W. E. THAYER.

ELECTROMECHANICAL TOY.

APPLICATION FILED APR. 28, 1916.

1,230,625.

Patented June 19, 1917.

2 SHEETS—SHEET 1.

Fig. 1.

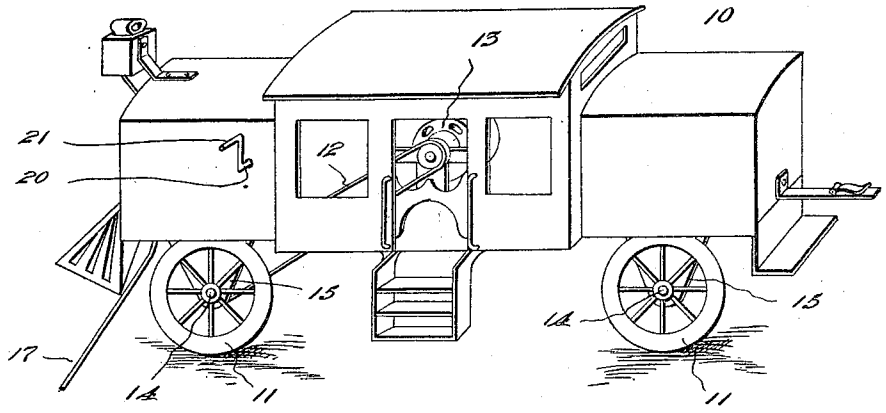
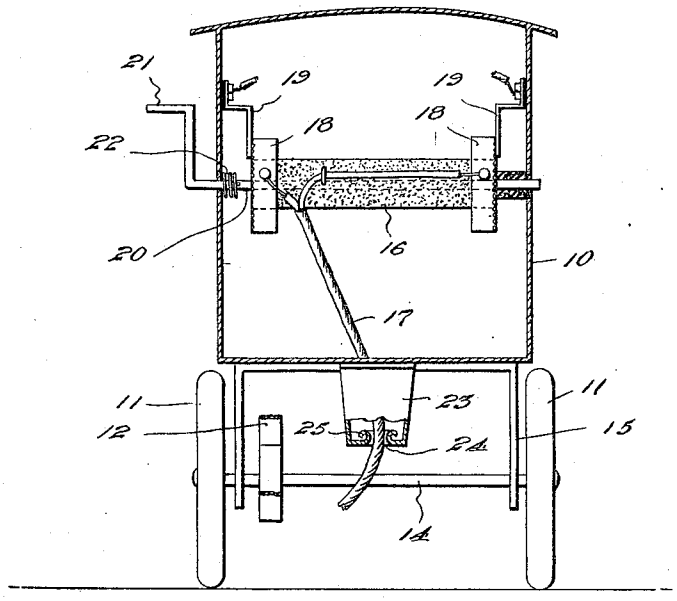


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 4.

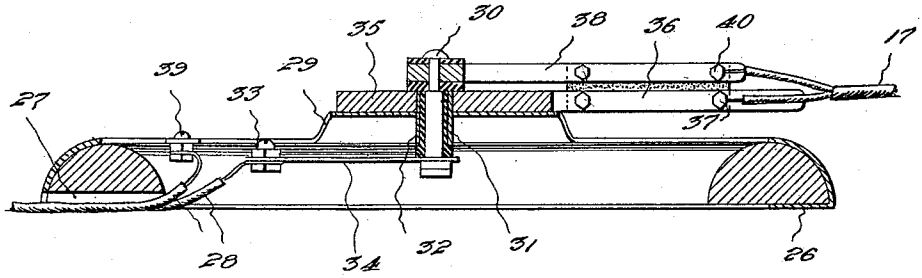
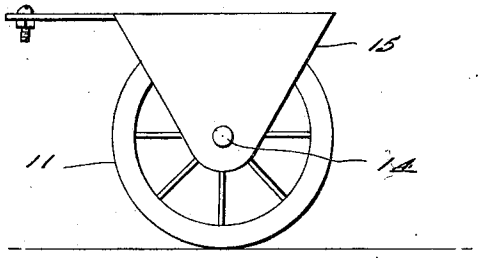


Fig. 3.



