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WIRE TERMINAL CLIP FOR TOY TRACKS

Filed April 25, 1925

2 Sheets-Sheet 1

Fig. 1.

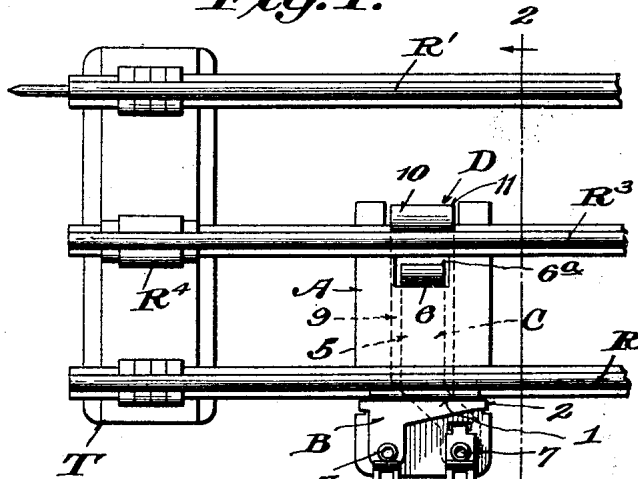


Fig. 2.

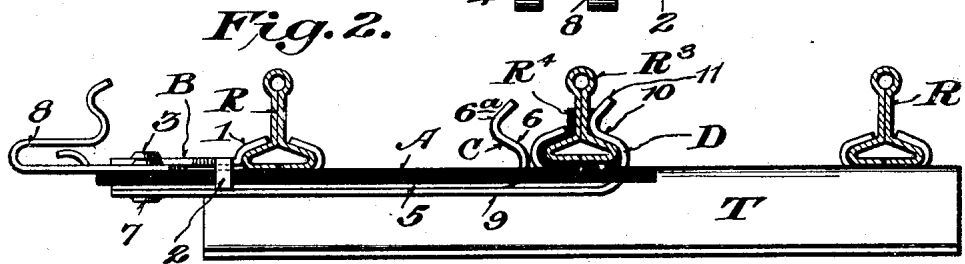
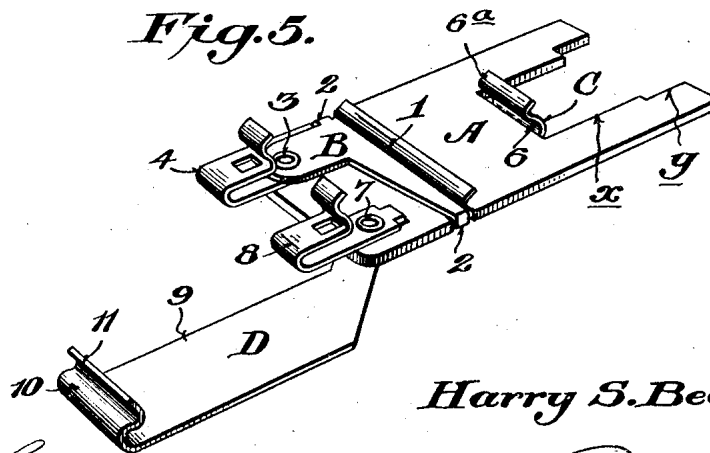


Fig. 5.



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2 Sheets-Sheet 2

Fig. 3.

