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PATENT SPECIFICATION

253,236

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PROVISIONAL SPECIFICATION.

Improvements in and relating to the Tracks of Toy Railways.

I, FRANK HORNBY, of Meccano Limited, Binns Road, Old Swan, Liverpool, British, do hereby declare the nature of this invention to be as follows:—

In toy or miniature railways it has been usual to carry the switch point operating rods, the signal gear operating rods and similar mechanism connected with the track, from bracket elements which were secured to the floor or other surface near the track rails but independent of such track rails or sleepers. In consequence of this arrangement some considerable skill was required in fixing such brackets accurately with reference to the track rails in order that the operating mechanism controlling the switch points, signals or the like should work smoothly. The object of the present invention is directed to the provision of means whereby such bracket mechanisms shall be carried from the track itself thus ensuring that the mechanism shall occupy a correct position relatively to the track.

According to this invention the brackets, guides or other elements in which the operating rods for the switch points or the signal gear are carried are made preferably in the form of light sheet metal stampings but they may be made as light castings, and such brackets are provided with holes or similar projections adapted to register with holes, pins or similar projections on the usual sheet metal sleepers supporting the rails of the toy railway track. Consequently when such brackets are fitted to the sleepers and secured, say, by bolts passed through the registering holes, the projection of the brackets from the side of the track is always a standard distance and the guide apertures, channels or grooves which are formed in the outer ends of the brackets are thus always spaced accurately at the

same distance outwardly from the track and the parallelism of the operating rods or wires which slide in the apertures or channels in the brackets is ensured relatively to the track.

Alternatively to making such guide brackets as separate elements which may be detachably fitted to the track sleepers, such sleepers when made of stamped sheet metal may have integral sheet metal projecting pieces forming guide brackets, the necessary apertures, channels or the like being formed in such projecting pieces integral with the sleepers.

In the preferred form however the bracket is made as a detachable element and fixed to the sleepers of the toy railway track, the sleepers being provided with holes and a flat member on the bracket being similarly provided with one or more holes so that a small bolt may be passed through the registering holes and secured by a nut. The outer end of the bracket is formed with a flange pressed up, say, at right angles to the sole plate of the bracket and in this upstanding flange is formed a series of holes or slots through which are passed the operating rods, in the form of wires of small diameter, for controlling the switch points or the signals.

Such an arrangement besides ensuring parallelism of the operating rods with the track over straight stretches of the track also permits the wires to assume a curved formation round bends in the track, the thin sheet metal of the apertured flange permitting the curved rod to move slidably through the brackets without binding.

Dated this 20th day of March, 1925.

For the Applicant,
A. J. DAVIES,
Patent Agent,
24, Moorfields, Liverpool.

[Price 1/-]

COMPLETE SPECIFICATION.

Improvements in and relating to the Tracks of Toy Railways.

