W. C. ROE.

TOY RAILWAY.

APPLICATION FILED SEPT. 28, 1917.

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1,259,135.

FIG. 1

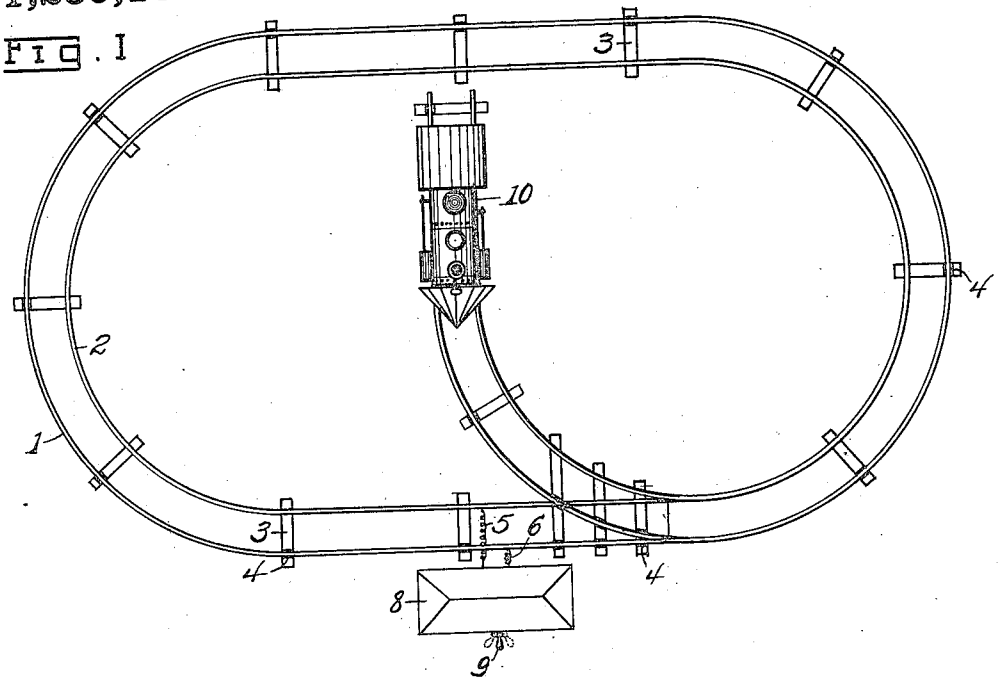
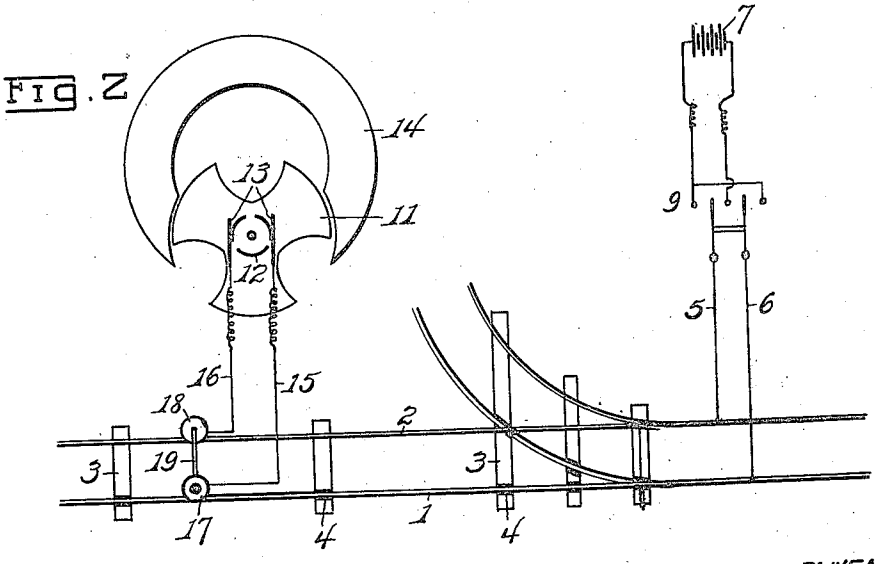


FIG. 2



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TOY RAILWAY.