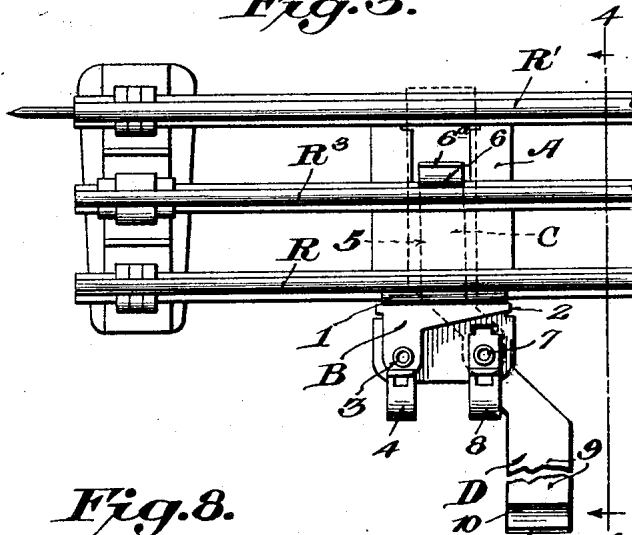


Fig. 6.

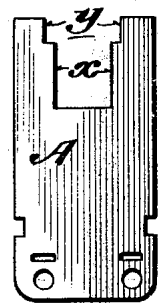


Fig. 8.

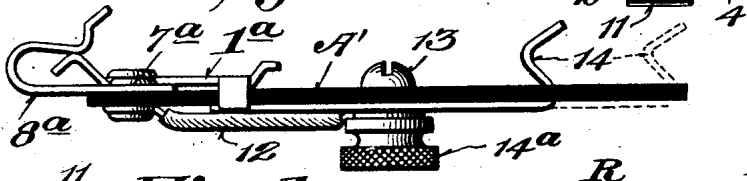


Fig. 4.

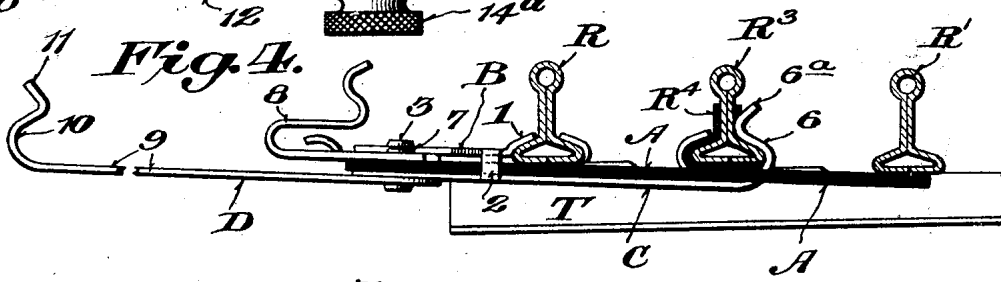
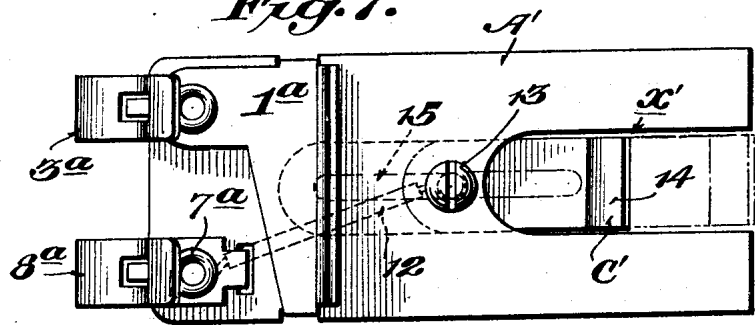


Fig. 7.



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UNITED STATES PATENT OFFICE.

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WIRE TERMINAL CLIP FOR TOY TRACKS.

Application filed April 25, 1925. Serial No. 25,809.

This invention relates to wire terminal clips for toy electric railway tracks, and more particularly to a connector adapted for use in connection with tracks of different gauge.

Cars for toy electric trains are made in different sizes and therefore require tracks of different gauge according to the width of the trucks. Under the present and prior practice each gauge of track has required a separate terminal clip or connector for attaching the power wires to the rails, thus necessitating as many sizes of terminal clips or connectors as there are gauges of track, thereby making it necessary to manufacture and stock separate terminal devices for the several gauges of track now in general use.

