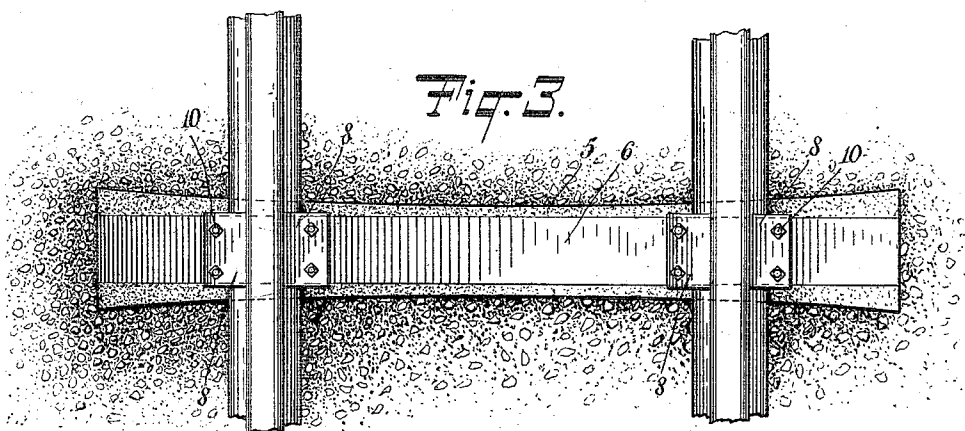
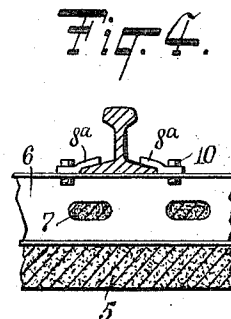
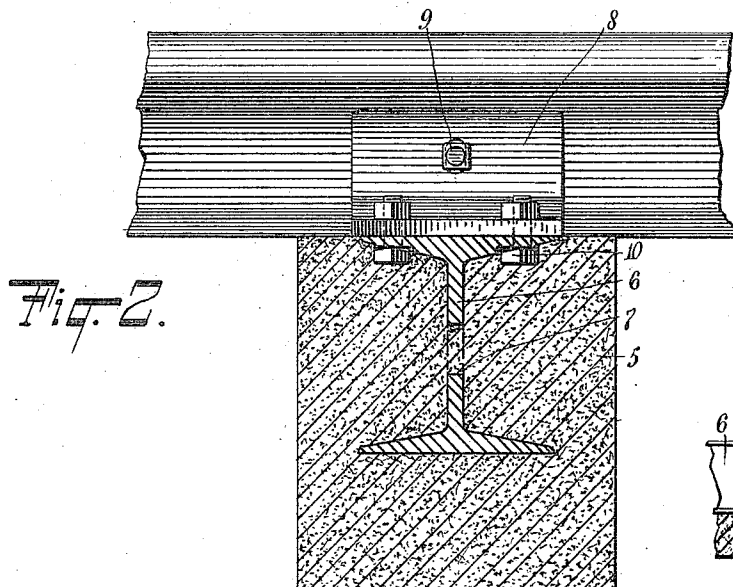
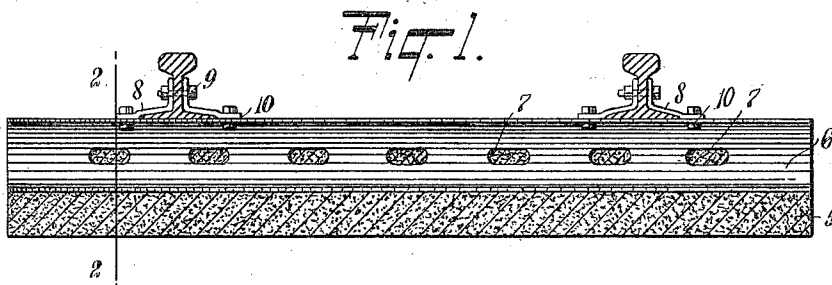


J. J. PLANETT,
RAILROAD TIE AND RAIL FASTENER.
APPLICATION FILED MAR. 8, 1910.

986,214.

Patented Mar. 7, 1911.



WITNESSES:

George Bamby
Witness

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UNITED STATES PATENT OFFICE

JOHN J. PLANETT, OF AMARILLO, TEXAS.

RAILROAD-TIE AND RAIL-FASTENER.

986,214.

Specification of Letters Patent.

Patented Mar. 7, 1911.

Application filed March 8, 1910. Serial No. 547,971.

To all whom it may concern:

Be it known that I, JOHN J. PLANETT, a citizen of the United States, and a resident of Amarillo, in the county of Potter and State of Texas, have invented a new and Improved Railroad-Tie and Rail-Fastener, of which the following is a full, clear, and exact description.

The invention is an improvement in reinforcing concrete railroad ties, and has in view a relatively strong reinforced concrete tie to which the rails are readily and securely applied, and having a form to operate in connection with the adjacent ties to retain the ballast.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a longitudinal vertical section of a tie constructed in accordance with my invention, showing the rail fasteners applied thereto and securing the rails in place; Fig. 2 is a cross-section of the tie on the line 2—2 of Fig. 1; Fig. 3 is a plan of the tie and attached rail fastener; and Fig. 4 is a view showing a modification of the rail clamping plates.

A tie as constructed in accordance with my invention is made of concrete and has extending substantially throughout its length a reinforcing bar 6, preferably in the form of an I-beam comprising the usual web, with the flanges extending to each side at both the bottom and the top of the web and forming the heads, one of these heads or sets of flanges being arranged flush with the upper face of the tie, and the web provided with a series of openings 7, preferably in the form of longitudinal slots arranged on the longitudinal center of the beam, through which the concrete passes and unites the concrete at the opposite sides of the bar at the several points, the tie being further strengthened by a thickness of concrete below the lower head or set of flanges of the I-beam. The tie preferably gradually increases in width from the center toward each end so that the space between the ends of adjacent ties will be somewhat contracted and thus operate to retain the ballast be-

tween the ties, the sides of the tie presenting uninterrupted faces throughout their length, which renders the tie more effective for this purpose. To the top of the reinforcing beam are secured rail clamping plates 8, two of these clamping plates being provided for each rail and constructed to overlap the base flanges and extend upwardly flat against the rail web at each side of the rail, the plates of each set being secured through the rail web by one or more bolts 9. The openings in the plates, through which these bolts pass, are preferably in the form of vertical slots, as shown in Fig. 2, in order that the openings in the rails and in the plate can be easily brought into register for the insertion of the bolts. The clamping plates 8 are each secured to the reinforcing beam by bolts 10; which pass through the flanges at the opposite sides of the web of the beam, with the heads of the bolts arranged at the under side of the flanges and embedded in the concrete, these bolts being placed in position and the clamping plates ordinarily applied preparatory to molding the concrete around the beam, the concrete thus holding the bolts from turning in applying and removing the plates, as when renewing the rails. In Fig. 4 I have shown a modification of the rail clamping plates. These plates 8^a are made to engage over the base flanges of the rail and terminate short of the rail web, the plates being forged or cast to the required shape before bolting them to the tie.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

A concrete railroad tie gradually increasing in width from the center to the ends to operate in connection with adjacent ties to retain the ballast between them, with the sides of the tie presenting smooth uninterrupted faces from one end of the tie to the other.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN J. PLANETT.

Witnesses:

L. H. DOYLE,
R. H. McALPINE.