Jan. 21, 1930. H. S. BECKER 1,744,518

TRACK SWITCH CONTROL FOR TOY RAILROADS

Filed June 11, 1929 2 Sheets-Sheet 1

Fig. 1.

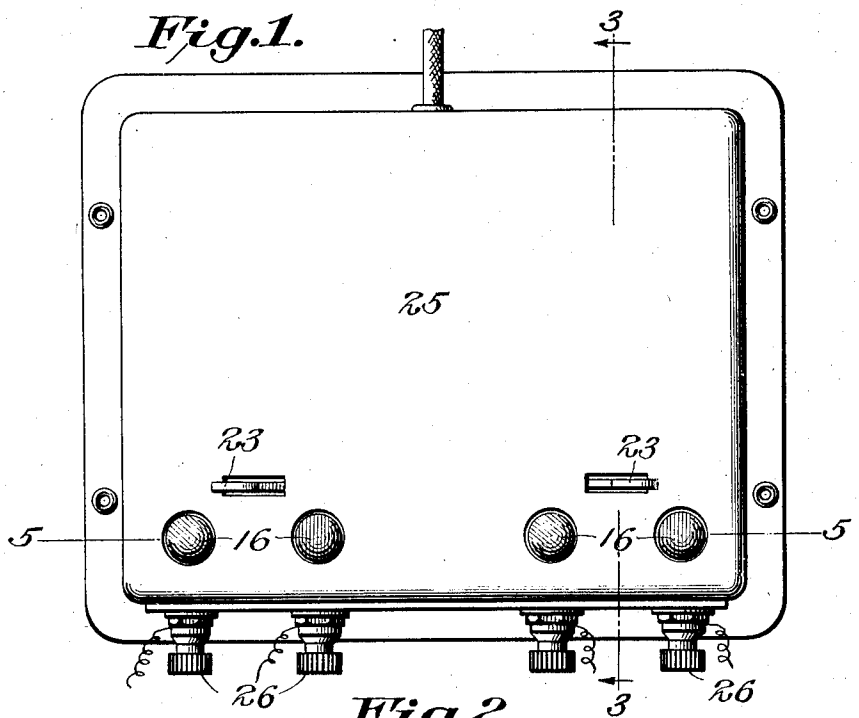


Fig. 2.

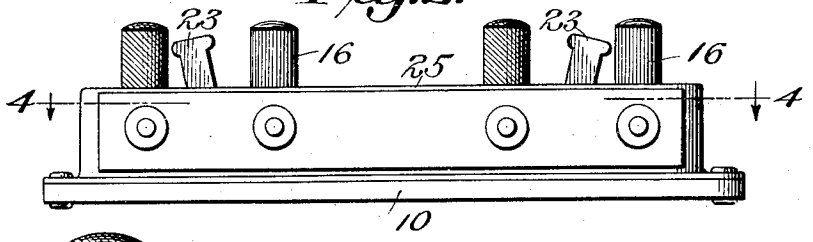
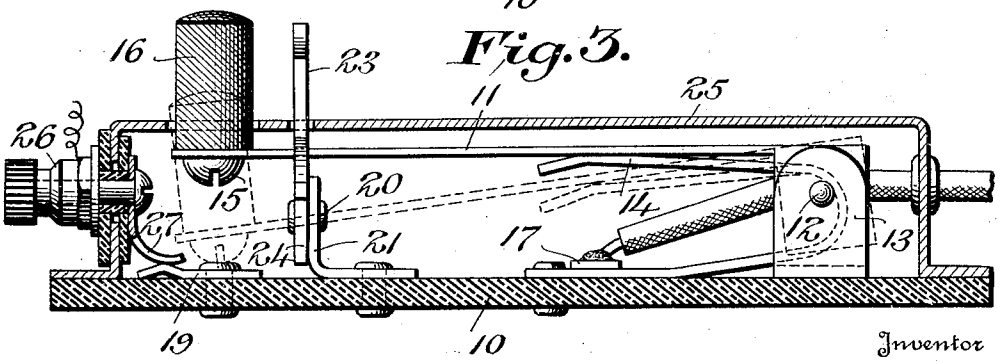


Fig. 3.



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Fig. 4.