Accordingly, the present invention has primarily in view the provision of a single terminal clip which is adaptable to one or more gauges of track, thereby making it possible to standardize the terminal clips for a plurality of different tracks. This clip, therefore, has advantages not only from a manufacturing and commercial standpoint but also makes it possible for users having two sets of equipment to require only one terminal clip for either set.

A further object of the invention is to provide a wire terminal clip or universal application wherein all of the parts are mounted on a suitable base in such a way as to prevent the possibility of short circuits between the metallic parts; the said parts being also adapted to be readily adjusted for use in connection with different gauge track without the removal of any part, while at the same time means are also provided for conveniently and securely holding the line wires.

With the above and other objects in view which will more readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination and arrangement of parts hereinafter more fully described, illustrated and claimed.

A preferred and practical embodiment of the invention is shown in the accompanying drawings, in which:

Figure 1 is a plan view of a wide-gauge section of track with the present terminal clip attached thereto.

Figure 2 is an enlarged detail sectional view taken on line 2—2 of Figure 1.

Figure 3 is a top plan view of a narrow-

gauge track having the present universal wire terminal clip connected thereto.

Figure 4 is an enlarged detail sectional view taken on the line 4—4 of Figure 3.

Figure 5 is an enlarged detail perspective view of the novel wire terminal clip constituting the present invention, the same being adjusted in position for use in connection with the narrow-gauge type of track.

Figure 6 is a detail plan view of the insulating base of the clip.

Figures 7 and 8 are respectively a plan and a side elevation of a modified form of clip.

Similar reference characters designate corresponding parts throughout the several figures of the drawings.

According to the embodiment shown in the drawings, it will be observed that the present wire terminal clip includes in its organization an insulating body or base A made of any suitable insulating material such as hard fiber or the like, and adapted to carry the metallic terminal clip elements which serve both the function of conveying the current to the proper rails of the track and also holding the body A in position.

The upper face of the base A carries therewith a fixed rail flange engaging abutment B having the flange 1 which is preferably of substantially the same width as the base A and provides a firm and solid rail-flange engaging abutment adapted to overlie and engage the base flange of the outside rail of the trackway. The said abutment B therefore constitutes a fixed stop adapted to engage with one of the metallic rails of the track, and against which the movable clip elements are adapted to work to hold the device in place. This abutment B may be held in position in any suitable and convenient manner as for example by clinching the ends 2 thereof in the notched side portions of the base, and also by fastening the same through the body of the insulation by means of the eyelet 3, the said eyelet also firmly holding one of the line wire terminals 4 to the base.

The said terminal element 4 is adapted to receive one of the power wires, and being in engagement with the abutment B serves to supply the current to the outside rail R of the track which in most instances provides the ground return circuit for the current since the outside wheel engaging rails R and R' of the track rest upon the metallic ties T,

while the central or third rail R^3 is insulated therefrom as indicated at R^4 .

As will also be observed from the drawings the said base A is cut away at the side opposite the abutment B to provide notches of different widths as indicated at x and y thereby to receive a plurality of third rail engaging members which serve the purpose of contact terminals and rail engaging clips which cooperate with the abutment 1 to hold the entire device to the rails. These third rail engaging members are respectively designated as C and D and the member C consists of a flat body portion 5 having the resilient rail engaging hook 6 at one end thereof while the opposite end is offset as indicated in Figures 1 and 3 thereby to permit of the eyelet or equivalent fastening 7 uniting the terminal member 8, the narrow-gauge third-rail member C, and the wide-gauge third-rail member D by a common fastening. Therefore, with this arrangement it will be apparent that the wide-gauge third-rail engaging member D has its body portion 9 lying beneath the body 5 of the member C when the clip is fitted to a wide-gauge track as shown in Figure 1. However, due to the resilient character of the body 9 the same may be pressed out of the notch y and moved on the eyelet 7 as an axis thereby to assume the out-of-use position shown in Figures 3 and 5 when it is desired to use the clip in connection with a narrow-gauge type of track. The body 9 of the wide gauge third rail member D is provided with a rail engaging hook 10 which is formed so as to engage directly with the third rail R^3 and also provide an outwardly extending finger engaging portion 11. The hook portion 6 of the member C is firmly formed as indicated at 6^a.

