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CROSS-OVER TRACK UNIT FOR TOY RAILROADS

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Fig. 1

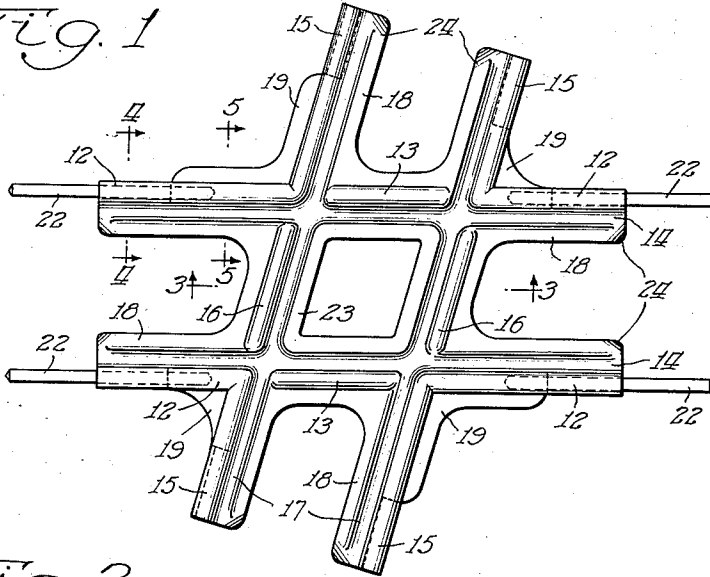


Fig. 2

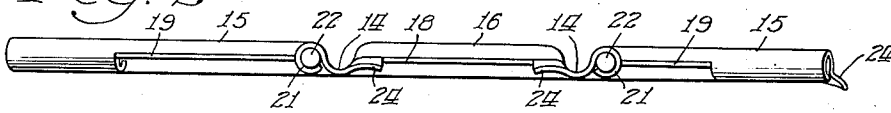


Fig. 3

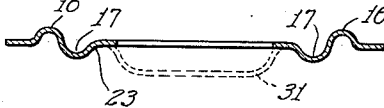


Fig. 4

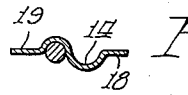
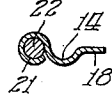


Fig. 5

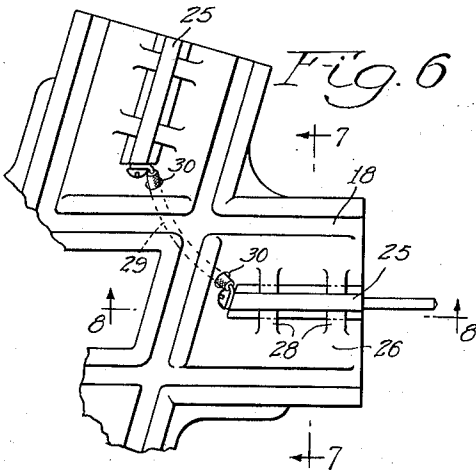


Fig. 6



Fig. 7

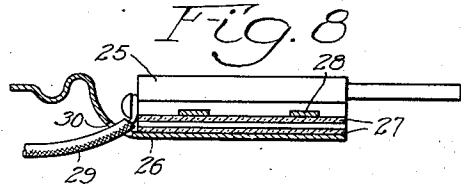


Fig. 8

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UNITED STATES PATENT OFFICE

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CROSS-OVER TRACK UNIT FOR TOY
RAILROADS

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6 Claims. (Cl. 238-10)

This invention relates to cross-over track units for toy railroads, and the main object of the invention is to provide a simplified construction of a cross-over of the type referred to which will be exceptionally rigid and durable, while being very low in cost of production.

Other objects and advantages of the invention will be understood by reference to the following specification and accompanying drawing, in which a cross-over embodying a preferred form of the invention is illustrated.

In the drawing—

Fig. 1 is a plan;

Fig. 2 is a side elevation of the left-hand side of the unit illustrated in Fig. 1;

Figs. 3, 4 and 5 are sections on the lines 3-3, 4-4 and 5-5 respectively of Fig. 1;

Fig. 6 is a fragmentary plan of the improved cross-over modified for use on toy electric railroads; and

Figs. 7 and 8 are sections on the lines 7-7 and 8-8 respectively of Fig. 6.

Referring now to the drawing, the improved cross-over is made from a single blank of sheet metal. The blank is initially stamped out in accordance with the requirements of the finished article and is subjected to such subsequent shaping operations as is required. The cross-over disclosed in this application may readily be produced in three operations,—first, blank cutting; second, stamping to impress the required rail and guide portions in the blank, and third, the formation of sockets at the end of each rail portion to receive pins for facilitating connection of the cross-over to other rail sections.

The cross-over herein illustrated embodies two pairs of tracks designated 10 and 11 respectively, these track pairs extending transversely of each other.

The track pair 10 embodies end rail portions designated 12, intermediate rail portions designated 13, and wheel flange guide portions designated 14. The guide portions 14 are continuous, as clearly shown in Fig. 1.

The track pair 11 similarly embodies end track portions 15, intermediate track portions 16, and guide portions 17, the latter being continuous, as clearly shown in the drawing.

Reinforcing webs of metal, as indicated at 18, extend sidewise from each of the end rail portions and the respective intermediate rail portions which extend transversely between the respective pairs of end rail portions. Similar sidewise extending reinforcing webs are provided, as indi-

cated at 19, in the corners formed by adjacent end rail portions 12 and 15.

At each outer rail end there is formed a socket 21 by turning under a web or lip of metal, as clearly shown in Figs. 2 and 4, and pins, such as indicated at 22, may be mounted in certain of the sockets, in accordance with accepted or established practice in the toy train industry, for facilitating the connection to the cross-over of other track sections. If desired, such connecting pins may be locked in place in certain of the sockets by indenting the pins and correspondingly indenting portions of the sockets.

