

E. SOLLMANN.

ELECTRIC TOY.

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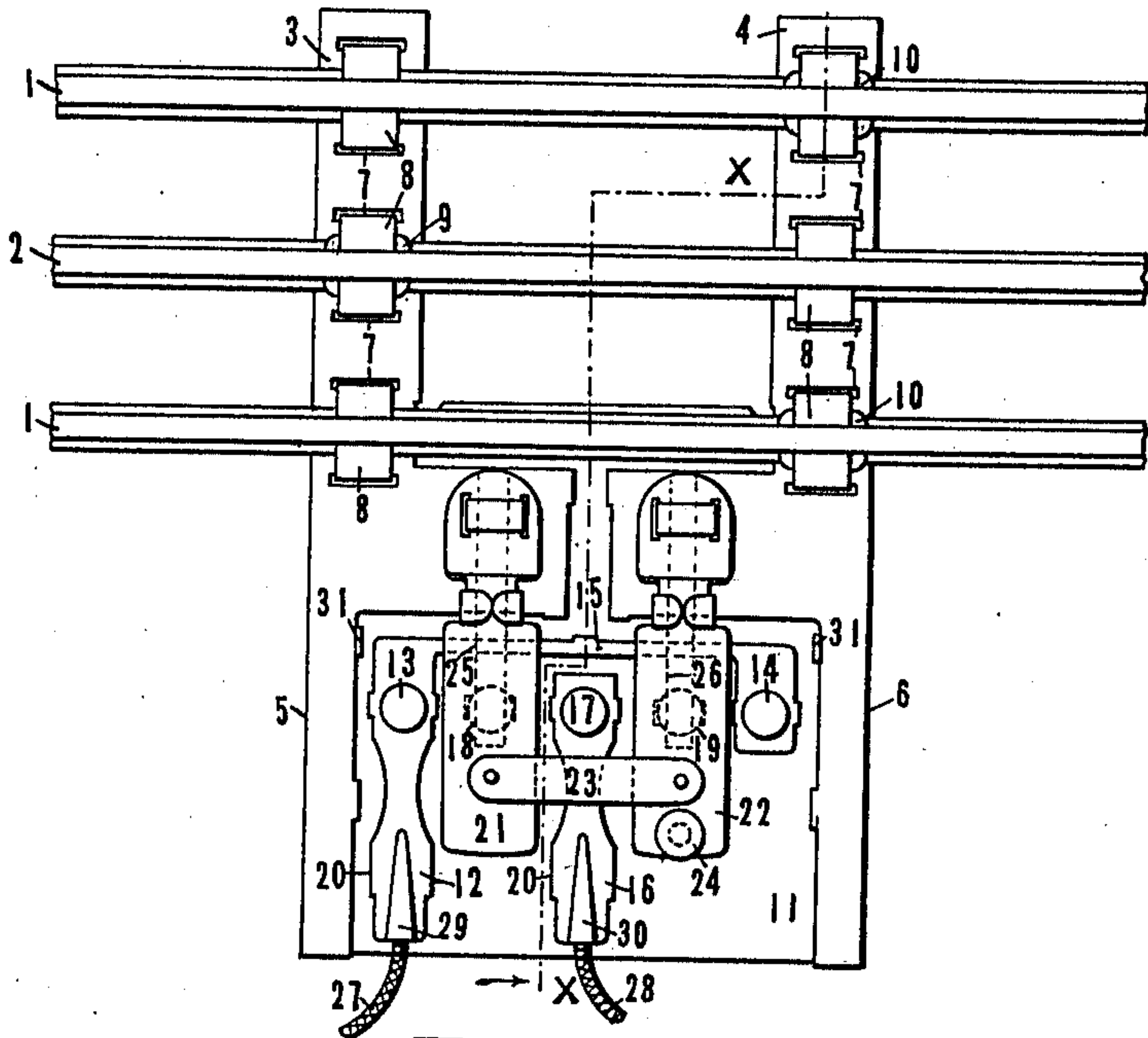


Fig. 1.