It will therefore be understood that the wire terminal clip 8 and the wide and narrow third rail engaging members C and D may be alternately and selectively brought into play to engage with the third rail according to the type or gauge of track being used. In each instance the arrangement is such that the hook 6 or the hook 10 will engage with the side of the third-rail opposite the adjacent track rail to which the clip is attached, whereby the yielding or spring-like characteristic of the hook will work in opposition to the fixed or rigid abutment 1 thereby to securely clamp and hold the entire device to the track.

In using the device in connection with a wide gauge type of track, as shown in Figure 1, it is simply necessary to have the parts arranged in such a way that the hook 10 of the member D lies in the wide part x of the slot in the base, whereupon the flange 1 of the abutment B may be placed against the flange of the outside rail and

the base A pressed upwardly against the bottom of the outside and third rails until the hook 6 snaps over the far base flange of the third rail. The clip will then be securely held in place and electric power will be supplied to the rails R and R^3 through the wire terminal clips 4 and 8 in the manner already indicated.

When it is desired to use the device in connection with a narrow gauge track the hook 10 is pressed downwardly out of the slot y and swung on the pivot 7 as an axis to the position shown in Figures 3 and 5, whereupon the rigid abutment B may be pressed against the outside rail and the hook 6 of the member C snapped in position thereby to hold the base A in place. In this use of the device it will be apparent that the member D is swung to an inoperative position so far as supplying current to the third rail is concerned on a narrow gauge track.

It will also be observed in connection with the mounting and arrangement of the third rail engaging members C and D that the same together with the fixed contact abutment B constitute an adjustable third-rail engaging unit for permitting the device to be attached to different gauge tracks. In other words the members C and D constitute a unit whereby the clip may be adjusted with facility to be used on a wide or narrow gauge track. Therefore, the members C and D constitute a unit either part of which may adjustably engage with the third rail to complete the circuit to the motor of the locomotive positioned on the tracks. Also by reason of the fact that the third rail engaging member D may be swung out of position as shown in Figures 5 and 6 it will be seen that accidental contact with the wheel bearing rail R' is avoided. If the hook 10 of the member D should remain in the dotted line position shown in Figure 3 a short circuit would be caused and hence the necessity of swinging the member D to the position shown, when used on narrow gauge tracks.

By way of illustrating the range of modification of the third-rail engaging unit of the present invention it will be observed from Figures 7 and 8 that the insulation base A' is provided with the slot x' and carries at one edge thereof the permanent track engaging abutment 1^a having the wire terminal clip 3^a electrically connected therewith while the wire terminal clip 8^a also carried on the base A' is secured in position by the fastening 7^a in the same way as in the other form of the invention. The said fastening 7^a has connected thereto a wire or equivalent electrical connection 12 leading to a clamping device including a screw 13, the head of which is exposed at the top surface of the member A' while the nut por-

tion 14 is arranged at the bottom of the plate and receives the shank of the screw 13 which passes through an opening in the base A' adjacent the closed end of the slot α' .
 5 The clamping nut 14 is adapted to cooperate with a sliding third rail engaging member C' whereby the third rail engaging hook portion 14 thereof may be moved to different locations from the fixed abutment A' thereby to engage the third rail of tracks of different gauge. As will be observed from the drawings, the third-rail-engaging-member C' comprises a body portion having the hook 14 previously referred to at one end thereof and the central longitudinal slot 15 engages over the shank of the screw 13 and permits longitudinal adjustment of the plate beneath the clamping nut 14. As the hook portion 14 of the plate projects upwardly through the slot α' it is guided in its movement in such a way that relative disalignment or twisting of the plate is prevented, and all that is necessary is to tighten or loosen the nut 14 to effect the desired adjustment of the third-rail-engaging member C'.

