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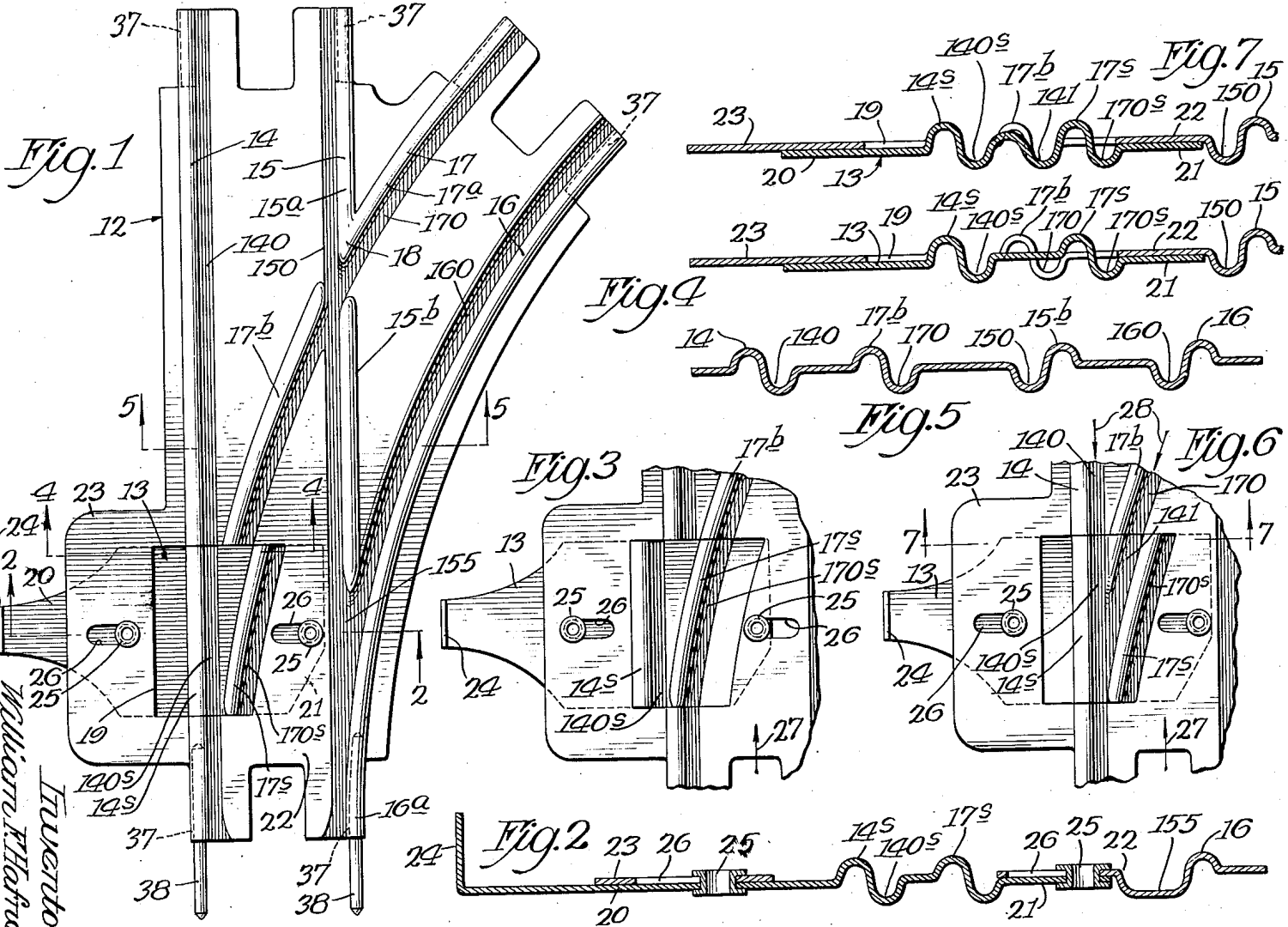
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TOY RAILWAY TRACK SWITCH

