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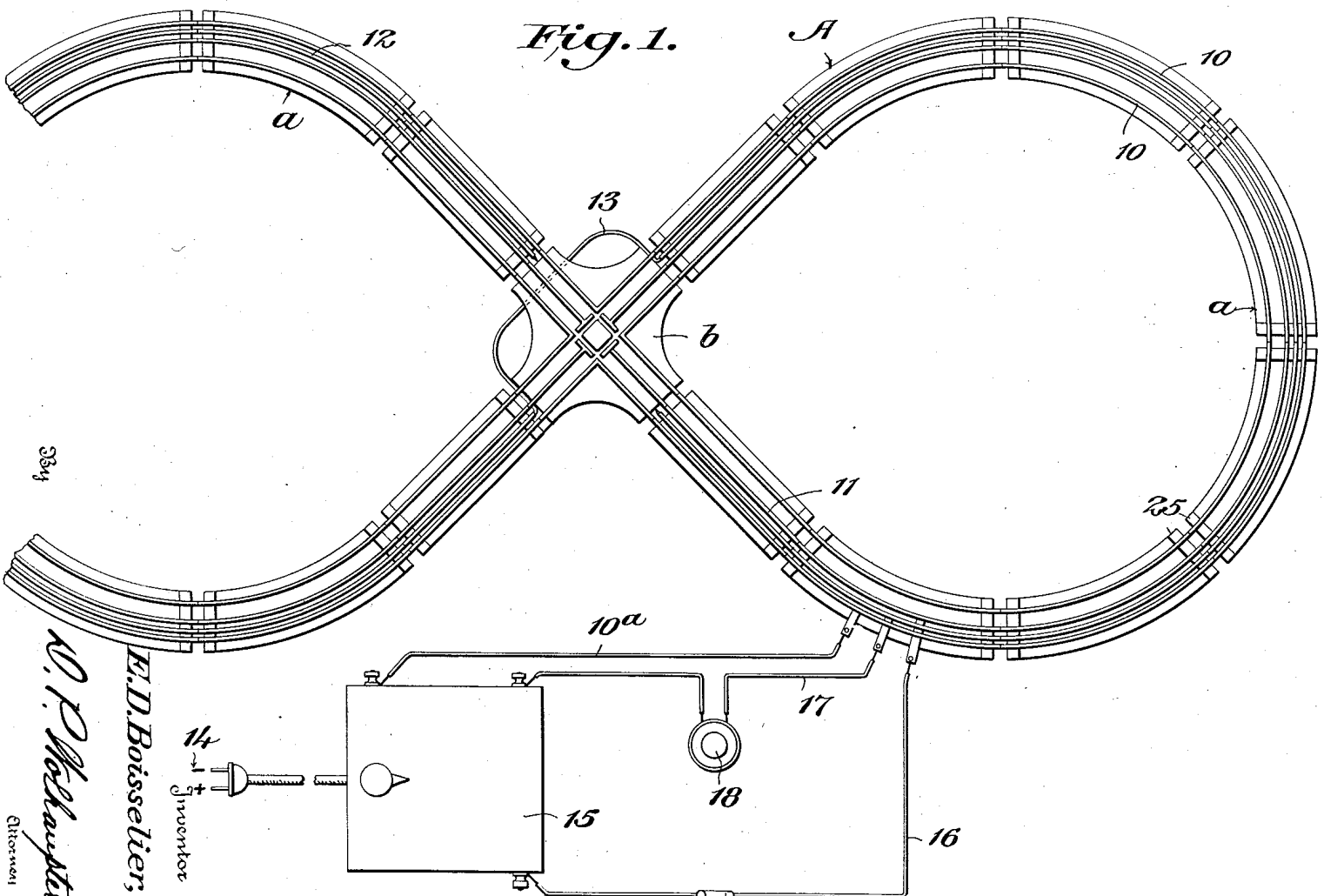
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2,097,961

TOY ELECTRIC RAILWAY

Filed July 7, 1936

2 Sheets-Sheet 1



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Fig. 2.

