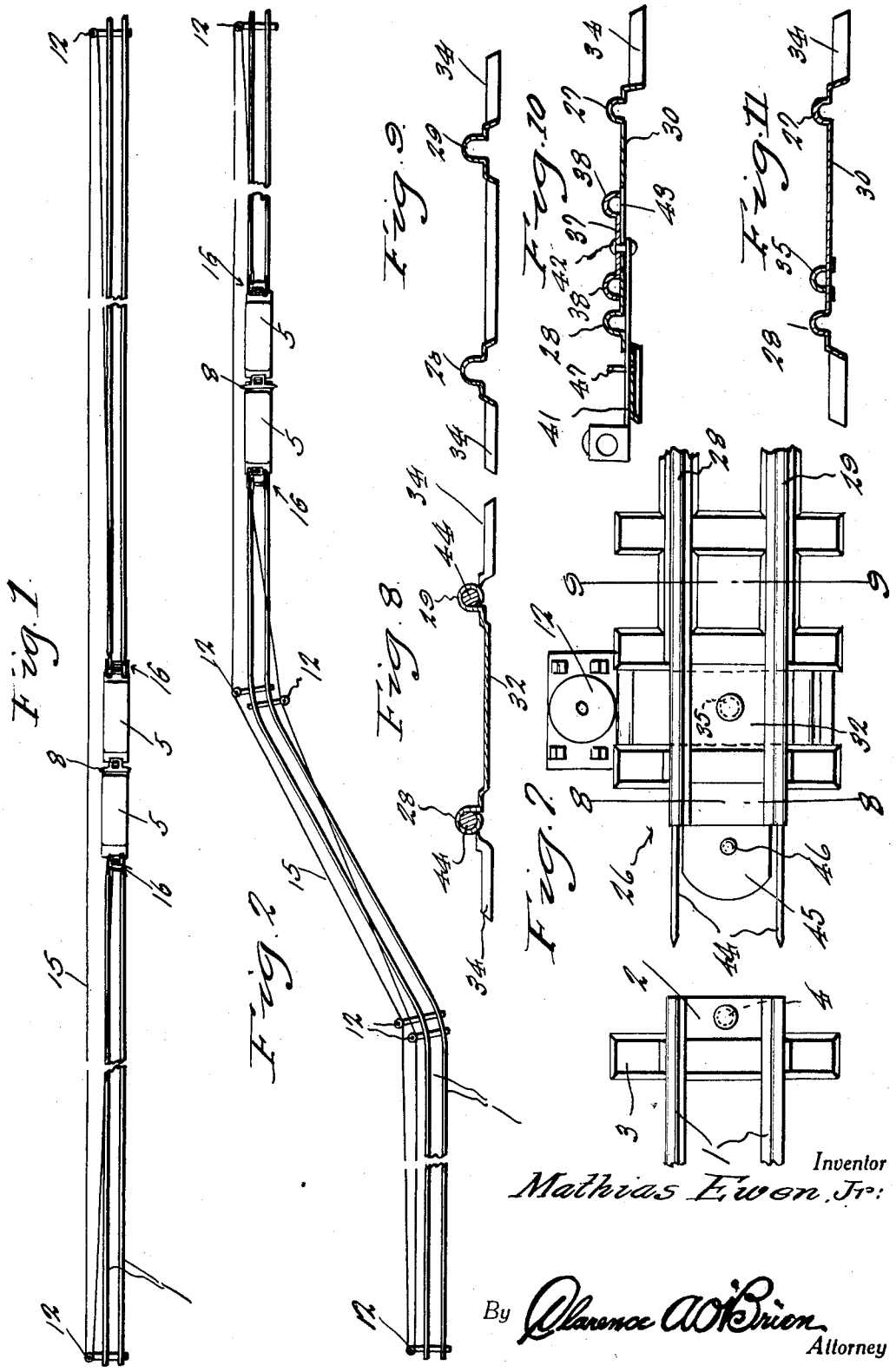
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Fig. 12.

