

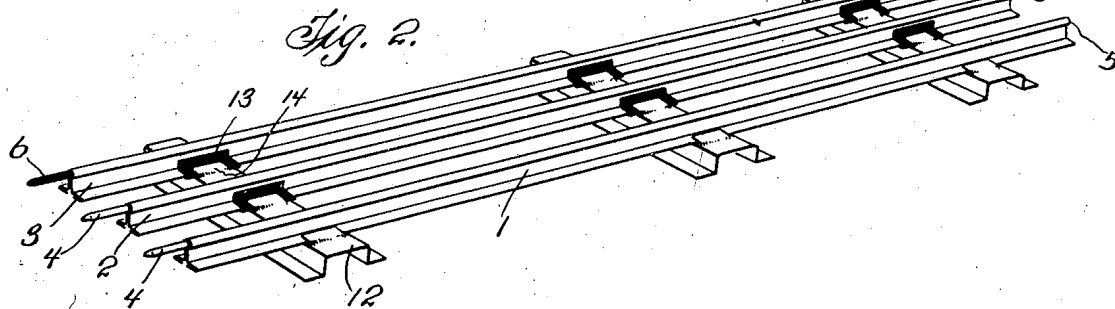
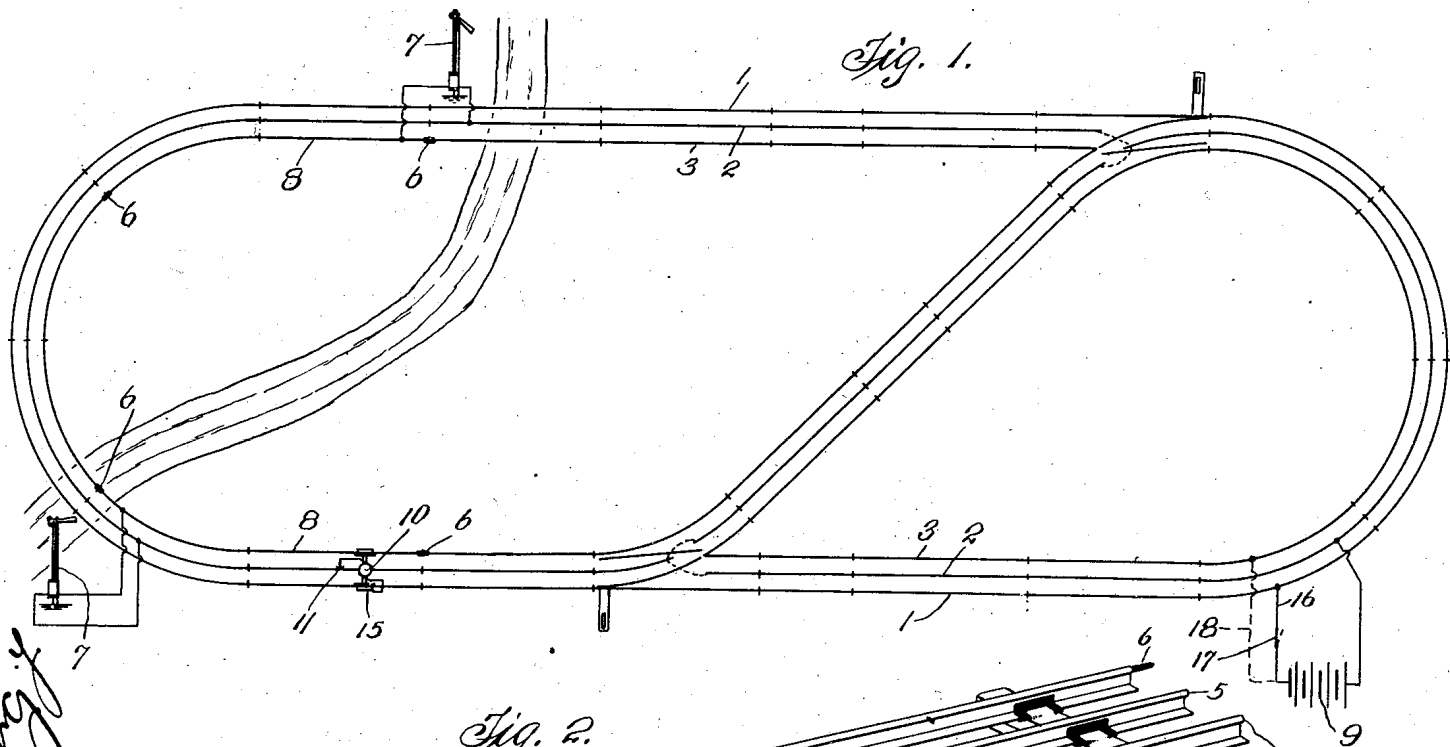
July 19, 1927.

