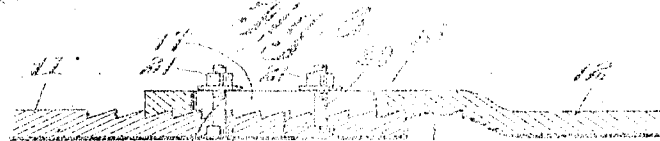
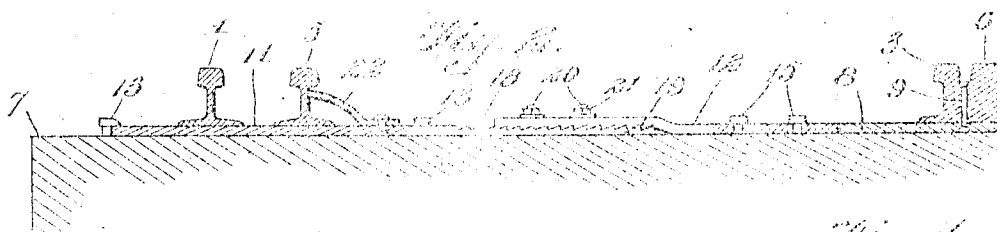
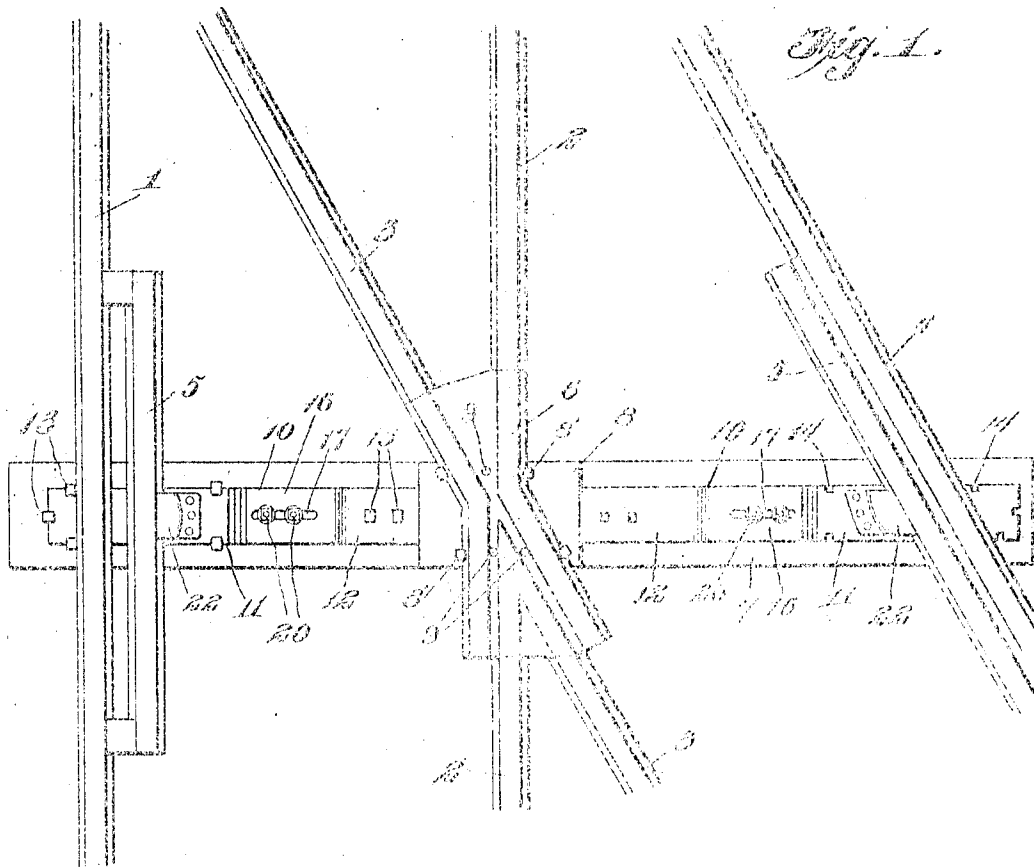


E. C. HARDIN.
RAIL AND TROG BRACE AND CONNECTION.
APPLICATION FILED MAR. 26, 1912

1,048,690.

Patented Dec. 31, 1912.



WITNESSES: 20 13 19

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RAIL AND FROG BRACE AND CONNECTOR.

1,048,690.

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To all whom it may concern:

Be it known that I, BENJIMAN C. HARDIN, a citizen of the United States, residing at Pikeview, in the county of El Paso and State of Colorado, have invented certain new and useful Improvements in Rail and Frog Braces and Connectors, of which the following is a specification.

This invention relates to means for connecting and bracing the rails and frogs of railway tracks at crossing and switch points, the main object of the invention being to provide a simple, inexpensive, reliable and efficient means for firmly and securely uniting the parts and preventing displacement of the frog and spreading of the rails.

A further object of the invention is to provide devices for the purpose described which is adapted to hold the frog and track rails and also the guard rails against relative displacement.