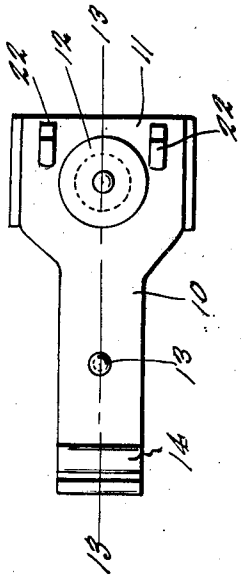


Fig. 13.

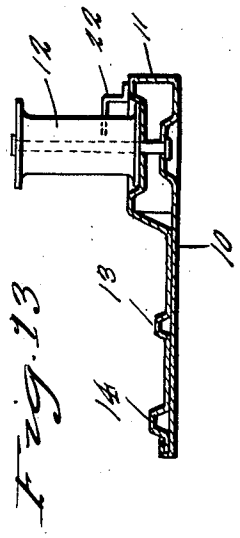


Fig. 15.

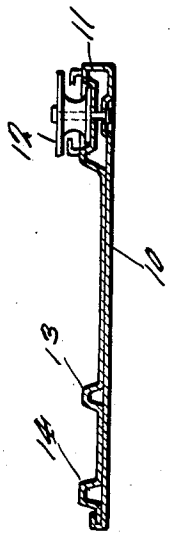


Fig. 3.

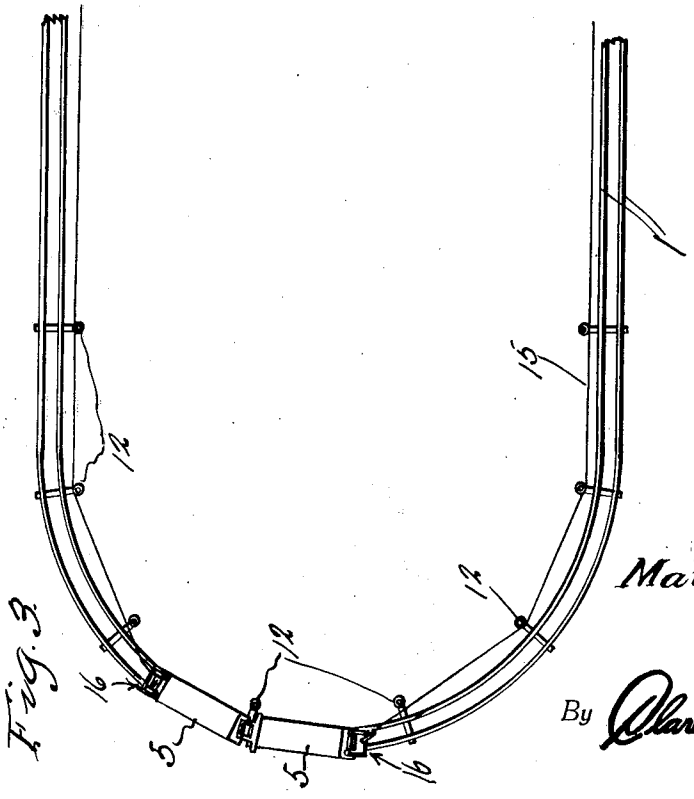
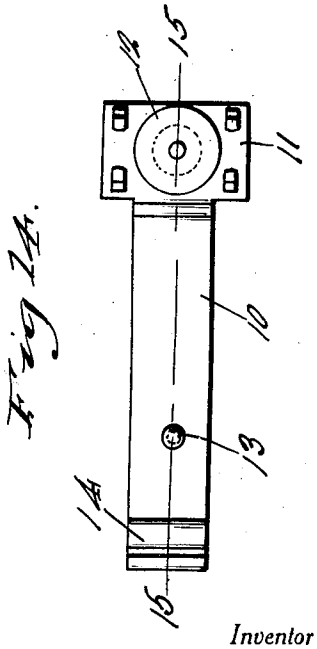


Fig. 14.



