face, the lower one having transverse teeth 37, the sharp edges of which bite into the lower face of the rail flange. These teeth may be set at an inclination, as shown in Fig. 7. In Figs. 8 and 9, the clip 38 may be formed of a cross-sectionally square single bar of high carbon steel or other hard material bent into divergent rail-embracing jaws 39. These jaws are longitudinally twisted, so that inner sharp longitudinal edges are provided, which, as illustrated in Fig. 9, will bite into the top and bottom base flange of the rail. The clip 40, illustrated in Figs. 10 and 11, comprises flange-embracing jaws 41, both of which have transverse flange-engaging teeth 42.

That the invention is by no means limited to use in connection with a tie plate will be obvious by reference to Figs. 12 to 15 inclusive. In Figs. 12 and 13 the holding member, instead of being a tie plate, is in the form of a plate or bar 43 and extends beneath the rail between a pair of ties, and has depending terminal flanges 44, suitably fastened, as shown at 45, to the opposing faces of the ties. The bar or plate may be ar-

5 ranged diagonally beneath the rail, and has slots 46 also disposed diagonally or obliquely to said rail and presenting the diagonal abutments X. In these slots are the gripping clips 47 of the same construction and action as any of the forms of clips hereinbefore described.

10 In Figs. 14 and 15 of the drawings a slightly modified form of holding plate is shown. In this embodiment the holding plate 48 is illustrated as being secured to one tie only, the same having a depending flange 49 through which the fasteners 50 are passed. The said holding plate 48 is arranged transversely beneath the rail and is cut away from one side edge to provide a wide open recess or notch 51, at the base of which are formed the inclined or diagonal abutments X, against which the gripping clips 52 bear and slide to perform the functions hereinbefore explained. It will be observed that this modified structure is similar to the embodiment suggested in Fig. 4 of the drawings in the sense of providing an open recess or notch within which the rail-gripping clips are arranged and permit the latter to move back with the rail to any extent when the rail contracts without a loosening of the clips on the rail flanges.

30 Inasmuch as all forms of the invention include and embody the essential features of construction hereinbefore pointed out, it will be readily understood that the invention may be embodied in various other forms of construction and arrangements of parts without in any way departing from the principles or spirit of the invention. And it will be understood that various changes in the size, shape, proportion and minor details of construction may be resorted to without

sacrificing any of the advantages of the invention.

I claim:—

1. An anti-creeping device comprising a rail flange-embracing clip, and means for causing the bodily movement of said clip diagonally of and on to the rail upon the longitudinal movement of said rail to effect a gripping action between the clip and rail.

2. An anti-creeping device including a holding member having a slot, and a rail gripping member slidably mounted within the slot and automatically moving therein upon the longitudinal movement of the rail.

3. An anti-creeping device including a holding member having a diagonal slot, and a rail gripping member received within the slot and automatically slidable therein upon the longitudinal movement of the rail.

4. An anti-creeping device, comprising a pair of rail-embracing clips that engage over the opposite base flanges of a rail, and means for causing the bodily longitudinal sliding and convergent movements of said clips diagonally of the rail upon the attempted longitudinal movement of the rail.

5. An anti-creeping device comprising a plate having convergently disposed diagonally arranged elongated slots, and rail flange-embracing gripping members slidable within the slots and arranged to bite the opposite base flanges of a rail disposed over the plate.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

BENJAMIN WOLHAUPTER.

Witnesses:

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GEO. W. WRIGHT.