Sept. 22, 1925. 1,554,730

H. C. IVES

CONTACT FOR TOY ELECTRIC RAILWAY CAR LIGHTING

Filed Aug. 6, 1924

Fig. 1

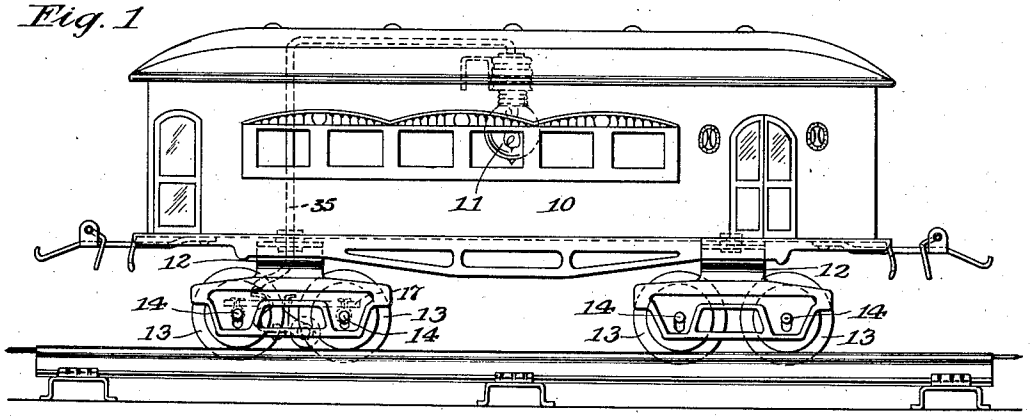


Fig. 2

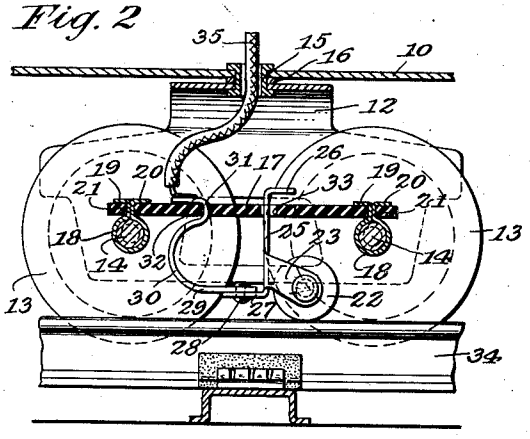


Fig. 3

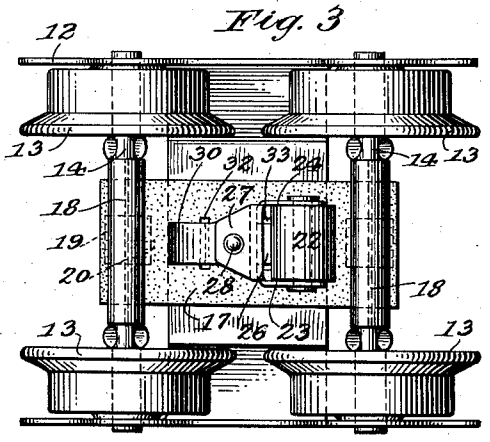


Fig. 4

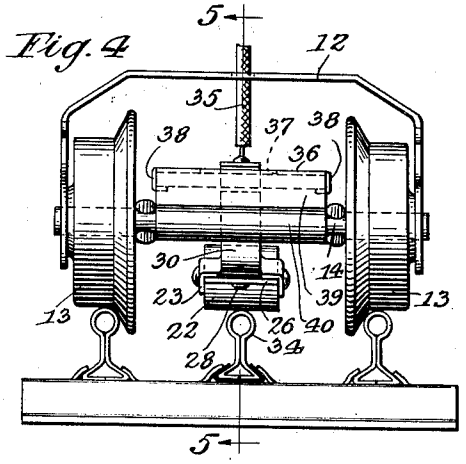
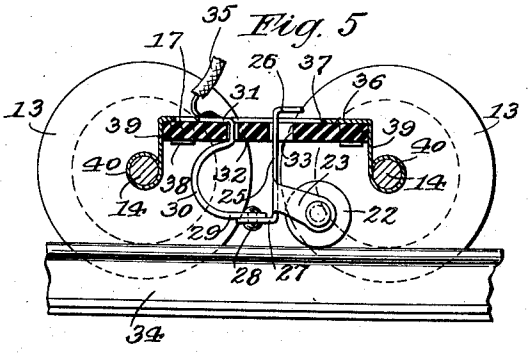


Fig. 5



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UNITED STATES PATENT OFFICE.

HARRY C. IVES, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR TO THE IVES MANUFACTURING CORPORATION, OF BRIDGEPORT, CONNECTICUT, A CORPORATION OF CONNECTICUT.

CONTACT FOR TOY-ELECTRIC-RAILWAY-CAR LIGHTING.

Application filed August 6, 1924. Serial No. 730,521.

To all whom it may concern:

Be it known that HARRY C. IVES, a citizen of the United States, and resident of Bridgeport, in the county of Fairfield and State of Connecticut, has invented certain new and useful Improvements in Contacts for Toy-Electric-Railway-Car Lighting, of which the following is a specification.

The present invention relates to improvements in contact means for electric toy railways, and particularly in roller contact means employed therein upon the rolling stock, as locomotives and cars, for gathering one side of the current from the central or third power rail of the track system.

