Jan. 18, 1927. 1,614,874

L. CARUSO

TOY ELECTRIC RAILWAY

Filed May 26, 1925 2 Sheets-Sheet 1

Fig. 1.

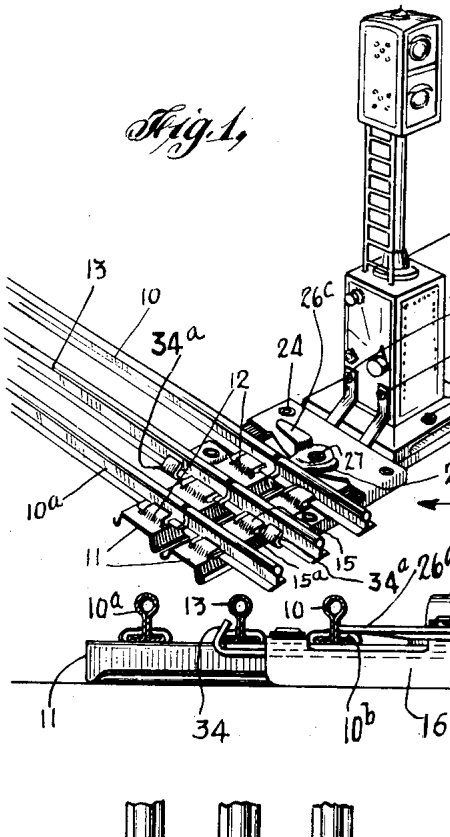

Fig. 2.

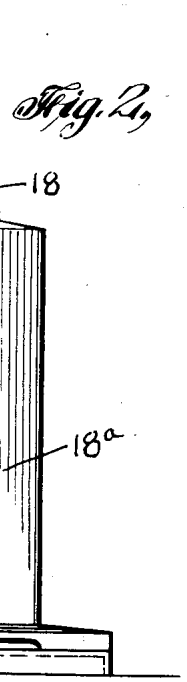

Fig. 3.