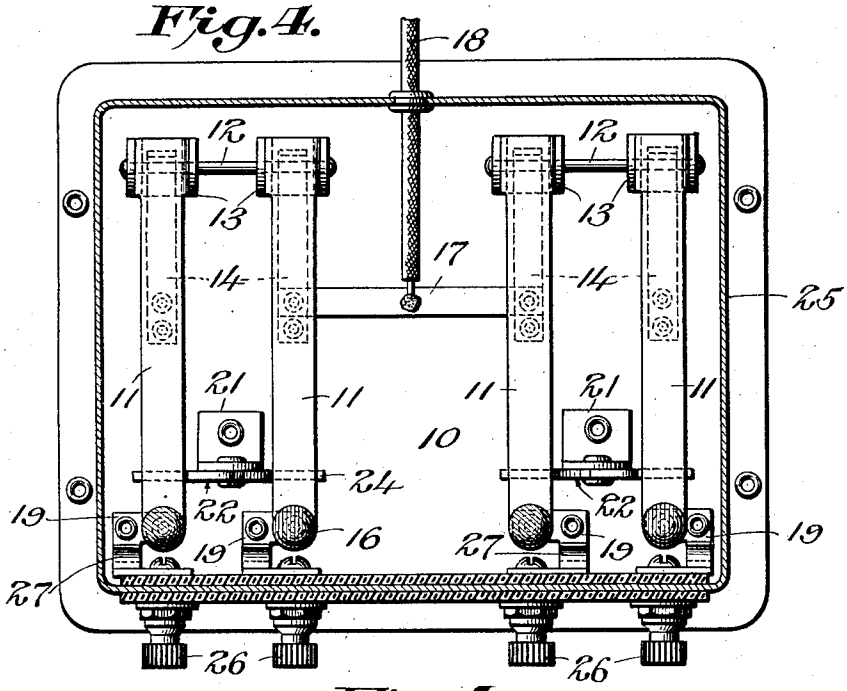


Fig. 5.

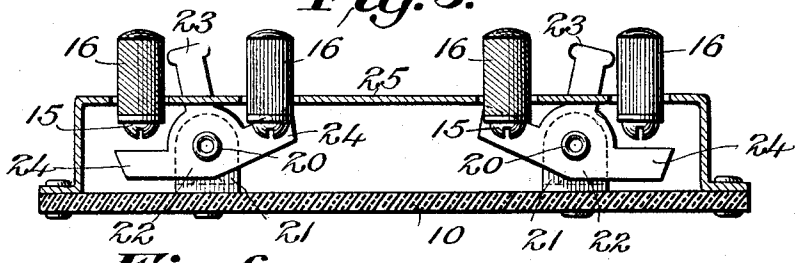
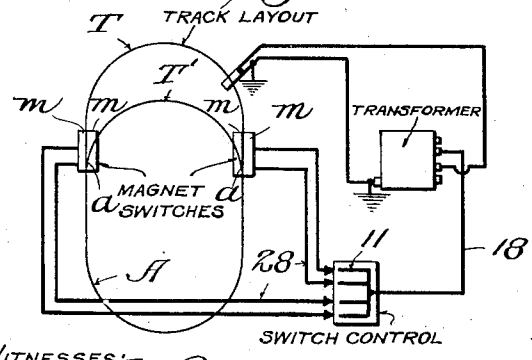


Fig. 6.



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UNITED STATES PATENT OFFICE

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TRACK-SWITCH CONTROL FOR TOY RAILROADS

Application filed June 11, 1929. Serial No. 370,133.

This invention relates to improvements in remote control mechanisms for track switches of toy railways, and has for its general object to provide a mechanism of this type in which the elements thereof are substantially completely housed and protected, which is capable of being easily and economically manufactured and assembled; and which lends itself readily to convenient packing and shipping as an article independent of the toy railway with which it is adapted for use.

More particularly it is an important object of the invention to provide, in a remote control mechanism for track switches of toy railways, means to indicate the position of the switch or switches, whereby the latter may be intelligently controlled and derailments due to improper switch settings eliminated.

A toy railway of the type with which the present control mechanism is adapted for use is inclusive of a switch or switches each having a pair of associated magnets, one for throwing the switch to a given position and the other for throwing the switch to an opposite position, the control mechanism having separate devices such as push button switches for controlling energization of the respective magnets. In connection with said magnet control devices it is another important object of the present invention to provide means to positively prevent operation of said devices to effect energization of both magnets of any track switch at the same time. Also, in order to simplify the present mechanism, it is a more specific purpose of the invention to provide a construction in which the aforementioned indicating means serves as the means for preventing simultaneous energization of the separate magnets of any given switch.

With the additional object of providing a remote control mechanism of generally improved construction, and which is thoroughly reliable and efficient in operation, the invention consists in the novel features of construction, combination and arrangement of parts as will be hereinafter more fully described, illustrated in the accompanying drawings and defined in the appended claim.

In the drawings, wherein like characters of reference denote corresponding parts in the different views:—

Fig. 1 is a plan view of a remote control mechanism constructed in accordance with the invention.

Fig. 2 is a front elevation of the mechanism.

Fig. 3 is an enlarged transverse section on the line 3—3 of Fig. 1.

Fig. 4 is a horizontal section on the line 4—4 of Fig. 2.

Fig. 5 is a longitudinal section on the line 5—5 of Fig. 1; and

Fig. 6 is a diagrammatic view illustrating the application of the present remote control mechanism to a toy railway.

