March 30, 1954 J. L. BONANNO 2,673,689

TOY RAILROAD TRACKS

Filed March 26, 1951 2 Sheets-Sheet 1

Fig. 1.

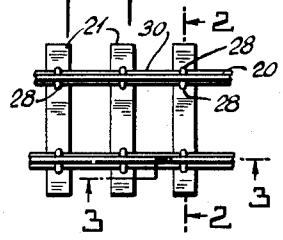


Fig. 1.A

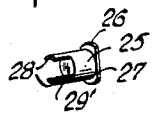


Fig. 2.

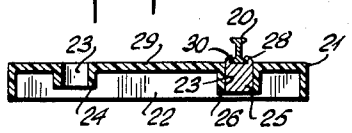


Fig. 3.

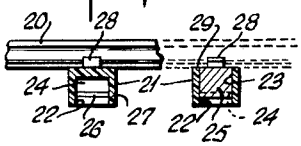


Fig. 3.A

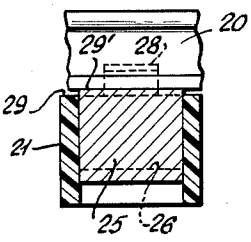


Fig. 4

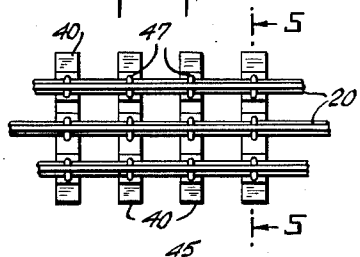


Fig. 5.

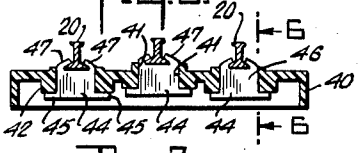


Fig. 6.

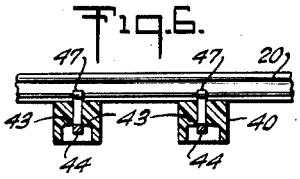


Fig. 4.A



Fig. 4.B

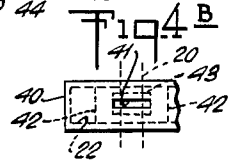


Fig. 7.

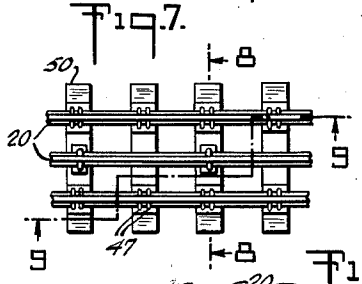


Fig. 7.A

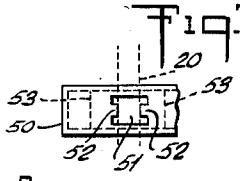


Fig. 8.

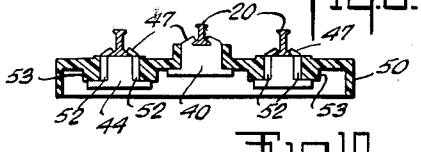


Fig. 9.

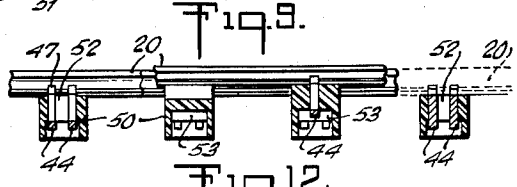


Fig. 10.

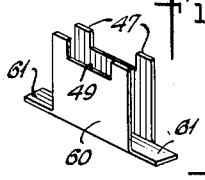


Fig. 12.

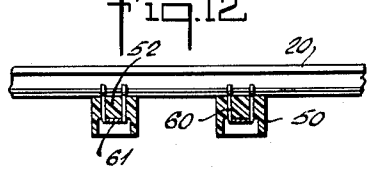
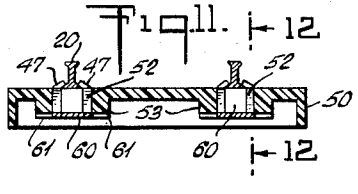


Fig. 11.



INVENTOR.
JOSEPH L. BONANNO.

BY John M. Cobb.
ATTORNEY.

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TOY RAILROAD TRACKS

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Fig. 13.

