May 30, 1933. L. W. ROSENTHAL 1,911,243

CONTROL PANEL FOR TOY ELECTRIC RAILWAYS

Filed April 30, 1932

Fig. 1.

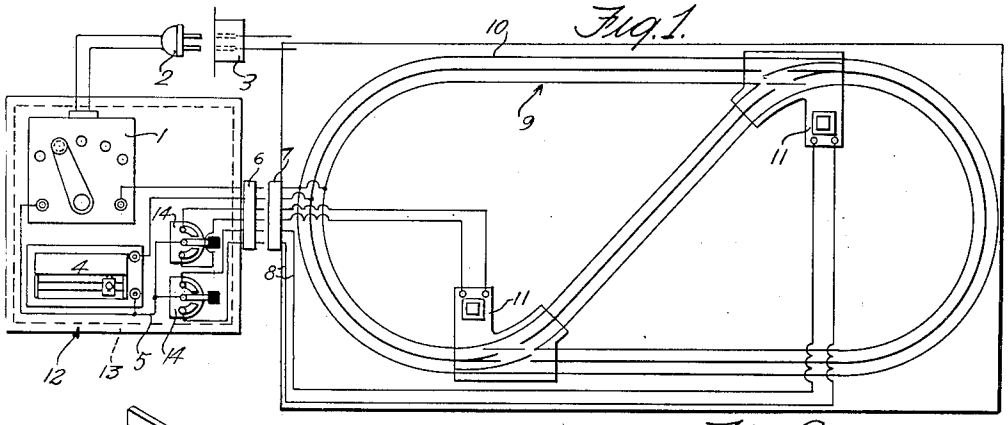


Fig. 2

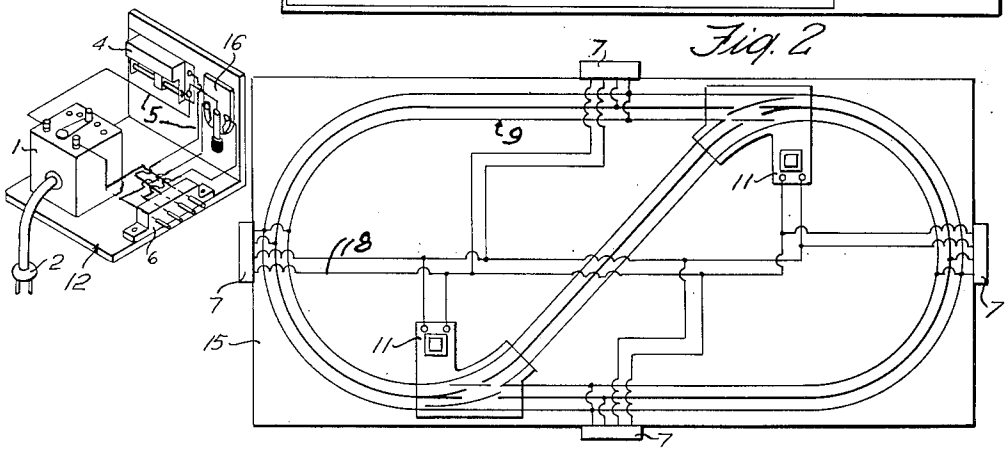
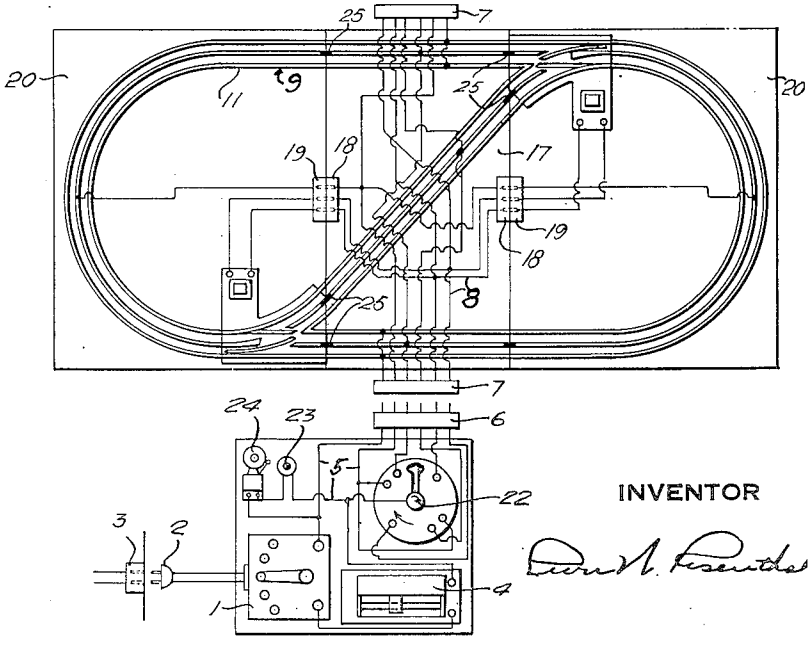