Referring to Fig. 6 of the drawings, A designates a toy railway which is inclusive of a pair of switches *a*, *a* for routing traffic over either of the two tracks T or T'. Associated with each switch *a* is a pair of electromagnets *m*, *m* one of which is effective, when energized, to throw the switch to a position to route traffic over the track T and the other of which is effective, when energized, to throw the switch to route traffic over the track T'. Inasmuch as the detailed construction of the railway A, the switches *a*, and the magnets *m* form no part of the present invention, the said railway, switches and magnets have been illustrated only conventionally.

Referring now particularly to Figs. 1 to 5 of the drawings, it will be observed that the present remote control mechanism for the magnets *m* consists of a base 10 of insulating material upon which are mounted in parallel pairs control levers 11, the levers of each pair swinging on a common axle 12 supported by brackets 13. The free ends of these control levers 11 are forced upwardly by the action of U-shaped leaf springs 14, one of which is mounted under each control lever. At the outer end of each control lever a metal screw 15 penetrates the lever and secures an insulating handle or push button 16 thereto. The said control levers have a common electrical connection by means of the axles 12 and a connecting plate 17. A wire 18 is soldered to said plate 17, the electrical current passing through said plate to the two inside leaf springs 14, through these springs to the axles

12, and through the levers 11 to the screws 15.

Mounted on the base 10 beneath the free end portion of each control lever 11 is a contact plate 19 adapted to be engaged by the screw 15 of its related control lever when the free end portion of the latter is depressed.

Pivoted as at 20 to a bracket 21 between the control levers of each pair is a substantially inverted T-shaped indicator 22 inclusive of an upwardly extending pointer or signal arm 23 and oppositely extending lateral arms 24 underlying the respective control levers. Thus, upon depression of any control lever, the lateral arm 24 underlying that lever will be engaged by the latter and be swung downwardly, causing the pointer or signal arm 23 to be rocked so as to point in the general direction of the push buttom 16 on the lever arm which was depressed.

A cover 25 is riveted or otherwise suitably secured permanently or detachably upon the base 10 and is provided in its top with slots and openings through which the pointers 23 and the push buttons 16 project. This cover carries binding terminals 26 each of which has a contact finger 27 individual thereto positioned to engage a related contact plate 19 when the cover is assembled with the base. Thus, upon depression of any control lever sufficiently to cause the screw 15 thereof to engage its related contact plate 19, a circuit is completed from the wire 18 to the binding terminal 26 related to that contact lever.

One pair of control levers 11 is provided to control the pair of electro-magnets of each track switch *a*, one lever 11 of each pair being individual to one of the electro-magnets of each switch. There is a binding terminal 26 individual to each control lever. Said binding terminals thus are arranged in pairs and they are connected by conductors 28 to the electro-magnets *m* so that by depressing one of the control levers of a given pair one of the electro-magnets of a related switch will be energized, and by depressing the other control lever of the pair the other electro-magnet of the related switch will be energized.

As will be understood, as many pairs of control levers 11 as desired may be provided, the number of pairs depending, of course, upon the number of track switches it is desired to control. Thus, in its simplest form, the present remote control device would consist of only a single pair of control levers as is manifest.

When one of the control levers of a pair is depressed to close the circuit to one of the electro-magnets of a given switch, the underlying arm 24 of the related indicating device 22 will be engaged by said lever and be swung downwardly, causing the finger 23 to point towards the push button 16 which was depressed and, due to friction between the indicator and its supporting bracket, the indicator will remain in this position after the push button is released. Thus, a person with the knowledge of which push button controls a given magnet of a given track switch, may, simply by observing the position of the pointer or pointers 23 ascertain the condition of any given switch. To facilitate this, the push buttons of each pair may have contrasting colors such as red and green.

Another novel feature of the invention resides in the fact that the indicator arms 24 prevent both control levers of any pair being depressed sufficiently to close both related circuits at the same time. This feature obviously may be used independently of the indicator should it be so desired, i. e. this feature would be present if, for example, the pointers 23 were cut off of the indicators 22 herein illustrated.

Without further description it is thought that the features and advantages of the invention will be readily apparent to those skilled in the art, and it will of course be understood that changes in the form, proportion and minor details of construction may be resorted to, without departing from the spirit of the invention and scope of the appended claim.

I claim:

An electrical circuit control device comprising a pair of switch arms each pivoted at one end for swinging movement, spring means constantly urging each of said switch arms to a normal position from which position each arm is adapted to be swung on its pivot to change the status of a circuit, a push button actuator on each arm, and an intermediately pivoted indicator member having arms extending into the path of movement of said switch arms, respectively, whereby said indicator member is adapted to be rocked in opposite directions by pivotal movements of said switch arms, respectively, said indicator member further being inclusive of a pointer arm adapted by rocking movement of said member to be inclined towards the push button of the switch arm last engaging its related arm of said indicator member.

In testimony whereof I hereunto affix my signature.

HARRY S. BECKER.