Oct. 20, 1931. J. C. KOERBER 1,828,536

TRACKWAY FOR TOY RAILWAYS

Filed Jan. 30, 1929

Fig. 1.

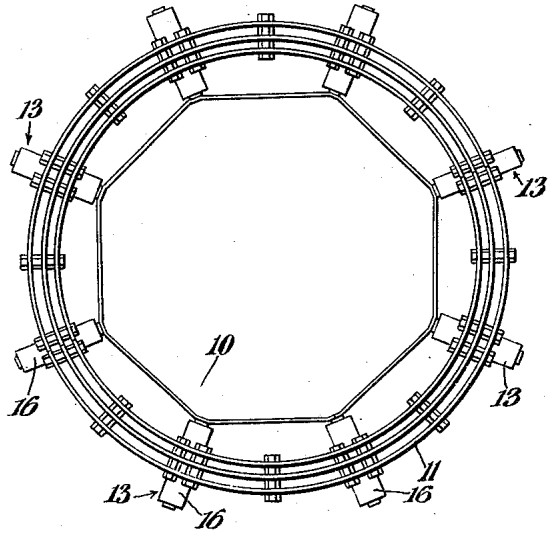


Fig. 2.

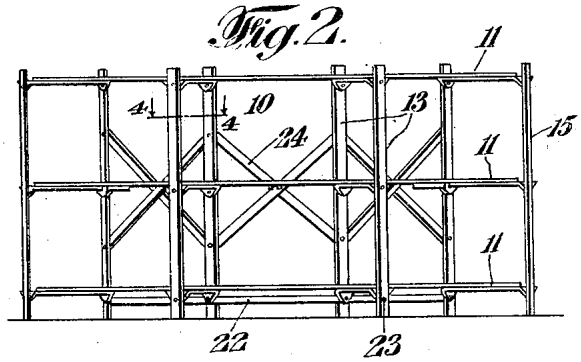


Fig. 3.

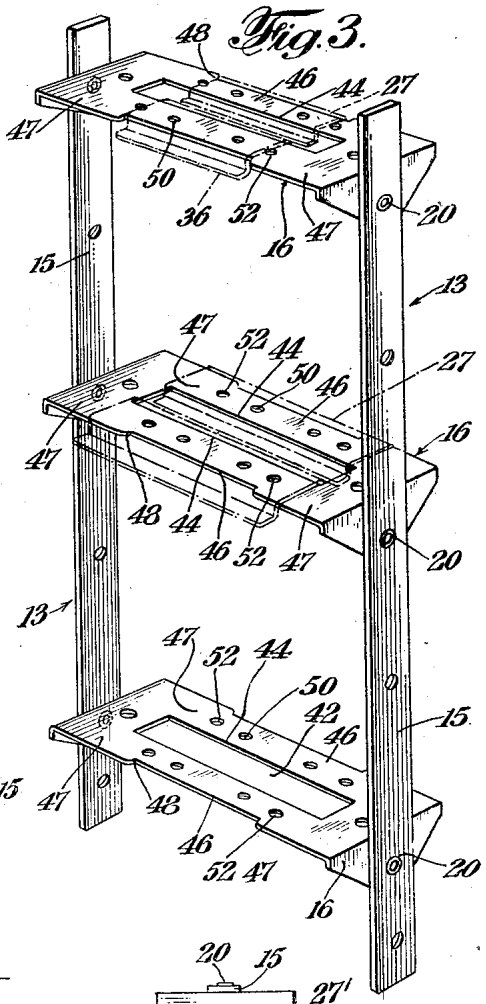


Fig. 4.

