May 12, 1936. E. E. McKEIGE 2,040,665

CONNECTER FOR TOY RAILROAD TRACKS

Filed June 24, 1935

Fig. 1.

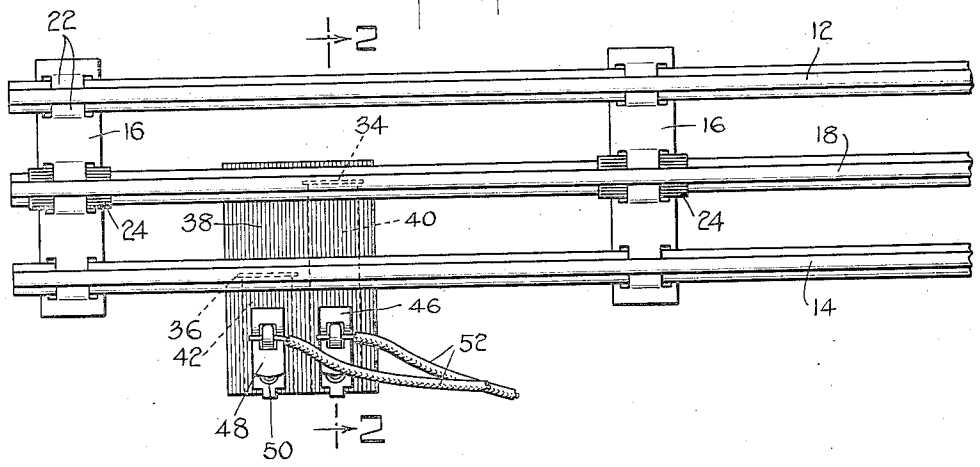



Fig. 2.

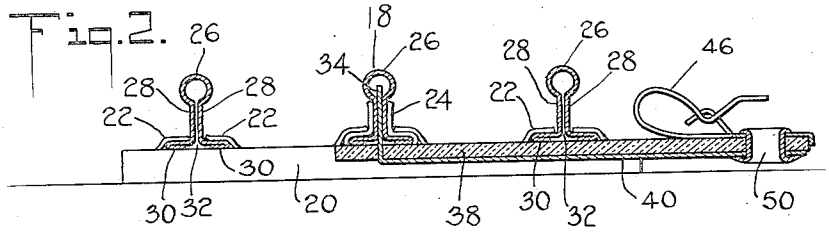



Fig. 3.

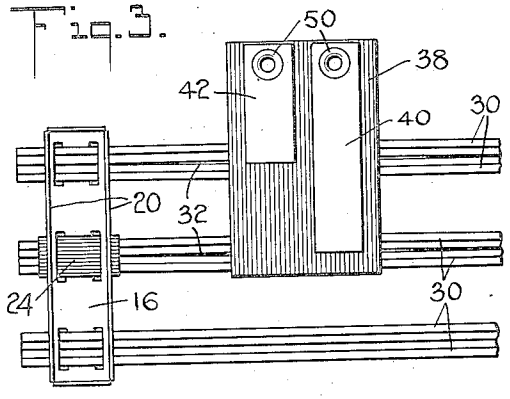



Fig. 4.

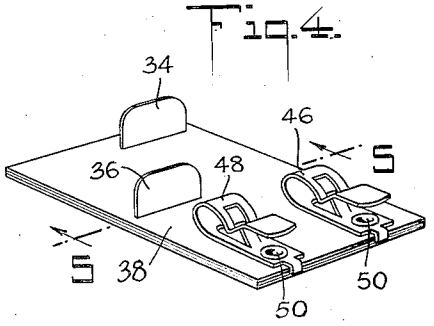
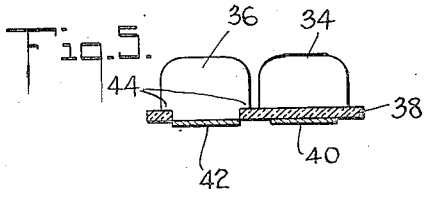



Fig. 5.




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## CONNECTER FOR TOY RAILROAD TRACKS

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Application June 24, 1935, Serial No. 28,083

10 Claims. (Cl. 238—10)

This invention relates to toy railroads, and more particularly to a connecter for providing detachable electrical connection with a toy railroad track.

The primary object of my invention is to generally improve track connecters or track clips. More particular objects reside in the provision of a track connecter which is simple and inexpensive in construction; which will fit any section of the track; which will fit different makes of track of the same gauge regardless of the cross-sectional shape or dimension of the rail or of the bottom flange thereof; which will be detachable and yet provide a secure grip on and connection to the track when attached; and which employs a construction scheme for attachment to each of the rails such that the connecter may be used for connection to one, two or three rails of the section, as may be desired.