1,259,135. Specification of Letters Patent. Patented Mar. 12, 1918.

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To all whom it may concern:

Be it known that I, WILLIAM C. ROE, a citizen of the United States of America, and resident of Wheeling, county of Ohio, and State of West Virginia, have invented certain new and useful Improvements in Toy Railways, of which the following is a specification.

This invention relates broadly to toy railways, and more particularly to a system of electrical train control for such railways.

The primary object of the invention is to provide a toy railway and an electrically propelled train or locomotive having such construction and arrangement of electric equipment that the movements of such train or locomotive may be controlled in any desired manner from a distant point, as from a station along the line of said railway.

A further object is to provide a device of the character mentioned in which the train or locomotive may be actuated to travel either in a forward or reverse direction by the mere shifting of a polarity reversing switch located at any desired point.

With these and other objects in view, the invention resides in the features of construction, arrangement of parts and combinations of elements which will hereinafter be fully described, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view of a toy railway and locomotive embodying the invention, and—

Fig. 2 is a diagrammatic view of the electrical equipment.

Referring to said drawings, 1 and 2 respectively indicate the opposite track rails of a toy railway which may be of any preferred form, said rails being mounted upon crossties 3 and one side or rail of the track being insulated from the other, as by suitable insulation 4 disposed between it and the underlying crossties.

Connected to the track rails 1 and 2 respectively are conductors 5 and 6 leading from a source of direct electric current, as a battery 7, which may be located at any convenient point, as in a portable miniature station 8 located adjacent to the track. A three-point polarity reversing switch 9 is located in the line adjacent to the current source, preferably in the station 8, as shown.

Mounted upon a locomotive 10 which travels upon the track rails is a motor having a three-pole armature 11, a commutator 12, brushes 13, and a permanently magnetized field 14. Conductor wires 15 and 16 connect said brushes 13 with opposite wheels 17 and 18 of the locomotive, one of which, as the wheel 17 which travels upon track rail 1, is insulated from the axle 19.

When the polarity switch 9 is moved to one of its operative positions, an electric circuit to the motor is closed, actuating the latter to rotate forward or to reverse according as the direct current is caused to travel in a forward or reverse direction, controlled by the position of the polarity switch. Consequently, the locomotive, the wheels of which are actuated by the motor through suitable gearing (not shown), is propelled forward and reversed at will by shifting the position of the polarity switch.

As is obvious, the electric circuit includes the battery 7, conductor 5, track rail 2, wheel 18, conductor 16, the motor, conductor 15, wheel 17, track rail 1, and conductor 6.

What is claimed is—

1. An electric control system for miniature or toy railways, comprising a locomotive, a motor for driving said locomotive and embodying a permanently magnetized field, a three-pole armature and a commutator, insulated track rails for said locomotive, conductors leading from said motor to opposite wheels of said locomotive, said wheels being insulated, a source of direct electric current, conductors leading from said current source to the opposite track rails, and a three-point polarity switch whereby the direction of travel of the current through the motor is controlled.

2. An electric control system for miniature or toy railways, comprising a locomotive, a motor for driving said locomotive and embodying a permanently magnetized field, a three-pole armature and a commutator, track rails insulated one from the other and opposite wheels of said locomotive insulated one from the other, conductors leading from said motor to said wheels, a source of electric current, conductors leading from said source to said track rails, and a three-point polarity-reversing switch located in the line of the last-mentioned conductors.

3. The combination with a toy vehicle, of an electric motor carried by said vehicle for driving the latter and embodying a permanently magnetized field, a three-pole arma-

ture and a commutator, a stationary source of direct electric current, conducting means leading from said current source to said motor, and a three-point polarity-reversing switch located to control the direction of current through said conducting means and motor.

4. The combination with a toy vehicle, of an electric motor carried by said vehicle for driving the latter and embodying a permanently magnetized field, a three-pole armature and a commutator, a source of direct electric current located at a point remote from said vehicle, means for conducting an electric current from said current source to said motor, and a three-point polarity-reversing switch stationarily located at a point remote from said motor.

In testimony whereof, I affix my signature in presence of two subscribing witnesses.

WILLIAM C. ROE.

Witnesses:

H. E. DUNLAP,

W. F. KEEFER.