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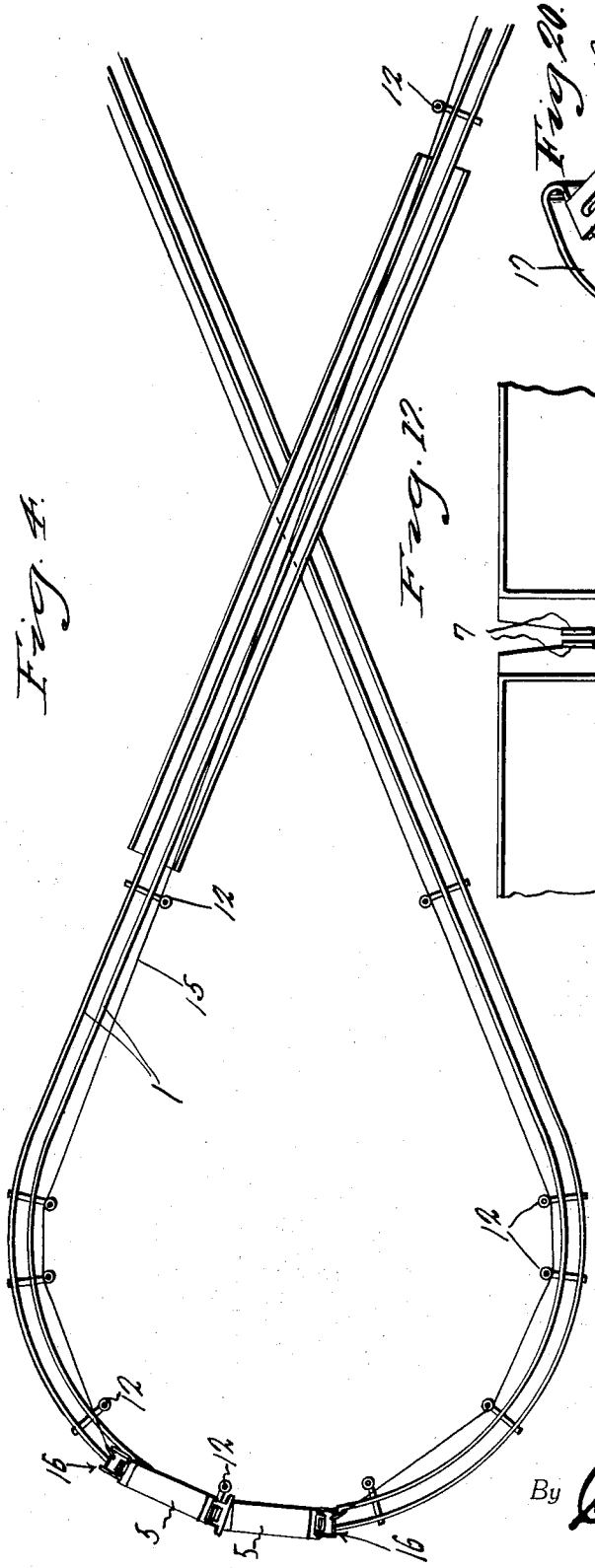
By Clarence A. O'Brien

