Dec. 28, 1937 L. CARL 2,103,447

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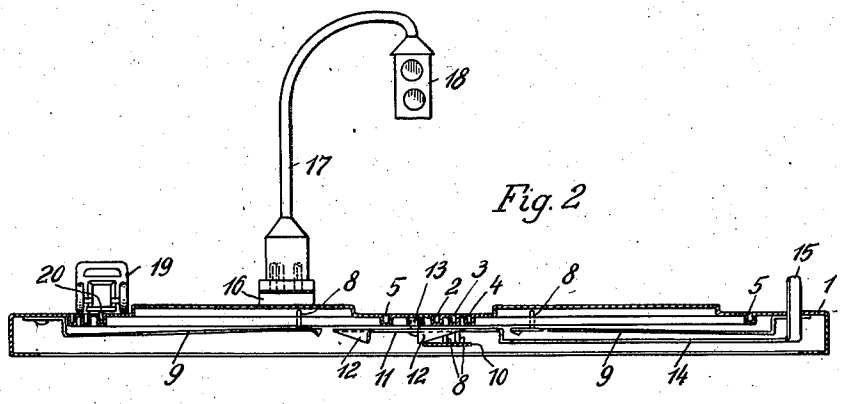
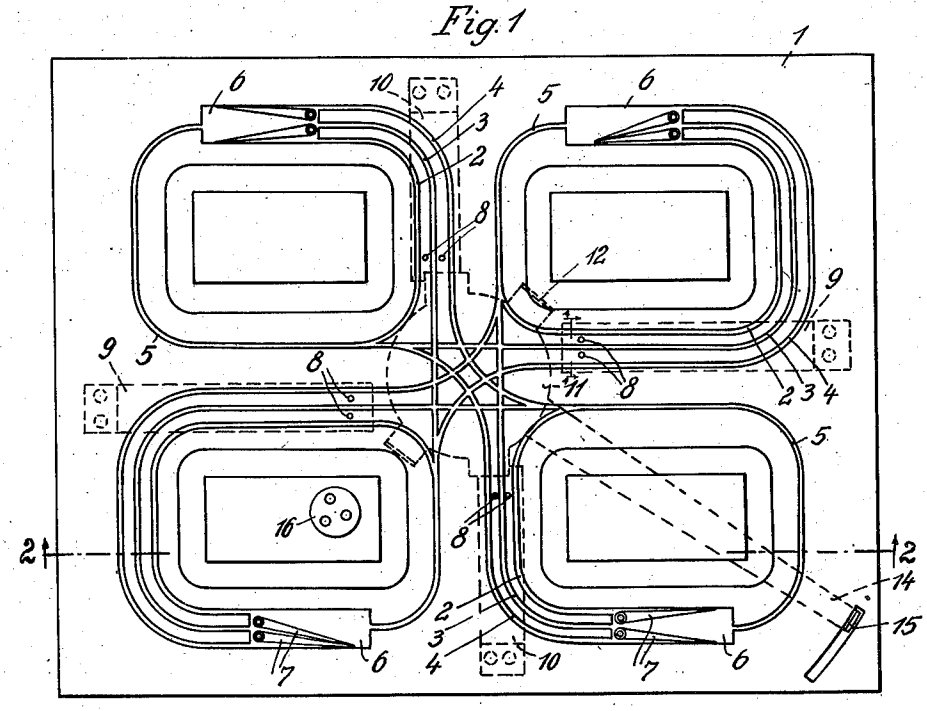


Fig. 2

Fig. 1



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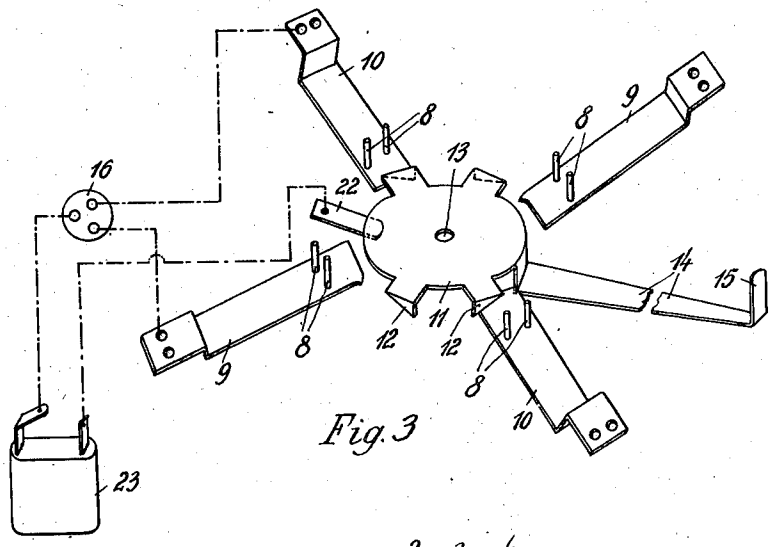


