

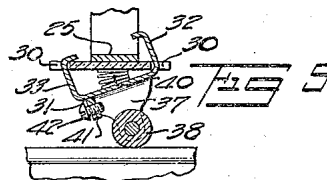
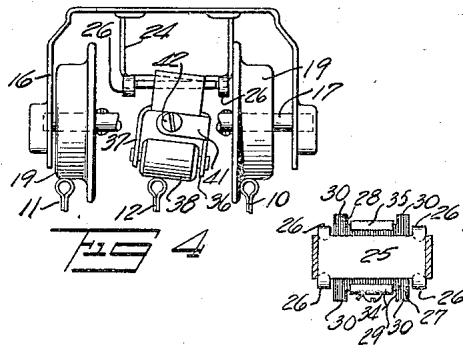
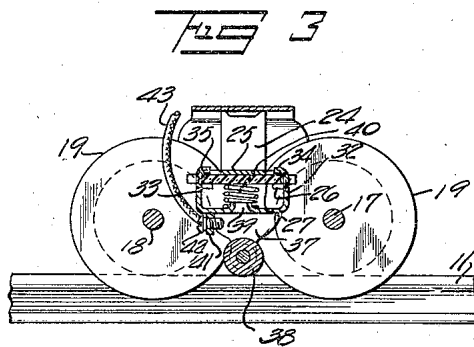
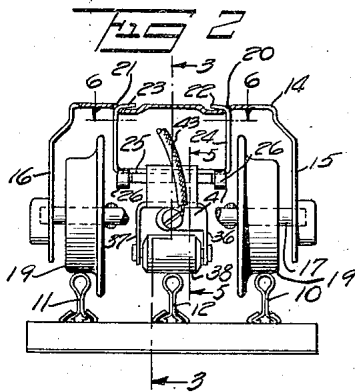
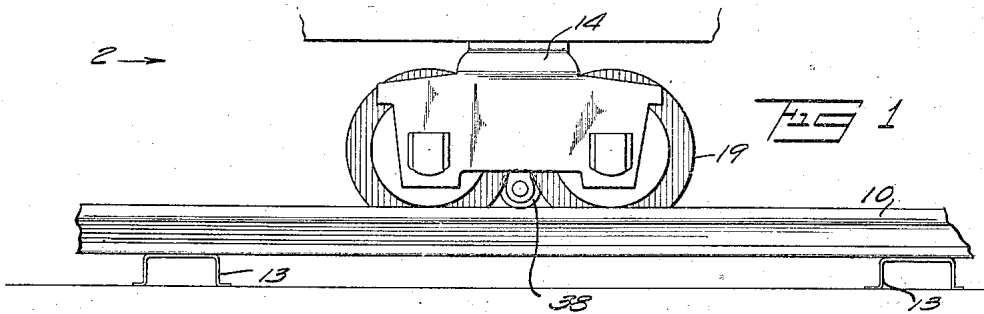
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CONTACT MECHANISM FOR TOY RAILROADS

Filed May 22, 1925



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CONTACT MECHANISM FOR TOY RAILROADS.

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The present invention relates to contact mechanisms for toy railroads, and is more particularly directed toward a form of mechanism suitable for collecting the current from the third rail of a toy railroad track so as to supply propulsion current to the motors.

According to the most approved form of construction used in toy railroads, there is considerable flexibility between the car wheels and the track in order to care for unevenness of track and to permit the cars to go through switches and cross overs and around curves at high speed. It is therefore desirable to have a contact mechanism carried by the car which can readily accommodate itself to unevenness of track and the irregular movements of the car truck on the track, while crossing switches and taking curves, and the present invention aims to provide a contact mechanism which is properly insulated from the car truck and which is capable of adjusting itself to the varying conditions which may arise.

An object of the present invention is to provide a movable contact for these purposes and mounting means for the same, whereby it may be carried between the wheels of the toy railroad car truck so as to effectively collect the current from the third rail.

Another object of the invention is to provide a contact mechanism for these purposes which will be flexible to a limited degree in any desired direction.

Other objects of the invention are to make up the mechanism for this type out of a simple stamping and parts which will be serviceable and not likely to get out of order.

The accompanying drawings show for purposes of illustrating the invention one of the many possible embodiments in which the present invention may take form, it being understood that the drawings are merely illustrative of the invention, rather than limiting the same.

In these drawings:

Fig. 1 is a side elevation of a car truck mounted on toy track and carrying the present form of contact mechanism;

Fig. 2 is an end elevation taken in the direction of the arrow 2 of Fig. 1, showing a fragment of the truck frame in section;

Fig. 3 is a sectional view taken on the line

3—3 of Fig. 2 and looking in the direction of the arrows;

Fig. 4 is a view similar to Fig. 3 showing the tilting of the contact mechanism when the car has been shifted to move the flanges of the wheels against a track rail, as in going around a curve;

Fig. 5 is a fragmentary sectional view taken on the line 5—5 of Fig. 2, looking in the direction of the arrows; and

Fig. 6 is a fragmentary sectional view taken on the line 6—6 of Fig. 2.

