



PATENT SPECIFICATION

DRAWINGS ATTACHED

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COMPLETE SPECIFICATION

Improvements in a Model Train Set

We, LE JOUET FRANCAIS S.A., a French Body Corporate of 72, rue des Archives, Paris 3^e, France, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described, in and by the following statement:—

The present invention concerns battery driven model train sets and particularly a track length therefor.

In miniature electric trains, particularly those comprising two rails and operating at low voltage with direct current supplied by means of electric batteries, the electrical connection is generally constituted by means of a special plug which is placed on the rails, and which is itself connected to the batteries by means of electric wires, either directly by clips, or by way of a box in which the batteries are housed and which generally comprises means which permit reversal of movement.

These accessories constitute a factor of decisive importance as regards the cost price and selling price of this type of electric train, and the object of the present invention is to provide improvements, which enable this electrical connection to be constructed in simple manner, at small cost, and so as to be particularly easy to handle, more especially for young children or beginners.

According to the invention a length of a model track for a battery driven train set has two rails one of which is electrically connected to two electrical contacts arranged on one side of the track and the other of which is connected to a further contact situated midway between the other two on the same side of the track and so arranged that reversal of a train set can be achieved by displacing spaced terminals of the battery from contacting one adjacent pair of contacts to contacting the other adjacent pair of contacts.

The connection to the batteries is then effected by placing the terminals of the battery or group of batteries, directly onto two

adjacent contacts of the track length, and the reversal of movement is obtained by the simple lateral displacement of this battery or group of batteries so as to cause their terminals to bear on the other adjacent pair of contacts of the track length.

The contacts of the track length may be the ends of metal strips which are free to move in such a way that the pressure carried thereon by the contacts is a resilient pressure.

It is possible to anchor and grip the battery terminals in order to prevent them from being displaced by the vibrations of the train. Moreover an insulating shroud can be provided integral with one or more of the sleepers of the model track to shroud one contact from its neighbour.

The interconnection of suitable batteries in which the terminals are of strip metal may be effected by bending their terminal strips, and by interengaging them with direct resilient contact between them.

The invention is illustrated by way of example in the accompanying drawings, in which:—

Figure 1 is a perspective view of the constructional example illustrated;

Figure 2 is a plan of part of Figure 1 with the rails removed; and

Figure 3 is a section on the line A—A of Figure 2, with the rails replaced.

In the drawings, the track length has three horizontal electrically conductive strips 1, 2, 3, the strip 2 being connected to the rail 4, and the strips 1 and 3, arranged on either side of the strip 2, being connected to the rail 5, the three strips thus arranged projecting on the same side of the rail and being equidistant one from the next. These strips provide the necessary electrical contacts for the track length. The three strips 1, 2, 3 are not mounted on a separate component, but on a special rail unit, the base 6 of which comprises a projecting part 7 for this purpose.

A direct current supply of, say, 9 volts is obtained by means of two commercial flat

pocket-lamp batteries 11 and 12 with terminals in the form of metal strips which batteries are joined together by means of a strap 8 (elastic or the like). The terminals 9, 10 of different polarity of the unit thus formed are directly placed on to two adjacent strips 1 and 2. For this purpose one of the terminals 10, which is normally longer than the terminal 9, may be reduced to approximately the same length as the other, either by cutting or bending it.

The electrical connection between the two batteries 11 and 12 is obtained without any joining members, by bending the long terminal strip 13 of the battery 10 at 90°, and by securing its end in the short, bent over terminal strip 14 of the battery 12. The resiliency of the strips ensures a contact.

Reversal of movement of the train is obtained in the simplest possible manner by displacing the batteries 11, 12 in such a way that the terminals 9 and 10 no longer bear on the strips 1 and 2, but on the strips 2 and 3.

In this embodiment, the strips 1, 2 and 3 are spaced at a distance equal to the thickness of a standard commercial 4.5-volt battery.

To prevent the batteries from being displaced by the vibrations of the train, insulating cheeks 15 have been provided on either side of each strip 1, 2, 3, and extending from the projecting part 7.

Moreover, as can be seen in Figure 3, the ends of the strips 1, 2, 3, on which the terminals 9 and 10 are to bear, are free and arranged at a distance from the base 7, which provides them with a space for resilient movement in the vertical direction. Their own resiliency thus ensures a permanent contact with the terminals 9 and 10, in spite of vibrations.

An insulating bridge 16 connects the cheeks 15 above each strip 1, 2, 3, and permits, if desired, the insertion of the ends of the terminals 9 and 10 between the strips and the bridge 16 by way of an inlet provided for this purpose, which wedges them and further improves the positioning of the batteries. The bridge 15 and the cheeks 16 for each strip together from an insulating shroud and the arrangement is neater if the shroud is integral with one or more of the sleepers of the track, preferably with the strip overlying the sleeper.

The strips 1 and 3 are connected to the rail 5, and the strip 2 is insulated from the rail 5 at 17 but is connected to the rail 4. The reverse arrangement could be adopted if required.