Fig. 3.



INVENTOR

Leon W. Rosenthal

Patented May 30, 1933

1,911,243

UNITED STATES PATENT OFFICE

LEON W. ROSENTHAL, OF NEW YORK, N. Y.

CONTROL PANEL FOR TOY ELECTRIC RAILWAYS

Application filed April 30, 1932. Serial No. 608,385.

This invention relates to control panels for toy electric railways, and particularly to a permanently wired control panel which is unitary (that is an entity separate from the railway layout and containing all or substantially all the control devices therefor) so as to provide, upon electrical connection of the panel to the layout, for operation of a locomotive or train in the layout whether the layout is permanently mounted in whole or in part or intended to be assembled and disassembled upon use. A control panel of this kind, particularly when its circuit connections or wires include a terminal connector adapted to be engaged with a complementary terminal connector connected to the track layout, promotes facility and accuracy in the connection of the control devices to the track layout, besides in some cases simplifying the wiring required.

In the accompanying drawing illustrating, partly diagrammatically, various examples of my control panels associated with track layouts,

Fig. 1 represents a control panel for a track layout that is intended to be assembled and disassembled upon use; Fig. 2 represents a control panel associated with a track layout permanently mounted on a base; and Fig. 3 represents a control panel associated with a permanently mounted sectionalized track layout.

In all embodiments, 1 represents a transformer for alternating current or a voltage reducer for direct current, 2 being the usual terminal connector for the transformer or reducer adapted to be engaged with the base receptacle 3 of the source of current supply. A rheostat or variable resistance 4 is usually associated with the transformer or reducer to adjust the speed of the train. These and all other of the control devices are permanently fastened in place to a support and are permanently connected by wires 5 as by screw or other detachable terminals or by soldering. The wires extending from the control panel are fastened to a terminal connector 6, which is adapted to be engaged with a complementary terminal connector 7 for the wires 8 of the track layout 9. This track layout is assembled from track sections 10 and track switches 11 of the well known kind the wires 8 being connected to the track and third rails of the track sections and to the coil terminals of the track switches in the well known way.

In the embodiment of Fig. 1, the support for the control devices is the base 12 preferably formed of a thin sheet of light and normally flexible material, as "beaver board" or "compoboard", and the reenforcing strips 13 of wood. In addition to the transformer or reducer 1 and the rheostat 4, there are also fastened to the base 10 the two manual switches 14, of the well known kind, for electrically operating the track switches 11, and these manual switches are permanently wired as shown to the other control devices of the control panel and to the terminal connector 6. To operate the locomotive or train, it is merely necessary to assemble the track layout, as shown, and to connect the outer ends of the wires 8 thereto, as shown, and finally attach the terminal connectors 6 and 7, as shown, the control devices then being used in the usual way. Upon disassembly of the track layout, the terminal connectors 6 and 7 are pulled apart, the wires 8 are disconnected from the track layout, and the track sections taken apart in the usual way.

In the embodiment of Fig. 2, the track layout 9 is permanently mounted on a base 15 which is provided at its sides with four terminal connectors 7 of linear form rigidly fastened to the base, each having its socket terminals from left to right connected in electrical parallel with the corresponding terminals of the other connectors, and permanently connected by the wires 8 to the rails and track switches, as shown. The socket 6 is rigidly fastened to the control panel and is of complementary linear form so as to properly engage any one of the connectors 7. This control panel has a base of wood, metal or the like, on which the transformer or reducer 1 is mounted, and an upright support on which are mounted the rheostat 4 and a switch 16 for simultaneously operating the two track switches 11. To

operate a locomotive or train on this track layout, it is merely necessary to engage the terminal connector 6 with the desired one of the terminal connectors 7, and then to control the control device in the usual way. The track layout 9 of Fig. 1 will be mounted upon a panel 15 in the same way as that shown in Fig. 2.