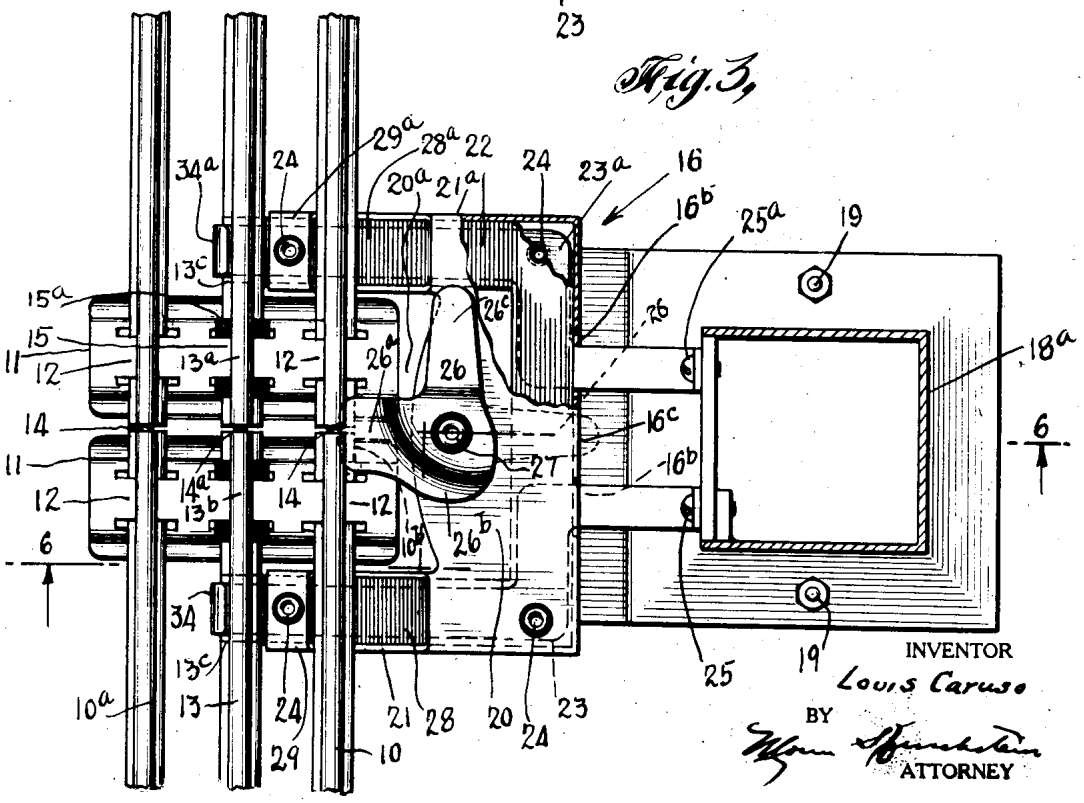

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Fig. 6,

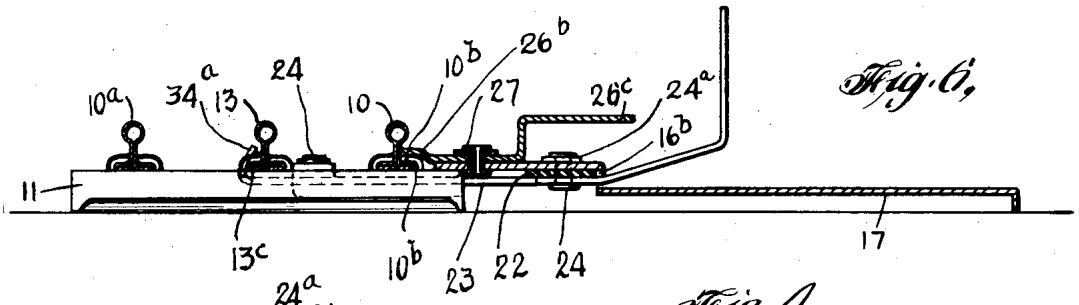


Fig. 4,

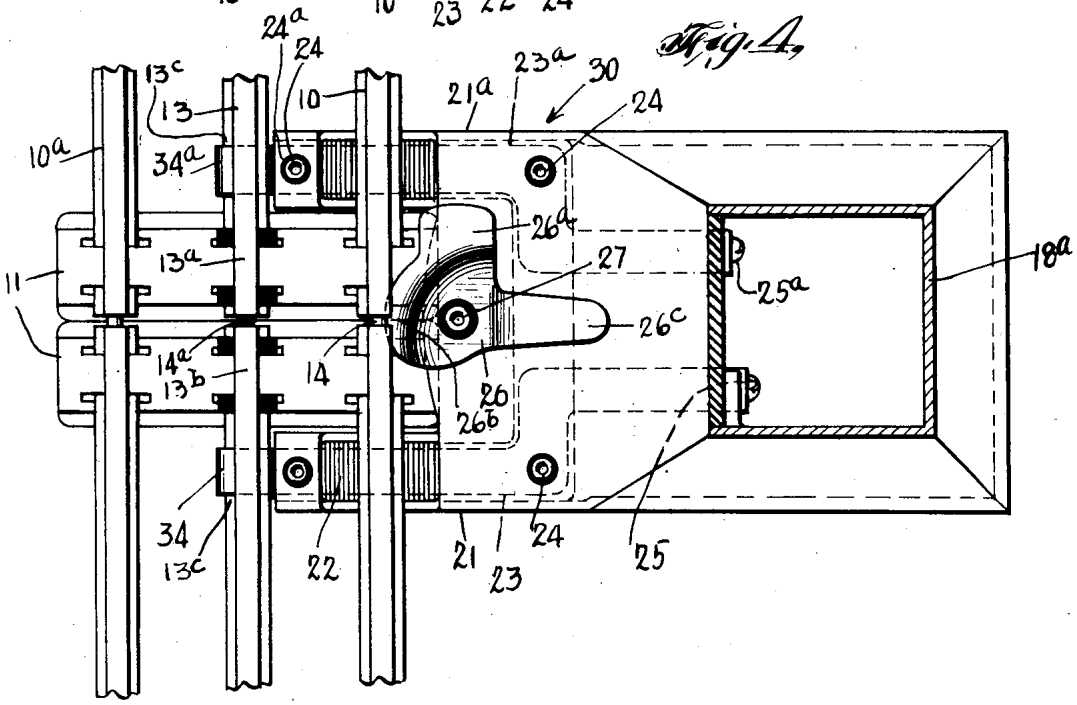
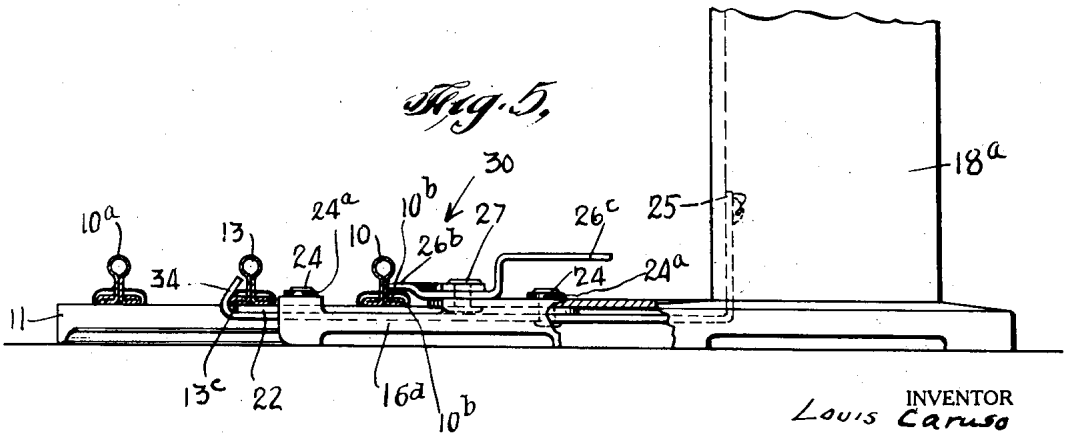


