April 13, 1954

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TOY RAILROAD TRACK

2,675,179

Filed Nov. 18, 1948

2 Sheets-Sheet 1

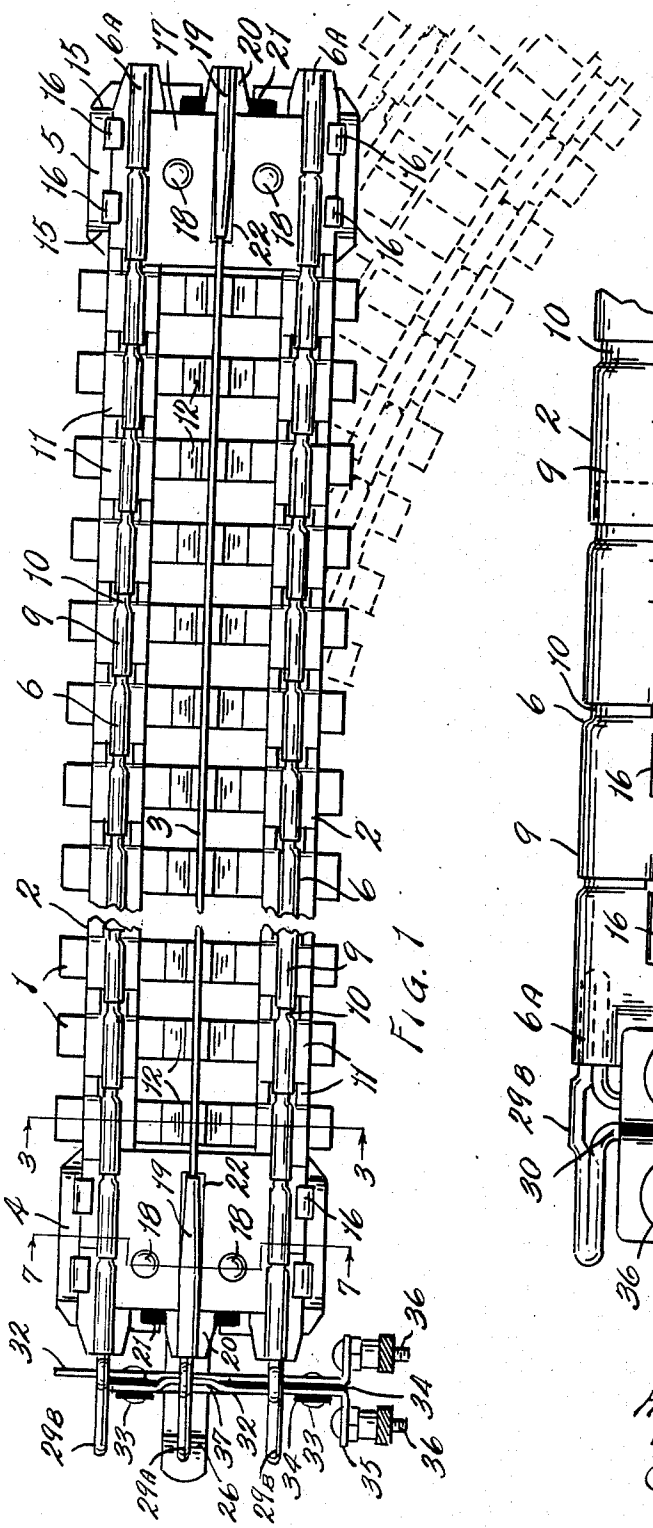


FIG. 1

FIG. 2

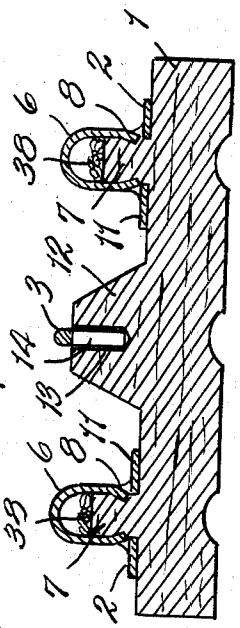


FIG. 3

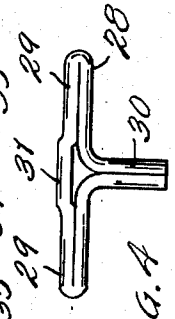


FIG. 4

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2 Sheets-Sheet 2

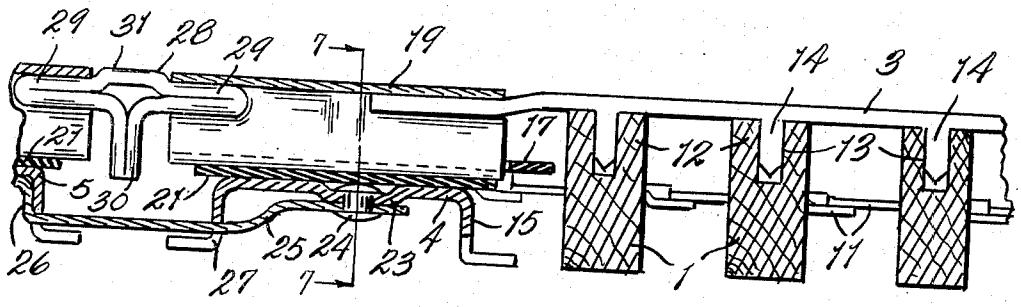


FIG. 5

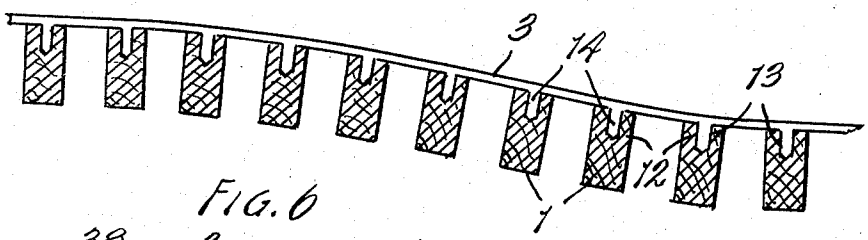


FIG. 6

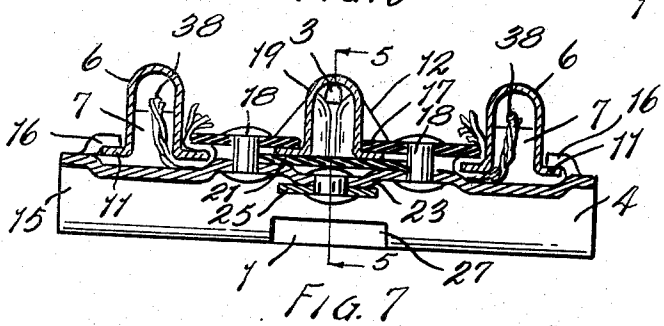


