Jan. 10, 1928. 1,656,052

A. R. FERGUSSON

TERMINAL CONNECTER FOR TOY RAILWAYS

Original Filed Sept. 27, 1922

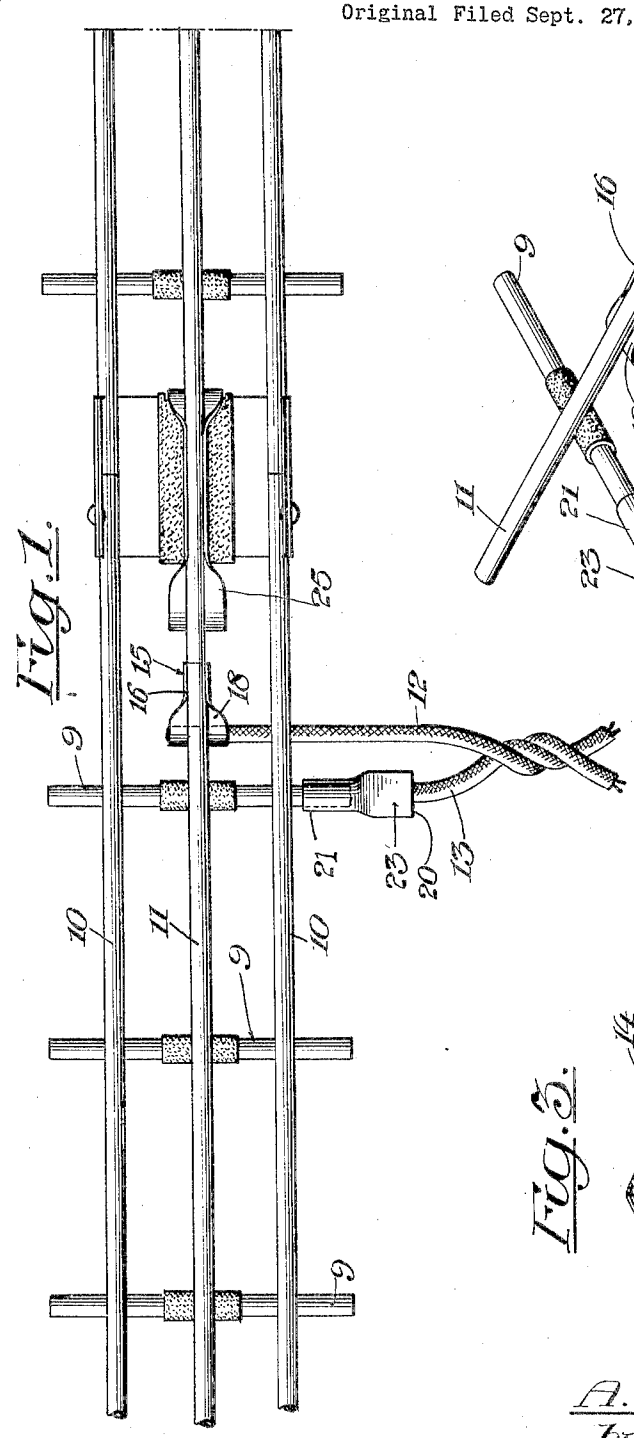


Fig. 1.

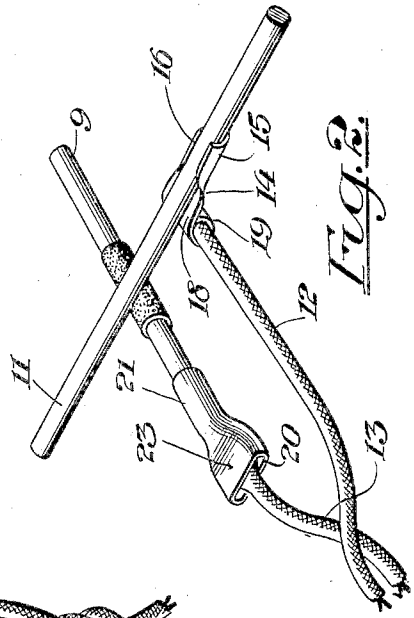


Fig. 2.



Fig. 4.

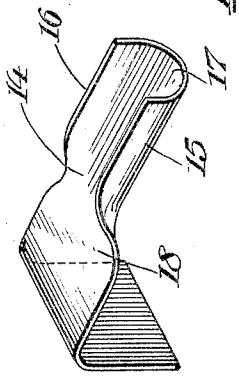


Fig. 3.

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UNITED STATES PATENT OFFICE.

ALAN R. FERGUSSON, OF BUFFALO, NEW YORK.

TERMINAL CONNECTER FOR TOY RAILWAYS.

Original application filed September 27, 1922, Serial No. 590,781. Divided and this application filed April 3, 1923. Serial No. 629,740.

This invention relates to terminal connections for toy or miniature railways, and is a division of my copending allowed application for toy railway, Serial No. 590,781, filed September 27, 1922, now Patent No. 1,452,370 dated April 17, 1923.

An object of this invention is to provide an improved terminal connecting means for transmitting the electric current to a third or power rail of a toy or miniature railway, which means may not only be readily manufactured at a minimum of expense but may also be easily manipulated and adapted for quick detachment and connection to the toy railway.