An object of the invention is to provide such roller contact means yieldably mounted in such a manner as to insure constant and positive contact with the power rail. A further object is to provide such means mounted on one of the pivoted trucks of the car, and having a lead wire so disposed as to permit of the free pivotal movement of the truck.

Another object is to provide a contact device of simple and durable construction, and which may be assembled with great facility.

With the above and other objects in view, embodiments of the inventon are shown in the accompanying drawings, and these embodiments will be hereinafter more fully described with reference thereto, and the invention will be finally pointed out in the claims.

In the drawings:

Fig. 1 is a side elevation of an electric toy railway car, embodying the invention;

Fig. 2 is an enlarged vertical sectional view of one of the trucks of the car, provided with contact means, according to one embodiment of the invention;

Fig. 3 is a bottom plan view thereof;

Fig. 4 is an end view of one of the car trucks, provided with contact means, according to a modified form of the invention;

Fig. 5 is a vertical sectional view thereof, taken along the line 5—5 of Fig. 4.

Similar reference characters indicate corresponding parts throughout the several figures of the drawings.

Referring to the drawings, and more particularly to Fig. 1 thereof, the car 10 is of the usual type constructed of sheet metal, and has an electric incandescent lamp 11 secured upon the under side of the roof, one side of the lamp being grounded.

The car is provided at each end with trucks 12 having wheels 13 mounted upon axles 14, secured at their ends in the sides of the trucks, and the trucks being pivotally mounted for rotary movement about a central vertical axis by means of a flanged eyelet 15 having a spacing washer 16 interposed between the upper surface of the truck and the under side of the car. It will be understood that the car may be of any suitable type, and that instead of a lamp other electrically operated means may be provided.

The contact means is only mounted on one truck, although it will be understood that similar means may be provided on the other truck, if desired. The contact means of the present embodiment consists of a horizontally disposed fibre supporting plate 17 secured upon the axles 14 by means of tubular clips 18 bent about the intermediate portions of the axles, and provided with tongues 19 and 20 inserted through slots 21 in the plate and bent over upon the upper surface thereof.

The contact roller 22 is rotatably supported in side ears 23 and 24 of a vertically disposed member 25, bent at right angles at its upper and lower ends, as at 26 and 27, the lower end being secured by a rivet 28 to the laterally disposed end portion 29 of a curved spring member 30. The upper end of said spring member is provided with a hook portion 31 which is engaged in a slot 32 of the plate 17, the vertical member 25 being at the same time engaged in a slot 33 of the plate with the upper end portion 26 above the plate and acting as a stop to limit the downward movement of the contact roller. It will be seen that the contact roller bracket thus provided, and consisting of the curved spring member and the vertically disposed member secured thereto, is effectually supported by being hooked into the slots of the plate 17, the assembly being therefor very simple, and the attachment secure and reliable.

Under compression and expansion the vertical member 25 moves in the slot 33 so that there is a constant and positive engagement of the contact roller with the power

rail 34, and inasmuch as the roller moves in a substantially vertical line the frictional resistance in either direction of movement of the train is minimized.

A covered lead wire 35 is soldered at one end to the end hook portion 31 of the spring member and is carried through the central passage of the pivot eyelet 15 to the lamp 11. The truck is thus free to rotate about its pivotal mounting without any interference from the lead wire, and without impairing the constant electrical connection.

In Figs. 4 and 5 there is illustrated a modified form of the invention, in which the supporting plate 17 is supported by means of a sheet metal support 36, apertured as at 37, and secured upon the upper side of the plate by lugs 38 bent about the sides of the plate and clamped upon the underside thereof, the ends of the support being bent downwardly at the ends of the plate, as at 39, and curled about the axles 14, as at 40. The construction and manner of attachment of the contact roller and bracket is the same as in the first form.

I have illustrated and described preferred and satisfactory embodiments of the invention, but it will be obvious that changes may be made therein, within the spirit and scope thereof, as defined in the appended claims.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. In a toy electric railway, the combination with a rolling stock unit having an electrically operated element, of a support rotatable about a vertical axis, a yieldable spring metal bracket fixedly mounted at one end on said support, a contact roller carried by said bracket at its other end, and a conductor extending from said fixed end of the bracket to said element through said vertical axis.

2. In a toy electric railway, the combination with a rolling stock unit having an electrically operated element, of a support having an aperture, a yieldable spring metal bracket mounted on said support, and including vertical guide means extending through said aperture, a contact roller carried by said bracket, and a conductor extending from said bracket to said element.

3. In a toy electric railway, the combination with a rolling stock unit having an electrically operated element, of a support having an aperture, a bracket including a curved yieldable leaf spring portion and a guide portion extending through said aperture, a contact roller carried by said bracket, and a conductor extending from said bracket to said element.

4. In a toy electric railway, the combination with a rolling stock unit having an electrically operated element, of a support having two spaced apertures, a bracket including a curved yieldable leaf spring portion having a hook end engaged in one of said apertures to secure the bracket, and a guide portion extending through the other aperture, a contact roller carried by said bracket, and a conductor extending from said bracket to said element.

Signed at Bridgeport in the county of Fairfield and State of Connecticut this 4th day of August A. D., 1924.

HARRY C. IVES.