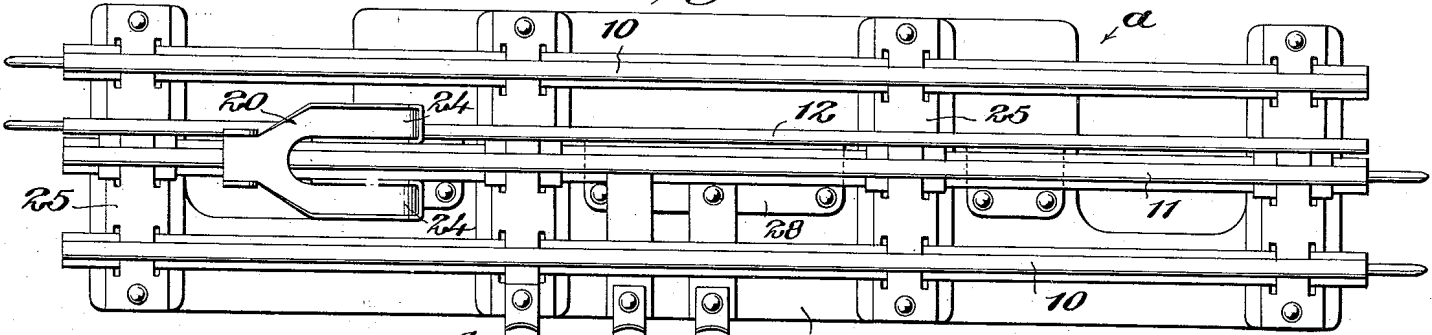


Fig. 3.

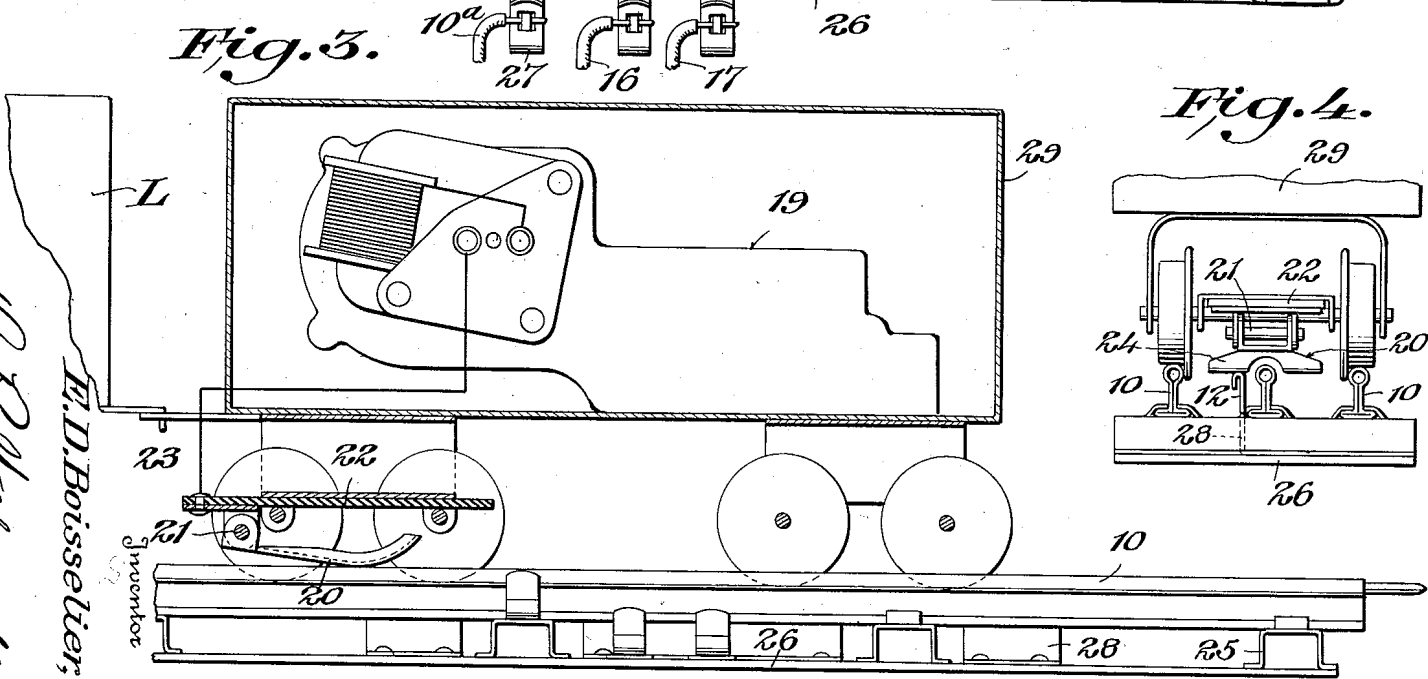
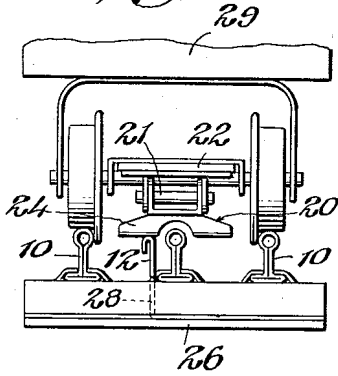