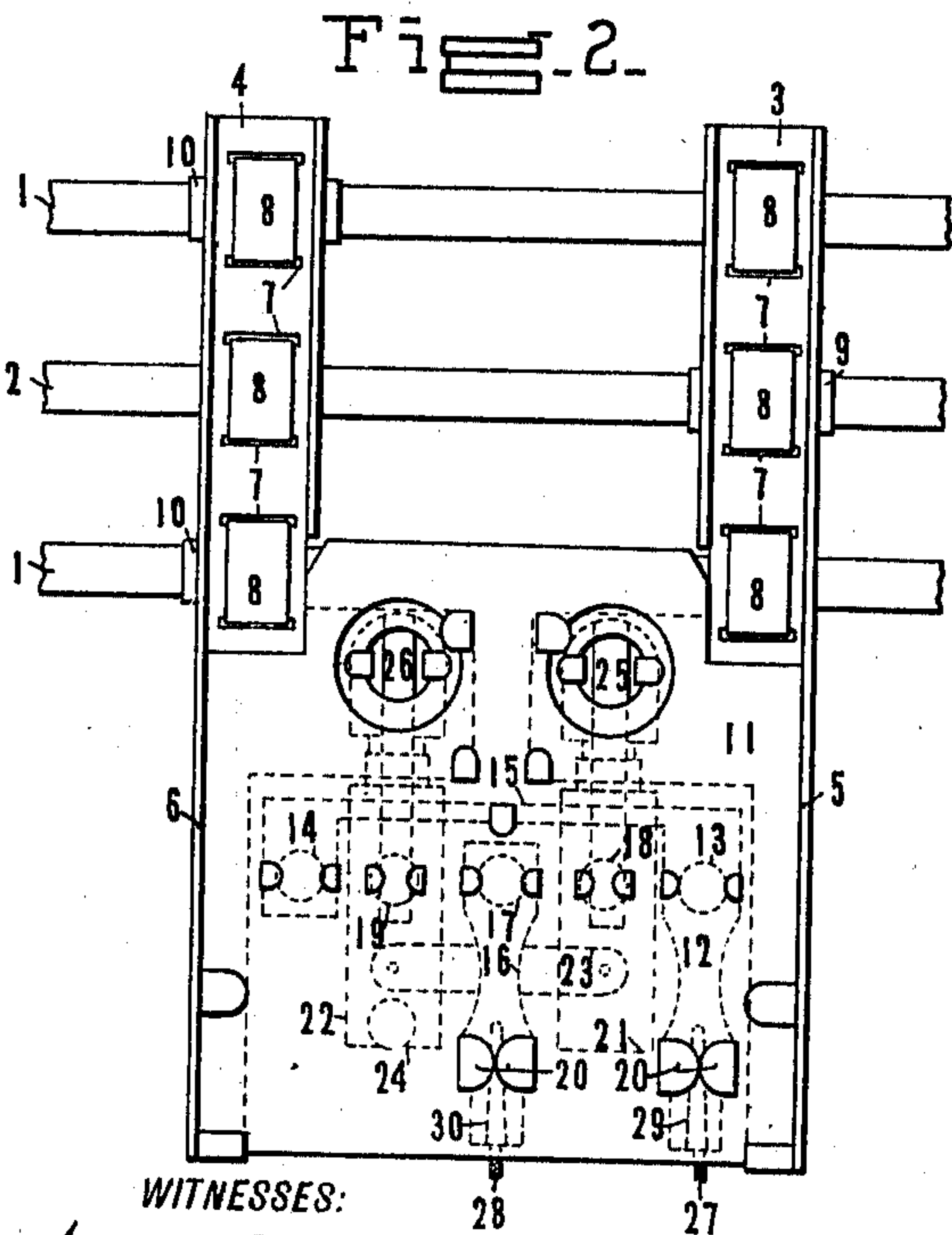
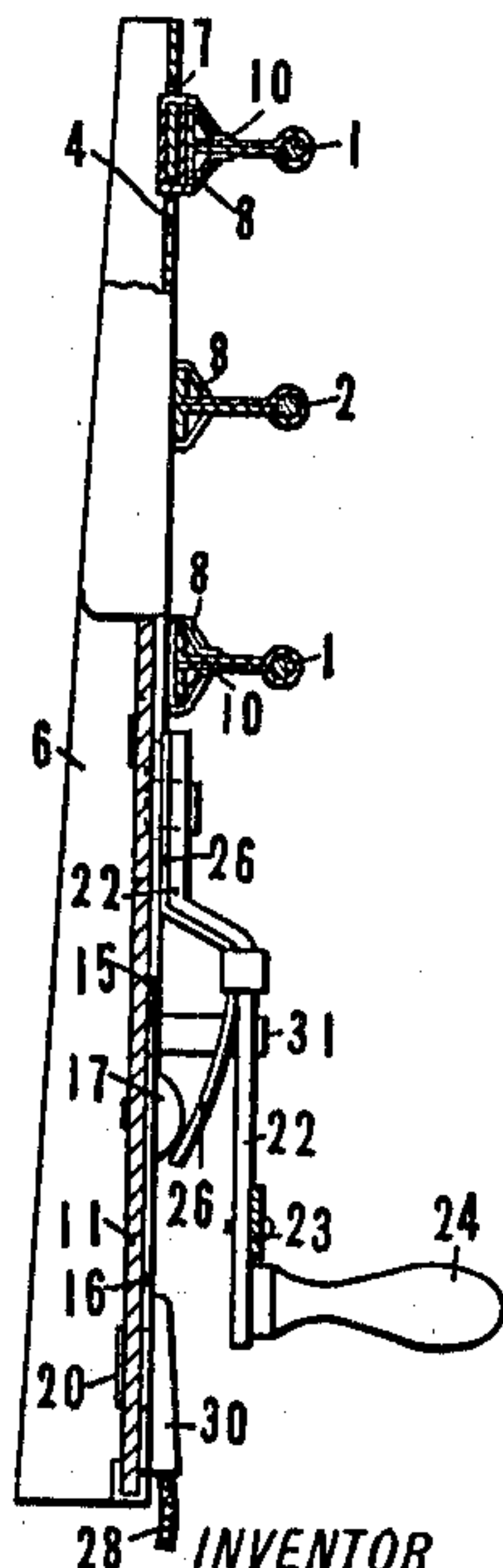


