

Oct. 5, 1926.

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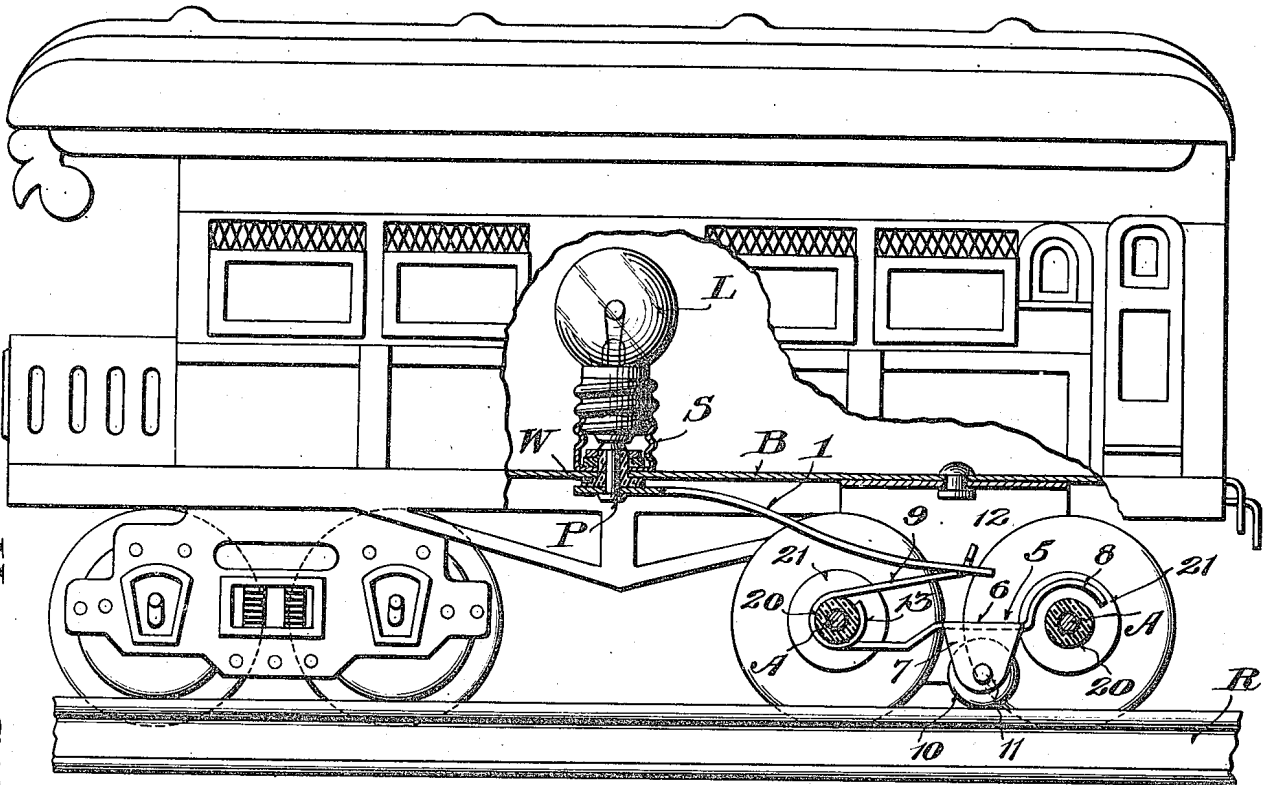
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ILLUMINATING MEANS FOR TOY RAILWAY CARS

Filed Feb. 16, 1926

2 Sheets-Sheet 1

Fig. 1.



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Fig. 2.