FIG. 7

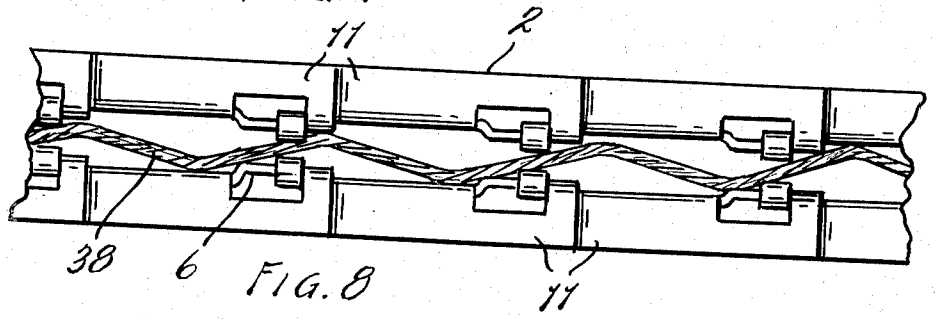


FIG. 8

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2,675,179

UNITED STATES PATENT OFFICE

2,675,179

TOY RAILROAD TRACK

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Application November 18, 1948, Serial No. 60,750

8 Claims. (Cl. 238—10)

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This invention relates to an improvement in the type of toy railroad track disclosed in my Patent 2,120,250, issued June 14, 1938, for Toy Railroad Track.