Fig. 2.

Fig. 3.



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ELECTRIC TOY.

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To all whom it may concern:

Be it known that I, EKKO SOLLMANN, a citizen of the United States, residing at Hoboken, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Electric Toys, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to electric toys and similar devices, and with regard to the more specific features thereof, to means for leading current thereto.

One of the objects thereof is to provide a simple, practical and compact device of this character wherein are combined facility of operation, efficiency of action and economy in manufacture.

Other objects will be in part obvious and in part pointed out hereinafter.

The invention accordingly consists in the features of construction, combinations of elements and arrangement of parts which will be exemplified in the construction hereinafter set forth, and the scope of the application of which will be indicated in the following claims.

In the accompanying drawings, wherein is shown one of various possible embodiments of this invention, Figure 1 is a top plan view of the device, showing the parts in assembled relation; Fig. 2 is a bottom plan view of the same; and Fig. 3 is a cross section taken on line $x-x$, Fig. 1.

Similar reference characters refer to similar parts throughout the different views of the drawings.

In order that this invention may be more readily understood, it may here be noted that in devices of this nature which are designed as playthings for children, if it be attempted to make electrical connection between binding posts, located upon the tracks or upon the ties supporting them, and an independent switch-board, located at some point remote from the tracks, it will be found to cause considerable confusion and annoyance and result in many false and loose connections. It may also be noted that unless devices of this type are of the simplest and most durable construction, they quickly become broken or deranged by the hard use to which they are put. These and other disadvantages are obviated and many positive

advantages obtained in devices embodying the present invention.