- I, FRANK HORNBY, of Meccano Limited, Binns Road, Old Swan, Liverpool, British, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described in and by the following statement:—
- In toy or miniature railways it has been usual to carry the switch point operating rods, the signal gear operating rods and similar mechanism connected with the track, from bracket elements which were secured to the floor or other surface near the track rails but independent of such track rails or sleepers. In consequence of this arrangement some considerable skill was required in fixing such brackets accurately with reference to the track rails in order that the operating mechanism controlling the switch points, signals or the like should work smoothly. The object of the present invention is directed to the provision of means whereby such bracket mechanisms shall be carried from the track itself thus ensuring that the mechanism must occupy a correct position relatively to the track.
- In a toy railway track eye bearings have been formed on the track sleepers adapted to house rotating spindles for raising a ramp to stop a toy locomotive, and the actuating wire for such crank spindles was passed through an eye guide on the sleeper.
- According to this invention the brackets, guides or other elements in which the operating rods for the switch points or the signal gear are carried are made preferably in the form of light sheet metal stampings but they may be made as light castings, and such brackets when separate are provided with holes or projections adapted to register with holes, pins or similar projections on the usual sheet metal sleepers supporting the rails of the toy railway track. Consequently when such brackets are fitted to the sleepers and secured, say, by bolts passed through the registering holes, the projection of the brackets from the side of the track is always a standard distance and the guide apertures, channels or grooves which are formed in the outer ends of the brackets are thus always spaced accurately at the same distance outwardly from the track and the parallelism of the operating rods or wires which slide in the apertures or channels in the brackets is ensured relatively to the track. Alternatively to making such guide brackets as separate elements which may be detachably fitted to the track sleepers, such sleepers when made of stamped sheet metal may have integral sheet metal projecting pieces forming guide brackets, the necessary apertures, channels or the like being formed in such projecting pieces integral with the sleepers.
- Apparatus in accordance with this invention is illustrated in the accompanying drawings in which Fig. 1 is a plan view of a track section showing detachable guide brackets fitted to the sleepers, Fig. 2 being a cross section on the line A—A of Fig. 1 showing the guide bracket in position and Fig. 3 is a similar fragmentary section showing the guide bracket bolted to the sleeper. Fig. 4 is a plan view, Fig. 5 an end view and Fig. 6 a cross section of the detachable form of bracket and Fig. 7 is an isometric view of such bracket. Fig. 8 shows the application of the bracket for carrying the guide rod round a curve. Figs. 9 and 10 are plan and section relatively of a bracket formed integrally with a sleeper.
- In carrying out the invention the brackets 1 or the like in which the operating rods 2 for the switch points or signal gear slide are preferably made detachable as shown in Figs. 1 to 8 inclusive. Such brackets are adapted to be secured to the sleepers 3 of the toy railway track, the rails 4 of which are secured on the sleepers in known manner. The sleepers are provided with a hole 5 or several holes and the sole plate or flat member 1a on the bracket 1 is similarly provided with one or more holes 5a. The width of the sole plate 1a is made so that it will just fit closely within the shallow side flanges 3a of the sleeper a side flange 1b on the bracket lying closely against one of the side flanges 3a of the sleeper, the central hole 5a in the bracket then just registering with the hole 5 in the sleeper. When in this position a small bolt 6 may be inserted through the registering holes and secured by a nut. The outer end of the bracket is formed with a flange 1c pressed up, say, at right angles to the sole plate 1a of the bracket and in this upstanding flange is formed

a series of holes 7 slots or apertures through one of which is passed the operating rod 2, in the form of a wire of small diameter, for controlling the switch points or the signals, the rod being connected up in known manner to the usual bell cranks 8.

Such an arrangement besides ensuring parallelism of the operating rods with the track over straight stretches of the track also permits the wires to assume a curved formation round bends in the track as in Fig. 8, the thin sheet metal of the apertured flange 1c permitting the curved rod 2 to move slidably through the brackets without binding.

By providing the guide brackets with a series of apertures 7 the operating rod 2 may be set in or out at certain definite distances parallel to the track and as the guide brackets 1 are all made accurately and of standard uniformity, when they are so positioned under the sleepers that the holes 5, 5a register and are bolted up perfect parallelism of the rod 2 in the guide apertures 7 of the brackets is ensured, thus eliminating the necessity for accurate marking off and positioning the guide brackets when such are connected at the side of the track, but independently thereof. Any slight play or clearance as between the holes 5, 5a and the bolts 6 which might result in some slight difference in the position of the brackets 1 is prevented by the end shoulder 1d of the flange 1c which shoulder is bedded against the end 3b of the sleeper when the guide bracket is being positioned and before the bolt 6 is tightened up.

If desired the sole plate 1a of the bracket 1 instead of being formed with a single hole may be made with several holes, say three as shown, and in this case the holes would be pitched equidistantly apart thus enabling the bracket to be used in connection with constructional toy systems the characteristic feature of which is the facility of coupling several of their parts together by reason of the elements in the toy outfit having equidistantly pitched holes. By forming the guide bracket with a series of equidistantly pitched holes 5a the bracket lends itself admirably to being readily coupled up to other elements in such toy outfits and thus to form a valuable addition thereto.

In the modified form shown in Figs. 9 and 10 instead of the guide bracket being separate from the sleeper and detachably fitted thereto, the sleeper 3 of stamped sheet metal is provided with an apertured projecting piece or flange 1e,

similar to the member 1c of the detachable bracket and similarly provided with several apertures 7, integral with and forming part of the sheet metal sleeper stamping. In this form absolute alignment of the apertures 7 of the brackets is ensured and consequently a smooth sliding movement of the operating rod 2 free from any liability of binding.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. In a toy or miniature railway the provision of a guide within which are adapted to slide the operating rods of the switch points, signal gear or the like such guide comprising a bracket arm projecting laterally from the side of the track and carried therefrom and having a series of apertures, channels or grooves for the operating rods.