A still further object of the invention is to provide devices for the purpose described which are adjustable to compensate for wear of the track elements and for variations in the gages of tracks and sizes of parts employed.

The invention consists of the features of construction, combination and arrangement of parts, hereinafter fully described and claimed, reference being had to the accompanying drawing, in which:—

Figure 1 is a plan view of the elements of tracks at a crossing or switch point and showing the application of the invention. Fig. 2 is a vertical transverse section through a portion of the same. Fig. 3 is a vertical longitudinal section through the parts of one of the connecting and bracing devices, showing the adjustable connection between the same. Fig. 4 is a view of one of the clips.

Referring to the drawings, 1 and 2 designate the main line rails, 3 and 4 the siding or branch line rails, 5 the guard rails, 6 the frog, and 7 the supporting tie of a railway track structure at a crossing or switch point, the rails 5 being arranged on the inner sides of the outer main and branch track rails 1 and 4, in the usual manner.

In carrying my invention into practice, I provide an anchor or seat plate 8 which rests upon the tie 7 and is secured thereto by spikes 8', the heads of which also grip the flanges of the frog and fasten the same in position. The frog is preferably secured to

the anchor or seat plate in any suitable manner, as by means of bolts or rivets 9.

Arranged between the seat plate and the outer rails 1 and 4 and guard rails 5 are bracing devices 10, each comprising a pair of sections or members 11 and 12. These sections or members are in the form of bars or plates, the outer end of the section 11 being extended beneath the adjacent outer track rail and guard rail and secured to the tie by spikes 13, which pass through notches 14 therein, which spikes are arranged to fasten said section to the tie on the inside and outside of the said rails. The inner end of the section 12 is arranged to bear against the adjacent end of the anchor or seat plate 8 and is secured to the tie by spikes 15, while the outer end 16 of said section 12 is offset upwardly to overlap the inner end of the section 11 and is provided with a longitudinal slot 17. The meeting faces of the overlapping portions of said sections 11 and 12 are provided with interlocking ratchet teeth 18 and 19, whereby said sections are adjustably connected with each other to vary the length of the brace, and are adapted to be held firmly and securely in locking engagement. Bolts pass upward through the member 11 and through the slot 17 in the part 16 of the member 12 and are provided with clamping nuts and washers 21, to hold the two sections assembled in adjusted position.

The section 11 has riveted or otherwise secured thereto a clip 22 which is arranged to overhang the inner flange of the base of the adjacent guard rail 5 and bear against the web of said rail, whereby the outer rails 1 and 4 and the contiguous guard rails 5 are firmly and securely engaged, thus preventing the bracing devices from having outward shifting movement on the tie, while the spikes 13 and 15 also hold them firmly against shifting motion in either direction.

It will be seen from the foregoing description that the bracing devices bear at their inner ends against the plate 8 to which the frog is fastened, and are secured to the tie and also arranged beneath the outer rails and engaged with the guard rails, whereby the rails are mutually reinforced and tied together, the frog prevented from shifting in either direction and the guard rails held from movement relative to the rails 1 and 4. Hence displacement of the frog or guard rails or spreading of the track rails is pre-

vented, without the necessity of employing costly and cumbersome devices for the purpose. By means of the adjustable connection between the members of each bracing device, said device may be adjusted as to length to compensate for wear of the parts or to suit different contingencies of service in the application of the invention to tracks of different gages or those employing rails and frogs of different sizes and weights. The invention is thus rendered applicable, without variation of construction, to the track structure at crossing or switch points of any ordinary type of trackway to firmly tie and brace the track elements.

Having thus described the invention, what I claim as new is:—

1. The combination, with a tie, a frog, main and branch rails, and guard rails, of a chair plate secured to the tie and frog, and braces interposed between said plate and outer rails and resting on the tie, each of said braces comprising a pair of sections having lapping ends provided with engaging teeth, one of said sections bearing against the chair plate and secured to the tie and the other extending beneath the outer rails and engaging the adjacent guard rail and also secured to the tie, and means for adjustably connecting said sections.

2. The combination, with a tie, a frog, main and branch track rails, and guard rails, of a chair plate secured to the frog and tie,

and braces bearing at their inner ends against said plate and extending at their outer ends beneath the outer rails, said braces being secured to the tie and outer rails, each brace comprising lapping sections provided with interlocking teeth, the outer one of said sections engaging the adjacent guard rail, and one of said sections having a longitudinal slot, and bolts engaging the sections and passing through said slot and adjustably connecting said sections.

3. The combination, with a tie, a frog, main and branch track rails, and guard rails, of a plate arranged beneath the frog and secured to the tie and to which said frog is attached, and braces bearing at their inner ends against said plate and extending at their outer ends beneath the outer rails, said braces being secured to the tie and outer rails, each brace comprising lapping sections provided with interlocking teeth, one of said sections having a clip to engage the adjacent guard rail and the other a longitudinal slot, and bolts engaging one section and passing through the slot in the other section and adjustably connecting said sections.

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

BENJIMAN C. HARDIN.

Witnesses:

ROBERT P. AITKEN,
E. P. MARTIN.