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1,636,416

TRACK FOR TOY ELECTRIC TRAINS

Filed Nov. 19, 1921



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TRACK FOR TOY ELECTRIC TRAINS.

Application filed November 19, 1921. Serial No. 516,381.

This invention relates to toy electric trains, or rather to the trackage for such trains.

An object of the invention is to provide means whereby the passage of a train over a given section of the track may be made to control the operation of auxiliary devices, such as signals, and the like.

A further object is to provide a track section which may be inserted at any desired point in the track and which is constructed so that the passage of a train over said section will complete an electric circuit for controlling one or more auxiliary devices.

Other objects and aims of the invention, more or less specific than those referred to above, will be in part obvious and in part pointed out in the course of the following description of the elements, combinations, arrangements of parts and applications of principles, constituting the invention, and the scope of protection contemplated will be indicated in the appended claims.

In the accompanying drawings which are to be taken as a part of this specification, and in which I have shown merely a preferred form of embodiment of the invention:—

Figure 1 is a diagrammatic plan view of a track system illustrating the use of this invention, and

Figure 2 is a detail perspective view of one of the track sections.

Heretofore it has been common to make up the track for electric toy trains to include three rails, as 1, 2 and 3, the central rail, as 2, being insulated from the others and arranged to carry one side of the circuit, the opposite side being carried by the two outside rails. The track is made up of a plurality of sections connected together endwise, each of said sections being substantially as seen in Fig. 2, with the exceptions which will be presently noted.

Each of the rails of these sections have metallic pins, as 4, at one end thereof adapted for entering pockets, as 5, of adjacent sections so as to hold the sections together.

According to the present invention, however, one of the outside rails, as 3, in Fig. 2, is insulated from rails 1 and 2, and has its connecting pin, as 6, made also of insulating material so that said rail 3 of this section will be insulated from the rail 3 of the next adjacent section in both directions.

The three rails of a section are connected together by cross ties 12 which usually are of conductive material. The manner in which

the rail 3 is insulated from the other rails may take any desired form but preferably consists in placing a suitable piece of insulating material, as 13, about the lower portion of the rail where the rail is engaged by the retaining fingers 14 of the tie. This manner of insulating the rail 3 is the same as is now in common employment for insulating the rail 2, as illustrated.

The rails are usually formed of sheet metal bent into the shape as indicated, and the insulating pins are insertible and removable at will into and out of the sockets provided in the ends of the rails.

By using track sections in which the three rails are insulated from each other, as suggested, it is possible to provide for the operation of various devices, as 7, spaced along the length of the track by simply connecting the devices 7 with rails 2 and 3, being sure that the insulating connecting pins 6 connect opposite ends of the rail 3 of the special section with the ends of the rails 3 of adjacent ordinary sections.

Of course, whenever desired two or more of the special sections; that is, sections having the three rails insulated from each other, in accordance with this invention, may be connected together to act as a unit. In the illustration Fig. 1, the reference character 8 indicates two different sections of the special track, each having a signal device 7 connected for operation thereby.

Referring to Fig. 1, it will be seen that the circuit for driving the locomotive 15 may be traced as follows:—

From battery 9, along rail 1 and thru the wheel of the locomotive to the motor 10, and thence thru shoe 11 and rail 2 back to the battery.

