PATENT SPECIFICATION 734,415

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COMPLETE SPECIFICATION.

Improvements in or relating to Toy Electric Railways.

We, TRIX LIMITED, of 11 Old Burlington Street, London, W.1, a British Company, 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 :—

This invention relates to toy electric railways in which electrical connections between the locomotive and tender, or between two vehicles, is necessary, and has for its object to utilise the plug which makes the electrical connection also as a means of mechanically coupling the vehicles together, whereby the action of plugging the tender to the locomotive, or two vehicles together, gives both the electrical connection and the mechanical coupling, and the electrical leads between the two vehicles are substantially housed and therefore free from damage.

According to this invention, the electric plug of a plug and socket connection between two vehicles of a toy electric railway in which the plug is connected by leads to one vehicle and the plug is engageable in a socket in the other vehicle to electrically connect the two vehicles together, is so constructed as to be engaged with one vehicle and when plugged into the socket in the other vehicle the vehicles are also mechanically coupled together.

The invention will be clearly understood from the following description aided by the accompanying drawings, in which :—

Figure 1 is a perspective view showing one example of carrying the invention into effect, and Figure 2 is a similar view showing another example.

The invention can be carried into effect in various ways as to detailed construction and in the example shown in Figure 1 of the drawings, the electrical connecting plug 1 provided with the usual pins 2 for plugging into the socket 3 in, say the tender 4 of a toy electric train, is provided at the back or non-pin end with a projection 5 shaped at the end to the shape of a ball 6, and the other vehicle is provided with a link plate 7 which is attached to the rear of the vehicle. The link plate 7 is formed with a slot 8 leading into a circular hole 9 to allow the projection 5 to be slipped along the slot 8 into the hole 9 for the ball 6 to engage behind the hole 9 so as to connect the plug 1 with the plate 7 on the vehicle wherein when the plug 1 is plugged into the other vehicle the vehicles are electrically connected and mechanically coupled together.

The hole 9 in the link plate 7 should be of suitable diameter to permit sufficient lateral and vertical movement to effect a ball joint action.

In place of the link plate 7, the slot 8 and hole 9 could be provided in the rear wall of the vehicle.

In the example shown in Figure 2, the projection 5 could be screw-threaded and the ball 6 formed with an internal screw-thread, the link plate or rear wall of the vehicle being provided with a hole 9 only so that with the projection in the hole 9 the ball is engaged on the other side of the plate 7.

It will be understood that the projection 5 is formed hollow and a bore formed in the ball 6 through which the leads from the plug 1 are taken, the leads passing out through the end or side of the ball 6 in the example shown in Figure 1, or the end of the ball in the example shown in Figure 2.

For the actual mechanical coupling effect, the design would either rely on the frictional contact between the pins 2 and contact spring in the socket 3, or a suitable locking device could be employed.

What we claim is :—

1. An electric plug of a plug and socket connection between two vehicles of a toy electric railway in which the plug is connected

by leads to one vehicle and the plug is engageable in a socket in the other vehicle to electrically connect the two vehicles together is so constructed as to be engaged with one vehicle and when plugged into the socket in the other vehicle the vehicles are also mechanically coupled together.

2. An electric plug of a plug and socket connection between two vehicles of a toy electric railway in which the plug is connected by leads to one vehicle and the plug is engageable in a socket in the other vehicle to electrically connect the two vehicles together, wherein the plug is formed or provided with a projection having a ball-shaped head, and a slot leading to a circular hole is formed in a link plate attached to the rear of one vehicle, or in the rear wall of the vehicle, to allow the projection to be slipped along the slot for the ball to engage behind the hole to engage the plug with the plate or wall, and when the plug is plugged into the socket in the other vehicle the vehicles are also mechanically coupled together.

3. An electric plug of a plug and socket connection between two vehicles of a toy electric railway in which the plug is connected by leads to one vehicle and the plug engaged in a socket in the other vehicle to electrically connect the two vehicles together, wherein the plug is formed or provided with a screw-threaded projection, an internal screw-threaded ball is provided for engaging on the end of the projection, and a circular hole is formed in a link plate for attaching to the rear of the vehicle, or in the rear wall of the vehicle, so that the ball is engaged behind the plate or rear wall to engage the plug with the plate or wall, and when the plug is plugged into a socket of the other vehicle the vehicles are also mechanically coupled together.

4. A plug coupling for a toy electric railway constructed substantially as described with reference to Figure 1 or Figure 2 of the accompanying drawings.

