A. FROHNE.

CONNECTER FOR TOY ELECTRIC RAILROADS.

APPLICATION FILED MAY 31, 1921.

1,402,756. Patented Jan. 10, 1922.

Fig. 1.

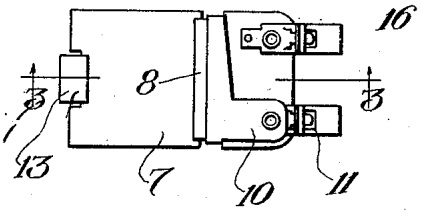


Fig. 2.

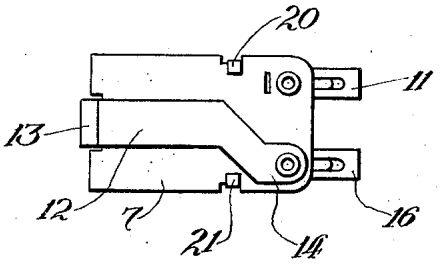


Fig. 3.

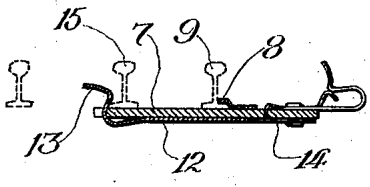


Fig. 4.

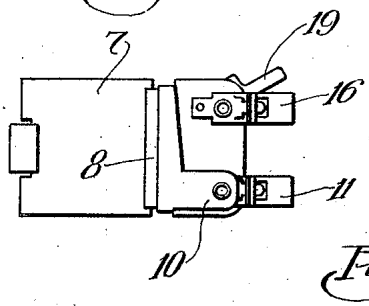


Fig. 5.

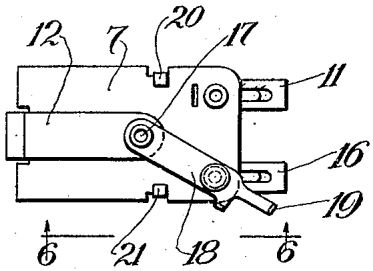
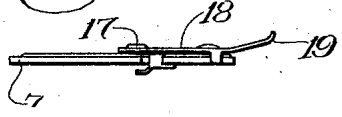


Fig. 6.



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UNITED STATES PATENT OFFICE.

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CONNECTER FOR TOY ELECTRIC RAILROADS.

1,402,756. Specification of Letters Patent. Patented Jan. 10, 1922.

Application filed May 31, 1921. Serial No. 473,744.

To all whom it may concern:

Be it known that I, ALBIN FROHNE, a citizen of Germany, having declared my intention of becoming a citizen of the United States, and residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Connecters for Toy Electric Railroads, of which the following is a specification.

The present invention has to do with certain improvements in electrical connecters for toy electric railroads. One of the objects of the invention is to provide a very simple form of connecter for effecting the electrical connection to the rails and to the third rail of a toy electric railroad.

Another object of the invention is to provide a unitary connecter for establishing connection with both the running rails and the third rail or trolley, so that both sides of the circuit may be easily established by a simple operation.

Another object of the invention is to provide a connecter of such form that it can be readily attached to or removed from the rails in a very simple manner and without the necessity of using special tools or attaching elements.

Another object of the invention is to provide a connecting device which may also be used as a switch for opening and closing the circuit.

Other objects and uses of the invention will appear from a detailed description of the same, which consists in the features of construction and combinations of parts hereinafter described and claimed.

In the drawing:

Figure 1 shows a top plan view of a simple connecter embodying the features of the present invention;

Fig. 2 shows a bottom view corresponding to Fig. 1;

Fig. 3 shows a cross section taken on the line 3—3 of Fig. 1, looking in the direction of the arrows; and it also shows by dotted lines the positions of the running and third rails, so as to show the manner of attachment of the connecter thereto;

Fig. 4 shows a plan view of a modified form of connecter which is provided with a switch;

Fig. 5 shows a bottom view corresponding to Fig. 4; and

Fig. 6 shows a side view taken on the line 6—6 of Fig. 5, looking in the direction of the arrows.

The connecter herein illustrated includes a block of insulating material 7. Extending across the top face of said block is a metallic clip 8 which has an upwardly extending sidewise facing lip adapted to engage the base portion of one of the running rails 9 as clearly shown in Fig. 3. This clip 8 is provided with a sidewise extending lug 10 which connects with an electrical connecter 11 of any desired form.