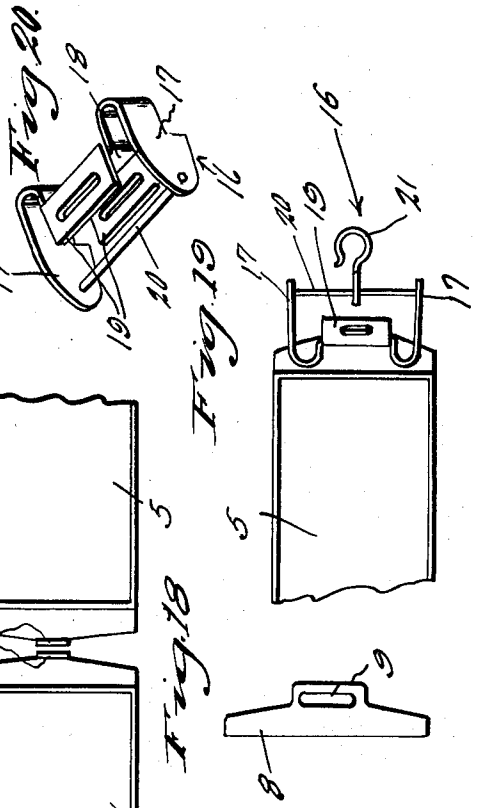
Attorney

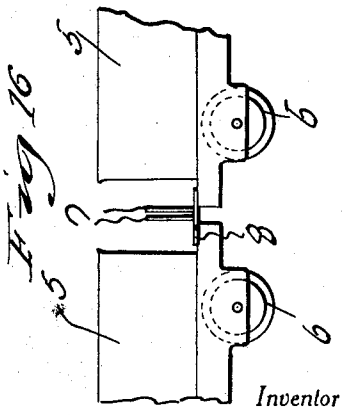
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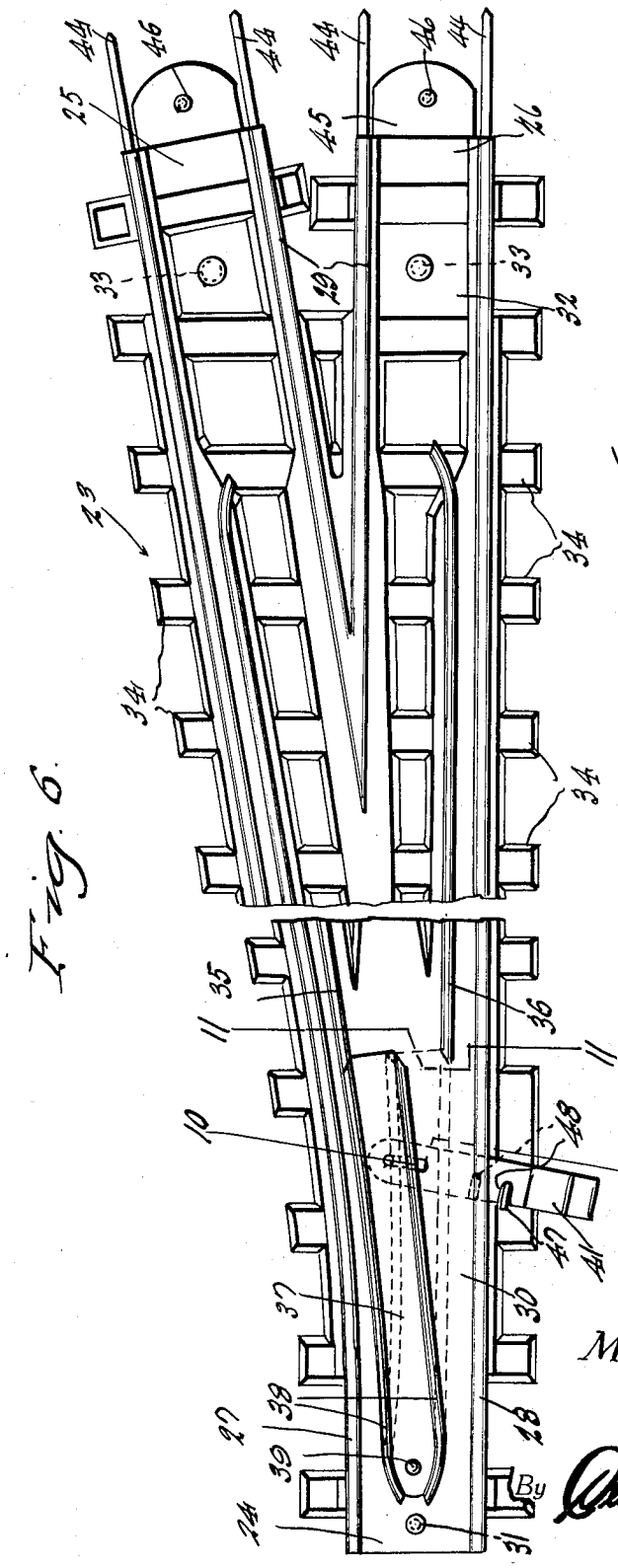


Fig. 6.