Filed Jan. 29, 1934

2 Sheets-Sheet 1



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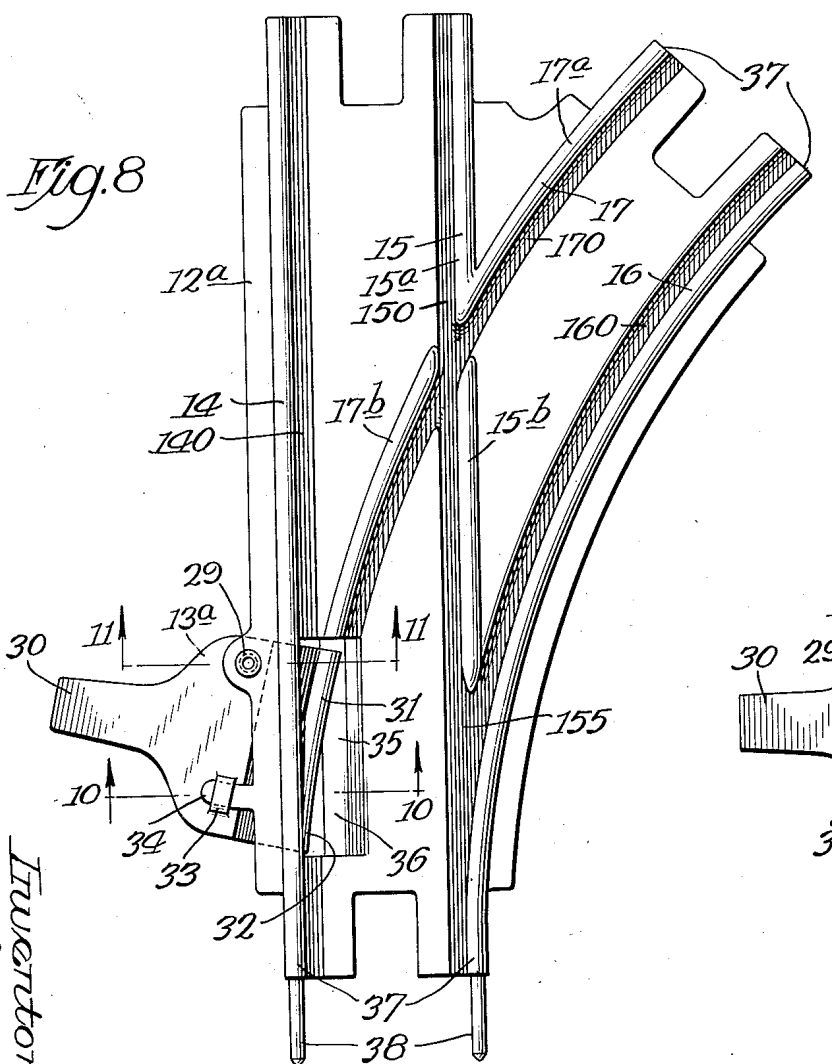
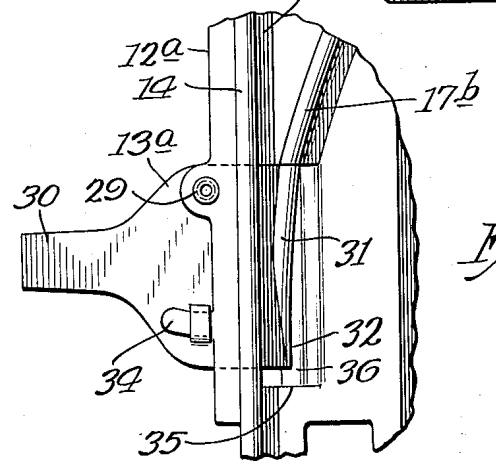
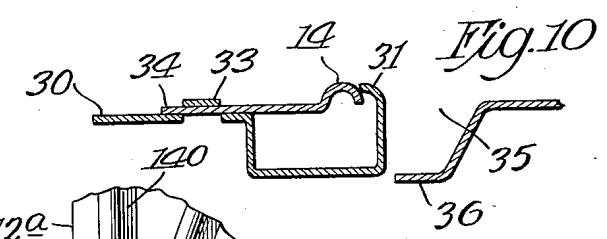
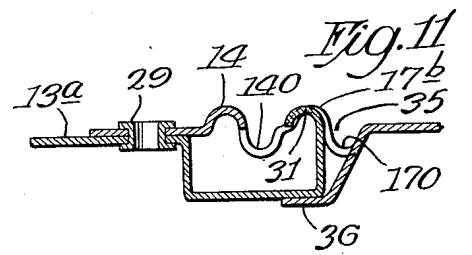
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TOY RAILWAY TRACK SWITCH

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2 Sheets-Sheet 2



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# UNITED STATES PATENT OFFICE

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## TOY RAILWAY TRACK SWITCH

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8 Claims. (Cl. 246—415)

This invention relates to improvements in track switches for toy railways and the main objects of the invention are to provide a track switch which will be exceptionally simple in construction, yet efficient and durable, and which may be manufactured and sold at a much lower cost than toy railway track switches heretofore known.