Fig. 3

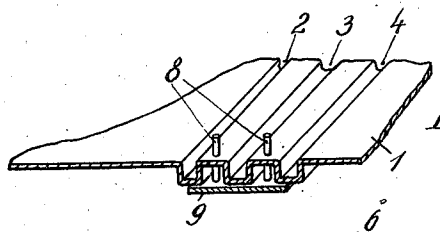


Fig. 4

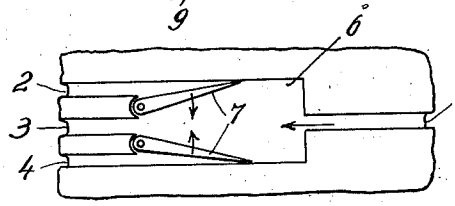


Fig. 5

Fig. 6

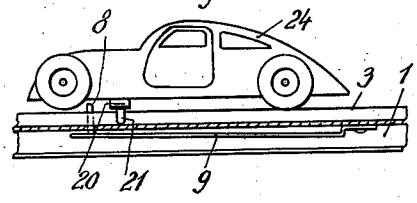
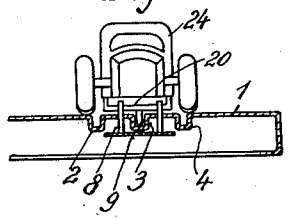


Fig. 7



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UNITED STATES PATENT OFFICE

2,103,447

TOY

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14 Claims. (Cl. 46—210)

This invention relates to toys and more particularly to toys representing the automobile traffic taking place at street-crossings of cities and the mode of supervising and controlling said traffic.

The toy forming part of my present invention consists essentially of a base-plate provided with guide-grooves, guide-ways or the like representing streets and crossings and furthermore of devices for stopping toy-automobiles travelling along said guide-grooves or guide-ways, so that the latter will alternately be locked and unlocked for stopping a toy-automobile travelling along one street or for permitting its passage from one into another street crossing the first street.

As compared with known toys of the present kind, in which each guide-groove representing a street can only be travelled upon by a toy-automobile in one direction, that is in the manner of traffic on one-way streets, my present toy comprises a base-plate on which guide-grooves are provided which represent streets and crossings. Said guide-grooves which serve as a track for the toy-automobiles are further so arranged that they will partly cross each other and partly merge one into the other so that in accordance with the actual automobile-traffic my present toy will offer any desired possibility of travel of a toy-automobile in any direction and particularly permit the automobile-toy to enter from one street into another which branches off the former. In this case, the control of the toy-automobile travelling on said streets or guide-grooves and passing the crossings formed thereby is effected by means of special devices adapted to lock or unlock any desired street or guide-groove, at the same time unlocking or locking another street or guide-groove crossing the former, thus stopping the toy-automobiles travelling thereon. In addition to this, there may be connected with the stopping and locking devices a lamp for regulating the traffic adapted to give a suitable light signal to indicate whether the one or the other street is locked or free for passage. Moreover, according to my invention said lamp is controlled in unison with said stopping devices to properly indicate the locked or unlocked condition of a street. In this manner, the actual traffic of automobiles on streets and crossings will be most faithfully represented by my present toy.

The new toy, which may be used in connection with toy-automobiles or other toy-vehicles can likewise be advantageously utilized for purposes of tuition, for instance to teach a child playing with the toy the rules regulating the actual traffic taking place on streets and crossings in both directions as well as on streets branching off the former.

In the accompanying drawings which form part of this specification I have shown an example of a construction of my new toy, Fig. 1 being a top-view taken on the base-plate of the toy, Fig. 2 a longitudinal section along line 2—2 of Fig. 1, Fig. 3 a perspective diagrammatic view of the control means for the aforesaid locking and stopping devices, the control being effected by means of an electrical pocket-lamp battery supplying current to said devices,

Fig. 4 is an enlarged fragmentary vertical section taken on the line 4—4 of Fig. 1;

Fig. 5 is an enlarged fragmentary plan view of a detail;

Fig. 6 is an enlarged fragmentary longitudinal vertical section of a guide-groove showing a toy vehicle mounted thereon; and

Fig. 7 is a similar view in transverse vertical section.