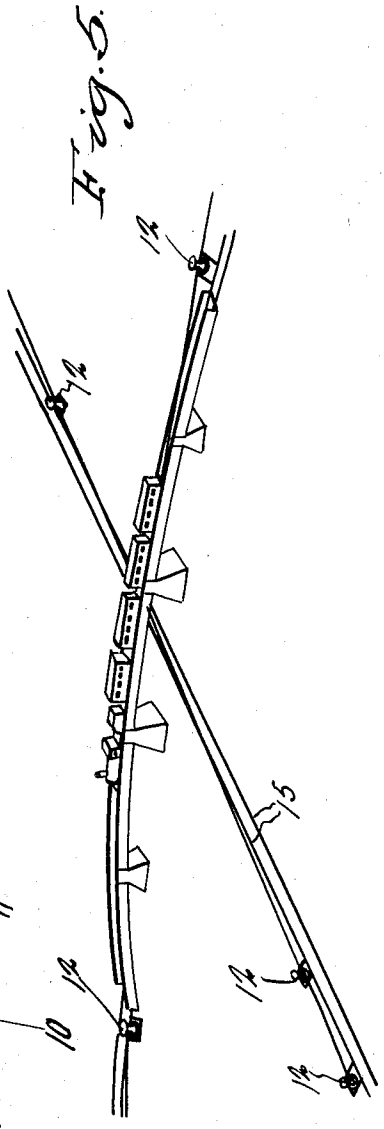


Fig. 5.

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UNITED STATES PATENT OFFICE

1,931,606

TOY RAILROAD

Mathias Ewen, Jr., Evansville, Ind.

Application June 11, 1931. Serial No. 543,713

2 Claims. (Cl. 238—10)

This invention relates to a toy railroad and has for one of its important objects to provide, in a manner as hereinafter set forth, a device of this character embodying a novel construction, combination and arrangement of parts through the medium of which a train of cars may conveniently be manually propelled in opposite directions on the track.

Another important object of the invention is to provide a toy railroad embodying a novel construction of switch.

Still another important object of the invention is to provide a toy railroad embodying novel means for coupling the cars and for attaching the operating cable to the outer ends of the end bars.

Other objects of the invention are to provide a toy railroad which will be simple in construction, strong, durable, amusing and instructive and which may be manufactured at low cost.

All of the foregoing and still further objects and advantages of the invention will become apparent from a study of the following specification, taken in connection with the accompanying drawings wherein like characters of reference designate corresponding parts throughout the several views, and wherein:—

Figure 1 is a diagrammatic view showing an embodiment of the invention.

Figure 2 is a diagrammatic view showing another embodiment of the invention.

Figure 3 is a diagrammatic view showing a curved portion of the toy railroad with the cars thereon.

Figure 4 is a diagrammatic view showing another form of the railroad.

Figure 5 is a diagrammatic view in perspective showing the crossover portion of the form of the invention illustrated in Figure 4.

Figure 6 is a plan view of the switch.

Figure 7 is a plan view of one end portion of the switch.

Figure 8 is a cross sectional view taken substantially on the line 8—8 of Figure 7.

Figure 9 is a cross sectional view taken substantially on the line 9—9 of Figure 7.

Figure 10 is a cross sectional view taken substantially on the line 10—10 of Figure 6.

Figure 11 is a cross sectional view taken substantially on the line 11—11 of Figure 6.

Figure 12 is a detail view in top plan of one of the cable guide pulleys and its supporting base.

Figure 13 is a cross sectional view taken substantially on the line 13—13 of Figure 12.

Figure 14 is a detail view in top plan of another of the cable guide pulleys and its supporting base.

Figure 15 is a cross sectional view taken substantially on the line 15—15 of Figure 14.

Figure 16 is a detail view in side elevation showing the adjacent end portions of a pair of cars with the coupling means therefor.

Figure 17 is a view in top plan showing the adjacent end portions of a pair of cars disconnected.

Figure 18 is a detail view in top plan of one of the car connectors.

Figure 19 is a detail view in top plan showing an end portion of one of the cars with the means for connecting the actuating cable thereto.

Figure 20 is a detail view in perspective of the device for connecting the actuating cable to the cars.