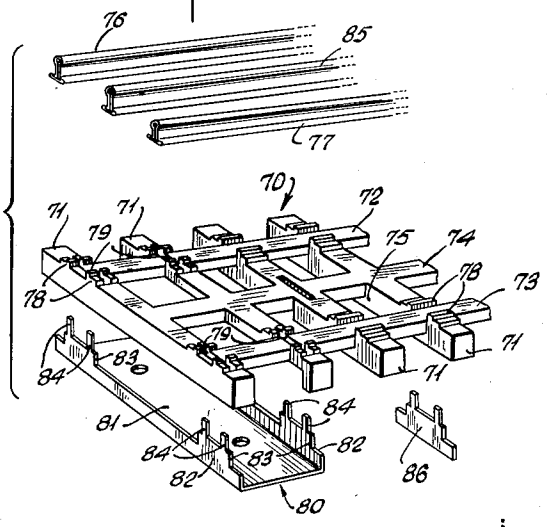


Fig. 14.

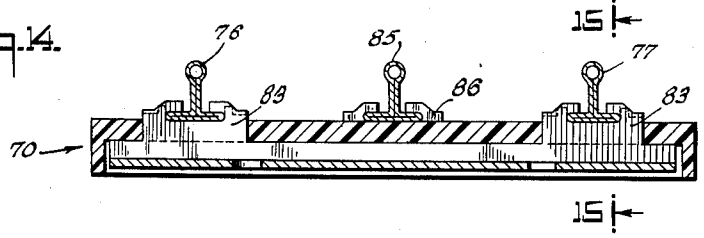


Fig. 15.

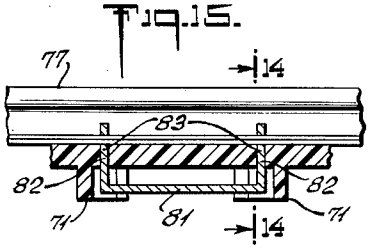


Fig. 16.

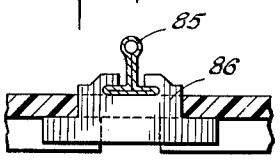
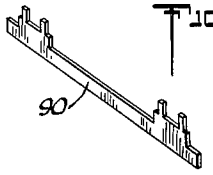


Fig. 17.



INVENTOR.
JOSEPH L. BONANNO.
BY
John W. Cobb.
ATTORNEY.

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UNITED STATES PATENT OFFICE

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TOY RAILROAD TRACK

Joseph L. Bonanno, Madison, N. J., assignor to The Lionel Corporation, New York, N. Y., a corporation of New York

Application March 26, 1951, Serial No. 217,582

9 Claims. (Cl. 238—10)

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The present invention relates to toy railroad tracks, and is more particularly directed toward toy railroad tracks employing two or more rails supported on an insulating base, such as cross ties.

The present application is a continuation in part of my application, Serial No. 607,176 filed July 26, 1945 since abandoned.

Where the rails of toy railroad track are supported on an insulating base or on insulating cross ties, special provision must be made for securing the rails to the insulating material, so that the rails are very securely held in place and yet the insulating material is not injured during the assembly operations.

The present invention contemplates several forms of construction whereby the rails are secured to the insulating base or cross ties.

The present invention also contemplates that the fastening means employed for securing the rails to the insulating base or cross tie will be such as to provide a simulation of the spikes ordinarily employed in fastening railroad rails to the railroad cross ties.

The accompanying drawings show, for purposes of illustrating the present invention, six embodiments in which the invention may take form, it being understood that the drawings are illustrative of the invention rather than limiting the same.

In these drawings:

Figure 1 is a top plan view of one form of construction wherein the rail fastening or securing means simulates a single spike at each side of the rail flange;

Figure 1A is a perspective view illustrating such a form of rail fastening means;

Figure 2 is a cross sectional view on the line 2—2 of Figure 1, one of the fastening devices having been omitted;

Figure 3 is a cross sectional view on the line 3—3 of Figure 1, the track rail being omitted;

Figure 3A is an enlargement to show clearance;

Figure 4 is a top plan view illustrating another form of construction for providing a similar single spike appearance;

Figure 4A is a perspective view of the fastening device of Figure 4;

Figure 5 is a sectional view on the line 5—5 of Figure 4;

Figure 6 is a sectional view on the line 6—6 of Figure 5;

Figure 7 is a view similar to Figure 4 illustrating a modified form of construction in which the rail fastening means of Figures 4 to 6 is employed

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in a manner to simulate four spikes where each track rail is secured to a tie;

Figure 7A is a fragmentary top plan view of the tie of Figure 7;

Figure 8 is a cross sectional view on the line 8—8 of Figure 7;

Figure 9 is a longitudinal sectional view on the line 9—9 of Figure 7, part of one rail being omitted;

Figure 10 is a perspective view of a single device adapted when assembled to provide simulation for four spikes;

Figure 11 is a transverse sectional view showing the device of Figure 10 in position;

Figure 12 is a section taken on the line 12—12 of Figure 11.

