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W. SCHWARZENHAUER

CONNECTION PLATE FOR TOY ELECTRIC RAILWAYS

Filed Aug. 2, 1926

Fig. 1.

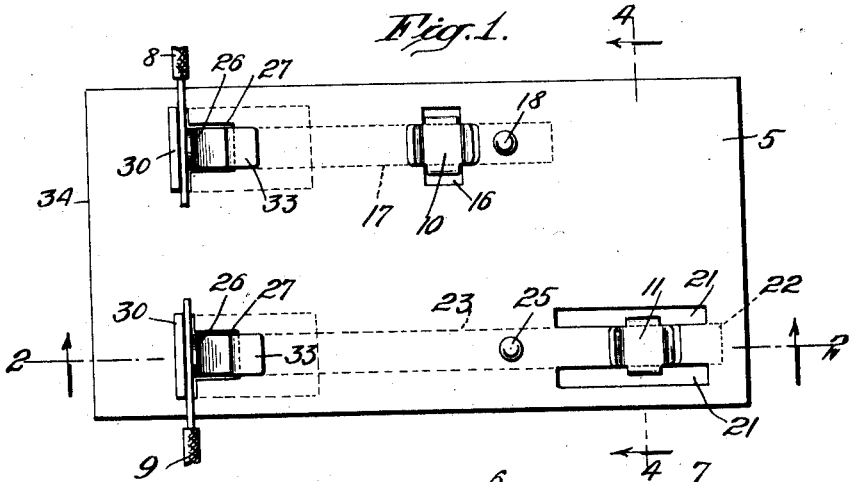


Fig. 2.

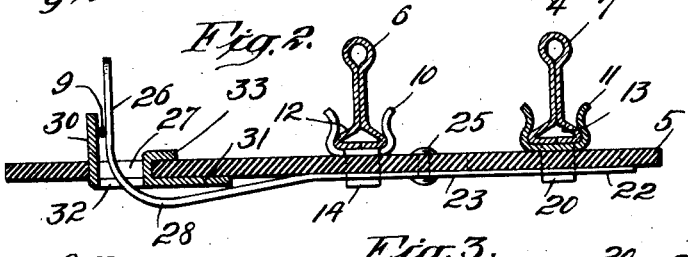


Fig. 3.

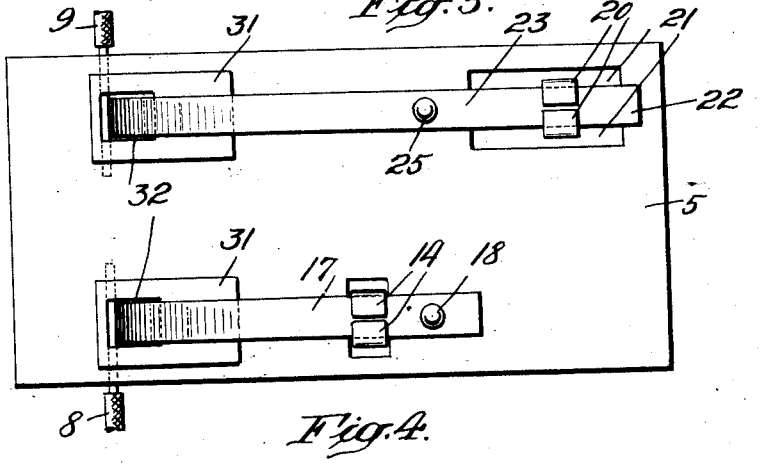
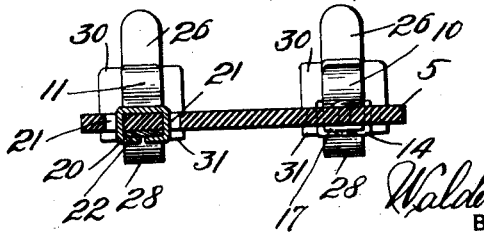


Fig. 4.



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UNITED STATES PATENT OFFICE.

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CONNECTION PLATE FOR TOY ELECTRIC RAILWAYS.

Application filed August 2, 1926, Serial No. 126,410, and in Germany June 15, 1925.

The invention relates to an improvement in connection plates for railways for toy electric trains.

The object of the invention is to produce an improved and simplified connection plate adapted for application to any part of electric toy railways of different styles and gauges. To this end the invention consists in the improved connection plate for toy electric railways hereinafter fully described and particularly pointed out in the appended claims.

The preferred form of the invention is illustrated in the accompanying drawings, in which Fig. 1 is a top plan of the improved connection plate, showing the ends of the wires of the electric circuit connected therewith; Fig. 2 is a longitudinal section taken along the line 2—2 of Fig. 1, showing in section the third rail and a main or outside rail mounted on the plate; Fig. 3 is a bottom plan of the parts shown in Fig. 1; and Fig. 4 is a transverse section taken along the line 4—4 of Fig. 1.

The improved connection plate as illustrated in the drawings comprises a rectangular plate or block 5 composed of insulating material. The plate 5 is of such length as to readily support one of the main or outside rails 6 and the third or conductor rail 7 and to project laterally therefrom a convenient distance for the connection therewith of the wires 8 and 9 constituting the electric circuit which supplies current to the toy locomotive operating on the track to which the plate is attached. The plate 5 is relatively thin and the connection parts carried by it are so formed that the plate may be located under the rails without projecting downwardly beyond the bottom of the cross or supporting ties. The width of the plate 5 is such that it may be located between any two adjacent ties at any point in the circuit of track constituting the toy electric railway.