The principal objects of this invention are:

First, to provide a continuous solid flexible center rail which will assure uniform tie spacing and smooth regular curves in a toy railroad track.

Second, to provide a toy railroad track which will have improved rigidity and self-supporting properties and eliminate sharp and irregular bends in either horizontal or vertical directions.

Third, to provide a toy railroad track having improved electrical conducting properties and which will reduce the amount of wear on the contact shoe of toy locomotives.

Fourth, to provide a toy railroad track having improved durability and less tendency to become loose and rough with prolonged use.

Fifth, to provide a novel form of joint for sections of toy railroad track and means for attaching electrical supply lines to any joint of the track.

Other objects and advantages relating to details of my invention will be apparent from a consideration of the following description and claims.

The drawings, of which there are two sheets, illustrate a preferred form of the improved track.

Fig. 1 is a plan view of a section of the improved track with the clip for attaching electrical supply wires attached to one end of the section.

Fig. 2 is a fragmentary enlarged side elevational view of one end of the track section with the joint section and electrical attaching clip mounted thereon.

Fig. 3 is a transverse cross sectional view through the track section taken along the plane of the line 3—3 in Fig. 1.

Fig. 4 is a side elevational view of one of the rail connectors used to connect sections of the track.

Fig. 5 is a fragmentary longitudinal cross sectional view through the joint between two sections of the track and taken along the plane of the line 5—5 in Fig. 7.

Fig. 6 is a fragmentary longitudinal cross sectional view through the center rail.

Fig. 7 is a transverse cross sectional view through one of the joint sections of the track and taken along the plane of the line 7—7 in Figs. 1 and 5.

Fig. 8 is a fragmentary bottom plan view of one of the side rails with the ties removed.

The track consists of a series of wooden ties

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1 which support side rails 2 and the center or third rail 3. The track is made up in sections of any desirable length and is provided with a male joint section 4 and a female joint section 5 at each end of the track section. The side rails 2 consist of a plurality of telescopically interlocking rail sections 6 which are the same as those illustrated in my patent mentioned above. Each rail section 6 is secured to an elevated block 7 on the top of a tie 1 by pressing the sides of the rail section into the sides of the elevation as at 8, see Figs. 2 and 3. Each rail section 6 includes a large end 9 of U-shaped cross section and a small end 10 also of U-section arranged to telescopically fit within the large end of the next succeeding rail section. Both the large and small ends of the rail sections are outwardly flanged as at 11, the flange on the small end being downwardly offset to lap underneath the flange on the next succeeding rail section.

The ties 1 of the present track differ from the ties in my issued patent in that the elevated block 12 for supporting the center rail is substantially higher than the elevated blocks 7 for engaging the side rails. The top of each center block defines a vertical bore 13 arranged to receive a pin 14 projecting downwardly from the under side of the center rail 3.

The center rail 3 is formed as a continuous strap of metal, preferably springable steel, and the pins 14 are integrally attached to the under side of the rail. I have found that the center rail is most economically formed by stamping the rail 3 and the pins 14 from a continuous flat strip of metal stock. The upper surface of the rail 3 is rounded so that the center rail approaches a circular cross section but is in fact a flat strip with the pins 14 projecting from the lower edge thereof. The holes 13 and pins 14 are of such realtive size that the pins firmly engage the blocks 12 to permanently connect the center rail and the ties.

The female joint section at one end of the track section consists of a sheet metal stamping of U-shaped cross section having the flanges 15 thereof extending transversely of the track section. The web of the joint section 5 has four ears 16 struck upwardly therefrom and adapted to be bent over the edges of the flanges on the two rail sections on the end of each side rail. The outer flanges of the end rail sections are thus securely clamped to the joint section 5. The inner flanges of the end rail sections are secured to the joint section by a plate 17 of fibrous in-

sulating material which is secured to the web of the joint section by rivets 18.

