

UNITED STATES PATENT OFFICE.

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MEANS FOR PREVENTING RAILS FROM SPREADING.

No. 849,946.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FREDERICK L. VOLZ, a citizen of the United States, residing at Baltimore, in the county of Baltimore city and State of Maryland, have invented certain new and useful Improvements in Means for Preventing Rails from Spreading, of which the following is a specification.

The object of this invention is to provide a novel device designed to be applied to rails of railway-tracks for preventing the spreading of the rails under actual conditions of service.

The invention resides particularly in peculiar details of construction which will appear more fully as the description proceeds.

For a full understanding of the invention and the merits thereof, and also to acquire a knowledge of the details of construction of the means for effecting the result, reference is to be had to the following description and accompanying drawings, in which—

Figure 1 is a plan view showing the invention applied. Fig. 2 is a longitudinal sectional view. Fig. 3 is a detail perspective view of one of the rail-clamping members carried by the tie-bar. Fig. 4 is a side elevation showing a modified form of the clamping members which cooperate with the rails. Fig. 5 is a detail perspective view of one of the clamping members shown in Fig. 4. Fig. 6 is a plan view showing a modified form of truss-bars cooperating with the tie-bar.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

Specifically describing the exact construction illustrated in the drawings, the numeral 1 designates the ties of a railroad-track and the numeral 2 the ordinary type of rails comprising a track disposed on said ties 1.

The means comprising the invention consists, essentially, of a transverse tie-bar 3, the opposite end portions of which are threaded, as shown at 3^a, and pass through openings 4 in rail-clamping members 5, which are connected together by means of the bar 3, and which are caused to positively and firmly engage the rails connected by said bar. Two of the members 5 are arranged upon each of the threaded portions 3^a of the bar 3, and said

members 5 have upper engaging flanges 6 to engage over the basal portion of the rail with which said member cooperates. The members 5 are held in engagement with opposite edge portions of the base of each rail by means of nuts 7, which are screwed upon the threaded portions 3^a of the bar 3 and which are adapted to positively force the members 5 into engagement with the rails.

In addition to the firm connection established by means of the bar 3 it is designed to reinforce the rails 2 against spreading movement and especially on curves in the track by means of U-shaped truss-bars 8, the side portions of which are secured at the ends thereof to ties 1 on opposite sides of the bar 3. The intermediate portions 8^a of the bars 8 are attached to the bar 3 between the ends of the latter by means of a transverse fastening 9, which passes through the bar 3 and through such intermediate portions of the truss-bars 8. It will be obvious that the mounting of the truss-bars 8 with respect to the bars 3 is such that the latter is firmly reinforced against lateral strain as well as longitudinal strain incident to the actual use of the device. The truss-bars 8 virtually constitute lateral brace members extending from the bar 3 and attached thereto intermediate of the ends of the same.

It is contemplated, to secure a nicety of adjustment of the parts, to use a split ring 10 for each nut 7 cooperating with the clamping members 5, said rings 10 being interlocked with the threaded portions 3^a of the bar 3 and forming stops to limit the movement of the nuts 7 adjacent thereto. If desired, horse-shoe-shaped wedges 11 may be forced between the clamping members 5 and the nut 7 or between the nuts 7 and the rings 10, as convenient, so as to take up any play between these parts.

The invention is very simple, effective for the purposes desired, and is extremely easy to apply or remove whenever necessary.

Referring to Figs. 4 and 5, it will be observed that a slightly-different construction of clamping members is employed, though the said members are, generally speaking, of substantially the same construction as those heretofore set forth. However, the clamping members (indicated 20 in Figs. 4 and 5) in-

stead of having the spaced extensions projecting therefrom to engage beneath the rails, as illustrated in Figs. 2 and 3, are each formed with a single extension 21, projecting from the lower portion thereof, and provided in the upper edges of the same are longitudinal grooves 22. The extensions 21 abut with the tie-bar 3 and reinforce the latter very effectively so far as its connection with the clamping members 20 is concerned. Furthermore, the clamping members 20 are caused to very firmly hold the rails in position upon the ties, obviating likelihood of said rails being moved laterally under stress or strain. In the construction just described it is to be observed that the members 21 do not engage directly with the rails, but engage the tie-bar 3.

Fig. 6 illustrates a modified form of the truss-bars used to connect the tie-bar 3 with the ties 1 of the road-bed. In this instance the truss-bars are indicated at 23, and each of said bars is straight. The bars 23 cross each other intermediate of the ends of the latter and are provided near the end portions with openings 24, by which they may be firmly attached to the ties 1. A vertical pivotal fastening 25 attaches the bars 23 together intermediate of the ends thereof, and said pivotal fastening is also adapted to pass vertically through the tie-bar 3 in order to secure the truss-bars thereto to accomplish the same result as accomplished in the construction shown most clearly in Fig. 1 of the drawings. The tie-bars 23 as arranged and constructed in Fig. 6 of the drawings, however, are very advantageous, in that they are adapted for a pivotal or scissors-like movement to accommodate themselves for attachment to ties of the road-bed separated at greater or less distances, as may happen under actual conditions of service. Of course the tie-bar 3 may be forged or otherwise formed in the actual manufacture thereof, according to the desires thereof.

Having thus described the invention, what is claimed as new is—

1. In means of the class described, the combination of railroad-ties, rails thereon, a tie-bar connecting the rails and arranged parallel to the ties, clamping members carried by the tie-bar and engaging the rails, and lateral braces connecting the tie-bar intermediate of its ends with the ties adjacent thereto.

2. In means of the class described, the combination of spaced rails, a tie-bar for connecting the same, clamping members engaging opposite sides of each rail and having openings therein through which the tie-bar passes, opposite end portions of the tie-bar being threaded, nuts secured upon the threaded portions of the tie-bar and engaging the clamping members to hold the same in engagement with the rails, rings interlocked with the threaded portions of the tie-bar, and removable wedges coacting with the nuts in the manner specified.

3. In means of the class described, the combination of spaced rails, a tie-bar for connecting the same, clamping members engaging opposite sides of each rail and having openings therein through which the tie-bar passes, opposite end portions of the tie-bar being threaded, nuts secured upon the threaded portions of the tie-bar and engaging the clamping members to hold the same in engagement with the rails, lateral U-shaped members extending from opposite sides of the tie-bar and having the outer extremities thereof secured to adjacent ties on the track, and means connecting the intermediate portions of said members with the intermediate portion of the tie-bar.

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

FREDERICK L. VOLZ. [L.S.]

Witnesses:

LOUIS KAHN,

HARRY S. SCHAPIRO.