2. A detachable guide bracket for the signal or switch point operating rods of a toy or miniature railway as claimed in Claim 1, comprising a sole plate or like member provided with one or more holes adapted to register with one or more holes in the sleeper of the track and be secured thereto by a bolt passed through the registering holes, the guide bracket having a projection with one or more apertures to form a guide for the operating rods of the track railway.

3. The detachable guide bracket for the operating rods of a toy or miniature railway, substantially as described and shown in Figs. 4, 5, 6 and 7 of the accompanying drawings.

4. A guide bracket for the operating rods of the switch points or signal gear of a toy or miniature railway formed as an integral projection on a stamped sheet metal sleeper, one or more apertures being formed in the projection through which the operating rods are adapted to slide.

5. The integral guide bracket and sleeper for the operating rods of a toy or miniature railway substantially as described and shown in Figs. 9 and 10 of the accompanying drawings.

6. The guide brackets for the operating rods of a toy or miniature railway and the means for securing them to or carrying them from the track substantially as described and shown in the accompanying drawings.

Dated this 17th day of December, 1925.

A. J. DAVIES,
Patent Agent,
24, Moorfields, Liverpool.

[This Drawing is a reproduction of the Original on a reduced scale.]

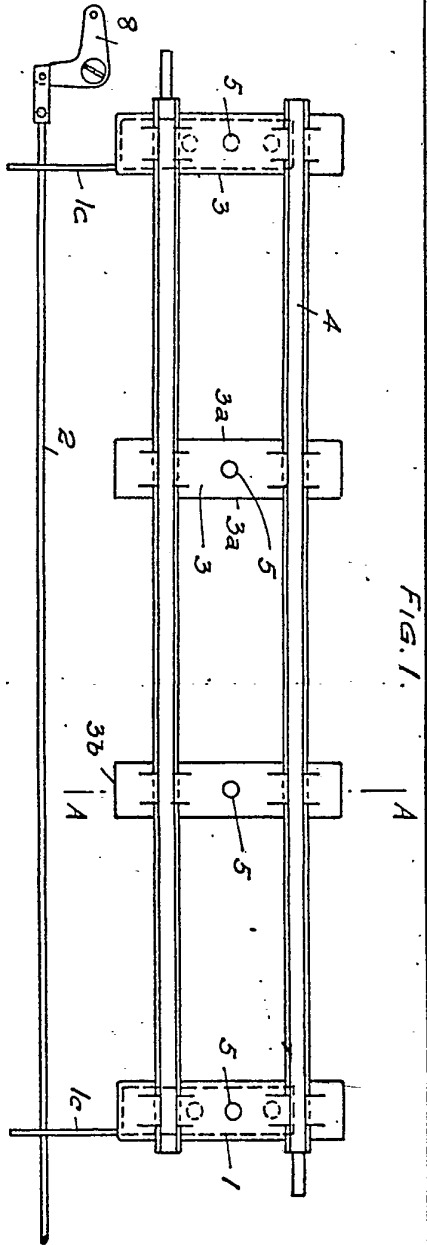


FIG. 1.

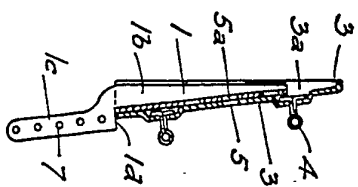


FIG. 2.

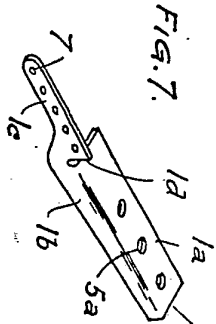


FIG. 7.

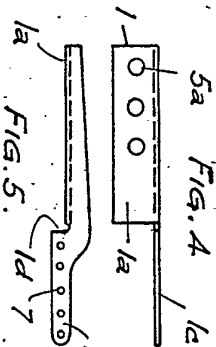


FIG. 4.