In the central portion of the unit, reinforcing web portions, such as indicated at 23, may be provided integrally, such reinforcing web extending inwardly from the surrounding guide portions 14 and 17.

The reinforcing web elements 18 are preferably turned downwardly, as indicated at 24, in such a manner as to produce more or less flaring openings to the respective guide portions 14 and 17. This arrangement helps to insure free entrance of wheel flanges to the guides and it also serves to prevent possible abrupt engagement of such flanges with the guide ends. Derailment and noise is thus obviated.

As indicated, there are no track supporting tie portions. Because of the short length of the respective tracks, the cross-over may be amply supported solely by its connection with the adjacent track sections. However, if independent support is desired, it may, of course, be readily provided by turning down suitable portions of the metal blank to form supports. For example, instead of cutting out the central portion of the cross-over, it may be simply depressed, as indicated in dotted lines at 31 in Fig. 3.

The above described structure is, of course, designed for use in connection with toy mechanical railroads. A similar structure may be utilized for toy electric railroads, it being only necessary to provide for the mounting of short sections of a third rail intermediate the respective end rail portions. Such an arrangement is illustrated in Figs. 6, 7 and 8. As best shown in Fig. 7, a third rail element 25 may be seated on a web of metal 26 which may be integral with the reinforcing webs 18 but preferably depressed with reference thereto. The third rail 25 is insulated from the web 26 by means of suitable insulation material 27 and it may be locked in place by means of metal lips 28 which are punched from the web 27 in a manner substantially similar to more or less general practice in mounting third rails

on cross ties in ordinary electrified toy tracks. The respective third rail sections 25 may conveniently be electrically connected by means of lengths of conductor, such as indicated at 29, which extend through suitable openings as indicated at 30, the conductors being, of course, provided with an insulated covering to prevent short circuiting on the main track structure.

In some instances, it may be feasible to use the described cross-over section for electric trains without providing any third rail elements, this because of the shortness of the cross-over track sections. An electric train operated at ordinary speed will readily carry over the length of the cross-over and pick up the current on the opposite side of the cross-over. Of course, it would be necessary to provide for suitable connection of the third rail sections on opposite sides of the cross-over to the source of power, but such connections may be made in any conventional manner well known to those skilled in the art.

The above described construction of cross-over is obviously much less expensive to produce than the multi-part units of the prior art. One simple form of the prior art embodies at least 14 distinct parts, whereas the improved structure above described embodies but one single part suitably stamped to provide the required rail and wheel guide elements.

Changes may be made in the desired structure without departing from the spirit of the invention, the scope of which should be determined by reference to the following claims, the same being construed as broadly as possible consistent with the state of the art.

I claim:

1. A cross-over of the class described, comprising a sheet metal member stamped to form rail portions upwardly offset relative to the normal plane of the member, and wheel flange guide portions offset downwardly relative to said normal plane, said guide portions being substantially continuous and said rail portions being interrupted by the respective transversely extending guide portions, portions of said member remaining in said normal plane to constitute reinforcing webs.

2. A cross-over of the class described, comprising a sheet metal blank stamped to form an integral structure embodying two pairs of tracks crossing each other intermediate their lengths, the end portions of each track pair outwardly of the intermediate intersecting portions thereof being of approximately the same length as said intersecting portions, whereby the over-all length of the cross-over relative to its vertical dimension is such that the latter is adequate to provide sufficient strength and rigidity in the cross-over to sustain the same, when normal loads are applied thereto, against buckling when the cross-over is supported at its extremities by connections with other track sections and with the bottom of the

cross-over spaced upwardly from the plane of the bottoms of such other track sections.

3. A one-piece, stamped, sheet metal cross-over for toy railroads comprising intersecting track pairs and associated guideways which are of such short lengths and of such rigidity that the cross-over is adapted to be adequately supported solely by connection at the ends of said track pairs with other track sections, the cross-over tracks being interrupted in their lengths by the relatively transversely extending guideways, but said guideways being continuous and sufficiently rigid to compensate for the loss of rigidity incident to the interruption of said tracks by said guideways.

4. A one-piece, stamped, sheet metal cross-over for toy railroads comprising two pairs of relatively transversely extending tracks, guideways formed adjacent the inside of each track, said guideways being transversely arched and extending continuously for the entire length of the respective tracks, the transversely arched formation and continuity of said guideways serving to impart such rigidity to the cross-over as to facilitate supporting of the same solely at its ends by connections with other track sections.

5. A toy railroad track member having rail portions which extend transversely of each other, comprising a sheet metal member having said rail portions pressed to upwardly offset relation to the normal plane of the member, and wheel flange guide portions also extending transversely of each other and respectively disposed substantially parallel with said rail portions, said guide portions being pressed to downwardly offset relation to said normal plane, the respective guide portions being substantially continuous from end to end and respectively extending transversely of and interrupting the continuity of said rail portions, portions of said member adjacent said rail and guideway portions remaining substantially in said normal plane.

6. A cross-over of the class described, comprising a substantially rigid stamped sheet metal structure embodying two pairs of tracks crossing each other intermediate their lengths the end portions of each track pair outwardly of the intermediate intersecting portions thereof being of approximately the same length as said intersecting portions, whereby the over-all length of the cross-over relative to its vertical dimension is such that the latter is adequate to provide sufficient strength and rigidity in the cross-over to sustain the same, when normal loads are applied thereon, against buckling when the cross-over is supported at its extremities by connections with other track sections and with the bottom of the cross-over spaced upwardly from the plane of the bottoms of such other track sections.

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