

A. McARTHUR.
 CONTINUOUS BEARING RAILWAY TIE.
 APPLICATION FILED DEC. 18, 1908.

934,561.

Patented Sept. 21, 1909.
 2 SHEETS—SHEET 1.

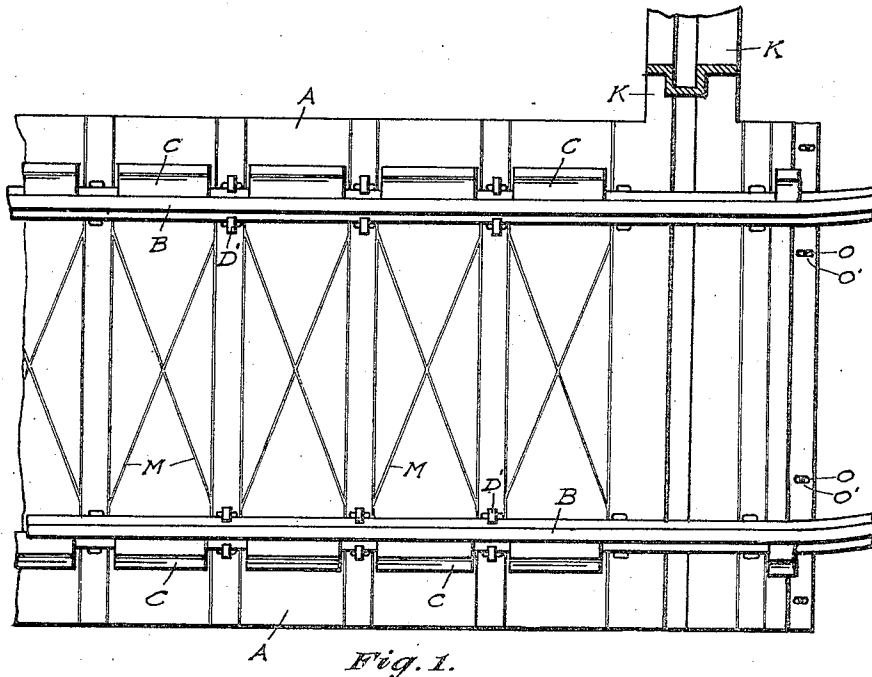


Fig. 1.

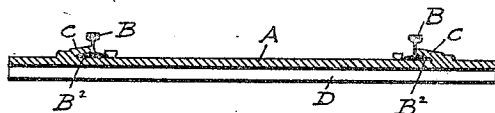


Fig. 2.

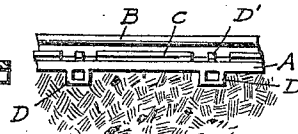


Fig. 3.

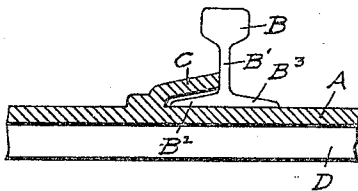


Fig. 4.

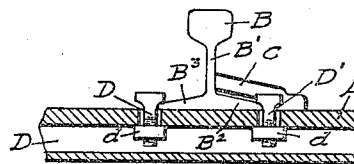


Fig. 5.

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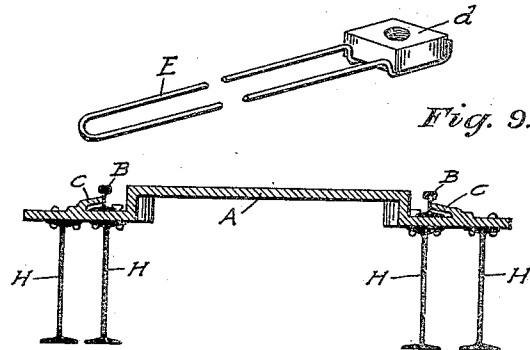


Fig. 8.

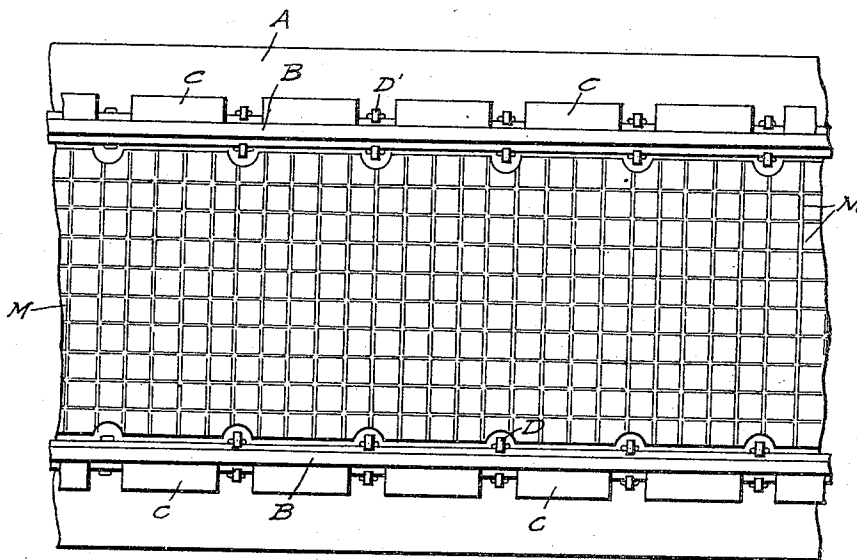


Fig. 7.

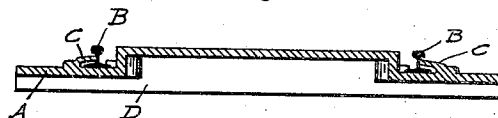


Fig. 6.