On the bottom of the insulating block 7 is secured a spring clip 12, whose outer end 13 may be forced up and down, said clip 12 having its end portion 14 rigidly secured to the insulating block 7. The end 13 of said spring clip is preferably formed in the manner shown in Fig. 3, so that after the fixed clip 8 has been hooked onto the base of one of the running rails 9, the spring clip 13 may be forced over the base of the third rail 15. This will not only establish electrical connection to said third rail, but will also mechanically secure the connecter in place.

The end 14 of the spring clip 12 is electrically connected to a terminal 16 as shown in Fig. 2.

In the modified form shown in Figs. 4, 5, and 6, the spring clip 12 is rigidly secured to the insulating plate 7 at the point 17, and a switch arm 18 is pivotally mounted on the rivet 17. This switch lever 18 when turned in the position shown in Fig. 5, makes contact with the bottom of the terminal 16, but the switch may be pushed over towards the left in Fig. 5, thus opening the circuit. Said switch may also be provided with a finger piece by means of which it may be conveniently manipulated.

The clip 8 is preferably extended clearly across the insulating plate 7 and has its end portions 20 and 21 folded over to engage the edge of the insulating plate.

It will be observed that the unitary connection herein disclosed may be used for establishing electrical connection with the running rails and the third rail for any suitable purpose. For example, said connecter

may be used for the purpose of delivering current to the rails from a battery or other source of current such as a transformer; or the connecter may be used for drawing current from the rails as for delivering it to a lamp stand, station house, signal system, or for any other suitable purpose.

While I have herein shown and described only certain embodiments of the features of my present invention, still I do not limit myself to said embodiments except as I may do so in the claims.

I claim:

1. The combination with a running rail and a third rail of a toy electric railway, of an electrical connecter including a plate of insulating material located beneath the bases of said rails, an inwardly facing clip on said insulating plate having a flange adapted to engage the outside portion of the base of the running rail, an electrical terminal connected to said clip, a clip of resilient material lying beneath the plate of insulating material and having its inner end secured to the plate of insulating material and its outer end extending beyond and upwardly past the end of the plate of insulating material and suitably formed to hook over the outside of the base of the third rail to thereby lock the connecter in place and establish connection with the third rail, an electrical terminal secured to the plate of insulating material, and a switch lever pivotally connected to the inner end of said spring clip and adapted to at times engage said last mentioned electrical terminal under the control of an operator, substantially as described.

2. The combination with a running rail and a third rail of a toy electric railway, of an electrical connecter including a plate of insulating material located beneath the bases of said rails, an inwardly facing clip on said insulating plate having a flange adapted to engage the outside portion of the base of the running rail, an electrical terminal connected to said clip, a clip of resilient material lying beneath the plate of insulating material and having its inner end secured to the plate of insulating material and its outer end extending beyond and upwardly past the end of the plate of insulating material and suitably formed to hook over the outside of the base of the third rail to thereby lock the connecter in place and establish connection with the third rail, and an electrical terminal secured to the plate of insulating material and connected to said clip of resilient material, substantially as described.

3. As a new article of manufacture an electrical connecter for the rails of toy electric railroads including a plate of insulating material, an inwardly facing clip on the top of said plate and having a flange adapted to engage the outside portion of the base of a rail, an electrical terminal connected to said clip, a clip of resilient material lying beneath the plate of insulating material and having its inner end secured to the plate of insulating material and its outer end extending beyond and upwardly past the end of the plate of insulating material and suitably formed to hook over the outside of the base of a rail to thereby lock the connecter in place and establish connection with such rail, an electrical terminal secured to the plate of insulating material, and a switch movably mounted on the plate of insulating material and adapted to control the connection of the last mentioned electrical terminal with the clip of resilient material, substantially as described.

4. As a new article of manufacture an electrical connecter for the rails of toy electric railroads including a plate of insulating material, an inwardly facing clip on the said insulating plate having a flange adapted to engage the outside portion of the base of a rail, an electrical terminal connected to said clip, a clip of resilient material lying beneath the plate of insulating material and having its inner end secured to the plate of insulating material and its outer end extending beyond and upwardly past the end of the plate of insulating material and suitably formed to hook over the outside of the base of a rail to thereby lock the connecter in place and establish connection with said rail, and an electrical terminal secured to the plate of insulating material and connected to said clip of resilient material, substantially as described.

ALBIN FROHNE.