When the locomotive is travelling around the track and passes one of the insulating pins 6 into engagement with one of the special sections, it immediately sets up a current including the adjacent device 7, as follows:—

From battery 9, along rail 1 and thru the wheels and axles of the locomotive to rail section 8, thence thru the device 7 and back along rail 2 to the opposite side of the battery.

This will cause the device 7 to operate, and continue to operate until the train has passed beyond the next insulating pin 6.

Any number of the special track sections may be provided along the length of the system, and each of these may operate one

or more different devices, such as switches, signals, gates or toys of various kinds, as the train progresses.

It will be noted that at the time when the train is passing over one of the special sections of the track, the current supply from battery 9 is divided between the work of propelling the train and operating the device 7. It will be understood, however, of course, that by providing proper relative resistances in the train motor and the device 7 an ample amount of current may be retained for operating the train and yet enough be allowed for satisfactory operation of device 7.

It may be pointed out further that, if desired, the entire track system may be made up of the special track sections having three rails insulated from each other, and in this way provision may readily be made for maintaining the lights, for instance, on the train burning even tho the current supply for driving the train be cut off and the train be standing still. For this purpose the wire 16 which leads from the battery 9 to the rail 1, and which has therein the usual controlling switch 17, is provided with a branch wire 18 between the battery and the switch and extending to the rail 3. When the switch 17 is closed and the train running the lights on the train will be fed by current in the usual manner; that is, by means of tracks 1 and 2. They may, at the same time, of course, be drawing some current over wire 18 and track 3. When the switch 17 is opened, however, for stopping the train, and the current supply thru track 1 thereby broken, then the supply for the lights will continue to flow over wire 18 and tracks 2 and 3.

As many changes could be made in this construction without departing from the scope of the invention as defined in the following claims, it is intended that all matter contained in the above description or shown in the accompanying drawings, shall be interpreted as illustrative only and not in a limiting sense.

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

1. In a track section for toy electric trains, said section comprising a plurality of spaced substantially parallel rails and means connecting said rails together, and at least one of said rails being insulated from the other rails, said mentioned insulated rail having openings in its opposite ends, the combination therewith of insulating pins adapted for extending into said openings and for engaging within like openings of the corresponding rail of adjacent sections to mechanically connect and electrically insulate said mentioned connected rails.

2. A track section for toy electric trains comprising three rails and connecting ties, means whereby each of said rails is insulated from the other rails of the section, at least one of said rails having openings in its opposite ends, and insulating connecting pins in said openings and projecting beyond the rail ends to engage corresponding openings in adjacent rail sections.

3. In a three-rail track system for toy electric railways, a track section having each of its rails insulated from the other rails of the section, a source of electrical energy connected in circuit with two of the rails of said section, and the other rail of said section being disconnected electrically at its ends from the corresponding rails of the system, whereby said section is provided with two live rails and a dead rail, and an electrically-operable device in circuit with one of said live rails and with the dead rail.

4. In combination, a toy electric railway track having two wheel bearing rails and a third rail, one of said rails having a relatively short section of itself insulated from the other two rails, said other two rails being electrically continuous and insulated from each other, a source of electrical energy having its opposite terminals connected to the two electrically continuous rails respectively, an electrically-operable device having one terminal connected to one of the electrically continuous rails and having its opposite terminal connected to said insulated section, and an electric engine on said rails having rail contacts connected to put its motor in circuit with said source through said electrically continuous rails and to put said electrically-operable device in parallel with said motor circuit through said insulated section.

5. As an article of manufacture, a unitary track section for toy electric trains adapted to be interchangeable with the usual toy track sections to permit the usual uninterrupted electric travel of a train while permitting operation of a signal or the like from the same track circuit, said unitary track section comprising spaced wheel bearing rails, a third rail, means whereby said third rail is insulated from said wheel bearing rails, means whereby one of said wheel bearing rails is insulated from the other wheel bearing rail of the section, means whereby the insulated wheel bearing rail may be insulated from the corresponding wheel bearing rails of adjacent track sections when assembled in track forming relation, and an electrically operated signal or the like in circuit with said insulated wheel bearing rail and with said third rail.

In testimony whereof I affix my signature.

L. GESSFORD HANDY.