Referring to the drawings, 1 denotes a pair of traction rails designed to support an electrical toy and to lead current to the driving motor. 2 is a contact rail extending parallel with said traction rails and adapted to complete the circuit through said motor. These rails are spaced apart and supported in the usual manner by means of ties, but in the present case two of the ties, 3 and 4, are provided with extensions 5 and 6 offset to one side of the tracks and are preferably made of sheet metal having apertures formed therein, through which strips of metal 8 pass upwardly and are bent into close engagement with the lower flanges of the rails, thus securely holding the latter in position. The connection between rail 2 and tie member 3 is provided with insulating means 9 which prevents electric contact between said parts. Similar insulating means 10 are provided between rails 1 and tie member 4. An insulating plate 11 is held securely between the extensions 5 and 6 of the tie members and serves both as a brace therefor and as a base upon which to secure the various contact points and terminals of an electric switch. One terminal 12 is provided with two contact points 13 and 14, spaced apart and connected together by means of a conducting portion 15. The other terminal member 16 is provided with a contact point 17, disposed equidistant between the points 13 and 14. Disposed upon either side of contact point 17 and between it and the contact points 13 and 14, respectively, are two neutral points 18 and 19, which are insulated from all of the other fixed members composing the switch. These terminals and contact points are made of sheet metal, preferably brass, and are provided with a plurality of lugs 20 adapted to pass through insulating plate 11 and to be bent over on the underside thereof, whereby all of said parts are simply and securely held in their respective positions. The same form of construction is employed to secure the insulating plate 11 to the tie member extensions 5 and 6. Pivotaly secured to and in electrical contact with the said tie extensions are two legs 21 and 22 of a double pole switch member. These legs are connected together by means of an insulating bar 23, and one thereof is provided with a handle 24

providing means by which the switch may be manipulated. The legs are provided on the underside thereof with flexible contact strips 25 and 26, which are formed to im-

5 positively engage the said contact points when the switch legs are moved to a position immediately over the same.

While many different ways may be had to connect the conductors 27 and 28 of the

10 power line to the terminal members 12 and 16, in the present preferred embodiment pressed up portions 29 and 30 extend longitudinally of said terminal members and form, with the insulating plate 11, a socket

15 adapted to receive the ends of said line conductors. Each of the tie members is further supplied with an upturned portion 31 disposed to limit the movement of the switch legs in either direction.

20 Having described the construction of this embodiment of the present invention, the operation thereof, which is largely obvious, follows: Supposing that an electric toy is placed in operative position upon the rails,

25 connection is first made with a source of current by inserting the line conductors 27 and 28 in the sockets of the terminal pieces 12 and 16. With the switch arms in the position shown in the drawings, no current

30 passes to the rails and the toy will remain stationary. If, however, the switch is swung to the right, making contact with points 14 and 17, the current will then pass from terminal 12, supposing that one to be

35 positive, through contact strip 26 to the tie member 6 and contact rail 2. After leaving the armature of the toy motor, the current will pass through rails 1 to tie member 3, thence to terminal 16 by means

40 of contact strip 25 and point 17. Upon movement of the switch arms so that contact is made with points 13 and 17, the direction of current will be reversed through the rails and motor armature and the toy will run

45 in the opposite direction along the track.

It will therefore be seen that this invention is one well adapted to attain all the ends and objects hereinbefore set forth in a simple and positive manner, and that with re-

50 gard to the construction, the parts are all simple and adapted to be quickly and economically made and assembled.

As many changes could be made in the above construction and many apparently

55 widely different embodiments of this invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawings

60 shall be interpreted as illustrative and not in a limiting sense. It is also to be understood that the language used in the following claims is intended to cover all of the generic and specific features of the inven-

65 tion herein described and all statements of

the scope of the invention, which, as a matter of language, might be said to fall therebetween.

Having described my invention, what I claim as new and desire to secure by Letters 70 Patent is:—

1. In a device of the character described, in combination, a traction rail, a contact rail, and an electric switch comprising a plurality of members respectively provided 75 with extensions constituting ties adapted to rigidly support said rails and supply current thereto.

2. In a device of the character described, in combination, a plurality of traction rails, 80 a contact rail extending parallel therewith, and an electric switch comprising members respectively provided with extensions constituting ties adapted to rigidly support all of said rails and supply current thereto. 85

3. In a device of the character described, in combination, a pair of traction rails, a contact rail extending parallel therewith, metallic tie members rigidly supporting said rails, one of said members being insulated 90 from said traction rails and electrically connected to said contact rail, the other of said members being connected to said rails in reverse relation, and means adapted to oppositely connect said tie members with a source 95 of electric current.

4. In a device of the character described, in combination, a pair of traction rails, a contact rail extending parallel therewith, metallic tie members rigidly supporting said 100 rails, one of said members being insulated from said traction rails and electrically connected to said contact rail, the other of said members being connected to said rails in reverse relation, and means adapted to connect 105 said tie members respectively to the positive and negative terminals of a source of electric energy.