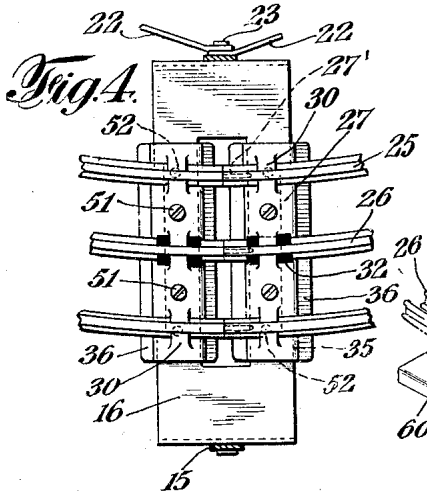


Fig. 5.

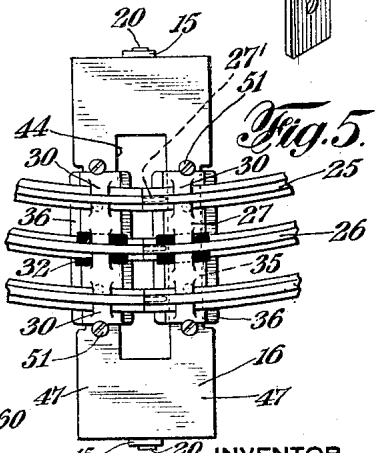
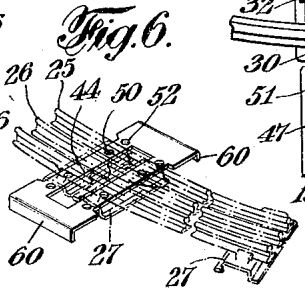


Fig. 6.



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UNITED STATES PATENT OFFICE

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TRACKWAY FOR TOY RAILWAYS

Application filed January 30, 1929. Serial No. 336,028.

This invention relates to trackways for toy railways and more particularly to an improved means for supporting or for connecting together successive sections of a toy railway track.

Toy railway tracks now in use are customarily formed of sections each of which comprises two or more rails connected together by supporting ties. To connect these sections together so as to form a continuous track the rails of the sections are usually provided at their ends with projecting pins which are received in openings in the ends of corresponding rails of adjacent sections. This means for connecting the sections together is generally satisfactory when the pins of one section fit tightly into the openings in the next section, but in many cases, as, for example, when the pins have become worn through use, they do not hold the sections firmly together and the sections are apt to become separated.

One object of my invention is to overcome this disadvantage by providing an improved means for connecting the track sections together. A further object of my invention is to provide a means of this character which is adapted to be employed with sections of either wide gauge or narrow gauge track. My improved track connecting means is adapted to be applied to a track laid in the customary manner on a floor or other track support, or such means may be incorporated in an elevated trackway structure and serve not only to connect the sections together, but also to support the sections in an elevated position. A further object of my invention, therefore, is to provide an elevated trackway structure, employing an improved means for supporting and connecting together successive sections of the track.

The elevated trackway structure herein disclosed comprises a number of supporting units which may be assembled in different ways so as to support one track or a plurality of tracks, one above the other, and such units are provided with means adapted to engage and hold the adjacent ties of successive track sections. A further object of my invention is to provide an improved elevated trackway structure of this general character.

Other objects of my invention include the provision of an improved track connecting and supporting means, which is simple and economical in construction and is strong and durable in use.

Further objects and advantages of my invention will appear from the following description taken in connection with the accompanying drawings, wherein:

Figure 1 is a top plan view of a trackway embodying one form of my invention.

Figure 2 is a side elevation of the structure shown in Figure 1, certain of the parts being omitted.

Figure 3 is an enlarged perspective view of one of the track supporting frames employed in the structure shown in Figures 1 and 2 and showing the manner in which the adjacent track ties of successive sections of track are supported by the frame.

Figure 4 is a sectional view taken on the line 4—4 of Figure 2, showing one of the cross bars of a supporting frame and showing adjacent ends of two wide gauge track sections supported by the cross bar.

Figure 5 is a view similar to Figure 4 but showing the same cross bar supporting adjacent ends of narrow gauge track sections, and

Figure 6 is a perspective view of a modified means for connecting together successive sections of track, as these sections are usually laid on a flat support.