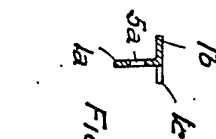


FIG. 6.



FIG. 5.

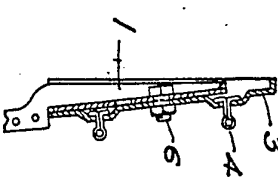


FIG. 3.

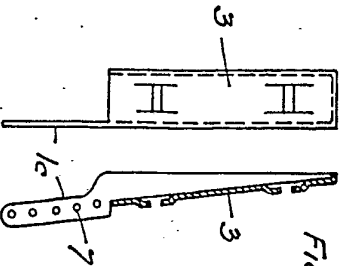


FIG. 9.

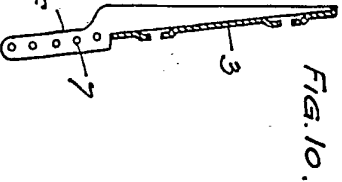


FIG. 10.

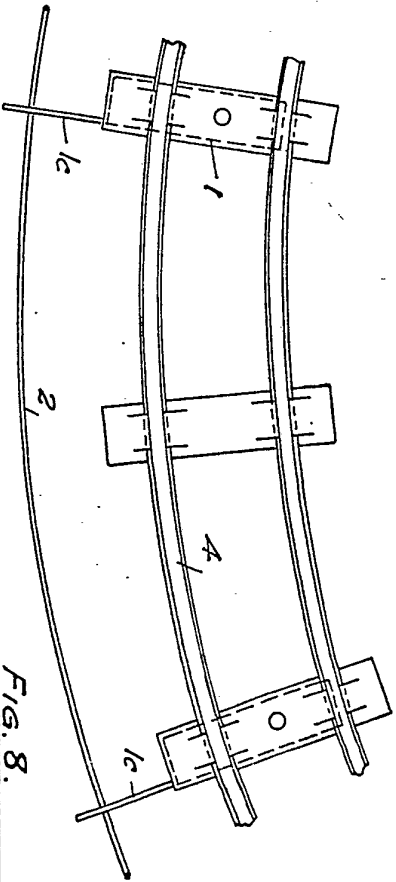


FIG. 8.

FIG. 1.

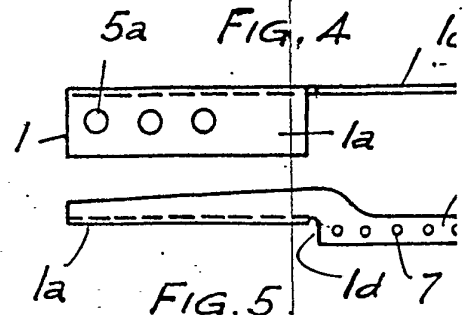
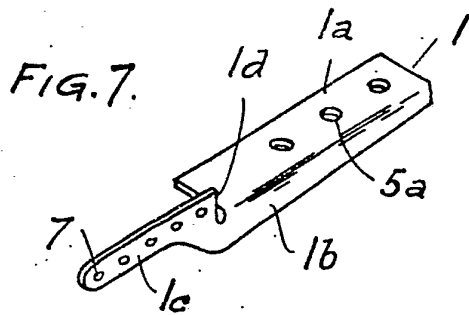
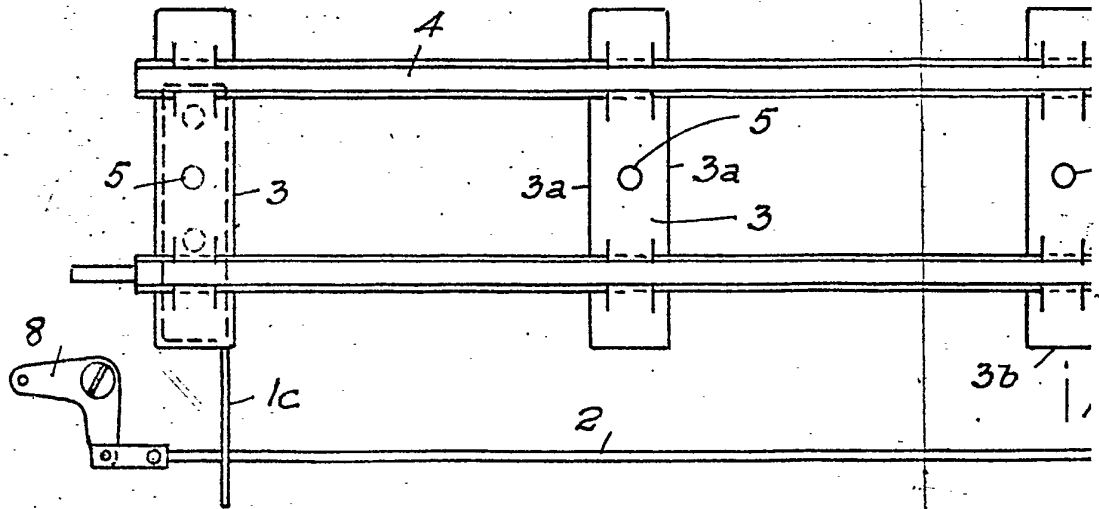