Figure 13 is an exploded perspective view showing a modified form of construction in which a single member secures both track rails to the insulating base;

Figures 14 and 15 are transverse and longitudinal sectional views through an assembled track section (having the parts shown in Figure 13), Figure 14 being taken on the line 14—14 of Figure 15 and Figure 15 being taken on the line 15—15 of Figure 14;

Figure 16 is a sectional view illustrating the securement of the third rail of Figure 13 to the insulating base; and

Figure 17 is a view illustrating a modified form of fastener for both track rails.

In the arrangement shown in Figures 1 to 13, inclusive, two solid rails suitable for toy railroad operation are illustrated at 20, 20. The ties are indicated at 21. These ties are molded insulating material and as here shown, each tie is of inverted box-shaped construction, so as to be recessed as indicated at 22, as shown more clearly in Figure 2. Each tie is molded to have circular holes or openings 23 spaced according to the gauge of the tracks, and where these holes or openings appear, the molded material is provided with a reinforcement, indicated at 24.

The rail fastener 25, indicated more clearly in Figure 1A, is a metal turning of the right size to pass upwardly through the hole 23. It has a flange 26 to engage with the bottom of the tie and flat sides 27 to engage the side walls of the recess 22, so as to assure proper registry of the device in the hole.

The rail fastening device 25 has two prongs 28—28 which extend up above the upper surface 29 of the tie. The surface 29' between the prongs is just above the top of the tie, as clearly shown in Figure 3A. These prongs are spaced the proper

width to receive the flanged base 30 of the rail which rests on the surface 29'. The prongs are bent or swaged inwardly, as indicated in the drawings. This operation takes place in a press, in which the bottom of the fastener member 25 is rested on a suitable base, and no pressure is transmitted through the insulating material. The fastening device is secured to the rail and the tie held to the rail. While the track shown in Figure 1 is a two-rail track, it will be understood that a third rail may be similarly supported.

In the arrangement shown in Figures 4 to 6, inclusive, the cross ties 40 are generally similar to those above described, but are provided with longitudinally extending slots 41 (Figure 4B) spaced according to the track gauge and somewhat longer than the width of the rail flange. The tie has a thickened reinforcement, indicated at 42, through which this opening passes and the lower part of the opening is rounded, as indicated at 43, to facilitate the insertion of the track securing or fastening means. This device, as shown in Figure 4A, is a flat metal stamping 44 with lateral extending bottom flanges 45, 45, adapted to overlie the reinforcement 42, with a body portion 46 passing up through the opening 41, and with two prongs 47, 47, adapted to extend above the top of the tie and be pressed over on to the top of the rail flange to press the bottom of the flange against surface 49 and then pressed over on to the flange of the rail, as above described. Each prong 47 then simulates a spike.

In the form of construction shown in Figures 7 to 9, inclusive, tie 50 resembles the tie 40 above described, but instead of having a narrow longitudinally extending slot 41, it has a hole 51 somewhat wider than the hole 41 and provided with two web-like elements 52, which narrow the width of the hole to that of the width of the base of the rail. In the region of the holes 51, the ties are thickened, as indicated at 53. The two rail-fastening devices 44, 44, the same as shown in Figure 4A, are employed for each track rail, these devices and the rail being secured together in the same manner. One such device is used to hold down the third rail.

When the parts are in position, the web-like elements 52, 52, fill the space between the two rail-fastening means 44, 44, so that no visible opening or hole appears in the top of the construction.

In the arrangement shown in Figures 10 to 12, inclusive, the track-securing device 60, generally of U-shaped configuration, is formed of sheet metal, as shown in Figure 10. Its upper portions are the same as in Figures 4–9, while its lower portion has laterally extending flanges 61, 61. It is employed in the tie with the same configuration as the tie 50 described above. The extensions 61, 61, overlie the reinforcements 53.

The construction shown in Figures 13 to 16 employs a skeletonized molded insulating base 70 of the length of a track section and having cross-ties 71 and three track-bearing longitudinal elements 72, 73 and 74, forming openings 75. The molding may be so made as to eliminate the openings 75, and the ties project to simulate the appearance of a road bed outside the rails. In line with each cross-tie and spaced the width of the bases of the wheel-bearing rails 76 and 77, the insulating base is provided with narrow risers 78 which simulate tie plates.

At suitable locations along the track section, usually at the ends and in the middle, the insulating base is provided with elongated slots 79 similar to slots 41. In Figure 13, these slots are arranged in pairs in line with two adjacent ties.