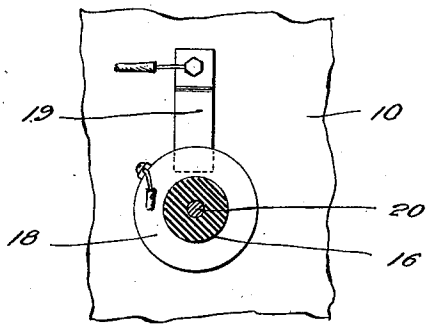


Fig. 6.

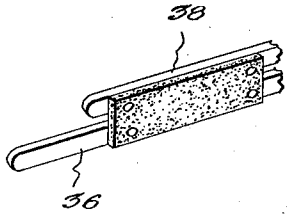


Fig. 5.

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UNITED STATES PATENT OFFICE.

WALTER E. THAYER, OF BROOKLYN, NEW YORK.

ELECTROMECHANICAL TOY.

1,230,625. Specification of Letters Patent. Patented June 19, 1917.

Application filed April 28, 1916. Serial No. 94,173.

To all whom it may concern:

Be it known that I, WALTER E. THAYER, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain useful Improvements in Electromechanical Toys, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to improvements in electro-mechanical toys, one object of the invention being the provision of a device of this character which will be operated by electricity supplied through an adjustable connection which will limit the circle in which the toy will travel and thus render it unnecessary to use tracks or other guides for the same.

A further object of this invention is the provision of a novel arrangement of this character which may be readily operated as a toy and which will permit the toy to travel in a circle, the size of which is regulated by the electricity supply cable, thus permitting the use of the toy at any place upon the floor and without the use of tracks or other guiding means.

With the foregoing and other objects in view and which will appear as the description proceeds, the present invention resides in the novel arrangement and combination of parts hereinafter set forth and particularly claimed, changes in the precise construction being possible and only limited by what is claimed.

In the accompanying drawings:—

Figure 1 is a perspective view of a toy constructed according to and embodying the present invention.

Fig. 2 is a cross section through the toy showing the disposition of the limiting and current conveying cable therein.

Fig. 3 is a detail view of the floor of the car.

Fig. 4 is an enlarged detail sectional view of the center connecting means for disposition upon the floor.

Figs. 5 and 6 are detail views of various elements.

Referring to the drawings, the numeral 10 designates the vehicle which may be of any design or contour to represent a locomotive, a car, a motor car, or in fact, any desired vehicle, the same being provided with the tractor wheels 11 which are driven through the belt or other transmitting means 12 from the electric motor 13 carried by the vehicle.

These wheels are journaled upon a rigid axle 14 which in turn is carried by the truck 15 of the vehicle.

The transmission means may be a belt or gear, or in fact, any desired device that will connect the tractor wheels 11 with the motor 13.

Mounted in the vehicle 10 is a windlass 16 which is disposed in the forward compartment of the same, and upon which is adapted to be wound one end of the electric conductors 17, such conductors being connected to the respective disks 18 of the windlass which are insulated from each other and are in the path to engage the spring contacts 19 carried by and insulated from the vehicle and in turn connected electrically to the motor 13.

The windlass is provided with the shaft 20 having the crank 21 so that the conductors 17 may be wound thereupon to regulate the length of such conductors, a spring lock 22 being devised to lock the handle and consequently the cable against unwinding, or the spring contact 19 may bear in corrugations formed in end of disks 18 and thus lock the windlass.

Carried by the vehicle is a cable guide 23 having the opening 24, through which the conductors 17 pass, the edges 25 being rounded and the lower end of the member 23 being cylindrical so as to prevent the cutting or chafing of the conductors during the movement of the vehicle in a circle, as will presently appear.

Adapted to rest upon the floor is a current distributer in the form of a weighted annulus 26 having a channel 27 for the reception of the feed wires 28 which may be connected to a lamp socket or other connection by means of which electricity will be supplied to the conductors 17 for operating the motor.