FIG. 9.

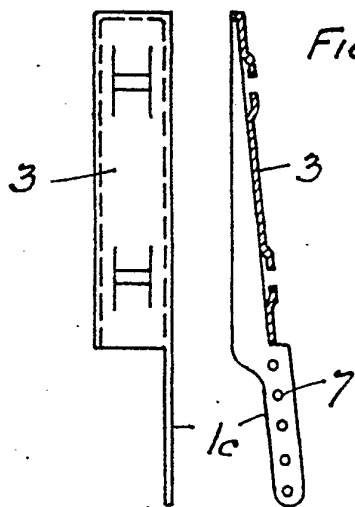
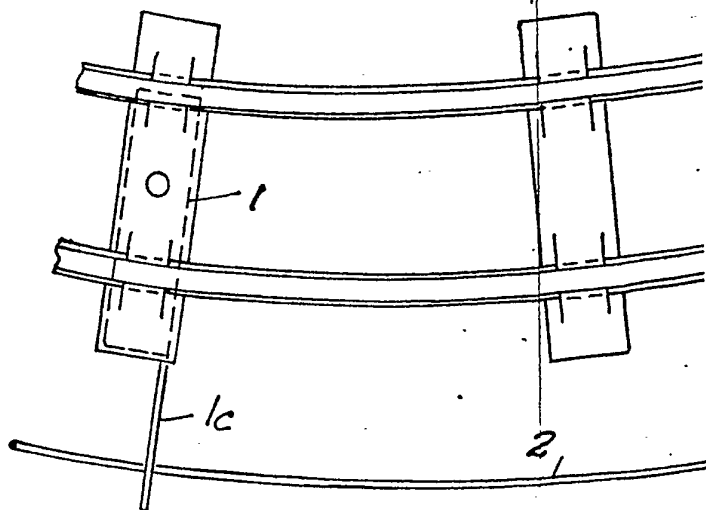


FIG. 10.



[This Drawing is a reproduction of the Original on a reduced scale.]

FIG. 1.