A rail-fastener device 80 is made of a single piece of sheet metal. It is of U-shaped cross-section and has a central bottom portion 81, two side flanges 82, which engage the bottom of the insulating base in a manner similar to the flanges 45 of fastener 44, four upwardly extending portions 83, similar to the portion 46 of the fastener 44 and eight prongs 84 similar to the prongs 47. The portions 83 pass through the slots 79 and the prongs 84 are bent over into the rails as before.

The fastener 80 secures the wheel-bearing rails to the base and at the same time electrically connects them so that both wheel-bearing rails form ground returns.

The center rail 85 of Figures 13 and 14 is secured in place by a fastener 86, Figure 16, similar to the fastener 44.

The fastener 90 shown in Figure 17 is like one side of the fastener 80. It connects the two-track rails.

Track sections made up according to any of the showings herein are extremely strong and stiff. Not only does a section effectively resist torsional strain exerted lengthwise of the track, but it also resists twisting when pressures are applied lengthwise of the opposite ends of the track section. The ties may be securely fastened to the rails at precise and predetermined distances from the ends of the rails so that the ties may be used with coupling devices for securing track sections together with a certainty of aligning and spacing of parts.

Since it is obvious that the invention may be embodied in other forms and constructions within the scope of the claims, I wish it to be understood that the particular forms shown are but a few of these forms, and various modifications and changes being possible, I do not otherwise limit myself in any way with respect thereto.

What is claimed is:

1. Toy railroad trackage comprising metal rails with flanged bases, an insulating rail-supporting base, provided with transversely extending openings under the rails and wider than the rail bases, and metal rail fasteners having flanges engaging the under surface of the rail-supporting base, body portions extending up through the said openings to have their upper surfaces engage the lower surfaces of the rail base, and upper inwardly bent portions which overlie the rail flanges to hold the flanges against the said upper surfaces.

2. Trackage as claimed in claim 1, wherein each rail fastener includes a flat, inverted T-shaped sheet metal element having two prongs extending from the upper end of the T for simulating two spike heads.

3. Trackage as claimed in claim 1, wherein each rail fastener is in the form of a U-shaped stamping with laterally extending elements forming the bottom flanges and having two prongs on each side of the U, whereby four spike heads are simulated.

4. Trackage as claimed in claim 1, wherein the rail fasteners are in pairs, side by side, and interconnected below the bottom by a plate integral with the fasteners.

5. Trackage as claimed in claim 1, wherein the bottom flanges of two aligned rail fasteners are integral with one another, so as to electrically connect the two rails to which the fasteners are secured.

6. In toy railroad trackage, in combination, a

metal rail with a flanged base, a tie-simulating rail support of insulating material having a downwardly opening recess, and a hole under the rail longer than the width of the rail base, and a rail fastener having a lower head housed in the recess, a body portion extending through the hole to provide upwardly facing rail base supporting surfaces and upset terminal portions bent over against the flanges of the rail and holding the rail base to said body portion.

7. Toy railroad trackage comprising insulating ties, flanged rails and fastening devices insertable upwardly through openings in the ties, the lower ends of the fastening devices having fixed heads to prevent upward removal, the upper ends having prongs bent over onto the rail flanges to prevent downward removal thereof, the devices having upwardly facing rail flange supporting surfaces between the bent prongs and forming abutments to receive the clamping pressure.

8. Toy railroad trackage comprising a plurality of parallel metal rails with flanged bases of predetermined width, an insulating base of greater width than the spacing of the rails, the base having openings spaced according to the spacing of the rails, the length of each opening measured transversely of the rails exceeding the width of the rail flange, so that each opening extends beyond the edges of the corresponding rail flange, the rails overlying the base with their flanges on the upper surface of the base and

crossing the openings, and metal rail fasteners having body portions insertable into the openings from below and fitting the openings, lower flanges engaging the lower face of the base to limit upward movement of the fasteners, upper faces level with the upper face of the base and prongs extending upwardly alongside the flanges of the rails and bent over onto the flanges to hold the rails to upper faces of the rail fastener.

9. Toy railroad trackage comprising an insulating base, two spaced wheel-bearing rails with flanged bases, the insulating base having transverse slots under each rail longer than the width of the rail base, and a metal rail fastener and connector having a bottom portion engaging the under surface of the base, upwardly extending portions extending through the slots and engaging the lower surfaces of the rails, and upset terminal portions bent over against the flanges of the rails and holding the rail bases against said upwardly extending portions.

JOSEPH L. BONANNO.

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