Referring to Figures 1 and 2 of the drawings, reference character 10 represents a circular trackway structure which serves to support three circular tracks 11, one above the other.

The structure 10 comprises a circular series of rectangular frames 13 which are spaced from and inclined to one another, these frames as shown being positioned in planes which radiate from a common centre.

The frames 13 are each formed of two side bars 15 and a series of cross bars or members 16, the latter preferably being formed of sheet metal turned down at their ends and clipped or riveted to the side bars 15 by eyelets 20 as shown in Figure 3. The eyelets 20 at opposite ends of the cross bars are preferably positioned at different distances from the body

of the bar, so as to support the bar at an inclination to the horizontal and in this manner raise the outside rail somewhat above the inside rail.

In assembling the frames 13 to form a self supporting trackway structure, the frames may be joined to one another by connecting bars 22, the ends of each bar 22 being secured to the corresponding side bars 15 of successive frames of the series, by bolts or rivets 23 which extend through the ends of the connecting bars 22 and through openings in the side bars 15. I may if desired connect the series of frames together by a lacing formed of metal bars such as is shown at 24 in Figure 2. The tracks 11 which extend from frame to frame and are secured to corresponding cross-bars 16 of each successive frame also serve to hold the frames together and aid in forming a strong and substantially rigid trackway structure.

The track 11 is formed of sections joined end to end, each section being of the standard form and comprising wheel-bearing rails 25 of sheet metal bent to form a tubular head and supporting flanges and a third rail 26 of similar construction which forms a conductor for supplying current to electric motor cars on the track. One end of each rail of each section carries a projecting pin 27′ adapted to be received in the tubular opening in the adjoining rail end of the next section so as to secure the sections together and make the track continuous.

The three track rails of each section are secured together by transverse ties 27 of sheet metal which are cut to form lugs 30 that are bent around the bottoms of the flanges of the rails to secure the rails in position on the ties. The third rail 26 is insulated from the tie by a strip of insulating material 32 interposed between the rail and the metal of the tie, this strip extending across the bottom of the rail.

The ties 27 are of inverted U shape in cross section, being formed with a bottom channel 35. The lower edges of the tie are bent outwardly to form feet or flanges 36. In the track construction shown, certain of the ties are supported on the cross-bar 16 of the frames 15 and each of the cross-bars is constructed to support two adjacent ties of successive sections of track. For this purpose the cross-bar or plate 16 is formed with an elongated central opening 42 which divides the bar intermediate its ends into side strips or portions 44. The adjacent ties of successive sections rest on the two strips 44 of a cross-bar, each strip extending through the channel of the tie and bearing against the upper inner face of the channel as is shown in dot and dash lines in Figure 3.

Adjacent ends of track sections both of wide or of narrow gauge may be supported by the cross-bars 16. The ties of a standard narrow gauge track are of similar form to the ties of wide gauge track but are shorter and narrower and are normally positioned with their centers somewhat nearer the adjacent ends of the rails. To accommodate both the narrow gauge and wide gauge ties the side strips 44 of the cross-bars are formed with a relatively narrow center portion 46 and relatively wide end portions 47, the narrow portion being formed by cutting away the outer edges of the strips as indicated at 48. The strips 44 are approximately the length of the wide gauge ties and the width of the wide portions 47 of the strips is approximately the width of the channel of the wide gauge tie, so that when the wide gauge tie is fitted to the strip it embraces substantially the whole strip and is held against sidewise movement by the bar at the ends of the openings 42. The narrow portions 46 are of approximately the length of the narrow gauge ties and substantially the width of the channel of the narrow gauge tie, so that when the narrow gauge tie is fitted to the strip it embraces substantially the whole of the narrow portion 46.

Figure 4 shows wide gauge track applied to the cross-bar and Figure 5 shows narrow gauge track so applied: and I have also shown, in dot and dash lines, in Figure 3 both wide and narrow gauge ties attached to different cross-bars of the frame 15. It will be noted because of the narrowing of the strip 44 from the outside edge that the centres of the narrow gauge ties are nearer together than the centres of the wide gauge ties. These distances correspond to the standard spacing of the centres of wide and narrow gauge tracks.