As will be apparent from a consideration of Figures 1 to 4, inclusive, of the drawings, the track may be in any desired form in top plan or configuration, such as straight, as seen in Figure 1; with longitudinally offset portions, as seen in Figure 2, substantially oval as seen in Figure 3, or substantially the numeral 8, as seen in Figure 4. Of course, the track may be in any other desired form.

The track is in sections, each section being stamped from sheet metal and formed to provide the rail portions 1 and the connecting webs 2 adjacent which are the cross members 3 representing ties which project laterally beyond the rails 1. Pressed upwardly in the web portions 2 are projections which provide sockets 4 communicating with the lower sides of the webs and the purpose of said sockets will be presently set forth.

A train of any desired number of cars may be mounted to travel in opposite directions on the track, the cars being designated by the reference numeral 5. The cars are equipped with the flanged wheels 6 for travel on the rails 1. On the ends of the cars are rigidly mounted the upstanding bars 7. The cars are doubled with each other through the medium of a connector 8 having an enlarged intermediate portion provided with a slot 9 for the reception of the bars 7 on the adjacent ends of the cars. The bars 7 fit loosely in the slot 9 to permit the cars to be disposed at an angle with respect to each other as when rounding a curve, as illustrated in Figures 3 and 4 of the drawings.

Associated with the track and at spaced points are the brackets 10 which are formed from sheet metal which is bent upon itself and formed to

provide a raised portion 11 upon which a vertically disposed pulley 12 is mounted for rotation. The brackets 10 extend under the rails 1 and the webs 2 between the ties 3 and are provided with the upstanding, substantially conical projections 13 for engagement in the sockets 4 of the webs 2. The brackets 10 are further formed with the upstanding ribs 14 for disposition between the ties 3 adjacent the outer side of one of the rails 1. The ends of the ribs 14 abut the sides of the ties 3. The raised portions 11 of the brackets 10 are disposed between the other end portions of the ties 3 adjacent the outer sides of the other rail 1. When the track is straight, as seen in Figure 1 of the drawings, the pulleys 12 may be disposed on either side thereof but when the track is curved the pulleys must be disposed on the inside of the curve.

A cable 15 is trained on the pulleys 12 and has its ends connected to the outer ends of the outermost cars of the train by a coupling which is designated generally by the reference numeral 16 and illustrated to advantage in Figures 19 and 20 of the drawings. The coupling 16 comprises a bracket which includes a pair of spaced, opposed arms 17 on the ends of a connecting portion 18 having an inwardly offset intermediate portion provided with the vertically spaced, opposed flanges 19 having vertically aligned slots therein for loosely receiving the bar 7 on the outer or free end of the car 5 with which the coupling is to be engaged. The coupling 16 further comprises a transverse bar 20 extending between the free end portions of the arms 17 and upon which a hook 21 is mounted for sliding movement. The cable 15 is engaged with the hook 21.

When the track includes an overhead crossover, as is seen in Figures 4 and 5 of the drawings, the elongated pulleys of the type illustrated in Figures 12 and 13 are used adjacent the crossover portion of the track while the comparatively short pulleys illustrated in Figures 14 and 15 of the drawings are used on the straight portions of the track. Cable guide clips or fingers 22 are mounted on the brackets 10 which are provided with the elongated pulleys. These elongated pulleys permit the cable 15 to rise and fall as the train passes over the crossover.

The track may further embody a switch which is designated generally by the reference numeral 23. The switch 23 comprises a single track end portion 24 and the branches 25 and 26. The main portion of the switch 23 is stamped from sheet metal formed to provide the outer rails 27 and 28 which extend from the free end of the end portion 24 to the free ends of the branches 25 and 26, respectively. The switch further includes the inner rails 29 which merge in a point at their inner ends. The single track end portion 24 of the switch 23 includes the web 30 extending between the rails 27 and 28 and provided, adjacent its outer or free ends, with an upwardly pressed lug providing a socket similar to the sockets 4 as designated by the reference numeral 31. The branches 25 and 26 of the switch are also formed to provide the webs 32 having the sockets 33 therein extending upwardly from their lower sides, said sockets 33 also being similar to the socket 4. The switch 23 still further includes the integral cross members 34 which represent the cross ties.