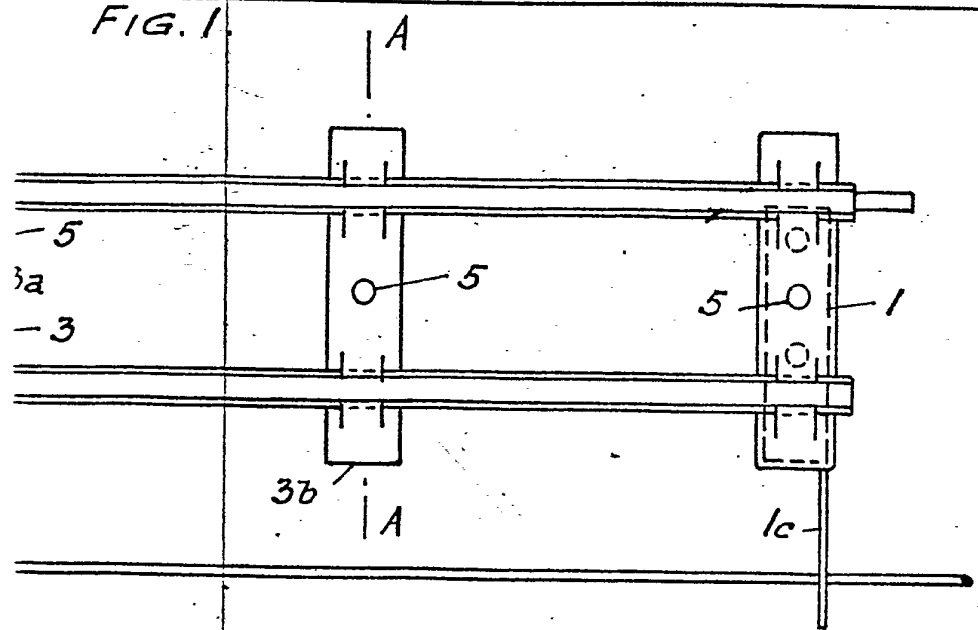


FIG. 2.

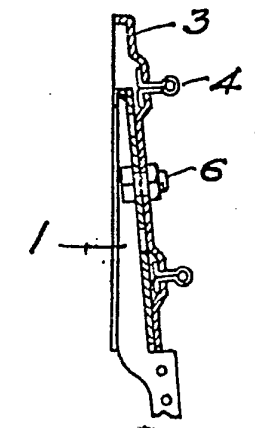
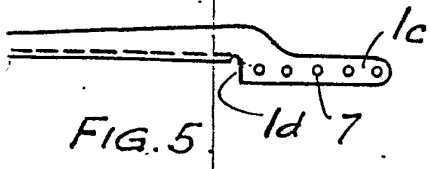
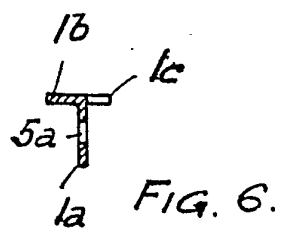
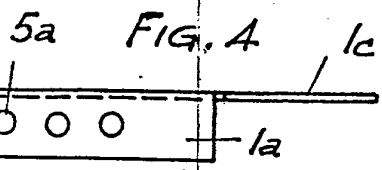
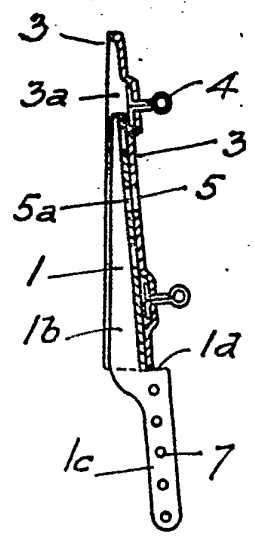


FIG. 3.

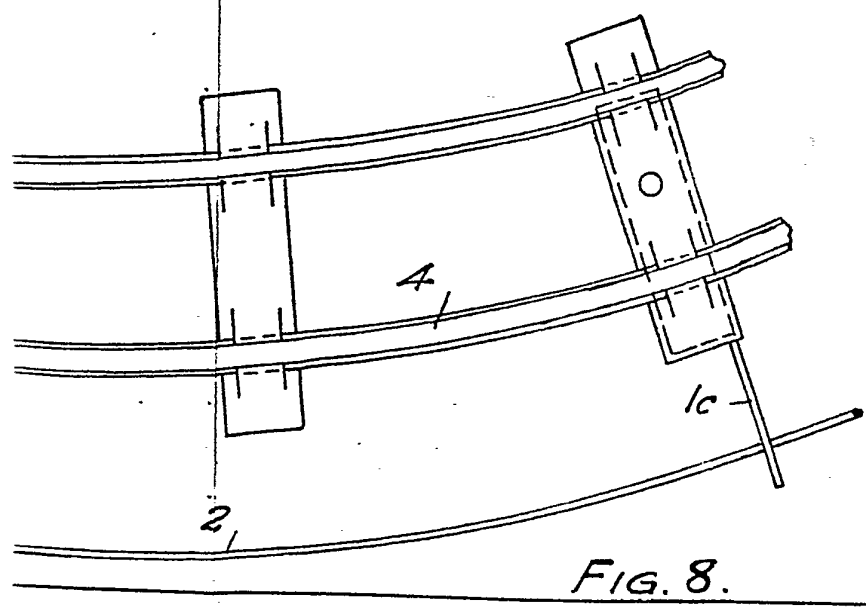


FIG. 8.