Fig. 4.



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TOY ELECTRIC RAILWAY

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3 Claims. (Cl. 246—81)

This invention relates to toy electric railways, and has for its general object to provide means whereby any train carried electrically operable device, such, for example, as an electric whistle, which is intended to be operated only occasionally, may, by remote control, be operated at will either from the same source of current as is used for operating the train, or from a different source of current, without in any way affecting operation or control of the train.

According to one practical embodiment of the invention, the railway track is provided, in addition to the usual third rail for supplying current to the train driving motor, with a fourth rail for supplying current to any train carried electrically operable device which is intended to be operated only occasionally, and the supply of current to said fourth rail is independent of the supply of current to the third rail and is under the control of any suitable manually operable switch, so that, while the train either is running or is at rest, the occasionally operable device carried thereby may be operated at will simply by closing and opening the circuit including the fourth rail without in any way affecting operation or control of the train.

Since the usual third rail is located midway between the wheel supporting rails, and since it is undesirable to deviate from this prior and general practice, the fourth rail is located to one side of said third rail. For carrying current from said fourth rail to an occasionally operable electrical device on a locomotive, its tender or a car, the locomotive, tender or car, as the case may be, is provided with a shoe for contact with said fourth rail. In this connection, another object of the invention is to so construct said shoe that the same is engageable with the fourth rail, and operates therewith equally efficiently, regardless of whether the train moves forwardly or backwardly and regardless of whether the train is reversed end for end in being placed upon the track.

With the foregoing and other objects in view, which will become more fully apparent as the nature of the invention is better understood, the same consists in the novel combination and arrangement of features as will be hereinafter more fully described, illustrated in the accompanying drawings and defined in the appended claims.

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

Figure 1 is a plan view of a toy electric train

track having a fourth rail in accordance with the present invention.

Figure 2 is an enlarged plan view of a section of the track shown in Fig. 1, illustrating the current collector shoe for the train carried occasionally operable electric device engaged with the fourth rail of said track section.

Figure 3 is a side elevation of the track section shown in Fig. 2, illustrating a vehicle on said track section carrying an occasionally operable electrical device to be supplied with current from the fourth rail of said track section; and

Figure 4 is an end view of the track section and vehicle shown in Fig. 3.