The switch 23 is provided with guide rails 35 and 36 disposed in spaced parallelism with the rails 27 and 28, respectively. Mounted for swinging movement in a horizontal plane on the web 30 is a point 37 having the rails 38 on its longitudinal marginal portions for selective engagement with the guide or guard rails 35 and 36. The point 37 is pivotally connected to the web 30 at 39. At their forward end portions, the rails 38 converge. The point 37 is manually actuated through the medium of a bar 41 having one end pivotally connected to said point through the medium of the bolt 42 which is operable in a slot 43 provided therefor in the web 30.

The end portions of the rails 27, 28 and 29 and also the adjacent end portions of the rails 1 of the adjacent track sections are in the form of loops or of substantially circular cross section as illustrated to advantage in Figure 8 of the drawings for the reception of the pins 44 for connecting the switch and the adjacent ends of the tracks together. The track sections may be similarly connected if desired. Plates 45 are also provided for connecting the switch to the ends of the track, said plates 45 being provided with upstanding lugs 46 for engagement in the sockets 31 and 33 and the adjacent sockets 4 of the switch and adjacent track sections, respectively. The plates 45 are disposed longitudinally beneath the adjacent end portions of the switch and the track sections.

The reference numeral 47 designates an upstanding lug on the switch for selective engagement in the notches 48 provided therefor in one side of the bar 41 for securing the point 37 in the desired position. It will be noted that the frog constituted by the rails 29 is disposed between the intermediate portions of the guard or guide rails 35 and 36. It will further be noted that the web 30 is formed to provide extensions which are disposed adjacent opposite sides of the frog portion of the switch.

In operation, the train cars may be manually moved in opposite directions by simply operating the cable 15 as will be apparent. It will also be seen that the cable may be gripped at any desired point. As before stated, the connector 8 couples the cars together in a manner to permit said cars to be disposed at an angle with respect to each other when rounding a curve. The hooks 21 to which the ends of the cable 15 are secured also facilitate the movement of the cars around a curve by reason of the fact that said hooks are slidable on the rods 20 of the couplers or connectors 16.

When the railway embodies a switch 23 the train may be directed over the branch 25 by disposing the point 37 in the position illustrated in full lines in Figure 6 of the drawings or over the branch 26, which constitutes a main line, by disposing the point 37 in the position indicated in broken lines in Figure 6 of the drawings. When the train is to be directed over the branch 25 and the point 37 is disposed as shown in full lines, the wheels on one side of the cars engage the rail 38 on the corresponding side of the point 37 and are caused thereby to follow the switch rail 27. Said wheels, after leaving said corresponding rail 38, traveling along the guard or guide rail 35, until after the wheels pass the frog of the switch. The wheels on the other side of the cars travel on their flanges over the web 30 until the frog is reached after which said other wheels travel over one of the inner rails 29 of the switch. When the point 37 is thrown to the position shown in broken lines in Figure 6, the train will be caused to follow the branch 26, the

wheels on said one side of the cars traveling across the web 30 on their flanges.

It is believed that the many advantages of a toy railroad constructed in accordance with the present invention will be readily understood, and although the preferred embodiment of the invention is as illustrated and described, it is to be understood that changes in the details of construction and in the combination and arrangement of parts may be resorted to which will fall within the scope of the invention as claimed.

What is claimed is:—

1. A toy railroad comprising a track including straight and curved portions, a plurality of pulleys disposed adjacent the track, a train of cars mounted for travel on the track, and a flexible cable trained on the pulleys and having its ends slidably connected to the ends of the train, said cable constituting means for manually moving the train throughout the extent of said track in opposite directions and being free of obstruction intermediate its ends so as to pass freely over said pulleys.

2. A toy railroad comprising a track including straight and curved portions, a plurality of vertically disposed pulleys disposed adjacent the track, a train of cars mounted for travel on the track, and a flexible cable trained on the pulleys and having its ends slidably connected to the ends of the train, said cable constituting means for manually moving the train throughout the extent of said track in opposite directions and being free of obstruction intermediate its ends so as to pass freely over said pulleys.

MATHIAS EWEN, JR.