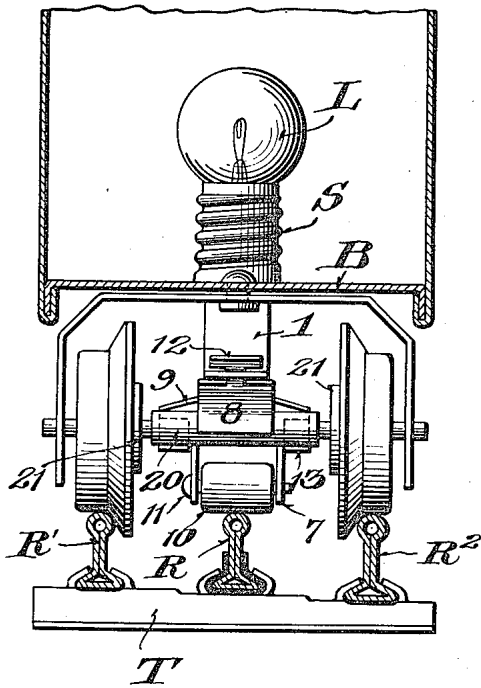


Fig. 5.

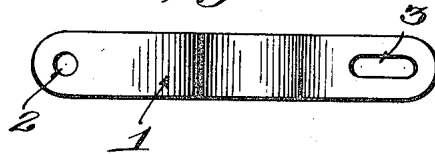


Fig. 4.

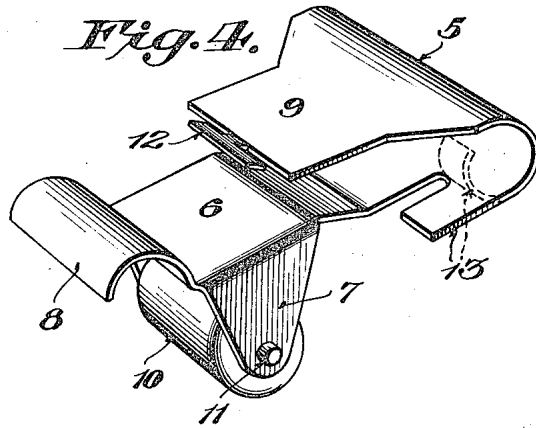
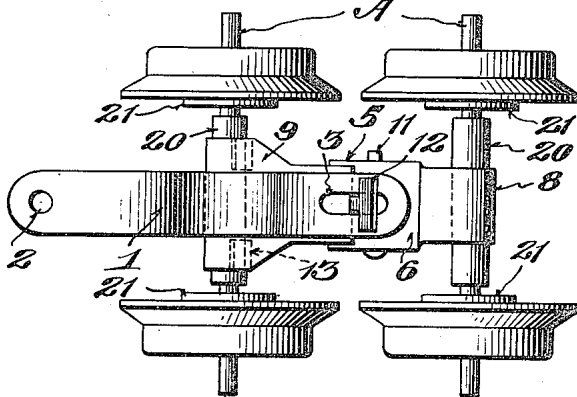


Fig. 3.



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UNITED STATES PATENT OFFICE.

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ILLUMINATING MEANS FOR TOY RAILWAY CARS.

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This invention relates to toy railways and more particularly to the contract holder for a self contained lighting system for individual cars.

of the invention is shown in the accompanying drawings, in which:

Figure 1 is a side elevation, with parts broken out and in section, of an electrical toy railway car, embodying this invention;

Figure 2 is a transverse section thereof;

Figure 3 is a plan view showing the wheels and axles assembled with this improved roller contact mounted thereon;

Figure 4 is a perspective view of the roller contact support detached, with the roller shown mounted therein, and

Figure 5 is a detail plan view of the tension spring of the circuit connectors.

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

In carrying this invention into effect it is proposed to provide an individual lighting system for toy cars of the passenger or Pullman type, although it will of course be understood that the same may be readily applied to closed cars of other types wherein it may be desirable or necessary to provide illuminating means independent of the locomotive or any other car in the train, and which includes simple and efficient means for insuring positive engagement of the roller contact with the power rail and avoids all use of conductor wires and the soldering incident to the connection of such wires.