Other objects and advantages of the invention will be understood by reference to the following specification and accompanying drawings (two sheets) in which are illustrated two forms of track switches embodying the invention.

In the drawings:—

Fig. 1 is a plan;

Fig. 2 is a section on the line 2—2 of Fig. 1;

Fig. 3 is a fragmentary plan corresponding to a portion of Fig. 1 but showing the structure in a changed position;

Figs. 4 and 5 are sections on the lines 4—4 and 5—5 respectively of Fig. 1;

Fig. 6 is a fragmentary plan similar to Fig. 3 but showing a slightly modified construction;

Fig. 7 is a section on the line 7—7 of Fig. 6;

Fig. 8 is a plan of another modification;

Fig. 9 is a fragmentary plan corresponding to a portion of Fig. 8 but showing a changed position; and

Figs. 10 and 11 are sections on the lines 10—10 and 11—11 respectively of Fig. 8.

Referring now to the drawings, and more particularly to Figs. 1 to 4 inclusive, the improved track switch consists of two principal parts, one member being designated 12 and the other being designated 13. The member 12 is preferably in the form of a sheet metal member stamped up to form two diverging pairs of rails. One pair, which may be considered the main track, includes a stamped up outer rail formation 14 which is substantially straight and extends the full length of the structure. A rail portion 15 spaced inwardly from the rail 14 and substantially parallel therewith constitutes the inner rail of the said main track pair. The inner rail 15, in this instance, consists of aligned or separated sections 15<sup>a</sup> and 15<sup>b</sup>.

Another pair of rails, which may be considered side tracks, is also stamped up from the member 12 and this pair consists of an inner curved rail 16 which has its end portion 16<sup>a</sup> substantially in alignment with the main track inner rail portions 15<sup>a</sup> and 15<sup>b</sup>. In effect, the end portion 16<sup>a</sup> of the inner curved rail also constitutes a portion of the main track inner rail 15. The side track outer rail is designated

17 and in this instance it includes longitudinally aligned but separated sections 17<sup>a</sup> and 17<sup>b</sup>. The section 17<sup>a</sup> intersects and merges into the straight rail portion 15<sup>a</sup> to form a frog point designated 18.

Immediately inside each of the rail portions just described, there are formed grooves or wheel flange guideways designated 140, 150, 160 and 170, the said grooves being substantially continuous throughout the length of the respective rails with which they are associated. Adjacent the frog point 18, the said grooves intersect each other but nevertheless are continuous.

The member designated 13 constitutes a shiftable switching element and it is formed of sheet metal stamped up to provide a pair of rail portions, one designated 14<sup>s</sup> and the other designated 17<sup>s</sup>. The rail portion 14<sup>s</sup> is a straight portion adapted to be aligned with the straight rail 14 and the rail portion 17<sup>s</sup> is a curved portion adapted to be aligned with the rail 17. The member 12 is provided with an opening 19 whereby portions of the rails 14 and 17 are cut away where they would normally merge and the switching member 13 is movably mounted on the member 12 so that the rail portions 14<sup>s</sup> and 17<sup>s</sup> are laterally movable into and out of operative relation with the rails 14 and 17 in said opening. In this instance, the switching member 13 on opposite sides of the rail portions 14<sup>s</sup> and 17<sup>s</sup> is provided with substantially flat plate-like extensions designated 20 and 21 respectively, and these extensions underlie flat web or plate-like portions 22 and 23 respectively, formed integrally with the member 12. The portion 20 of the switching member is also extended and bent upwardly to form an operating handle 24. The switching member 13 is adjustably connected to the member 12 by means of rivets such as indicated at 25, 25 which are slidable in slots 26, 26 formed in the web or plate-like portions 22 and 23, the said slots constituting guides for regulating the movement of the switching member.

Adjacent the inside of each of the switching member rail sections 14<sup>s</sup> and 17<sup>s</sup>, there are also provided grooves or wheel flange guideways 140<sup>s</sup> and 170<sup>s</sup>, the said guideways being of course adapted to be aligned with the corresponding guideways of the straight and curved rail portions of the member 12.