To the accomplishment of the foregoing and other objects which will hereinafter appear, my invention consists in the connecter and track elements and their relation one to the other as are hereinafter more particularly described in the specification and sought to be defined in the claims. The specification is accompanied by a drawing in which:

Fig. 1 is a plan view of a track section with a connecter embodying features of my invention;

Fig. 2 is a section taken in the plane of the line 2—2 of Fig. 1;

Fig. 3 is an inverted plan view of the connecter applied to the track;

Fig. 4 shows the connecter in perspective; and

Fig. 5 is a section taken in the plane of the line 5—5 of Fig. 4.

Referring to the drawing, I may preliminarily explain that a toy railroad track comes in sections, each including outer or wheel-carrying rails 12 and 14 held in spaced parallel relation by ties 16. For electrical operation it is also customary to provide a center or third rail 18. The ties 16 may be formed of sheet metal plates, the side edges of which are bent downwardly to form supporting flanges 20. The top of the tie is appropriately slit to form tongues or lugs 22 which are bent over the rail flanges to lock the rails in place. Center rail 18 is insulated from outer rails 12 and 14 by strips of insulation 24 wrapped around the lower part of the rail and interposed between the rail and the tie.

The rails 12, 14, and 18 are formed of sheet metal strips which are rolled downwardly to form a head portion 26, then inwardly and downwardly to form web portions 28, and then outwardly to form the flange portions 30. It will be noted that there is a slit or fissure 32 between the sides of web portions 28, this resulting from the fact that the web is formed of a double thickness of sheet metal.

Connecters have heretofore been made with complicated hook or clip portions intended to encompass and engage the flanges of two of the track rails. The shape and construction of the ties and the cross-sectional shape of the rails differ in tracks made by different manufacturers, but the gauge has been standardized and in all cases the rails are made of sheet metal folded or rolled downwardly to form a double thickness web as heretofore described. The connecter of my invention takes advantage of this fact and is therefore applicable to tracks of differing manufacture.

Referring to the various figures of the drawing, and especially Figs. 4 and 5, the connecter comprises thin upright blades 34 and 36 which project upwardly from a suitable insulation base 38. These blades are spaced apart by an amount equal to the spacing between the center and either outside rail. To apply the connecter to the track it is merely necessary to press the blades 34 and 36 from the bottom toward the top of the rails, thereby forcing the blades between the web portions 28 of the rails. This is clearly shown in Fig. 2 by the position of blade 34 in rail 18.

The slab or plate of insulation 38 is slotted beneath blades 34 and 36 and the latter are provided with extensions 40 and 42 which pass through the slots and are then bent sidewardly to underlie the insulation plate as is best shown in Figs. 3 and 5. Extensions 40 and 42 are preferably made narrower than blades 34 and 36, thereby providing shoulders 44 at the bottom of the blades which prevent downward movement of the blade through the insulation plate. Extensions 40 and 42 run transversely to the end of the insulation plate, and in order to prevent contact therebetween, are preferably sidewardly displaced relative to one another, and it is for this reason that the blades 34 and 36 are also sidewardly displaced.

The extensions 40 and 42 are provided at their outer ends with suitable means affording electrical connection therewith. In the present case, spring clips 46 and 48 of conventional type are mounted on top of the outer end of insulation plate 38 and are locked in place by eyelets 50 which pass through the insulation plate and the extensions 40 and 42 therebeneath. The eyelets thus lock the extensions as well as the spring clips

in place, and electrically interconnect the same.

Flexible leads or wires **52** may be connected to clips **46** and **48**, as indicated in Fig. 1. These wires may be used to lead power from a transformer or batteries to the track or may be used to connect an electrically operated accessory to the track, thereby supplying energy from the track to the accessory.

It will be noted that the connection to each rail is independent of and similar to the connection made to any other rail. The arrangement may therefore be used for connection to a single rail or to all three rails in addition to the more common arrangement in which connection is made to two rails, as shown. The connection to three rails may be useful when dealing with a special track or track section in which the outer rails are insulated from one another, as well as from the center rail.

I may also mention that because the blades force the web walls of the rails apart when inserted, the grip of the rails on the blades is very tight and the connecter is strongly anchored to the track. It is therefore possible to use the insulation base of the connecter for additional purposes, such as the support of special contact or trip elements or for supporting a complete track-side accessory device.

It will therefore be understood that in referring to the unit as a connecter in the appended claims, I refer to connection whether made to a distantly located accessory or an immediately localized accessory.

It will also be apparent that while I have shown and described my invention in a preferred form, many changes and modifications may be made in the structure disclosed without departing from the spirit of the invention defined in the following claims.

I claim:

1. A connecter for making detachable electrical connection to a conventional sheet metal rail in a toy railroad track, said connecter including a short, thin, upright blade adapted to be inserted upwardly in the slit or fissure between the downwardly bent sheet metal sides of the rail and be resiliently gripped thereby, an extension on said strip bent sidewardly to underlie the track, means affording electrical connection to the end of said strip outside the track, and insulation means for insulating the sideward extension from other rails of the track.