From the foregoing it will be apparent that the present invention provides a universal terminal clip for toy railway tracks of different gauge wherein all of the parts are so mounted and arranged as to prevent short circuiting while at the same time all of the power line-wires may be securely held to the clip body.

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 claims.

I claim:

45 1. A wire terminal clip device for toy electric railway track including an insulating base, a fixed rail engaging abutment on said base, a terminal member carried by the base and electrically connected with said abutment, another terminal member connected with the base, and a third rail engaging unit movable from an outside rail toward the third rail and carried by the base and electrically connected with the last named terminal member.

50 2. A wire terminal clip device for toy electric railway track including an insulating base, a fixed rail engaging abutment on said base, a terminal member carried by the base and electrically connected with said abutment, another terminal member also connected with the base, and a third rail engaging unit mounted on the base and shiftable in a plane parallel to said base and also shiftable with respect to the last named

terminal element and said third rail engaging unit being electrically connected with said latter terminal element.

3. A wire terminal clip device for toy electric railway track including an insulating base, a fixed rail engaging abutment on said base, and a plurality of third rail engaging clip members also carried by the base and adapted for selective use in connection with said fixed abutment.

4. A universal wire terminal clip device for toy electric railway track of different gauge including an insulating base, a fixed current carrying rail engaging abutment, and a plurality of third rail engaging members adapted to be selectively rendered operative to electrically contact with the third rail of the track and also constituting means for releasably clamping the device to the track.

5. A universal wire terminal clip device for toy electric railway track of different gauge including an insulating base, a fixed rail flange engaging abutment on the upper side of the base, a wire terminal electrically connected with said abutment, a plurality of third rail engaging clips carried by the underside of the base and adapted to be set whereby either may engage with the third rail of the track, and a wire terminal clip electrically connected with said members.

6. A line wire terminal clip for toy electric railway track of different gauge including an insulating base adapted to span the distance between a wheel bearing rail and the third rail of the track, a current carrying abutment mounted on the base and adapted to engage with the wheel bearing rail, and a plurality of clip members also carried by the base and having third rail engaging portions spaced at different distances from the fixed abutment.

7. A line wire terminal clip for toy electric railway track including an insulating base, a relatively fixed wheel-bearing rail engaging abutment carried by the base, and a plurality of third rail engaging clip members also carried by the base and having third rail engaging and clamping means adapted for engaging with third rails spaced at different distances from said wheel bearing rail, and one of said third rail engaging members being shiftable to an out of the way position with reference to the other.

8. A wire terminal clip for toy railway track including an insulating base, a fixed wheel bearing rail engaging abutment carried by the base and adapted to be connected with one terminal of an electric circuit and a plurality of resilient third rail engaging members also carried by the base and having offset hook portions adapted to engage with the third rail of the track, and common means for connecting the said members to the base, and one of said members being

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mounted to swing to an inoperative position with reference to the other when used in connection with narrow gauged track thereby to avoid contact with the other wheel bearing rail.

5
9. A detachable universal wire-terminal clip device for toy railway track including a relatively fixed current carrying abutment and a plurality of resilient current carrying third-rail engaging clip elements.

10. A detachable universal wire-terminal clip device for toy railway track including a relatively fixed current carrying abutment and a plurality of resilient current carrying

third-rail engaging clip elements of different length, and one of said members being shiftable with reference to the other. 15

11. A detachable universal wire-terminal clip device for toy railway track including a relatively fixed current carrying abutment and a third-rail engaging unit having means operative at different positions transversely of the track to engage the third rail but clear the wheel bearing rail opposite the one engaged by said abutment. 20

In testimony whereof I hereunto affix my signature. 25

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