Accordingly, with these objects in view it is proposed to equip the car bottom designated generally as B with an interior socket including a screw shell contact S adapted to receive a lamp L, the said shell S being held in position by a center plug contact P which is insulated from the car in any suitable manner preferably by an insulating washer W which also insulates a spring 1 which forms a combined current conductor and spring tension for conveying the electric current from the trolley roller 10 to the socket lamp assembly from the third rail R.

The trolley or shoe unit 10 is carried by one of the trucks of the car and is shown mounted on the axle A by means of a holder 5. The axles A are covered with tubular

5 In toy cars in which the interior of each car is illuminated by lamps located in the bottom of the car, the current supply unit is so constructed and arranged that it will pick up current from the third rail or other
10 source irrespective of any other car in the train. In such structures it is desirable that the current supply unit or trolley be reliably held in contact with the third rail and that the use of conductor wires be
15 dispensed with.

Accordingly, this invention has as a primary object the provision in cars of this character, of contact means yieldably
20 mounted in such manner as to insure constant and positive contact with the power rail of a toy electric track. In that connection it is also proposed to provide a roller contact located on the rolling stock of the car for gathering the electric current
25 from the third power rail and conducting it to a light socket located in the bottom of a toy railway car.

Another object of the invention is to provide a roller contact of this character
30 designed to be mounted on the car axle and which includes a flat flexible spring to carry the electric current to the light socket, the spring being constructed to also operate as a tension spring for maintaining the roller
35 contact in constant positive engagement with the power rail of the toy railway track.

A further object of the invention is to provide a simple and durable contact of
40 this character which may be assembled with great facility and in which all wires are eliminated.

With the above and other objects in view which will more readily appear as the
45 nature of the invention is better understood, the same consists in the novel construction, combination and arrangement of parts hereinafter more fully described, illustrated and claimed.

50 A preferred and practical embodiment

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insulators 20 while at either end of each axle on the inner sides of the car wheels are insulating washers or disks 21 held in position by the car axle. These insulating
5 disks and tubes cooperate to completely insulate the conductor roller 10 from the car frame or truck.

The holder 5 for the contact roller 10 is shown in detail in Fig. 4 and is struck out
10 from a sheet metal plate with the body portion 6 thereof provided with depending ears 7 to form bearings for the journals 11 of the roller 10. At one end of the body member 6 is an upwardly and outwardly curved
15 hook-like member 8 designed to extend over one of the axles A as is shown clearly in Fig. 1 and which operates as a guide or stop to prevent the roller holder from getting out of place. Extending longitudinally from
20 the other end of the body 6 is an axle encompassing hook-like member 9 designed to extend around an adjacent axle A as shown in Fig. 1 with a T-shaped element 12 projecting from its free end and overlying the
25 body member 6. This member 12 is designed to be engaged by the slotted end 3 of a combined tension spring and electric conductor 1 which is connected by its end 2 with the contact P of the lamp L as is
30 shown clearly in Fig. 1. This spring 1 is curved longitudinally and exerts its tension when connected with the holder 5 to thrust downward on the contact roller 10 and insure a positive connection of the roller or
35 shoe with the power rail R. It will thus be seen that this spring 1 acts as a lead-wire for conducting the electric current from the contact roller 10 to the socket lamp assembly as well as to yieldably hold the roller
40 in engagement with the power rail.

The axle engaging member 9 of the holder 5 is also provided with pliable tongues 13
45 which are adapted to be bent around the car axle A, as shown in Fig. 1, and these tongues in connection with the hook-like member H prevent the holder from being disengaged when the car is lifted from the track.