The weighted annulus 26 has mounted thereon a supporting disk 29 in which is held a stud or shaft 30 and about this stud or shaft is an insulating sleeve 31, while surrounding the latter is a metal sleeve 32. Connected to the supporting disk 29 is one of the electric current conductors 28, which conductor is engaged with the binding screw 39 on said supporting disk, while connected with the stud or shaft 30 is the arm 34, the latter being insulated from the sleeve 32 by

the insulating sleeve 31, and to this arm 34 is connected the other lead or conductor 28, which latter is fastened to the binding post 33 on one end of the arm 34, and upon this metal sleeve 32 is mounted a disk 35 which is formed with the radial arm 36 having connected with its free end one of the pair of electric conductor wires 17. This arm carries a binding screw 37 to which the wire 17 is fastened.

On the upper end of the stud or post 30 is mounted the arm 38 which is free for rotation and is insulated from the sleeve 32 and the disk 35 which is above the supporting disk 29, and this arm 38 carries a binding screw 40 to which is connected the other conductor wire 17, the current being received thereby from the wire 28 through the arm 34, stud or post 30 and arm 38, as will be apparent.

From the foregoing description it is evident that after the placement of the weighted annulus, 26, at any desired point, the windlass may be operated to shorten or lengthen the conductors 17, and thus limit the radius of the circle of travel of the vehicle 10, the flow of current from the feed wires 28 through the conducting and limiting cables 17 thus energizing the motor 13 and causing the vehicle 10 to travel in a circle without the use of tracks or other guides.

Thus the present device may be operated in a small or large space, the size of the circle being entirely regulated by the length of the conductor 17. The annulus 26 where so desired, may be fastened by screws to the floor or other support.

The present arrangement can be used in connection with amusement apparatus upon a large scale, as well as upon toys.

The rear wheels of the vehicle are so mounted as to adjust themselves to the various sized circles due to the lengthening of the cable 27.

What I claim as new is:—

1. A current distributer for an electrically propelled vehicle comprising a stationary member, arms movably supported by the member and having electrical connection with the motor of the vehicle, means for lengthening and shortening the connections between the arms and said motor of the vehicle, and means for conducting electric current to the arms.

2. The combination with an electric motor vehicle, of a current distributer comprising a member, an electric current conducting cable connected to the member, movable arms carried by said member and in electrical connection with the cable, a windlass mounted in the vehicle, electrical connections between the motor and windlass and also between the movable arms and said windlass, and means for operating the windlass for the winding on and the unwinding from of the connections between the same and the arms.

3. The combination with an electric motor vehicle, of a current distributer comprising a stationary support and movable members, means for distributing electric current through the movable members to the motor of the vehicle, and means for acting upon the last named means for varying the length thereof to regulate the position of the vehicle with respect to the distributer.

4. The combination with an electric motor vehicle, of a current distributer therefor, including an annulus, two arms insulated one from the other and mounted for rotation in unison upon the annulus, supply current conductors connected electrically to said arms, and current conductors connected respectively to the terminals of said arms and to the motor of the vehicle.

5. The combination with an electric motor vehicle, of a current distributer therein, including an annulus, two arms insulated one from the other and mounted for rotation in unison upon the annulus, supply current conductors connected electrically to said arms, current conductors connected respectively to the terminals of said arms and to the motor of the vehicle, and means for regulating the length of said last conductors to determine the distance of the vehicle from the distributer.

6. In a device of the character described, an electric motor vehicle having a motor, a current distributer having two rotatable and insulated arms carried thereby, two current distributing conductors connected to the respective arms, a manually controlled windlass mounted in the vehicle and connected to the opposite ends of said conductors, whereby the conductors may be wound or released therefrom to regulate the distance of the vehicle from the distributer, and a cable guide mounted through the bottom of the vehicle through which said conductors pass.

7. The combination with an electric motor vehicle, of a current distributer comprising a stationary support and movable members, means for distributing electric current through the movable members to the motor of the vehicle, means for acting upon the last named means for varying the length thereof to regulate the position of the vehicle with respect to the distributer, and means for holding the last named means in adjusted position.

In testimony whereof I affix my signature.

WALTER E. THAYER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."