Fig. 5,



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Patented Jan. 18, 1927. 1,614,874

UNITED STATES PATENT OFFICE.

LOUIS CARUSO, OF IRVINGTON, NEW JERSEY, ASSIGNOR TO THE LIONEL CORPORATION, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

TOY ELECTRIC RAILWAY.

Application filed May 26, 1925. Serial No. 33,894.

This invention relates to toy electric railway equipment. In connection with toy electric railways, accessories of various kinds are employed such as signal towers, swinging gates, automatic train control devices, and the like, which are furnished as separate units to be connected to the toy tracks. This invention is directed to an improved connector or binding device on which the accessory may be mounted and whereby by direct mechanical connection of the binding device to the tracks, current is led to and from the rails to the accessory, an object of the invention being the provision of a device of the character described whereby said toy accessory may be easily and quickly connected to the system without requiring any separate attaching plates and lead wires running from the tracks to the accessory.

A further object of the invention is to provide a device of the character described with means whereby it may easily be adjusted to fit toy track rails of various gauges.

A still further object is the provision in a device of the character described which shall be simple in construction, easy to connect and operate and practical and efficient to a high degree for the purposes described.

Other objects of this invention will in part be obvious and in part hereinafter pointed out.

The invention accordingly consists in the features of construction, combinations of elements and arrangement of parts which will be exemplified in the construction hereinafter described, and of which the scope of application will be indicated in the following claims.

In the accompanying drawing, in which is shown one of the various possible illustrative embodiments of this invention,

Fig. 1 is a perspective view showing an embodiment of the invention as applied to a narrow gauge toy railway track;

Figs. 2 and 3 are respectively side elevational and plan views of the installation shown in Fig. 1;

Figs. 4 and 5 are respectively plan and side elevational views showing a modified form of the invention as applied to a toy railway track of wide gauge and in which the connected device is made an integral extension of the base of the toy accessory such as a signal tower; and

Fig. 6 is a cross-sectional view taken on lines 6—6 in Fig. 3.

Referring in detail to the drawing, the invention is there shown applied to a railway track equipment comprising two main rails 10, 10^a, usually attached in proper spaced relation to each other and at suitable lengths by means of cross ties or plate 11, the connections between the rails and cross-ties indicated at 12 being of any convenient or conventional type. A "third" or power rail 13 extending between the main rails 10, 10^a is secured to the cross ties by suitable clamps 15 which may embrace insulation pieces 15^a. This "third" rail 13 is usually made in sections 13^a, 13^b, one of which is insulated so that a toy accessory may be electrically operated therefrom when the toy train (not shown) passes into said insulated section. The particular connections and the manner of operation of such accessory from the insulated section form no part of this invention. A complete accessory in the form of an automatic train stopping and restarting device and the manner of its operation is disclosed in my copending application Serial No. 28,763 filed May 8, 1925. The main rails 10, 10^a and third rail 13 preferably are constructed to form standard track section units adapted to be joined together by means of a pin and socket connection as at 14.