From the foregoing it will be apparent
50 that when the car is placed on the track which includes the wheel bearing rails R' and R² in addition to the third or power rail R the roller 10 will yieldingly and persistently follow and engage the third rail
55 R due to the fact that the holder 5 which carries it is under compression from its engagement by the combined tension spring and conductor 1. Therefore, while the car is on the rails, standing idle or travelling,
60 current will be fed from the third rail R through the roller 10, holder 5, spring 1 and center plug contact P of the socket within the car. The screw shell contact S is ground
65 thereof is grounded to the rails R' and R²

and the circuit to the lamp L will be completed. It is of course understood that the rail R is supplied with current from a suitable source as is also the rails R' and R² when the track-way is insulated. 70

It will also be observed that by connecting the current conveying spring 1 with the roller holder 5 by means of the slot and tongue connection the roller 10 may readily
75 follow the curvature of the third rail along the tracks without disturbing the position of the spring 1 and that a positive electrical connection is formed between the holder 5 and spring 1 without necessitating soldering
80 of any parts.

Without further description it is thought that the features and advantages of the invention will be readily apparent to those skilled in the art, and it will of course be understood that changes in the form, proportion and minor details of construction may be resorted to, without departing from the spirit of the invention and scope of the appended claims. 85

I claim:— 90

1. Lighting means for toy railway cars including an electric current supplying contact, a yielding contact carried by the car to engage the current supply contact, a lamp socket supported by the car, and a combined
95 tension spring and conductor between said yielding contact and one of the terminals of said socket.

2. Lighting means for toy railway cars including an electric current supply contact, a yielding contact carried by the car to engage the current supply contact, a lamp socket supported by the car and having electric
100 terminals, one of which is grounded, and a combined tension spring and electric conductor between said yielding contact and the other terminal of said socket whereby the yielding contact is reliably held engaged with the current supply contact. 105

3. Lighting means for toy railway cars adapted to run on third rail tracks, including a yielding contact to engage the third rail of the track, a lamp socket supported by the car, a plate spring engaged with one of the terminals of said socket and with said
110 yielding contact, whereby the contact is reliably held engaged with the third rail and the current conducted to said socket. 115

4. Lighting means for toy railway cars including an electric current supply contact, a yielding contact to engage said current supply contact, a lamp socket supported by the car, and a combined tension spring and conductor between said yielding contact and one of said socket terminals, said tension spring having movable connection with said yielding
120 contact. 125

5. Lighting means for toy railway cars including a source of electrical energy, a lamp socket carried by the car, a trolley unit 130

carried by the car and adapted to contact with the source of electrical energy, and a plate spring connected with the trolley and the lamp socket and exerting its tension to hold said trolley reliably engaged with said electrical source.

6. Lighting means for toy railway cars including an electric current supply contact, a lamp socket supported by the car, a movable contact to engage said current supply contact, a support for said movable contact having an arm, and a combined tension spring and conductor comprising a plate having means for connection with one terminal of said lamp socket and means for engagement with said support arm whereby the tension of said spring is exerted on said arm to reliably hold the movable contact engaged with the current supply contact.

7. Lighting means for toy railway cars including a current supply contact, a lamp socket supported by the car, a source of electrical energy, a contact roller for engagement with said source of electrical energy, a holder for said roller comprising a plate having hooks at its opposite ends for engagement with the axles of the car truck and provided intermediate its ends with depending ears to support said roller, one of said plate ends having a T-extension, and a spring

plate pivotally connected at one end with said T head and at its other end with one of the terminals of said socket whereby said plate exerts its tension to hold the roller yieldably engaged with the source of electrical energy and also to operate as a conductor of the electric current to said socket.

8. A trolley device for toy electric railway cars comprising the combination with the metallic car-wheel axle, of insulation means on said axle, and a trolley holder mounted on said insulation means.

9. A trolley device for toy electric railway cars comprising the combination with the metallic car-wheel axle, of insulation means on said axle, a trolley holder mounted on said insulation means, and means for yieldingly pressing said trolley holder downwardly.

10. A trolley device for toy electric railway cars comprising the combination with the metallic car-wheel axle, of insulation means on said axle, a trolley holder mounted on said insulation means, and a spring for pressing said trolley holder downwardly and also constituting an electrical conductor.

In testimony whereof I hereunto affix my signature.

HARRY S. BECKER.