

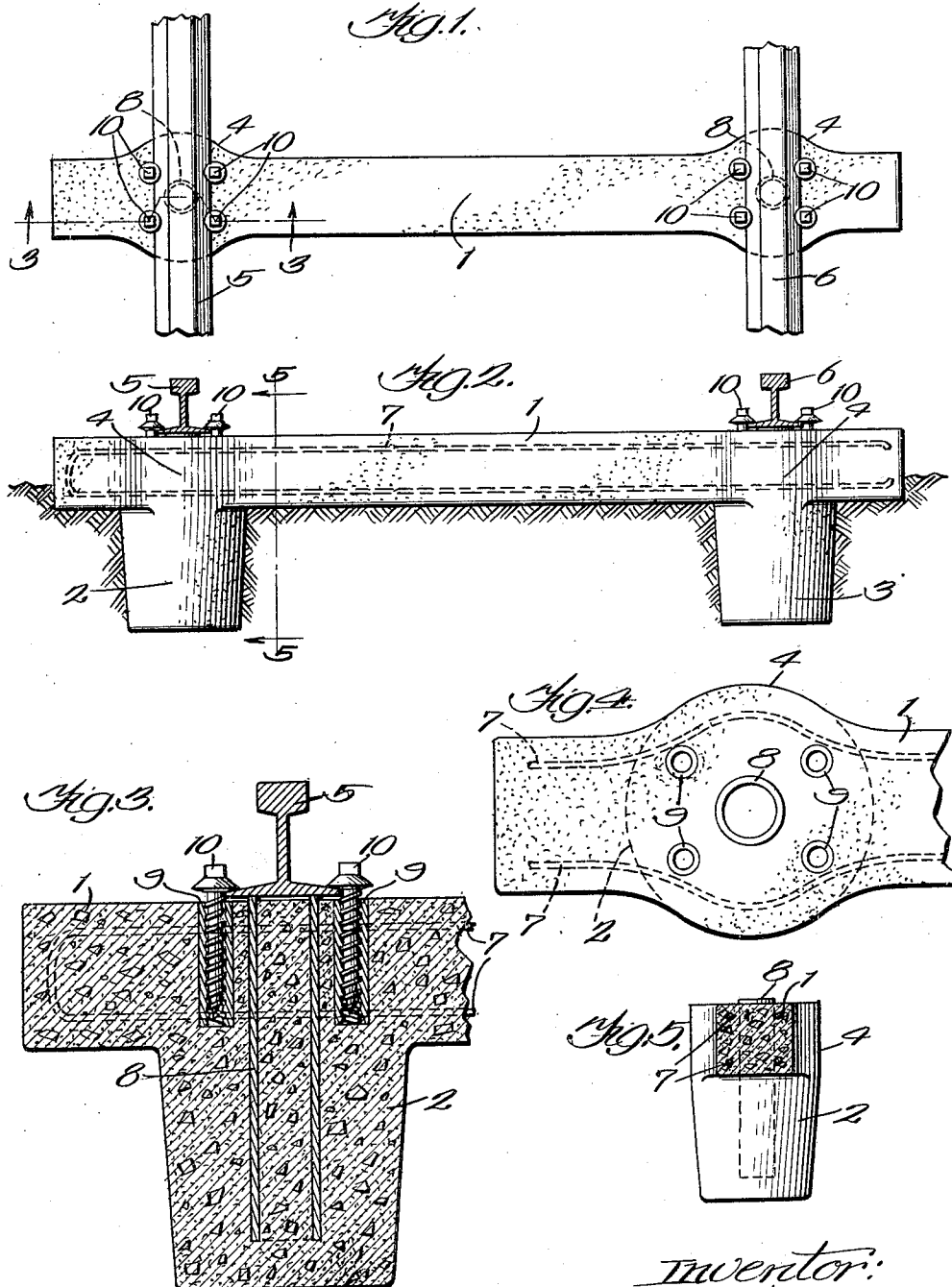
April 29, 1924.

1,492,365

W. FISCHER

RAILROAD TIE

Filed May 9, 1923



Inventor:
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UNITED STATES PATENT OFFICE.

WILLIAM FISCHER, OF CHICAGO, ILLINOIS.

RAILROAD TIE.

Application filed May 9, 1923. Serial No. 637,674.

To all whom it may concern:

Be it known that I, WILLIAM FISCHER, citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Railroad Ties, of which the following is a full, clear, concise, and exact description.

My invention relates to railroad ties which are made of reinforced concrete and has for its object the construction of such a tie which will avoid the cracking or cleavage thereof under strain and which will most effectively support track rails and be firmly imbedded in the road ballast.

In carrying out my invention the tie is integrally formed with posts, one near each end, which are below the body of the tie and are to be embedded in the ballast. The ends of the tie desirably project beyond these posts to lie upon the ballast. The tie is formed with rail anchoring devices that are located upon the top side of the tie and preferably at the axes of the posts. A tie thus formed is subject to truss like strains which are compression strains at the top of the tie and tension strains at the bottom of the tie. Hitherto these strains have caused cracks or fissures, mainly in the vertical planes of the tracks. The presence of the depending posts, in the tie of my invention largely prevents such fracture of the ties, particularly when reinforcement is moulded in the concrete of the tie body and posts.