Referring more particularly to the drawings, the base-plate 1 is provided with a number of streets or guide-grooves forming a number of crossings about at the center of said plate. Said guide-grooves are impressed into said base-plate and pass around building-blocks, lawns or the like, as indicated in Fig. 1, and merge one into another. Each street, in particular, comprises on its right-hand side facing the crossing three guide-grooves 2, 3, 4 which are impressed into the upper part of said base-plate, while the left-hand side of said street comprises only one groove 5 which is formed by a continuation of the middle groove 3 of the right-hand side of the street on the other side of the crossing. The three guide-grooves 2, 3, 4 lead partially around each of said building-blocks or the like and open into a depression 6 in said base-plate, said depression being provided with a pair of switch-tongues 7. The grooves 5 leading around the remainder of said blocks and open into the opposite ends of said depression 6. Said depressions 6 may thus be connected selectively to one of said grooves 2, 3, 4 to direct traffic thereto from the groove 5, it being understood that in the form shown, traffic always enters the depressions 6 from the grooves 5. Near the street-crossing there are provided stops or pins 8 between the grooves 2, 3 and 3, 4 in the base-plate. Said stops or pins 8 may be raised and lowered to lock or unlock the street or grooves for the passage of a toy-automobile travelling thereon. The pins 8 are arranged in pairs each pair being mounted on a

resilient tongue 9 or 10 which may be raised and lowered by means of a common control-disk 11. The disk 11 is mounted to rotate about a pivot 13, the rotation of said disk being effected by means of a lever or handle 14, 15 connected thereto. The disk 11 is furthermore provided with four oblique cam flanges 12 engageable with the free ends of said resilient tongues 9, 10 to depress the same and a pair of said pins 8. In this manner, two oppositely positioned tongues are controlled simultaneously by said disk to effect locking or unlocking of one of the respective streets or guide-grooves.

In the example of construction shown in Fig. 3, the oblique flanges 12 provided on the disk 11 are adapted to engage with both of the resilient tongues 10 to depress the latter with the result that the pins 8 on said tongues will be retracted into the plane of said base-plate. In the position of said disk shown in Fig. 3 the two other resilient tongues 9 are not engaged by said disk and in consequence thereof the pins on these tongues will project above the surface of the base-plate to act as stops for a toy-vehicle travelling on one of the streets and arriving at the crossing. In the position of the disk 11 according to Fig. 3, passage for the toy-automobile is free in the street directed longitudinally with respect to the base-plate and locked in the street directed transversely to the former. In spite of this locking, however, there is a possibility for the toy-automobile to enter the locked transverse street by a short turn in a right-hand direction as well as by a long turn in a left-hand direction.

On one of the blocks formed on the base-plate of the toy there is provided a socket 16 as shown in Figs. 1, 2, and 3, said socket removably mounting a post 17 of a traffic regulating lamp 18 preferably positioned above the street crossing and controlled in unison with the aforesaid stopping devices including the pins 8. The mode of control as well as the mode of operation of the control-members for said stopping devices may be seen from the diagrammatic representation given in Fig. 3 according to which the one pole of said socket 16 is connected with one terminal of the pocket-lamp battery 23, the other terminal of the latter being connected with a tongue 22 which is in sliding contact with said control-disk 11.

The second and third pole of said socket 16 are connected to the pairs of oppositely positioned resilient tongues 9 and 10, respectively, said tongues carrying the stops or pins 8. The control-disk 11 thus forms a bridge carrying the current to operate the lamp 18 to show for instance a green light at the street in the direction of the pair of tongues 10, the pins 8 thereon being now retracted, as shown in Fig. 3. The other street controlled by the pair of tongues 9, and the pins 8 thereon, is now lighted, for instance by a red light of said lamp 18 and locked by said latter pins 8 projecting into the street, as indicated in Fig. 4.

By properly throwing the switch-tongues 7 in the depressions 6 to form a connection between the guide-groove 5, with one or the other of the three grooves 2, 3, and 4, the travel of the toy-automobile may be properly controlled to follow any desired direction, so that a great variety of possibilities of travel of the toy-vehicles will be possible. All of these possibilities, however, are properly controlled by said pins 8 which in accordance with their raised or depressed position will lock or unlock the respective street or guide-groove.

The toy-automobile, moreover, is properly guided during travel in the respective grooves 2, 3, 4, or 5 by means of a depending pin 21 carried by the automobile and slidingly engaging the groove. Said pin 21 is carried by a bridge 20 mounted in transverse direction to the toy-vehicle at the under side thereof, said bridge forming the stop-member proper by either abutting against said pins 8 or passing above the same depending upon whether or not said pins are in the raised or lowered position.

The general arrangement of my present toy, moreover, is preferably such that said pin 21 provided on the toy-vehicle will slide in the guide-groove with some friction therein, with the result that the front wheels of the toy-vehicle will be slightly lifted above the surface of the street or guide-groove, see Fig. 6, while solely the driving rear-wheels of the toy-vehicle will be engaging the surface. Steering of the toy-vehicle in longitudinal directions is effected solely by means of said pin 21 sliding in the guide-groove and as the front-wheels of the toy-vehicle in this case do not rotate, a lateral deflection of the toy-vehicle is not to be feared and any kind of jamming or the like will be positively prevented.