A further object of this invention is to provide improved terminal connecting means adapted to be quickly and easily attached to a wire formed toy railway section and readily detached therefrom when desired.

A further object of this invention is to provide improved quickly detachable and attachable terminal connecting means adapted to be releasably and resiliently clamped to a wire formed power rail and also to a wire formed cross tie.

Other objects of this invention will appear in the following description and the appended claim thereof reference being had to the accompanying drawings forming a part of this specification wherein like reference characters indicate corresponding parts in the several views and wherein Fig. 1 is a plan view illustrating my improved terminal connecter as applied to a wire formed toy railway section; Fig. 2 is a perspective view illustrating the terminal connecter means in operative position; Fig. 3 is a detail perspective view of an element of the terminal connecter; and Fig. 4 is a detail perspective view of the other element of the terminal connecter.

Before explaining in detail the present improvement and mode of operation thereof, I desire to have it understood that the invention is not limited to the details of construction and arrangement of parts which are illustrated in the accompanying drawings, since the invention is capable of other embodiments, and that the phraseology which I employ is for the purpose of description and not of limitation.

The present improved terminal connecter means is particularly adapted for transmitting the electric current to a toy railway having a wire formed third or power rail and wire formed ties, or a toy railway having a cylindrical third rail and cylindrical supporting ties.

Referring to Fig. 1 it will be seen that the toy railway section in connection with which the present invention is used, may comprise supporting ties 9 of cylindrical or wire formed construction, and spaced wire formed traction rails 10 carried thereby. Detachably mounted upon the several supporting ties 9 and suitably insulated therefrom is a third or power rail 11, which is preferably of wire formed or cylindrical construction. A further detailed description of the toy railway section is not deemed necessary herein since the same is fully described in my aforesaid co-pending application, of which this application is a division. The current is transmitted to the electric third or power rail 11 by means of a pair of electric conduits or the usual wires or cords 12 and 13 which are connected in circuit. The cord 12 transmits the current to the cylindrical or wire formed power rail 11 by means of a terminal element generally designated at 14. This terminal 14 is in the form of a clip or clamp preferably bent up from a piece of sheet metal, the side edges adjacent to one end of the clip being bent up or partially coiled to form resilient gripping side walls 15 and 16, providing therebetween substantially a semi-circular channel or gutter 17 into which the wire-formed or cylindrical power rail may be sprung. The base of the gutter 17 extends rearwardly at 18 in substantially the same plane to provide a seat against which the power rail rests, and the portion 18 at its end is coiled or bent under to embrace the electric cord 12, the outer insulation thereof having been stripped so that the bent or coiled portion 19 will be clamped or pressed tightly about the uncovered copper strands of the wire or cord 12.

The other terminal element generally designated at 20 is formed preferably from a piece of sheet metal which is first bent up or coiled to provide a tubular body 21, the juxtaposed edges forming an open slot 22. The rear end of the body member is securely attached to the copper strands of the wire or conduit 13 by pinching or pressing the opposite sides thereof together so as to embrace the wire as shown at 23. It will thus be seen

that the tubular outer end 21 of this connecter element forms a resilient gripping portion having sufficient spring due to the slot 22 to permit the connecter element 20 to be slipped over the free end of the wire or cylindrical tie 9 and at the same time resiliently grip the same.

In operation the wire 12 with its terminal element 14 transmits the power directly to the third rail 11, and the wire 13 with its terminal element 20 is connected to the tie 9 for the purpose of grounding the current. The element 14 may be readily and easily connected to the cylindrical third rail at any desired point or position on the rail, although this clip or clamp is preferably slipped forwardly from its position shown in Fig. 1 so as to be wedged between the third rail and the tongue of the rail connecter or clamp 25, thereby providing a more perfect electrical contact. The semi-circular walls 15 and 16 of this connecter clip act substantially as resilient gripping jaws which may be sprung around the cylindrical third rail and easily detached therefrom in the reverse manner. Similarly the resilient tubular portion 21 of the terminal clip or element 20 provides a quick attachable and detachable joint with the cylindrical tie 9 since it may be slipped on or off the end of the tie and grips the same sufficiently to provide the required electrical contact, and at the same time to prevent inadvertent detachment.

It is to be understood that by describing in detail herein any particular form, structure or arrangement, it is not intended to limit the invention beyond the terms of the claim or the requirements of the prior art.

Having thus explained the nature of my said invention and described a way of constructing and using the same, although without attempting to set forth all of the forms in which it may be made, or all of the modes of its use, I claim:

A quick detachable terminal connecter for connecting an electrical conductor with a wire formed track portion of a toy track, said connecter being formed of resilient sheet metal and having a U-shaped gripping portion adapted to be sprung over the under side of said track portion with the sides thereof gripping opposite sides of the latter, a transverse, integral portion having a top wall extending in the plane of the bottom of said gripping portion and bearing against the underside of said track to position the connecter, and a tubular resilient gripping part merging into and disposed below said top wall and adapted to grip and frictionally hold said conductor.

Signed at Buffalo, New York, this 28th day of March 1923.

ALAN R. FERGUSSON.