The invention will be more fully explained by reference to the accompanying drawing in which Fig. 1 is a plan view of the preferred embodiment of the invention, portions of track rails being illustrated upon the tie; Fig. 2 is a side elevation of the structure shown in Fig. 1, with the illustration of ballast added; Fig. 3 is a sectional view on line 3—3 of Fig. 1; Fig. 4 is a plan view of one end of the tie, on a larger scale; and Fig. 5 is a sectional view on line 5—5 of Fig. 2.

Like parts are indicated by similar characters of reference throughout the different figures.

The body 1 of the tie and the depending posts 2 and 3 are of concrete integrally cast in the same mould. The ends of the tie body extend outwardly beyond the posts which are preferably in the form of truncated cones of slight taper, with the bases

thereof uppermost. The posts are preferably of a width which is greater than the width of the tie body which is swelled to merge with the posts as indicated at 4.

The axes of the posts are substantially a track width apart, these axes being in the planes of the webs of the rails 5, 6.

The tie body may have a reinforcement 7 in the form of looped iron rods or other structure extending along the tie. Both the body and the posts may have common reinforcements such as the iron tubing or piping 8. This reinforcement is primarily designed to prevent the formation of fissures between the body of the tie and the posts depending therefrom. In order that these reinforcements may more effectively perform their function and also directly bear the track load, they are placed co-axially with the posts and preferably extend slightly above the tie to bear the rails directly.

The reinforcements 8 are desirably flanked by some suitable rail holding means imbedded in the tie body. The rail holding means illustrated are threaded sleeves 9 which take threaded bolts 10. The heads of these bolts have clamping engagement with the flanges of the rails and hold them firmly down upon the reinforcements 8.

The posts, being of appreciable length and integrally formed with the body of the tie, prevent creepage of the tie transversely and longitudinally of the track. The reinforcements 8, being located as illustrated, serve not only to maintain the integrity of the tie body and posts, but also directly bear a portion of the track load, to relieve the concrete portions of the tie. These reinforcements are preferably of tubular form, as described, to more readily perform their track supporting function without unduly or improperly transmitting the track load to the concrete.

While I have herein shown and particularly described the preferred embodiment of my invention I do not wish to be limited to the precise details of construction shown as changes may readily be made without departing from the spirit of my invention, but having thus described my invention I claim as new and desire to secure by Letters Patent the following:—

1. A railroad tie including a tie body; posts depending from the tie body which projects outwardly beyond said posts and

has its ends integrally formed therewith from concrete; and tubular reinforcements within the tie body and posts and co-axial with the posts whose axes are substantially a track width apart, said tubular reinforcements projecting slightly above the tie body directly to support the track rails.

2. A railroad tie including a tie body; posts depending from the tie body which has its ends integrally formed therewith from concrete; and tubular reinforcements within the tie body and posts and co-axial with the posts whose axes are substantially a track width apart, said tubular reinforcements projecting slightly above the tie body directly to support the track rails.

3. A railroad tie including a tie body; posts depending from the tie body which projects outwardly beyond said posts and has its ends integrally formed therewith from concrete; and tubular reinforcements within the tie body and posts and co-axial with the posts whose axes are substantially a track width apart.

4. A railroad tie including a tie body; posts depending from the tie body which has its ends integrally formed therewith from concrete; and tubular reinforcements within the tie body and posts and co-axial with the posts whose axes are substantially a track width apart.

5. A railroad tie including a tie body; posts depending from the tie body which projects outwardly beyond said posts and has its ends integrally formed therewith from concrete; and reinforcements moulded within the tie body and posts to form an integral structure therewith and co-axial with the posts whose axes are substantially a track width apart.

6. A railroad tie including a tie body; posts depending from the tie body which has its ends integrally formed therewith from concrete; and reinforcements moulded within the tie body and posts to form an integral structure therewith and co-axial with the posts whose axes are substantially a track width apart.

7. A railroad tie including a tie body;

posts depending from the tie body which projects outwardly beyond said posts and has its ends integrally formed therewith from concrete; and tubular reinforcements within the tie body and posts and co-axial with the posts, said tubular reinforcements projecting slightly above the tie body directly to support the track rails.

8. A railroad tie including a tie body; posts depending from the tie body which has its ends integrally formed therewith from concrete; and tubular reinforcements within the tie body and posts and co-axial with the posts, said tubular reinforcements projecting slightly above the tie body directly to support the track rails.

9. A railroad tie including a tie body; posts depending from the tie body which projects outwardly beyond said posts and has its ends integrally formed therewith from concrete; and tubular reinforcements within the tie body and posts and co-axial with the posts.

10. A railroad tie including a tie body; posts depending from the tie body which has its ends integrally formed therewith from concrete; and tubular reinforcements within the tie body and posts and co-axial with the posts.

11. A railroad tie including a tie body; posts depending from the tie body which projects outwardly beyond said posts and has its ends integrally formed therewith from concrete; and reinforcements moulded within the tie body and posts to form an integral structure therewith and co-axial with the posts.

12. A railroad tie including a tie body; posts depending from the tie body which has its ends integrally formed therewith from concrete; and reinforcements moulded within the tie body and posts to form an integral structure therewith and co-axial with the posts.

In witness whereof I hereunto subscribe my name this second day of May, A. D., 1923.

WILLIAM FISCHER.