Evidently, it will also be possible to effect the guiding of the toy-vehicle by means of the bridge 20 which normally is designed to abut against the pins 8 when they are in raised position. In this case instead of the pin 21, the bridge 20 is arranged to slide into the guide-grooves and for this purpose said bridge must be properly constructed to reduce friction when sliding in said groove.

I claim:

1. A toy comprising a base-plate having marked thereon the simulation of a pair of crossing streets, representations of city blocks having buildings, lawns or the like outlining said streets, guide-grooves and stopping-devices in said streets, said stopping devices being adapted to stop a toy-vehicle travelling on one of said streets at the crossing thereof, said guide-grooves partly crossing each other and partly merging one into the other to permit a variety of modes of travel of a toy-vehicle.

2. A toy as specified by claim 1, said streets comprising at one side of said crossing three and at the other side thereof one guide-groove, all of said guide-grooves leading to said crossing of said streets.

3. A toy as specified by claim 1, said streets comprising at one side of said crossing three and at the other side thereof one guide-groove, all of said guide-grooves leading to said crossing of said streets, and said stopping-devices being in the form of pins adapted to be raised and lowered between said several guide-grooves at the right-hand side of a street leading to said crossing.

4. A toy as specified by claim 1, said streets comprising at one side of said crossing three and at the other side thereof one guide-groove, all of said guide-grooves leading to said crossing of said streets, said three guide-grooves merging into said one guide-groove on the other side of a street, a depression on said base-plate positioned between said three and said one guide-groove, and switch-tongues mounted in said depression for establishing at will a connection between each of said three guide-grooves with said one guide-groove.

5. A toy as specified by claim 1, said stopping-

devices consisting of pairs of oppositely arranged resilient tongues, each pair being adapted to be positioned in the direction of a street, pins mounted on each of said tongues, and a control-disk adapted to simultaneously raise one pair of said tongues and at the same time lower simultaneously the other one pair of said tongues and said pins thereon, thus to lock one and to unlock the other of said streets.

6. A toy as specified by claim 1, said toy including an electric lamp mounted above the crossing of said streets, means for supplying current to said lamp, control means for said lamp, said control means being operatively connected with said stopping-devices.

7. A toy as specified by claim 1 said stopping-devices consisting of pairs of oppositely arranged resilient tongues, each pair being adapted to be positioned in the direction of a street, pins mounted on each of said tongues, a control-disk adapted to simultaneously raise one pair of said tongues and at the same time simultaneously lower the other one pair of said tongues and therewith the pins thereon, thus to lock one and to unlock the other of said streets, an electrical lamp mounted above the crossing of said streets, a source of current for said lamp comprising a small battery connected to said lamp, control-means for said lamp, said control-means being in operative connection with said control-disk.

8. A toy as specified by claim 1, including a toy-vehicle adapted to travel along said guide-grooves on said base-plate and a slide-pin extending from underneath said toy-vehicle into a guide-groove to slidingly guide said vehicle therein.

9. A toy as specified by claim 1, including a toy-vehicle adapted to travel along said guide-grooves on said base-plate, a slide-pin extending from underneath said toy-vehicle into a guide-groove to slidingly guide said vehicle therein, and a transverse member provided underneath said vehicle and adapted to abut against one of said stopping devices, when said device is in an operative position.

10. A toy as specified by claim 1, said toy being provided with a guide-member adapted to support said toy-vehicle partly in the respective guide-groove in a manner to raise the front-wheels of said toy-vehicle above the surface of said street while keeping the rear-wheels travelling on the latter.

11. The structure of claim 1, one side of said streets on one side of said crossing comprising a plurality of guide-grooves and at the other of said crossing a single guide-groove, all of said guide-grooves leading to said crossing.

12. The structure of claim 1, one side of said streets on one side of said crossing comprising a plurality of guide-grooves and at the other of said crossing a single guide-groove, all of said guide-grooves leading to said crossing, each of said first named guide-grooves directing a vehicle guided thereon in a different direction at said crossing.

13. The structure of claim 1, one side of said streets on one side of said crossing comprising a plurality of guide-grooves and at the other of said crossing a single guide-groove, all of said guide-grooves leading to said crossing, each of said first named guide-grooves directing a vehicle guided thereon in a different direction at said crossing, means remote from said crossing merging said single guide-groove with said plurality of guide-grooves.

14. The structure of claim 1, one side of said streets on one side of said crossing comprising a plurality of guide-grooves and at the other of said crossing a single guide-groove, all of said guide-grooves leading to said crossing, each of said first named guide-grooves directing a vehicle guided thereon in a different direction at said crossing, means remote from said crossing merging said single guide-groove with said plurality of guide-grooves, and means at said last named means for selectively directing a vehicle on said single groove to any of said plurality of grooves.

LUDWIG CARL.