When the parts are in the position shown in Fig. 1, i. e., with the straight track portion 14<sup>s</sup> of the switching member in alignment with the straight track 14 of the member 12, a train will,

of course, follow the straight track. It will be noted that the grooves 150 and 160 of the inside rails of the main and side tracks intersect and form a widened grooved portion designated 155, so that for a short distance, i. e., while the train wheels are passing from the rail portion 16<sup>a</sup> to the rail portion 15<sup>b</sup>, there is an impaired guiding effect on that particular wheel. Derailment due to this cause is of course prevented by the continuous guideway formed by the grooves 140 and 140<sup>s</sup>, in which the flange of a wheel rides.

When the switch member 13 is adjusted to the position illustrated in Fig. 3, the curved track section 170<sup>s</sup> of the switching member is aligned with the portion 17<sup>b</sup> of the curved track 17 and a train entering the switch in the direction indicated by the arrow 27, will of course enter the curved side tracks.

In the structure thus far described, it will be seen that in the event a train is traveling in the direction reverse to that indicated by the arrow 27, it will be necessary that the switching element 13 be adjusted in accordance with the track on which the train is moving. In the form of construction shown in Fig. 6, the switching element may remain in either of its two positions, while at the same time permitting a train to run through the switch from either the side track or the main track when moving in the said reversed direction such as indicated by the arrows 23, 23. In this construction, the track sections 14<sup>s</sup> and 17<sup>s</sup> are separated by a depressed portion which lies alongside the inside of the rail section 14<sup>s</sup> and also has a branch designated 141 which lies alongside the inside of the rail section 17<sup>s</sup>. It will be seen that the grooves 140<sup>s</sup> and 141 are respectively aligned with the straight and curved track grooves 140 and 170, so that there is no obstruction to the passage of a train through the switch in either direction. Of course when a train is traveling in the direction of the arrow 27 so as to enter the switch in an operative direction, the switch must be shifted to direct the train as desired.

With reference to Figs. 8 to 11 inclusive, the switch structure there shown embodies a main sheet metal member 12<sup>a</sup> which is similar in all material respects to the member 12 of the form shown in Fig. 1. The switching member designated 13<sup>a</sup> in this instance is pivoted as indicated at 29 to a portion of the member 12<sup>a</sup>. The member 13<sup>a</sup> is a sheet metal member and is provided at its outer edge with a handle formation 30 and at its inner edge with a rail portion 31 which is pressed up, as clearly indicated in Fig. 10. The outer end of the rail formation 31 is tapered to a point as indicated at 32 and the arrangement is such that the inner end portion of the rail formation 31 is at all times substantially in alignment with the curved outer rail portion of the member 12<sup>a</sup>. As shown in Fig. 8, the switching member 13<sup>a</sup> is adjusted so that the pointed end of the rail 31 engages the inside of the outer straight rail formation of the member 12<sup>a</sup> so that a train upon entering the switch would be directed over the curved side tracks. When the switching element 13<sup>a</sup> is adjusted to the position shown in Fig. 9, the train would of course follow the straight track, the member 31 then constituting, in effect, a guide or guard rail for preventing the wheels of the train from slipping sidewise from the rail, as might otherwise happen due to the widened groove intersection 155 at the inner rails.

For effectively supporting the switching member 13<sup>a</sup>, the latter may have a loop 33 pressed up-

wardly therefrom so as to form a guide for receiving the tongue 34 formed integral with and projecting from the member 12<sup>a</sup>. The rail portion 31 of the switching member operates in an opening 35 formed in the main member 12<sup>a</sup> and if desired, the switching member may further be supported by depressing the metal of the member 12<sup>a</sup> (where it is removed to form the opening 35) to form a shelf 36 which may underlie the portion of the member 13<sup>a</sup> below the rail portion 31.

For connecting the switch structure to conventional track sections, it is provided at the ends of its various rails with sockets designated 37 for receiving dowel pins such as 38 which fit into similar sockets provided in conventional track sections. The sockets 38 are formed by coiling portions of the metal sheet from which the member 12 is formed, such portions being of course coiled underneath the respective rail ends.

The described structure embodies two main elements, each of which may be made by inexpensive punch press operations. The assembling of the elements involves only a simple riveting operation and the result is that the entire structure costs but little to produce and hence may be sold at low prices compared with the prices necessarily charged for the more or less conventional structures, which are considerably more complicated and in fact, less durable.

Changes in the described structure may be made 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 as my invention:

1. A track switch for a miniature or toy railroad, comprising a main sheet metal member stamped to form two diverging pairs of rails and web portions integrally connecting all of the rails, and an auxiliary sheet metal member stamped to form rail, web and operating handle portions, the web portion of said auxiliary member being movably connected to the web portion of the main member and the rail portion of the auxiliary member being interposed in a rail portion of one of said rail pairs and having one end adapted to be moved selectively into and out of cooperative relation with a rail portion of the other rail pair, the handle portion of said auxiliary member projecting sidewise from the switch so as to facilitate manipulation of the switch.