As a means for securing the wide gauge ties to the cross bars I provide openings 50 in the supporting strips which are adapted to receive bolts or other securing devices 51 which extend through the metal of the wide gauge tie and I also provide these strips with openings 52 which are adapted to receive bolts for clamping the ends of the narrow gauge ties to the supporting strip. It will of course be understood that I may employ other devices for securing the tie to the strip such for example as a spring clip or a locking lever or spring latch.

It will be noted that the insulating strip 32 which extends across the bottom of the third rail and insulates the third rail from the tie also insulates the third rail from the cross bar 16.

It will be seen that the cross bars being secured to the side bars 15 of the frame at each end by a single rivet may be turned on the rivets as a pivotal axis. These cross bars are shown in a horizontal position, connecting together sections of a horizontal track. It is however apparent that they may be tilted for connecting together the sections of an inclined track.

Thus the frames constructed and arranged as shown in Figures 1 and 2 are adapted to support a single or a plurality of spiral tracks instead of the three horizontal tracks shown. Frames similar to the frame 13 and provided with tiltable track supporting cross bars may also be employed to form an inclined approach to a bridge.

In Figures 1 to 5 I have shown the cross bars 16 as forming part of an elevated track structure. Devices of a similar construction, however, may be used generally for connecting together adjacent sections of track, whether the track is elevated or laid in the usual manner on a floor or table. Thus in Figure 6 I show a track connector adapted to be applied to a track as usually laid. The connector shown in Figure 6 is of similar construction to the cross bar 16 except that it is turned down at the ends to form supporting flanges or feet 60. I have shown in dotted lines in Figure 6 the connector applied to a narrow gauge track. It will be seen that the ties of the track rest in the usual manner on the floor or flat support and the feet 60 of the track connector serve to raise the strips 44 of the connector so that they lie in the channels of the track ties.

When applied to the track as shown in Figure 6 the track connector serves to prevent separation of the track sections in case the pins 27 do not fit tightly in the openings in the adjacent rail ends. To prevent separation of the track sections it is not ordinarily necessary that the track connector be secured to the ties, although if it is desired to form the successive track sections into a rigid continuous track, some suitable means for securing the connector to the track ties may be employed.

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

1. An elevated trackway structure for toy trains comprising side supporting members, cross-bars connecting said members, sheet metal ties having longitudinal bottom channels secured to said cross-bars with said cross-bars extending through said channels, and track rails secured to the tops of said ties, the tops of said ties being cut to form lugs which are bent around the rails to secure them in position.

2. An elevated trackway structure for toy trains comprising side supporting members, track suporting cross-bars connecting said members, rail supporting members formed of sheet metal bent downwardly at the sides of said cross-bars, a piece of flexible insulating material between one of said rails and a sheet metal member, and between said one rail and said cross-bar.

3. In a trackway for toy trains comprising a series of frames composed of metal side bars having openings therethrough; metal track supporting cross-bars having openings therethrough and having angular ends formed with openings; securing means extending through the openings in said ends and through certain of the openings in said side bars; a track having ties extending along and supported on said cross-bars and means extending through certain of the openings in said cross-bars for securing said ties to said bars; other of the openings in said cross-bars being adapted to receive fastening means for securing a track of different gauge to said cross-bars.

4. In a toy track structure, means for securing with respect to one another adjacent ties of successive track sections, said means comprising a portion adapted for holding engagement with track sections of one gauge and a portion adapted for holding engagement with track sections of different gauge.

5. In a toy track structure, means for securing with respect to one another adjacent ties of successive track sections, said means comprising a portion adapted for holding engagement with ties of track sections of one gauge and a portion adapted for holding engagement with ties of track sections of different gauge.