In order that the connection plate may be removably secured to the main rail 6 and third rail 7, the plate is provided with the U-shaped sockets 10 and 11. The socket 10 is adapted to snap over and embrace the base part 12 of the outer rail 6 and the socket 11 is adapted to snap over and embrace the base part 13 of the third rail 7. The base of the socket 10 is provided with the downwardly extending tongues 14 which project through a hole 16 in the plate 5 and securely embrace a longitudinally arranged metal strip 17 fastened to the under side of the plate 5 by means of the rivet 18. The socket 10 is preferably made stationary. The socket 11 is movable longitudinally of the plate 5 so that the connection plate may be applied to and connected with railways of different gauge. For this purpose the downwardly extending tongues 20 of the socket 11 pass through the longitudinal slots 21 and are turned inwardly to loosely embrace the end 22 of a metal strip 23 fastened to the under side of the plate 5 parallel with the strip 17 by means of the rivet 25. By moving the socket 11 longitudinally of the plate 5 the connection plate is adapted to be connected with one outside rail and the inner or third rail of any commercial form of toy electric railway.

The outer end of each metal strip 17 and 23 is offset to extend upwardly to form a resilient contact piece 26. The strips 17 and 23 thus constitute extensions of the resilient contact pieces 26. In the outer end of the plate 5 are two apertures 27 through which the contact pieces 26 project upwardly. In order that the contact pieces 26 may have greater resiliency the strips or extensions 17 and 23 are bowed or curved at 28. Each resilient contact piece 26 is adapted to hold the end of one of the wires of the electric circuit against a fixed contact piece 30 extending upwardly from a base plate 31 which lies against the bottom of the outer end of the plate 5. Each base plate 31 is provided with an aperture 32 which registers with the corresponding aperture 27 in the plate 5. Each contact piece 30 and base plate 31 are held on the plate 5 by means of a tongue of metal 33 struck up from the base plate 31 in forming the aperture 32. This tongue of metal extends upwardly through the aperture 27 and is folded over onto the upper surface of the plate 5 to tightly embrace the plate 5 and thereby hold each contact piece 30 in fixed position. The base plates 31 extend inwardly from the outer lateral edge 34 of the connection plate and the bowed portion 28 of each strip or extension 17 and 23 clears the base plate, as shown in Fig. 2. The wires 8 and 9 of the electric circuit are held between the resilient contact pieces 26 and the contact pieces 30.

The above described connection plate for toy electric railways is seen to be of the utmost simplicity in construction and mode

of operation. In applying it to a line of toy tracks it is simply necessary to shift the socket 11 longitudinally until the two sockets 10 and 11 are in alinement with one outer and the third or inner rail. The connection plate is then attached to the rails by snapping the sockets over the bases of the two rails. The electrical connection is made by simply forcing back the resilient contact pieces 26, placing the ends of the circuit wires 8 and 9 in proper position between the resilient contact pieces and the adjacent fixed contact pieces 30 and releasing the resilient contact pieces. The railway is now in condition for operation.

Having thus described the invention what I claim as new is:—

1. A connection plate for toy electric railways comprising, a plate of insulating material, two contact pieces fixed to the plate, two resilient contact pieces adapted to cooperate with the fixed contact pieces to hold the circuit wires, each resilient contact piece having a part extending longitudinally of the plate and secured thereto, a socket adapted for attachment to a rail secured to the extension of one of the contact pieces, and a second socket adapted for attachment to a rail slidingly mounted on the extension of the other resilient contact piece.

2. A connection plate for toy electric railways comprising, a plate of insulating material, two resilient contact pieces projecting upwardly through holes in the plate, each resilient contact piece having an extension extending longitudinally of the plate and secured to the under side thereof, two fixed contact pieces secured to the plate and adapted to cooperate with the resilient contact pieces to hold the circuit wires and having bases provided with holes in alinement with the holes in the plate through which the resilient contact pieces project, a socket adapted to engage a rail base secured to the extension of one of the resilient contact pieces, and a second socket adapted to engage a rail base having a sliding connection with the extension of the other resilient contact piece.

3. A connection plate for toy electric railways comprising, a plate of insulating material, two resilient contact pieces projecting upwardly through holes in the plate, each resilient contact piece having an extension extending longitudinally of the plate and secured to the under side thereof, two fixed contact pieces secured to the plate and adapted to cooperate with the resilient contact pieces to hold the circuit wires, a socket adapted to engage a rail base secured to the extension of one of the resilient contact pieces, and a second socket adapted to engage a rail base having a sliding connection with the extension of the other resilient contact piece.

4. A connection plate for toy electric railways comprising, a plate of insulating material, two fixed contact pieces extending upwardly from the plate, two resilient contact pieces extending upwardly through holes in the plate and adapted to hold the circuit wires against the fixed contact pieces, each resilient contact piece having an extension extending longitudinally of the plate and secured to the under surface thereof, a socket adapted for attachment to the base of a rail connected with the extension of one of the resilient contact pieces, and a second socket adapted for attachment to the base of a rail slidingly mounted on the extension of the other resilient contact piece.

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