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PROVISIONAL SPECIFICATION.

Improvements in or relating to Toy Electric Railways.

We, TRIX LIMITED, of 11 Old Burlington Street, London, W.1, a British Company, do hereby declare this invention to be described in the following statement :—

This invention relates to toy electric railways in which electrical connections between the locomotive and tender, or between any two vehicles, is necessary, and has for its object to utilise the plug which makes the electrical connection as a means of coupling, whereby the action of plugging the tender to the locomotive, or two vehicles together, gives both electrical connection and coupling, and the electrical leads between the two vehicles are completely housed and therefore free from damage.

According to this invention, the electric plug of the plug and socket connection between two vehicles of a toy electric railway is so constructed or shaped that when plugged into one vehicle it can engage with the other vehicle to couple the vehicles together.

The invention can be carried into effect in various ways as to detailed construction, and as one example, the plug provided with the usual pins for plugging into the socket in say the tender of a toy electric train, is shaped at the back or non-pin end to ball shape and the other vehicle is provided with a cut-out portion either in the rear wall of the vehicle or in a link plate which is attached to the rear of the vehicle. This cut-out can be either circular in which case the ball shaped portion of the plug is detachable by means of a thread, or a slot suitably shaped leading to a circular cut-out is provided to allow the ball portion to slip in from the side in which case the ball and plug housing would be in one piece.

The hole or slot in the link plate or vehicle should be of suitable dimensions to permit sufficient lateral and vertical movement, in effect a ball joint action.

For the actual coupling effect, the design would either rely on the frictional contact between the pins and contact springs in the sockets, or a suitable locking device could be employed.

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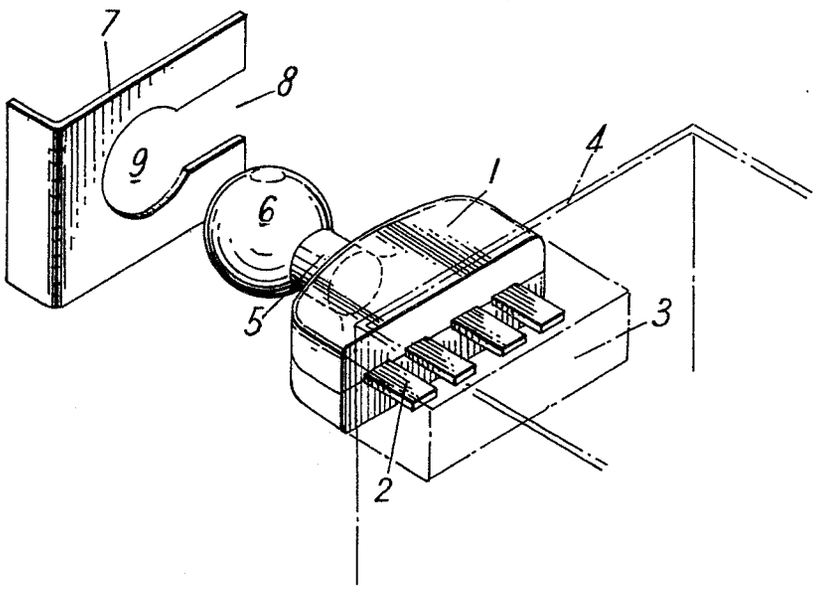
734,415 COMPLETE SPECIFICATION
1 SHEET
This drawing is a reproduction of the Original on a reduced scale.

Fig. 1.



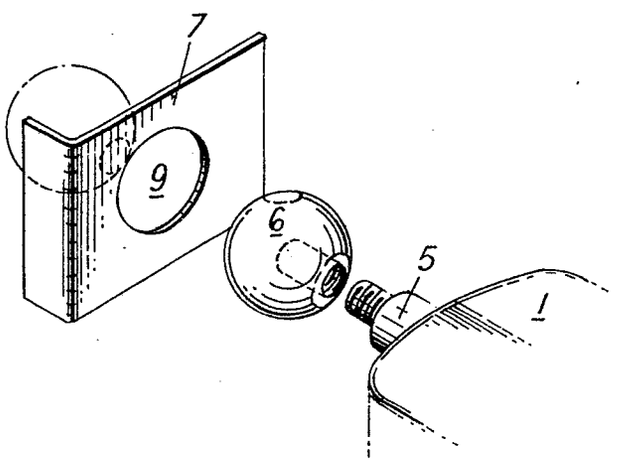


Fig. 2.