5. In a device of the character described, in combination, traction rails, a contact rail 110 extending parallel therewith, a pair of metallic tie members for said rails, one of said members being insulated from said traction rails and electrically connected to said contact rail, the other of said tie members being 115 connected to said rails in reverse relation, means immovably disposed with reference to said ties adapted to be connected to the two sides of an electric power line, and movable means adapted to form a plurality 120 of different electrical connections between said tie members and said first means.

6. In a device of the character described, in combination, traction rails, a contact rail extending parallel therewith, a pair of metallic tie members for said rails, one of said 125 members being insulated from said traction rails and electrically connected to said contact rail, the other of said tie members being connected to said rails in reverse rela- 130

tion, and a double pole switch having one of its legs pivotally and conductively secured to one of said tie members and the other of its legs similarly secured to the other of said tie members.

7. In a device of the character described, in combination, traction rails, a contact rail extending parallel therewith, a pair of metallic tie members for said rails, one of said members being insulated from said traction rails and electrically connected to said contact rail, the other of said tie members being connected to said rails in reverse relation, a double pole switch having one of its legs pivotally and conductively secured to one of said tie members and the other of its legs similarly secured to the other of said tie members, and means carried by and insulated from said members adapted to be engaged by said switch in a plurality of different positions, whereby the current passing through said rails may be cut off or reversed.

8. In a device of the character described, in combination, a traction rail, a contact rail, a conductive tie secured to said rails and insulated from one thereof, a second conductive tie secured to said rails and insulated from the other thereof, and means movably secured to said ties adapted to connect them respectively to the positive and negative terminals of a source of electric energy.

9. In a device of the character described, in combination, a traction rail, a contact rail, a conductive tie secured to said rails and insulated from one thereof, a second conductive tie secured to said rails and insulated from the other thereof, and means movably secured to said ties adapted to connect them respectively and alternatively to the positive and negative terminals of a source of electric energy.

10. In a device of the character described, in combination, a traction rail, a contact rail, a metallic tie secured to said rails and insulated from one thereof, a second metallic tie secured to said rails and insulated from the other thereof, each of said ties having a portion thereof extending outwardly from said rails, a plurality of terminal members supported by and insulated from said tie extensions, a plurality of switch legs each movably secured to and in electrical contact with one of said extensions, and means whereby said legs may be moved into and out of contact with said terminal members.

11. In a device of the character described, in combination, a pair of traction rails, a contact rail, a conductor secured to all of said rails and insulated from said traction rails, a second conductor secured to all of

said rails and insulated from said contact rail, an insulating plate extending between and secured to said conductors, a pair of terminal members carried by said insulating plate, one thereof having two contact points and the other thereof a contact point disposed intermediate said first contact points, movable means in electrical contact with one of said conductors adapted to be placed in engagement with one of said outer contact points or said inner contact point, movable means similarly secured to the other of said conductors adapted to engage said inner contact point or said other outer contact point, and insulating means connecting said two movable means and enabling them to be simultaneously moved to either of said positions.

12. In a device of the character described, in combination, a plurality of rails, a member adapted to hold said rails in spaced relation to one another and to conduct electric current thereto, and an electric switch having a portion thereof formed integrally with said member.

13. In a device of the character described, in combination, a plurality of rails, a member adapted to hold said rails in spaced relation to one another and to conduct electric current thereto, and an electric switch comprising a part formed integrally with said member, a terminal part insulated from said first part and adapted for connection with an electric conductor, and means movably secured to one of said parts and adapted to be placed in contact with the other thereof.

14. In a device of the character described, in combination, a plurality of rails, a pair of conductive members adapted to hold said rails in spaced relation to one another, certain of said rails being insulated from one of said members and certain others of said rails being insulated from the other of said members, and an electric switch comprising conducting parts formed integrally with said members, a pair of terminal parts adapted to receive the positive and negative conductors of an electric power line, and movable means adapted, in one position thereof to connect one of said conducting parts to the positive terminal and the other of said conducting parts to the negative terminal, in another position to reverse said connections, and in a third position to open-circuit said power line.

In testimony whereof I affix my signature, in the presence of two witnesses.

EKKO SOLLMANN.

Witnesses:

CURT G. PFEIFFER,
R. DÜHRSEN.