Referring to the drawings in detail, A designates generally in Fig. 1 a toy electric train track of the well known figure eight type composed of a plurality of track sections *a* and a crossover *b* in accordance with common practice. It is to be understood, however, that the track A, considered as an entirety, may be of any other desired shape and may or may not include crossovers, switches, and frogs. As distinguished from the ordinary track of the prior art having the usual pair of wheel rails and an intermediate current carrying or so-called third rail, the present track includes, in addition to the usual wheel rails designated as 10, 10 and the current carrying or third rail designated as 11, a fourth rail designated as 12 which also is a current carrying rail. While this fourth rail 12 may be located wherever desired with respect to the rails 10 and 11, it preferably is located adjacent to one side of the usual medially located third rail 11 and preferably is included only in the ordinary track sections *a* and not in any crossovers, switches, frogs or the like which may be used in any particular track, although it may also be included in crossovers, switches and frogs if desired. If it is not included in crossovers, switches, frogs or the like and if one or more of the latter is, or are, included in the track, jumper wires as illustrated in Fig. 1 and designated as 13, may be employed to complete the circuit between its ends to opposite sides of the crossover, switch, frog or the like. In any event, the provision for the supply of current from either a common source, or from separate sources, to the rails 11 and 12 is such that the current supply to the fourth rail 12 is entirely independent of the supply of current to the third rail 11. In this connection, Fig. 1 illustrates that both of the rails 11 and 12 are supplied with current from a common source 14 through a transformer 15 having separate connections 16 and 17 with the third and the fourth rails 11 and 12, respectively, and

that the latter connection includes therein a switch 18. This switch 18 is normally open and may be of the push button type or any other type suitable for quick operation. Thus, current may be supplied at will to the fourth rail 12 entirely independently of the supply of current to the third rail 11, and since current is taken from the third rail 11 for operation of a train in the usual well-known manner, and current is taken from the fourth rail 12 for operation of a train carried device such as an electric whistle, it is apparent that, simply by operating the switch 18, the train carried electrically operable device may be operated at will, by remote control, entirely independently of operation and control of the train.

The whistle or other electrically operable device, designated generally as 19 in Fig. 3, may be carried by the locomotive, its tender or a car and may be of any desired construction. Moreover, any suitable means may be employed for contact with the fourth rail 12 to carry current to said device 19. Preferably, however, a shoe 20 for this purpose is pivoted at one end, as indicated at 21, to a piece 22 of insulating material suitably fastened to one of the trucks of the vehicle carrying the device 19 and a wire 23 is employed to connect said shoe 20 to said device 19. The free end portion of the shoe 20 is bifurcated to straddle the third rail 19 and to include a pair of arms 24, 24 disposed to opposite sides of said third rail, respectively, and, of course, the constant tendency of said arms is to swing downwardly under the influence of gravity. Said arms are spaced apart so that each of them is disposed substantially the same distance from the side of the third rail 11 as the fourth rail 12. Therefore, one or the other of said arms, under the influence of gravity, contacts with the fourth rail 12 regardless of end for end reversal of the vehicle carrying said shoe when placing the vehicle on the track. Moreover, it is obviously immaterial to which side of the third rail 11 the fourth rail 12 is disposed, and whether different parts of the fourth rail 12 are disposed at opposite sides of the third rail 11, for obviously, in either case, one or the other of the arms 24 will engage the fourth rail and current will be supplied to the device 19 whenever the fourth rail 12 is energized.

The fourth rail 12 may be mounted on and may be insulated from the usual metallic ties 25 of the track sections *a* in the same well-known manner as the third rail 11 or in any other suitable manner, and any suitable means may be employed for effecting the connections 16 and 17 between the transformer 15 and the rails 11 and 12 and the usual ground connection 10*a* between the transformer and one of the track rails 10. In this connection and as illustrated in Figs. 2, 3 and 4, one of the track sections *a* may be provided with a base 26 of insulating material; a clip 27 for the connection 10*a* may be fastened to one of the ties 25; the fourth rail may be formed to straddle the ties 25 and to be supported by depending flanges 28 upon the insulating material 26, and clips for the connections 16 and 17 may be fastened to said insulating material and may be connected to the third rail and one of the flanges 28 of the fourth rail, respectively.