2. The combination with a toy railroad track section, said section including a plurality of rails held in spaced parallel formation by ties, each of said rails being made of sheet metal bent downwardly to form a head portion and a double web portion, of a connecter making electrical connection to one of the rails of said track, said connecter including a thin, short, upright blade inserted upwardly from beneath the rail into the slit or fissure between the sides of the web of the rail and resiliently gripped thereby, and an extension extending from said blade sidewardly beneath the track section to a point outside the track section.

3. The combination with a toy railroad track section, said section including a plurality of rails held in spaced parallel formation by ties, each of said rails being made of sheet metal bent downwardly to form a head portion, a double web portion and outwardly flared flange portions, of a connecter for making detachable electrical connection to one of the rails of said track, said connecter including a thin, short, upright blade inserted upwardly from beneath the rail into the slit or fissure between the sides of the web of the rail and resiliently gripped thereby, an extension of said blade extending sidewardly beneath the track section to a point outside the track section, means at the end of said extension affording electrical connection thereto, and means insulating said extension from the other rails of the track section.

4. A connecter for making detachable electrical connection to a plurality of rails of a conventional toy railroad track, said connecter comprising a plate or slab of insulation, thin, short, upright blades disposed above said insulation at the rails to which connection is to be made, means secured to said insulation plate near the outer end thereof affording electrical connection to said blades, said blades being adapted to be forced upwardly into the slits or fissures of the rails to which connection is being made.

5. A connecter for making detachable electrical connection to a plurality of rails of a conventional toy railroad track, said connecter comprising a plate or slab of insulation having slits located beneath the rails to which connection is to be made, thin, short, upright blades disposed above said insulation plate at said slits, extensions of said blades passing through said slits and bent sidewardly to underlie the insulation plate, means secured to said insulation plate near the outer end thereof for affording electrical connection to said extensions, said upright blades being adapted to be forced upwardly into the slits or fissures of the rails to which connection is being made.

6. A connecter for making detachable electrical connection to a plurality of rails of a conventional toy railroad track, said connecter comprising a plate or slab of insulation having slits located beneath the rails to which connection is to be made, thin, short, upright blades disposed above said insulation plate at said slits, said blades being wider than the slits, extensions of said blades passing through said slits and bent sidewardly to underlie the insulation plate, means secured to said insulation plate near the outer end thereof for affording electrical connection to said extensions, said upright blades being adapted to be forced upwardly into the slits or fissures of the rails to which connection is being made.

7. The combination with a toy railroad track section, said section including a plurality of rails held in spaced parallel formation by ties, each of said rails being made of sheet metal bent downwardly to form a head portion, a web portion and outwardly flared flange portions, of a connecter for making electrical connection to a plurality of the rails of the section, said connecter comprising a plate or slab of insulation, thin, short, upright blades disposed above said insulation at the rails to which connection is being made, means secured to said insulation plate near the outer end thereof affording electrical connection to said blades, said blades being forced upwardly into and being resiliently gripped thereby the slits or fissures of the rails to which connection is being made.

8. The combination with a toy railroad track section, said section including a plurality of rails held in spaced parallel formation by ties, each of said rails being made of sheet metal bent downwardly to form a head portion, a double web portion and outwardly flared flange portions, of a connecter for making detachable electrical connection to a plurality of the rails of the section, said connecter comprising a plate or slab of in-

sulation having slits located beneath the rails to which connection is to be made, thin, short, upright blades disposed above said insulation plate at said slits, extensions of said blades passing through said slits and bent sidewardly to underlie the insulation plate, means secured to said insulation plate near the outer end thereof for affording electrical connection to said extensions, said upright blades being forced upwardly into and being resiliently gripped thereby the slits or fissures of the rails to which connection is being made.

9. The combination with a toy railroad track section, said section including a plurality of rails held in spaced parallel formation by ties, each of said rails being made of sheet metal bent downwardly to form a head portion, a double web portion and outwardly flared flange portions, of a connecter for making detachable electrical connection to a plurality of the rails of the section, said connecter comprising a plate or slab of insulation having slits located beneath the rails to which connection is to be made, thin, short, upright blades disposed above said insulation plate at said slits, said blades being wider than said slits, extensions of said blades passing through said slits and bent sidewardly to underlie the insulation plate, means secured to said insulation plate near the outer end thereof for affording electrical connection to said extensions, said upright blades being forced upwardly into and being resiliently gripped thereby the slits or fissures of the rails to which connection is being made.

10. The combination with a toy railroad track section, said section including a plurality of rails held in spaced parallel formation by ties, each of said rails being made of sheet metal bent downwardly to form a head portion, a double web portion and outwardly flared flange portions, of an accessory making electrical connection to a plurality of rails of the toy railroad track, said accessory comprising a plate or slab of insulation, and thin, short, upright blades disposed above said insulation plate at the rails to which connection is being made, said upright blades being forced upwardly into the slits or fissures of the rails so tightly as to securely hold the insulation plate in place beneath the track section.

EDWARD E. McKEIGE.