2. A track switch for a miniature or toy railroad comprising a main sheet metal member stamped to form two diverging pairs of rails and a web integrally connecting all of the rails, a portion of a rail of one pair adjacent the junction of such rail with a rail of the other pair and the adjacent web portion being cut away so as to provide an opening in the member, and an auxiliary sheet metal member stamped to form a rail portion and a web portion, positioned partially in said opening and having its web portion movably connected to the web of the main member so that said auxiliary member rail portion is selectively adjustable into and out of position for operatively connecting said rails of the main member.

3. A track switch for a toy railroad, comprising a main sheet metal member stamped to form diverging pairs of rails and a web integrally connecting all of the rails, there being outer and inner rail pairs, the inner rails of each pair having a permanent stamped intersection including a guideway separating said rails at their intersections and operative to temporarily support a

vehicle wheel during its movement over said intersection from one of said rails to the other, the outer rails having an adjustable intersection comprising an auxiliary sheet metal member stamped to form a rail portion and a web portion, one of said outer rail portions and the adjacent web portion being cut away so as to provide an opening in the switch, said auxiliary member being mounted in said opening and having its web portion movably connected to the web portion of the main member and its rail portion substituted for said cutaway rail portion, said auxiliary member rail portion being selectively movable for connecting or disconnecting said outer rails of said rail pairs.

4. A toy railway switch including a base formed of a sheet metal stamping with integral main and branch line rails and having an opening located at the junction of said main and branch line rails, a switch lever of angular formation formed of a single sheet metal stamping and having an integral rail section struck up therefrom and movable in said opening of the base, a portion of said lever projecting beyond the base to provide an operating handle, and a pivot for connecting the lever to the underside of the base.

5. A toy railway switch including a base formed of a sheet metal stamping with integral main and branch line rails, and having an opening located at the junction of said main and branch line rails, a switch lever of bell crank formation and formed of a single sheet metal stamping provided on one of its arms with a stamped up rail section which is adapted to move in said opening in the base, a pivotal mounting at the extremity of its other arm, and an operating connection projecting outwardly beyond said base from the junction of the said two arms.

6. A track switch for toy railroad tracks, comprising a one-piece main member provided with diverging traction rail pairs and connecting webbing integrally uniting the rails, said webbing having an opening therethrough, adjustable intersection-forming means associated with a rail of each of said rail pairs, said means comprising a one-piece auxiliary member provided with a traction rail portion and a web portion, the said auxiliary member having its web portion disposed beneath the webbing of said main member, extending upwardly through said opening and having its rail portion juxtaposed with one of

said last mentioned rails, and means connecting web portions of said main and auxiliary members so as to permit adjustment of the latter to position the rail portion thereof selectively in and out of switching relation to the other of said last mentioned rails.

7. A track switch for toy railroad tracks, comprising a one-piece sheet metal member stamped to form diverging traction rail pairs and connecting webbing integrally uniting the rails, said webbing having an opening therethrough, adjustable intersection-forming means associated with a rail of each of said rail pairs, said means comprising a one-piece auxiliary sheet metal member stamped to form a traction rail portion and a web portion, the said auxiliary member having its web portion disposed beneath the webbing of said main member, extending upwardly through said opening and having its rail portion juxtaposed with one of said last mentioned rails, and means connecting web portions of said main and auxiliary members so as to permit adjustment of the latter to position the rail portion thereof selectively in and out of switching relation to the other of said last mentioned rails.

8. A track switch for toy railroad tracks, comprising a one-piece main member provided with diverging traction rail pairs and connecting webbing integrally uniting the rails, said webbing having an opening therethrough, adjustable intersection-forming means associated with a rail of each of said rail pairs, said means comprising a one-piece auxiliary member provided with a traction rail portion and web portions on opposite sides of said rail portion, the said auxiliary member having its web portions disposed beneath the webbing of said main member and its rail portion extending upwardly through said opening and juxtaposed with said rail of each of said rail pairs, and means connecting the web portions of said auxiliary member to portions of the webbing of the main member on opposite sides of said opening so as to permit adjustment of said auxiliary member to position the rail portion thereof selectively in and out of switching relation to one of said last mentioned rails and so as to adequately support said auxiliary member rail portion in operative relation to the rails of said main member.

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