The end of the center rail 3 is permanently received in a socket member 19 consisting of a U-shaped metal stamping having laterally extending flanges 20 on each side thereof. The flanges 20 rest upon a sheet of insulating fiber 21 which spaces the socket member from the joint section 5 and which is held in place by the rivets 18. It will be noted that the upper insulating plate 17 is slotted from the end of the track section as at 22 to permit the upper portion of the socket 19 to project upwardly therethrough. It will further be noted that the side rail sections 6a on the end of the female joint section are of uniform cross section and are not provided with reduced end sections 10 as in intermediate portions of the track.

The male joint section 4 at the opposite end of each track section is substantially identical to the female joint section with the exception that the web of the joint section 4 is downwardly offset in the center as at 23, (see Fig. 7) to receive the rivet 24 for pivotally receiving the latch arm 25. The arm 25 extends from the end of the track section and is provided with an upturned outer end 26 arranged to fit within and engage the end flange 15 on a female joint section 5, as illustrated in Fig. 5. It will be noted that the end flanges of the joint sections 4 and 5 are notched in the center as at 27 so that the latch arm 25 can extend therethrough without interfering with the flat engagement between the bottoms of the joint sections and the floor on which the track is supported. In commercial practice it is advisable to make each of the stampings which form the joint sections 4 and 5 of identical construction so that the joint sections differ only in that the female joint section is not provided with the latch arm 25 and rivet 24.

The rails of adjacent track sections are connected by connectors 28 which consist of folded wire elements shaped to provide longitudinally extending end folds 29 and depending prongs 30. The bight of the wire element between the legs 29 is upwardly offset as at 31 so that it will be substantially flush with the connected rail sections when the arms 29 are received telescopically within the connected rail sections. It will be noted that the large end 6 and 6a of the rail sections at each end of the track section telescopically receive the arms 29 and that the U-shaped cross section of the rail sections require that the legs 30 be positioned in a downwardly extending position to provide an operative track surface.

The clip for connecting the power source to the track is most clearly illustrated in Figs. 1 and 2 and consist of a pair of straps 32 secured together by the rivets 33 but insulated from each other by the strip of insulating material 34. The ends of the straps 32 are provided with longitudinally extending terminal flanges 35 which carry terminal bolts 36 for attaching power wires to the clip. The center portion of one of the straps 32 is notched and the other strap is longitudinally offset into the notch as at 37. The depending legs 30 on the connector 29a are lapped upon the sides of the offset and soldered thereto so that the connector electrically connects the strap to the center rails of two adjacent track sections. The depending legs 30 on the connectors 29b between the side rails are soldered to the other strap 32, thus providing independent

electrical connections to the side rails and to the center rail.

In order to assure continuous electrical contact between the side rail sections 6, I have provided a conductor strand 38 which is bent into horizontal zigzag shape as illustrated in Fig. 8 and which fits within the U-shaped cross section of each side rail. As described in my patent referred to above, the conductors 38 will expand or contract by flexing of their zigzag shape as the tie section is bent to form a curve as indicated by the dotted lines in Fig. 1.

The continuous flexible center rail 3 provides a smooth wearing surface for the contact shoe of toy locomotives and also provides a continuous springable connection between all of the ties 1 in a track section so that transverse bending of the track section occurs along a uniform curve and eliminates any tendency of the bending to be localized between any one rail section which may become loose with respect to other connections in the track section. The continuous center rail 3 also has a definite bridging effect to carry the track section across unsupported sections and to assure smooth vertical curves in the track section as it is extended over irregular supports such as the edges of rugs and bridge approaches. The continuous center rail also forms a more positive continuous electrical connection for the track than the sectional center rail illustrated in my patent. Within the elastic limits of the center rail 3, the track section can be made to assume smooth uniform horizontal and vertical curves or straight sections depending upon the desires of the person setting up the track and the track section will return to its original straight condition when released from adjacent track sections.

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

1. In combination with a toy railroad track having a series of tie elements connected by side rails of telescoping sectional construction, a center rail of continuous springable metal having a series of integral pins projecting from the lower edge thereof, said ties having elevated blocks defining apertures for receiving and firmly engaging said pins, joint sections of transversely extending U-shaped metal stampings secured to the ends of said side rails, a socket member of downwardly opening U-shaped cross section secured to each end of said center rail and having laterally turned flanges on the lower edges thereof spaced from said joint sections by a flat insulator, an insulating plate vertically engaging said flanges and transversely engaging said socket members and secured to said joint sections to space said sockets from said side rails, and a latch arm pivotally secured to one of said joint sections and adapted to be swung into locking engagement with an adjacent joint section, the other of said joint sections having a keeper portion adapted to coact with a similar latch arm on another section.