6. A removable device for holding together sucessive sections of a toy railway track, comprising spaced means adapted for holding engagement with track sections of different gauge.

7. A removable device for holding together successive toy railway track sections comprising a metal member having tie engaging portions adapted for holding the adjacent ties of said sections, said portions being adapted for holding engagement with ties of sections of different gauge track.

8. Means for holding in spaced relation adjacent channeled ties of successive track sections consisting of spaced supporting strips adapted to extend through the tie channels and means for securing said strips to said ties.

9. Means for holding adjacent channeled ties of successive sections of wide or of narrow gauge track, said means consisting of spaced supporting strips adapted to extend through the tie channels and means for securing said strips to said ties, said strips being each formed with a wide portion for holding engagement in the channels of ties of wide gauge tracks and with a narrow portion for holding engagement in the channels of ties of narrow gauge track.

10. A supporting means for toy railway tracks, comprising a strip of metal having wide and narrow portions for holding engagement respectively in the channels of wide and narrow gauge track ties.

11. A supporting means for toy railway tracks, comprising a strip of metal having wide and narrow portions for holding en-

gagement respectively in the channels of wide and narrow gauge track ties and releasable means for securing said portions in said channels.

12. Means for holding adjacent channeled ties of two connected sections of toy railway track, comprising a metal plate having a central slot which divides the plate between its ends into two side strips, said strips being formed with wide and narrow portions adapted for holding engagement respectively with the channels of the ties of wide and narrow gauge track.

13. Means for holding adjacent channeled ties of two connected sections of toy railway track, comprising a metal plate having a central slot which divides the plate between its ends into two side strips, said strips being formed with wide and narrow portions adapted for holding engagement respectively with the channels of the ties of wide and narrow gauge track, and releasable means for securing said portions in said channels.

14. A track supporting frame adapted for assembly in a toy trackway structure comprising side bars and tie supporting cross-bars pivotally connected at their opposite ends to the side bars, whereby said cross-bars may be adjusted to accommodate tracks of different grades.

15. Means for holding adjacent channeled ties of successive track sections, consisting of a bar shaped to form holding strips adapted to extend through the tie channels and bar supporting means at the ends of said bar.

16. Means for holding adjacent channeled ties of successive track sections, consisting of a bar shaped to form spaced holding strips adapted to extend through the tie channels, the ends of said bar being bent downwardly to form supporting feet.

17. A removable device for holding together successive sections of toy railway track, comprising spaced means adapted for holding engagement with track sections of different gauge, and means for supporting said first named means.

18. A holding means for toy railway tracks comprising strip metal having wide and narrow portions for holding engagement respectively in the channels of wide and narrow gauge track ties, said strip being bent downwardly at its ends to form supporting feet.

19. A holding means for adjacent channeled ties of successive track sections, comprising a tie engaging portion consisting of a member adapted to extend into and fit a tie channel.

20. Means for securing with respect to one another adjacent channeled ties of successive toy railway track sections, comprising a tie engaging strip adapted to extend through a tie channel.

21. Means for securing with respect to one another adjacent channeled ties of successive toy railway track sections, comprising a tie engaging strip adapted to extend through a tie channel and a bolt extending through said strip and tie for securing the strip and tie together.

22. Means for securing with respect to one another adjacent channeled ties of successive track sections consisting of spaced members adapted to fit in the tie channels.

23. Means for securing with respect to one another adjacent channeled ties of successive track sections consisting of spaced members adapted to fit in the channels of ties of tracks of different gauge.

24. In a device of the class described, a supporting structure comprising a circular series of flat side bars, flat sheet metal track supporting cross-bars having their ends bent for a tachment to said side bars, means extending through said side bars and ends for connecting the side bars and cross bars to one another and a curved trackway supported on said cross bars, said trackway comprising sections which connect the cross bars and assist in forming, with the cross bars and side bars, a rigid supporting structure.

Signed at New York, in the county of New York and State of New York, this 18 day of January A. D. 1929.

JOHN C. KOERBER.