The invention contemplates the provision of a device having the advantages herein referred to and other obvious advantages whereby a tower railway accessory such as a signal tower, or the like may be connected to a toy railway system such as that just described, and which is more or less standard in construction.

Referring now to Figs. 1, 2 and 3, 16 indicates a device embodying the invention and which is seen to comprise a body portion 16^a made of any suitable rigid material, for example sheet metal, fibre or the like, and a base portion 17 on which is mounted an accessory such as a signal tower 18 secured in place by screw bolts 19. Extending from the base portion 17 is a yoke extension 20 having a cross connecting portion 20^a between a pair of spaced arms 21 and 21^a, the latter being of a length sufficient to reach

beneath the main rail 10, and also beneath and beyond the third rail 13. When the body portion 16ª is made of metal, an insulated sheet 22 may be interposed between the portion thereof forming the yoke extension 20 and current carrying strips 23 and 23ª disposed on the under side of arms 21 and 21ª respectively. Thus the yoke extension 20 forms a structure comprising superimposed layers which may be firmly secured together by rivets or anchor eyelets 24, the latter being insulated as at 24ª.

The current carrying strips 23 and 23ª extend beyond the free ends of the arms 21 and 21ª respectively and are upturned to form contact clips 34 and 34ª respectively for engaging the rail 13. The ends of said strips opposite said contact clips are arranged to pass through openings 16ᵇ in the upstanding offset wall 16ᶜ in the body portion (see Fig. 2) and connect with the external binding or terminal posts 25 and 25ª respectively of the toy accessory such as the signal tower 18, wherethrough current is supplied to operate such accessory.

Co-operating with and reacting against the clips 34 and 34ª is a gripping member 26 in the form of a first class lever pivoted at 27 directly on the cross connecting portion 20ª of the yoke extension 20. This pivot preferably extends through the said portion 20ª for stiffening and reinforcing the layer construction of the device 16. The lever 26 may be provided with a short and a long gripping end 26ª and 26ᵇ respectively, for engaging the flange 10ᵇ either of the narrow or wide gauge rail 10 on the outside, i. e. the side remote from the third rail 13, as will hereinafter appear, while the power end 26ᶜ of the lever is deflected upwardly and thence outwardly and horizontally so as to enable the lever to be readily manipulated.

The body portion 16ª extending over the yoke arms 21 and 21ª may be cut away at the portions normally underlying the rail 10 to provide substantially level surfaces 28 and 28ª with supporting surfaces 29 and 29ª adjacent the clips 24 and 24ª respectively, and vertically disposed side walls 16ᵈ may be provided for supporting the device 16 at the proper height with relation to the track structure.

In using the invention for connecting the signal tower 18 or other accessory to a narrow gauge track system (see Figs. 1, 2 and 3) the accessory is mounted on and secured to the base 17, the yoke arms 21 and 21ª are projected beneath the rail 10 and 13 far enough to permit the clips 34 and 34ª to embrace the flange 13ᶜ of the third rail 13, and the lever 26 then manipulated so that the long gripping end 26ª engages the flange 10ᵇ of the rail 10 to firmly and positively anchor the device to the tracks.

Thus the current carrying strips 23 and 23ª through their corresponding clips 34 and 34ª respectively are each brought in close contact with insulated spaced rail sections 13ª and 13ᵇ of the third rail 13, one of said sections forming part of an insulated track section in conjunction with which the tower 18 operates. Said track portion 13ª and 13ᵇ may be separated by an insulated pin 14ª as shown in Figs. 1, 3 and 4. The lever 26 connecting with the rail 10 serves as a grounded current carrying means to the structure of the tower base 18ª.

By connecting the end of the strips 23 and 23ª adjacent the tower base 18ª to the terminal posts 25 and 25ª respectively, current may be led to and from any electrically operated mechanism (not shown) in the tower 18.