As in the case of the rails 10 and the third rail 11, the fourth rail of each track section *a* may have a pin at one end and a socket at its other end for the connection of the sections of said fourth rail in end to end relationship in

the same well known manner as the rails 10 and 11.

The shoe 20 preferably is of one piece construction and its arms 24, 24 preferably are curved upwardly from points intermediate their ends toward their free ends so that the effective arm may slide freely along the fourth rail 12 regardless of the direction of travel of the vehicle carrying said shoe.

As illustrated in the present instance, the device 19 is carried by a locomotive tender 29 which is movable along the track A by a locomotive L supplied with current in known manner from the third rail 11. However, the vehicle carrying said device 19 may itself have a propelling motor supplied with current from the third rail 11 in known manner, as will, of course, be understood.

From the foregoing description considered in connection with the drawings it will be apparent that according to the present invention a simple arrangement is provided whereby a train carried electrically operable device which is intended to be operated only occasionally may be operated at will by remote control either from the same source of current as employed for the operation of the train, or, obviously, from a different source of current, without in any way affecting operation or control of the train.

While only a single structural embodiment of the invention has been illustrated and described, it is apparent that the invention may be embodied in various other structural arrangements within its spirit and scope as defined in the appended claims.

I claim:

1. In a toy railway, a track having a pair of vehicle wheel supporting rails, a third rail between said track rails to carry current, a fourth rail between said track rails and adjacent to said third rail to carry current, a vehicle on said track rails, electrical propelling means for said vehicle electrically connected with said third rail, an electrically operable vehicle signaling device on said vehicle simulating the signaling device of a vehicle of a standard railroad and electrically connected with said fourth rail, an electric circuit including said third rail and said vehicle propelling means, means in said circuit at a point remote from the vehicle propelling means for opening and closing the same, thereby to control movement of the vehicle along the track, a second electric circuit independent of said first mentioned electric circuit and including said fourth rail and said signaling device, and a switch in said second mentioned circuit at a point remote from the vehicle for opening and closing said second mentioned circuit at will, thereby to actuate said device without affecting the vehicle propelling means, said second mentioned circuit including a current collector shoe carried by the vehicle for cooperation with the fourth rail, said shoe being mounted for vertical movement relative to the vehicle and being bifurcated to span the third rail and to provide a fourth rail engaging portion at each side of the third rail.

2. In a toy railway, a track having a pair of vehicle wheel supporting rails, a third rail midway between said track rails to carry current, a fourth rail between said track rails and adjacent to said third rail to carry current, a wheeled vehicle on said track rails, electrical propelling means on said vehicle electrically connected with said third rail, an electric circuit including said third rail and said electrical propelling means, a switch for opening and closing said circuit, an

electrically operable vehicle signaling device on
said vehicle simulating the signaling device of a
vehicle of a standard railroad, a current collector
shoe on said vehicle electrically connected with
5 said signaling device, said shoe being pivotally
connected at one end with the vehicle and hav-
ing its other end free for vertical swinging move-
ment, said shoe being mounted midway between
the sides of the vehicle and having its free end
10 portion bifurcated to clear the third rail and to
provide a pair of contact arms disposed respec-
tively to opposite sides of the third rail for en-
gagement one or the other with said fourth rail
regardless of end for end reversal of the vehicle

on the track rails, a second electric circuit in-
cluding said fourth rails and said shoe and said
signaling device, and a switch in said second
circuit for opening and closing the same.

3. The combination as set forth in claim 2 in 5
which the current collector shoe comprises a
sheet metal plate having ears at one end thereof
for pivotally mounting it on the vehicle, and in
which the spaced contact arms of said shoe are
upwardly curved toward their free ends and are 10
provided at their sides with upwardly extending
marginal stiffening flanges.

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