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ALEXANDER McARTHUR, OF FORBES, MISSOURI.

CONTINUOUS-BEARING RAILWAY-TIE.

934,561.

Specification of Letters Patent. Patented Sept. 21, 1909.

Application filed December 18, 1908. Serial No. 468,132.

To all whom it may concern:

Be it known that I, ALEXANDER McARTHUR, a citizen of the United States, residing at Forbes, in the county of Holt and State of Missouri, have invented certain new and useful Improvements in a Continuous-Bearing Railway-Tie, of which the following is a specification.

The object of my invention is to provide a device that will prevent the spreading of the rails of a railway track and that will also reduce the expense incurred through the constant labor required to keep the roadbeds in repair.

I accomplish my object by the mechanism illustrated in the accompanying drawings, in which,—

Figure 1 is a plan view of the device showing a road-bed plate with a switch extension; Fig. 2 is a cross section of the device showing opposite flanges attached to said plate; Fig. 3 is a side elevation of the device showing square tubes on the underside of the road-bed plate; Fig. 4 is an enlarged detail of one of said flanges engaging a rail; Fig. 5 is an enlarged detail showing the manner of bolting a rail to the road-bed plate; Fig. 6 is a cross section showing the construction for a road crossing; Fig. 7 is a plan of Fig. 6 showing grooves on the plate; Fig. 8 is a cross section of the device shown as more particularly adapted to bridges, and Fig. 9 is a perspective view of a tool for inserting a nut into a tube on the bottom of said plate.

Similar letters refer to similar parts in the several views.

As shown in the drawings A A— are metal road-bed plates preferably cast seven feet and six inches wide and eight feet long, except at switches, where they can be readily adapted to the required size. The road-bed of a railroad or trolley line having been properly prepared and leveled these plates are laid end to end and the rails B B— of ordinary construction are set on said plates spaced apart at the usual distance. Cast integral with the tops of said plates there are flanges C C— that extend inward and upward at a slightly oblique incline, the ends of said flanges contacting with the outer side of the railway rail necks B' B'. Said flanges C C— are of only sufficient length and height to permit the outer rail bases B² B²— to be wedged firmly in the spaces between the plate and the plate flanges C C—. Between the spaced ends of plate flanges

C C— but beneath the plate there are square tubes D D. Duplicate headed bolts D' D'— are inserted through plate A into these tubes. Square nuts *d d* are provided for the threaded ends of said bolts. These nuts are only slightly smaller than the width of the tubes: hence they cannot be revolved while in the tubes. A bolt being inserted through plate A to the upper part of a tube a nut is grasped by tool E, as shown in Fig. 9, and shoved into the tube until it is vertically under the bolt; the bolt is then shoved downward and screwed into the nut and the tool is withdrawn from the tube. The flat heads of bolts D' D' thus bind rail bases B² and B³ rigidly on the plate, the outer one of said bases being held also by the plate flanges C C— thus additionally securing the rails against the danger of spreading, and thereby obviating the numerous accidents resulting therefrom. Said tool E is of stiff wire. As shown in Fig. 1, I provide for switching trains by means of longer plate ties K K that may be operated by means of an ordinary switch target.

As shown in Fig. 8, to adapt my invention to the use of rails laid across bridges I elevate plate A to correspond with the height of the rails used, substituting guard rails as generally used, thus preventing any danger of the trucks accidentally jumping off the tracks. To carry water off said road-bed plates I provide grooves M M—. For bridges and road crossings I preferably cast the said grooves in the form shown in Fig. 7, as better suited to prevent men or beasts who may cross the bridge slipping when there is sleet or ice. O O—are oblong openings through which the plates are connected by bolts O' O'—. The openings are cast oblong lengthwise with the road-bed of sufficient length to allow for expansion and contraction.

What I claim and desire to secure by Letters Patent, is,—

1. In a continuous bearing railway tie the combination with railway rails, of a plurality of road-bed plates provided with drains upon their top surface, a plurality of plate flanges spaced apart and from the edges of said plates integral therewith and bearing against the outside of the necks of the railway rails at an oblique angle, a plurality of square tubes underneath and integral with said plates at right angles to the rails, headed bolts engaging the opposite bases of the rails and extending through said plates into said

tubes and nuts in said tubes to engage with said bolts, substantially as set forth and shown.

2. In a continuous bearing railway tie the
5 combination with a plurality of metal plates and the rails thereon, tubes spaced apart at right angles to and underneath the plates and integral therewith, the plate flanges, the oblique flanges integral with the top sur-
10 faces of said plates and engaging with the outer side of the neck of the rail and with the top of the outer base of the rail, headed bolts having threaded ends inserted through said plates into said tubes and the nuts in
15 said tubes on the threaded ends of the bolts to assist in binding the bases of the rails rigidly on the plates, substantially as set forth and shown.

3. In a continuous bearing railway tie a

series of corresponding metal plates, square 20 tubes at right angles to the road-bed cast integral with said plates, the nuts, the bolts inserted into said tubes, the threaded ends thereof locked by said nuts beneath the plates drawing the flat heads down upon the bases 25 of the rails, substantially as described and shown.

4. A continuous bearing railway tie comprising a series of corresponding metal plates and the metal tubes integral with said plates 30 set at right angles thereto, substantially as shown and set forth.

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

ALEXANDER McARTHUR.

Witnesses:

EVANGELINE O. GIBBONS,
M. J. McARTHUR.