To remove the tower 18 and device 16 from the system, the lever 26 is simply swung to the dotted position shown in Fig. 3 for releasing the device 16 which may then be detached from the track.

In Figs. 4, 5 and 6 is shown a modified form of the invention in which the attaching device 30 (corresponding to device 16 in Figs. 1, 2 and 3) is preferably constructed integrally with the tower base 18ª. If desired, the binding posts 25 and 25ª may be mounted to extend within the interior of the said base 18ª so that all current carrying parts are covered and not exposed since the strips 23 and 23ª are disposed on the under side of the device 30 and extend up into the tower base 18ª as shown in Fig. 5.

The device 16 is adjustable to narrow or wide gauge tracks. Thus in Figs. 4, 5 and 6, the device is illustrated as applied to a wide gauge track, the lever 26 having been manipulated so that short gripping end 26ᵇ thereof engages with the flange 10ª of the track 10.

The device 30 with the tower 18 may be attached or removed as a unit from the track system in the manner already described.

It will thus be seen that there is provided a device in which the several objects of this invention are achieved and which is well adapted to meet the conditions of practical use.

As various possible embodiments might be made of the above invention, and as various changes might be made in the embodiment above set forth, it is to be understood that all matter herein set forth or shown in the accompanying drawing is to be interpreted as illustrative and not in a limiting sense.

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

1. In combination with a toy railway track system, an electrically operated accessory having a device extending therefrom

for detachably connecting the accessory to the track system, said device having means to permit current to pass to and from said system to the accessory.

2. In combination with a toy railway track system and an electrically operated accessory, an adjustable device for releasably attaching the accessory to track systems of various gauges, said device having means for conducting the current from and to the system to the accessory.

3. In combination, toy railway tracks, an electrically operated accessory having a base, a device formed integral with the base for detachably securing the accessory to said tracks, and current carrying means incorporated in said device for conducting the current from and to the tracks to the accessory.

4. In combination, toy railway tracks, an electrically operated accessory having a base, a device formed integral with the base for detachably securing the accessory to said tracks, and current carrying means incorporated in said device for conducting the current from and to the tracks to the accessory, said device having adjustable means adapted to interlock with the tracks of various gauges.

5. In a toy railway equipment, track rails, an electrically operated accessory having a conductor terminal and a device for detachably mounting the accessory to said rails, said device having means insulated thereon for connecting one of said tracks to said terminal to permit the current to pass to and from the accessory.

6. In a toy railway equipment, track rails having an insulated rail section, and electrically operated accessory having conductor terminals, a device for detachably securing the accessory to said rails, spaced current carrying parts insulated from and supported on said device for connecting the track rails and said insulated rail section to said terminals to permit the current to pass to and from the accessory.

7. The toy railway equipment defined in claim 5 in which the accessory includes a base and the structural portions of the device are formed integrally with said base.

8. The toy railway equipment defined in claim 6 in which the accessory is made with a base having the structural portion of the device formed integral therewith.

9. A toy railway system comprising sectional track rails, one section being insulated from the remaining sections, an electrically operated accessory, and a device for detachably connecting the accessory to said track rails, said device having spaced current carrying and gripping parts for engaging with the said track rails and section to permit the current to pass to and from the accessory.

10. A toy railway system comprising sectional track rails, one section being insulated from the remaining sections, an electrically operated accessory, and a device for detachably connecting the accessory to said track rails, said device having spaced current carrying and gripping parts for engaging with the said track rails and sections to permit the current to pass to and from the accessory, and adjustable means included in said gripping parts adapted to interlock with track rails of various gauges.

11. In a toy railway equipment, track rails, an electrically operated accessory having a conductor terminal and a device for detachably mounting the accessory to said rails, said device having adjustable gripping means adapted to engage with track rails of various gauges, portions of said means connecting one of said rails with said terminal to permit the current to pass to and from the accessory.

12. In a toy railway equipment, track rails having an insulated rail section, an electrically operated accessory having conductor terminals, a device for detachably securing the accessory to said rails, spaced current carrying parts insulated from and supported on said device for connecting the track rails and said insulated rail section to said terminals to permit the current to pass to and from the accessory, said device having adjustable means adapted to interlock with track rails of various gauges.

In testimony whereof I affix my signature.

LOUIS CARUSO.