In the embodiment of Fig. 3 the track layout 9 is of a three division sectionalized form with two terminal connectors 7 on opposite sides of the central division 7 connected in electrical parallel with each other. Also it has two terminal connectors 18 adapted to be engaged with the complementary terminal connectors 19 of the end divisions 20, as shown. The control panel has a base 21 on which there is mounted, in addition to the transformer or reducer 1, the rheostat 4 and the manual switch 22, a push button 23 and bell 24 connected to the transformer, and a terminal connector 6 adapted to be engaged with either of the terminals 7 of the track layout. This manual switch 22 is adapted to actuate the track switches 11 and also to energize and deenergize certain track sections, insulated from each other at 25, in accordance with the position of the track switches. To operate a locomotive or train on the track layout, it is merely necessary to assemble the three divisions and then to engage the terminal connector 6 of the control panel with the desired one of the two terminal connectors 7. By arranging these terminal connectors on the side of the central panel 17, the length of the wires to the respective end divisions 20 is equalized, and also the number of wires to be connected by the terminal connectors 18, 19 for this track layout is reduced.

It will be observed that the base 12 supports the terminals of the connector 6 in such a way that the terminals of this connector engage the terminals of any of the connectors 7 only in such a way that the control devices on this panel 12 will always be properly connected to the intended insulated rail sections and other devices on the panel 15 so as to give the desired result.

I claim:

1. A toy electric railway having a base comprising a panel, track sections mounted upon said panel and forming a continuous track, the third rail of said sections being electrically insulated from each other, electric circuit connections permanently united to the third rail sections to thereby energize the same, an electric connector on said base having terminals electrically connected to all said circuit connections, a panel comprising a support and control devices adapted to supply current selectively to said track sections fastened thereon, and an electric connector on said second mentioned panel having terminals electrically connected to said control devices, said terminals being adapted to engage the first named connector terminals only in the position in which the control devices are electrically connected to the section which they are adapted to control.

2. A toy electric railway having a base comprising a panel, track sections mounted upon said panel and forming a continuous track having a third rail, electrical devices adapted to control said track, electric circuit connections permanently united to the third rail and said devices to thereby energize the same, an electric connector on said base having terminals electrically connected to all said circuit connections, a panel comprising a support and control devices adapted to supply current selectively to said third rail and said devices, fastened thereon, and an electric connector on said second mentioned panel having terminals electrically connected to said control devices, said last-named terminals being adapted to engage the first named connector terminals in a position in which the control devices are electrically connected to the devices which they are adapted to control.

3. A toy electric railway having a base comprising a plurality of divisions, track sections mounted upon each of said divisions and forming a continuous track, electric circuit connections permanently united to the track sections to thereby energize the same, terminals on each of said divisions engaging terminals on another of said divisions to unite the circuit connections of said track sections, an electric connector on said base having terminals electrically connected to all said circuit connections, a panel comprising a support and control devices adapted to supply current selectively to said track sections fastened thereon, and an electric connector on said second mentioned panel having terminals electrically connected to said control devices, said last-named terminals being adapted to engage the first named connector terminals only in the position in which the control devices are electrically connected to the section which they are adapted to control.

4. A toy electric railway having a base comprising a panel, track sections mounted upon said panel and forming a continuous track having a third rail, electrical devices adapted to control said track, electric circuit connections permanently united to the third rail and said devices to thereby energize the same, connectors on said base in parallel with each other and each having terminals electrically connected to all said circuit connections, a panel comprising a support and control devices adapted to supply current to said third rail and said devices fastened thereon, and an electric connector on said second mentioned panel hav-

ing terminals electrically connected to said control devices, said last-named terminals being adapted to engage either set of the first named connector terminals in a position in which the control devices are electrically connected to the devices which they are adapted to control.

In testimony whereof I affix my signature.

LEON W. ROSENTHAL.