2. In combination with a toy railroad track having a series of tie elements connected by side rails of sectional construction, a center rail of continuous springable metal having a series of pins projecting from the lower edge thereof, said ties having elevated blocks defining apertures for receiving and firmly engaging said pins, joint sections of metal stampings of transversely U-shaped cross section secured to the ends of said side rails, a socket member of downwardly

opening U-shaped cross section secured to each end of said center rail and having laterally turned flanges on the lower edges thereof spaced from said joint sections by a flat insulator, an insulating plate vertically engaging said flanges and transversely engaging said socket members and secured to said joint sections to space said sockets from said side rails, and a latch arm pivotally secured to one of said joint sections and adapted to be swung into locking engagement with an adjacent joint section, the other of said joint sections having a keeper portion adapted to coact with a similar latch arm on another section.

3. In combination with a toy railroad track having a series of tie elements connected by side rails of sectional construction, a center rail of continuous flat springable metal having a series of integral pins projecting from the lower edge thereof, said ties having elevated blocks defining apertures for receiving and firmly engaging said pins, joint sections of transversely U-shaped cross sectional metal secured to the ends of said side rails, a socket member of downwardly opening U-shaped cross section secured to each end of said center rail and having laterally turned flanges on the lower edges thereof spaced from said joint sections by an insulator, means engaging said socket members and secured to said joint sections to space said sockets from said side rails, and a latch arm pivotally secured to one of said joint sections and adapted to be swung into locking engagement with an adjacent joint section, said means forming an insulating connection between said side rails, socket members and joint sections.

4. In combination with a toy railroad track having a series of tie elements connected by rails of sectional construction, a third rail of continuous flat springable metal having a series of integral pins projecting from the lower edge thereof, said ties defining apertures for receiving and firmly engaging said pins, joint sections of metal secured to the ends of said rails, a socket member of downwardly opening U-shaped cross section secured to each end of said third rail and having laterally turned flanges on the lower edges thereof spaced from said joint sections by a flat insulator, and an insulating plate vertically engaging said flanges and transversely engaging said socket members and secured to said joint sections to space said socket from said other rails.

5. A center rail for a toy railroad comprising a flat solid strip of metal having a continuous upper wheel supporting edge of rounded cross section and cut away along the lower edge thereof to provide a series of equally spaced depending integral pins along the lower edge thereof and adapted to be received in holes provided therefor in supporting tie members, the ends of said rail being received and clampingly engaged in socket members of downwardly opening channel cross section, said socket members having laterally turned attaching flanges on the lower edges thereof and defining vertically oblong sockets opening from the ends of said rail.

6. A center rail for a toy railroad comprising a flat solid strip of metal cut away along the lower edge thereof to provide a series of equally spaced depending integral pins along the lower edge thereof and adapted to be received in holes provided therefor in supporting tie members, the ends of said rail being received and clampingly engaged in socket members of downwardly opening channel cross section, said socket members having laterally turned attaching flanges on the lower edges thereof and defining sockets opening from the ends of said rail.

7. A third rail for a toy railroad comprising a flat solid strip of metal, a series of equally spaced depending integral pins along the lower edge of said strip and adapted to be received in holes provided therefor in supporting tie members, the ends of said rail being received and clampingly engaged in socket members of downwardly opening channel cross section, said socket members having laterally turned attaching flanges on the lower edges thereof and defining sockets opening from the ends of said rail.

8. A third rail for a toy railroad comprising a flat solid strip of metal, a series of spaced depending pins along the lower edge of said strip and adapted to be received in holes provided therefor in supporting tie members, the ends of said rail being received in socket members of downwardly opening channel cross section, said socket members having laterally turned attaching flanges on the lower edges thereof and defining sockets opening from the ends of said rail.

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