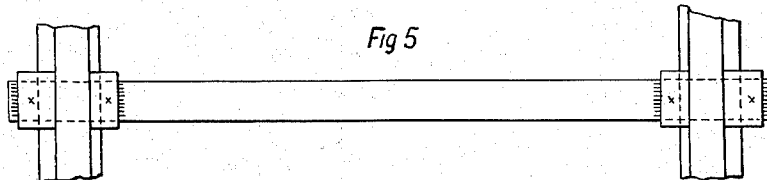
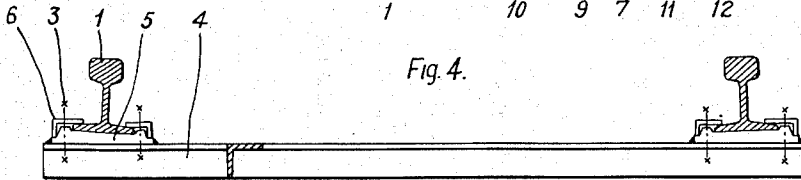
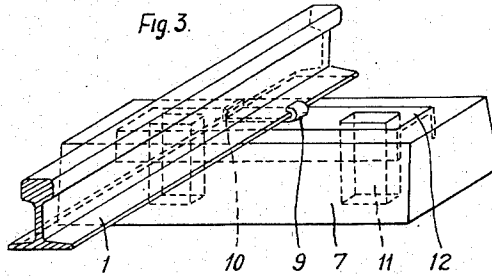
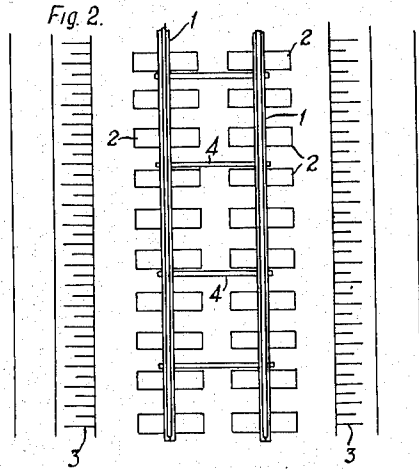
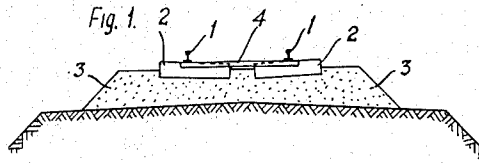


Nov. 10, 1953

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IMPROVEMENT IN RAILWAY TRACKS

2,658,688

Filed April 28, 1948



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# UNITED STATES PATENT OFFICE

2,658,688

## IMPROVEMENT IN RAILWAY TRACKS

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Application April 28, 1948, Serial No. 23,776

Claims priority, application Poland May 14, 1947

3 Claims. (Cl. 238-115)

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This invention relates to an improved apparatus for supporting and tying railroad tracks.

In constructing railroad tracks using iron or concrete ties, it has been the practice to follow the same procedure as for wooden ties. However, in view of the greater weight and different resistance of the ties, it is more appropriate to use, not ties connecting both rails, but a combination of blocks supporting each rail separately and transverse connecting rods connecting the rails in parallel spaced relation. In known constructions of this type, the rails are rigidly mounted on the blocks and as the latter are heavy and non-elastic, such a mounting causes rapid deterioration of the blocks and the connecting rods.

One of the objects of the invention is the provision of a strong connection of the rails to the connecting rods in such a manner that the two spaced rails and the longitudinally spaced connecting rods form an assemblage which is independent of the blocks and is supported on the blocks, the blocks being provided with abutments and hooks to prevent the assemblage of rails and connecting rods from lifting or moving in a direction transverse to the track.

A further object of the invention is to provide a construction which will prevent longitudinal creepage of the rails on the blocks.

Another object of the invention is to provide for the easy connecting of the blocks to the rails by engaging the hooks on the blocks with the inside edge of the rail foot flange and then rotating the blocks about an axis parallel to the rail to bring the abutment alongside of the outer flange.

Further objects of the invention will be apparent from the following description wherein reference is made to the drawings in which:

Figure 1 is a cross section of the railroad track and bed;

Fig. 2 is a plan view of Fig. 1;

Fig. 3 is a perspective detailed view of the connection between a rail and a concrete supporting block;

Fig. 4 is a cross section view of the rails and the cross rods; and

Fig. 5 is a plan view of Fig. 4.

As shown in Figs. 1 and 2, the railroad track consists of the two rails 1, the flanges of which are connected by means of cross rods 4. The rails 1 are mounted on separate reinforced concrete blocks 7, which in turn are positioned on the gravel bed or foundation of the track.

The blocks 7, as shown in detail in Fig. 3, are

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connected to the rails 1 by means of hooks 9 which engage the inside flange of the rail and abutments 10 which engage the outside flange of the rail. The hooks 9 and abutments 10 are welded to the flat side of a structural steel member, e. g. channel member 12 which in turn is introduced into the reinforced concrete block (Fig. 3). The hook has an upstanding portion engaging the edge of the inside flange and a horizontal portion overlying the inside flange of the rail to prevent the rail from rising and falling and from turning outwardly from the direction of the track, while the hook and abutment together prevent the rail from moving in a transverse direction. The distance between the hook and abutment is such that when the hook engages the underside edge of the rail flange, there is a small space between the outside edge of the rail flange and the abutment. In this way, the block can be connected to the rail by engaging the hook with the inside edge of the rail flange and then rotating the block about an axis parallel to the rail. The hook and abutment will allow longitudinal movement of the rails relative to the blocks.

As shown in Figs. 4 and 5, steel cross rods 4 have welded or riveted bushing plates 5 which are connected to rail flanges by means of clips 6 and bolts 3. The bushing plates have upper surfaces inclined relative to their lower surfaces in a direction to ensure the canting of the rails towards the middle of the track. These cross rods are positioned against the sides of the blocks to prevent longitudinal creeping movement of the track and do not rest on the ballast between the rails. In practice it has been found sufficient to place the cross rods at intervals of every two to three pairs of blocks.

We claim:

1. A railway track construction comprising a pair of spaced track rails having flanges, a plurality of pairs of blocks spaced longitudinally of the rails, the blocks of each pair being spaced apart transversely of the rails with one block of each pair under one rail and the other block of said pair under the other rail, an upstanding abutment on the top of each block for engaging one side edge of the flange of one of said rails, a hook on the top of each block having an upstanding portion spaced from the abutment a distance slightly greater than the width of the flange of the rail for engaging the other side edge of said rail flange, said hook also being a lateral portion extending toward the abutment and overlying a portion of the rail flange, said abutment and hook serving to connect the rail and

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block by engaging one side of the foot flange in the hook and rotating the block about an axis parallel to the rail to bring the abutment adjacent the outer edge of the opposite side of the flange, a plurality of connecting rods extending transversely of the rails, said rods being spaced longitudinally of the track, means for connecting one end portion of each connecting rod to the flange of one rail, and means for connecting the other end portion of each connecting rod to the flange of the other rail to connect the rails together in a fixed spaced apart relation, said hook and abutment on each block serving to retain the rail embraced by the same against transverse movement and upward movement relative to the block while allowing longitudinal movement of the rail relative to the block.

2. Apparatus according to claim 1 wherein the said connecting rods are placed against the sides of the blocks to prevent longitudinal creeping of the rails relative to the blocks.

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3. Apparatus according to claim 1 wherein each of the blocks is formed of concrete reinforced by a structural steel channel member fixedly carrying the hook and abutment.

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