One advantage of the device is that all con-

nections by means of wires are dispensed with, as also are all complicated devices for reversal of movement. Thus the cost price and the selling price of the electric train may be reduced. Another advantage is that the connecting and reversal operations are substantially simplified, since they consist in positioning and displacing the batteries 11, 12 this simplification being very important where the trains are intended for young children or beginners.

WHAT WE CLAIM IS:—

1. A length of a model railway track, for a battery driven model train set, having two rails one of which is electrically connected to two electrical contacts arranged on one side of the track and the other of which is connected to a further contact situated midway between the other two on the same side of the track and so arranged that reversal of a train can be achieved by displacing spaced terminals of the battery from contacting one adjacent pair of contacts to contacting the other adjacent pair of contacts.

2. A length of model track according to claim 1, in which three lengths of strip metal are used to connect the rails to the contacts.

3. A length of model track according to claim 2, in which the contacts are parts of the lengths of strip metal.

4. A length of model track according to claim 1, claim 2 or claim 3, in which the contacts are shrouded one from another by an insulator integral with one or more of the sleepers of the model track.

5. A length of model track according to any preceding claim, in which the contacts are vertically resilient.

6. A length of model track according to any preceding claim, having means for anchoring the battery leads.

7. A length of model track according to any preceding claim, in combination with two dry-cells which are held in contact with each other and which are interconnected by gripping a terminal strip on one resiliently within the bent-over end of the opposite polarity terminal strip on the other.

8. A length of model track for a battery driven model train set substantially as herein described.

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COMPLETE SPECIFICATION

1 SHEET

This drawing is a reproduction of
the Original on a reduced scale

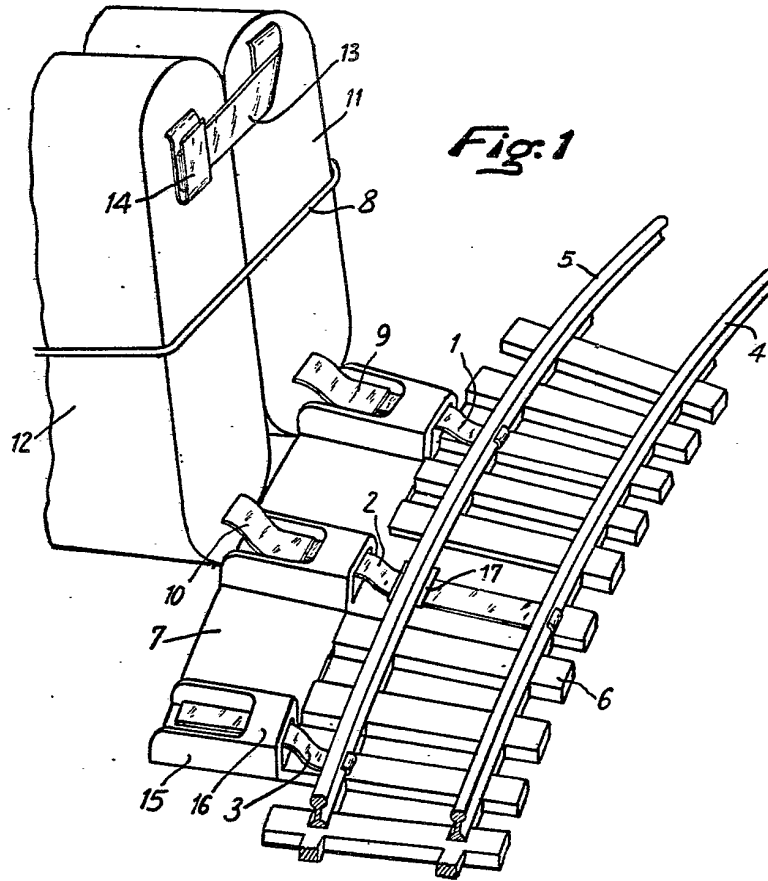


Fig. 1

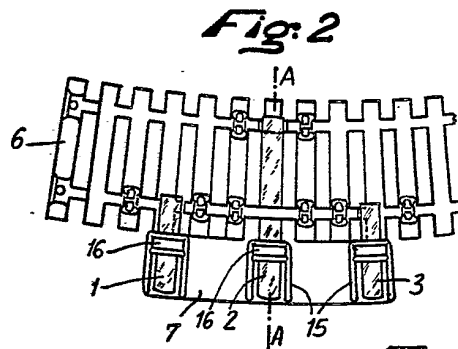


Fig. 2

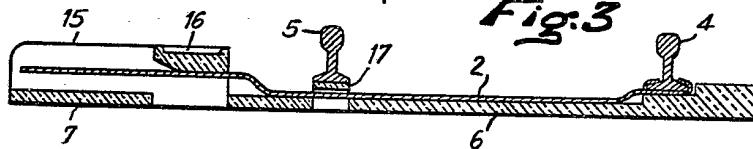


Fig. 3