As ordinarily constructed a toy railroad track is made up in sections, each of which includes two outside or track rails 10 and 11 and a centrally disposed insulated third rail 12. These rails are suitably carried on sheet metal sleepers 13. These sections are made up of either straight or curved track and are so arranged that any number of sections can be interconnected to provide tangents, turn-outs, switches, cross-overs and the like, so as to imitate regular railroad construction. The invention will be more particularly described by reference to a structure designed to operate on such track.

A truck frame which may be in the form of a casting or stamping is shown at 14. This frame has depending side members 15 and 16 in which the axles 17 and 18, carrying the wheels 19, are mounted. The contact mechanism is carried by the truck frame between the wheels. As here shown, the upper bridging portion of the truck frame is slotted at 20 and 21 to accommodate the upper ends 22 and 23 of a U-shaped sheet metal stamping 24. The central part of this stamping, as shown at 25, is preferably made flat as indicated and integral prongs 26 are bent downwardly so as to engage and securely hold a sheet of insulating material 27 underneath the same. This sheet of insulating material is notched at the ends as indicated at 28 and 29 so as to provide four outwardly extending projections 30, and a contact supporting stamping 31 is movably mounted on the sheet of insulation.

As here shown, the sheet metal stamping 31 has two upwardly bent members 32 and 33 whose upper ends are bent inwardly as shown at 34 and 35 to rest upon the upper side of the insulating sheet 27. The stamping also has two depending legs 36 and 37 which support a contact, here shown in the

form of a contact roller 38 rotatably mounted therein. The sheet metal member is drawn upwardly as indicated at 39 to provide a guide and support for a small expansion spring 40 interposed between the insulating sheet and the body of the sheet metal stamping 31. A portion of the sheet metal stamping 31 is bent inwardly as indicated at 41 and a binding screw 42 is threaded into the same, so that one can attach a flexible lead wire 43 to conduct the current from the contact mechanism to the motors or lights.

The spring 40 acts to press the stamping and contact downwardly toward the third rail 12. It is unable to separate the parts because the prongs 34 and 35 will come against the upper surface of the insulating member 27. When the car is moving along the track the movable contact mechanism can move angularly, somewhat as shown in Fig. 5, so as to accommodate the contact to the track, and in doing this the stamping will tilt to raise one side, as indicated. When the car is going around curves or when the flanges of the car wheels have been brought against one of the rails, as illustrated in Fig. 4, the contact mechanism is moved to one side of the center of the third rail, and the mounting means for the contact permits it to tilt bodily as there indicated. This flexibility of the contact mounting provides that the full force of the spring will be utilized in pressing the contact against the rail, and this therefore insures the making of a good contact to collect the current required. The prongs or projections 30 on the insulating sheet will prevent the sheet metal stamping from moving sidewise so as to slip out of place or come into contact with the running gear of the car. They will also limit the swinging movement of the contact mechanism to such an extent as to prevent accidental contact which would short circuit the car.

It is obvious that the invention may be embodied in many forms and constructions and I wish it to be understood that the particular form shown and described is but one of the many forms. Various modifications and changes being possible, I do not in any way limit myself with respect thereto.

I claim:

1. In a third rail contact mechanism for toy cars, a contact roller, a sheet metal member having depending legs at the side supporting the roller, and upwardly bent members at the ends, the upper ends of the members being inwardly bent, and a binding screw carried by the sheet metal member.

2. In a third rail contact mechanism for toy cars, a contact roller, a sheet metal member having depending legs at the side sup-

porting the roller, and upwardly bent members at the ends, the upper ends of the members being inwardly bent, a sheet of insulation carried underneath said inwardly bent ends, and an expansion spring interposed between the sheet of insulation and the sheet metal member.

3. In a third rail contact mechanism for toy cars, a contact roller, a sheet metal member having depending legs at the side supporting the roller, and upwardly bent members at the ends, the upper ends of the members being inwardly bent, a sheet of insulation carried underneath said inwardly bent ends, and having projections engageable with the sides of the upwardly bent members, and an expansion spring interposed between the sheet of insulation and the sheet metal member.

4. In a third rail contact mechanism for toy cars, a contact roller, a sheet metal member having depending legs at the side supporting the roller, and upwardly bent members at the ends, the upper ends of the members being inwardly bent, a sheet of insulation carried underneath said inwardly bent ends, an expansion spring interposed between the sheet of insulation and the sheet metal member, and means for fixedly supporting the insulation sheet from the truck.

5. A contact mechanism for toy railroad cars, comprising a U-shaped strap mounted underneath the frame of the car, a sheet of insulation, prongs struck out from the strap and holding the insulation sheet in place, a sheet metal member which passes upwardly through notches in the insulating sheet, the upper ends of said member being folded over to engage the upper surface of the insulating sheet, the lower portions of said sheet metal member being bent downwardly to provide spaced bearings for a contact roller, a roller mounted therein, and a spring interposed between the sheet of insulation and the sheet metal member.

6. A contact mechanism for toy railroad cars, comprising a U-shaped strap mounted underneath the frame of the car, a sheet of insulation, prongs struck out from the strap and holding the insulation sheet in place, a sheet metal contact carrying member supported from the sheet of insulation for limited vertical movement and limited angular movement in two directions at right angles to one another, and a spring biasing said contact carrying member to a predetermined position.

Signed at Irvington in the county of Essex and State of New Jersey this 20th day of May, 1925.

LOUIS CARUSO.