June 15, 1971 G. J. LALONDE 3,584,410

RACE TRACK TOY

Filed Oct. 9, 1969 2 Sheets-Sheet 1

FIG. 1

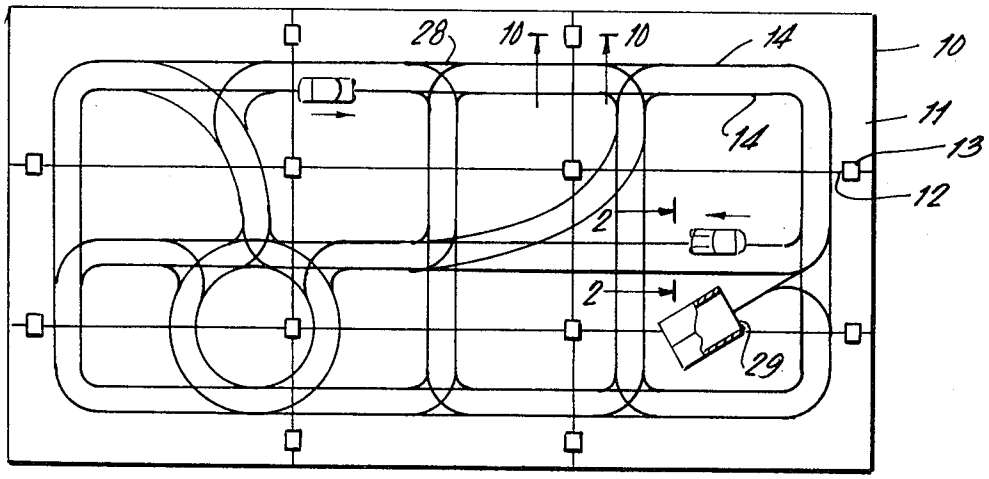


FIG. 2

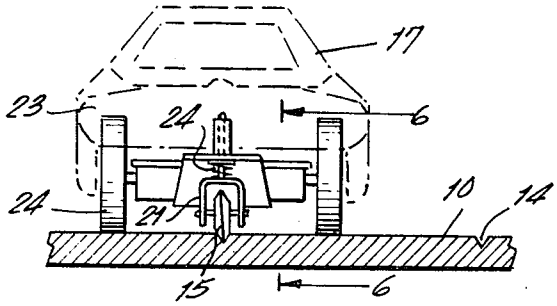


FIG. 3

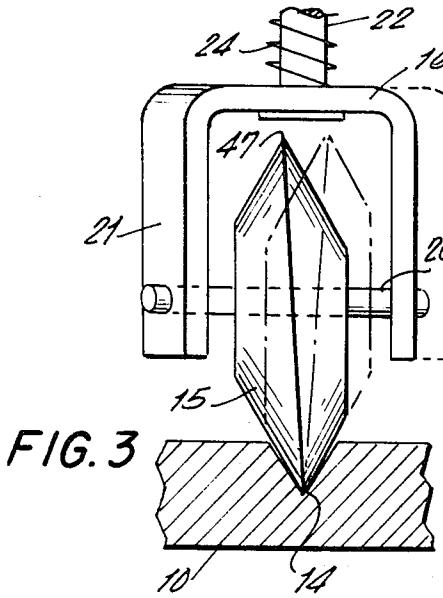


FIG. 4

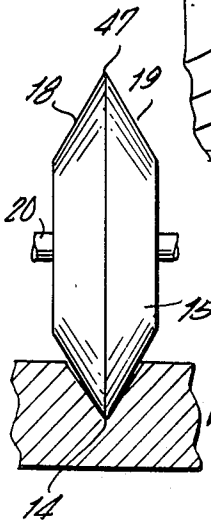
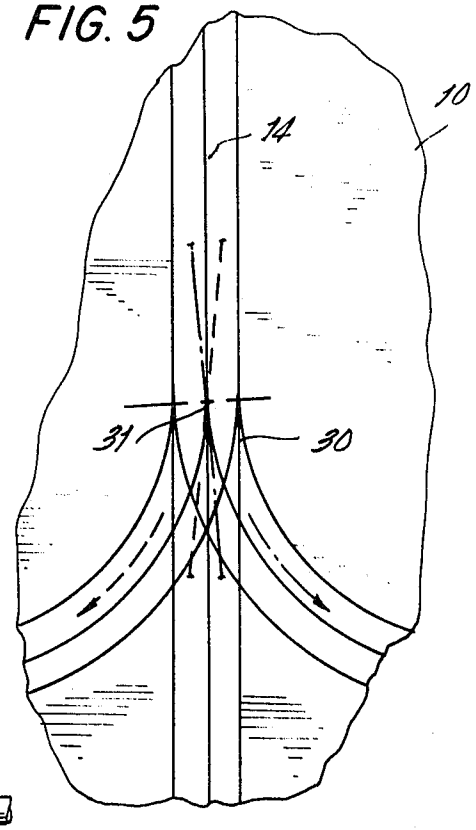


FIG. 5



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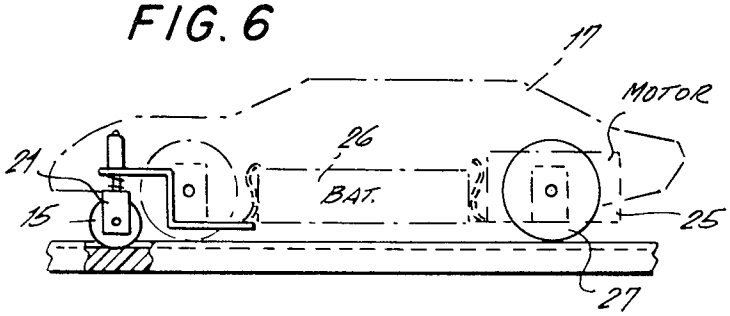
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ATTORNEY

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RACE TRACK TOY

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FIG. 6



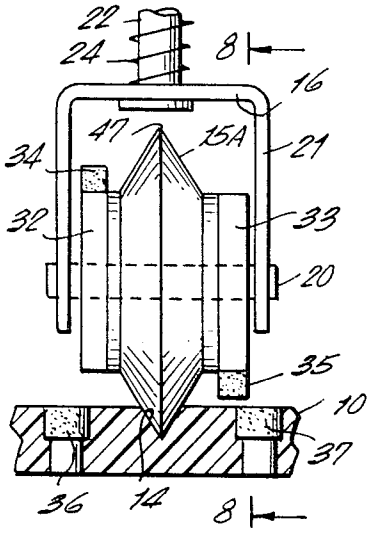


FIG. 7

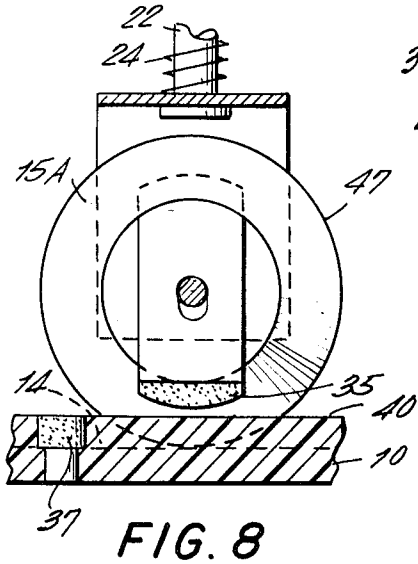


FIG. 8

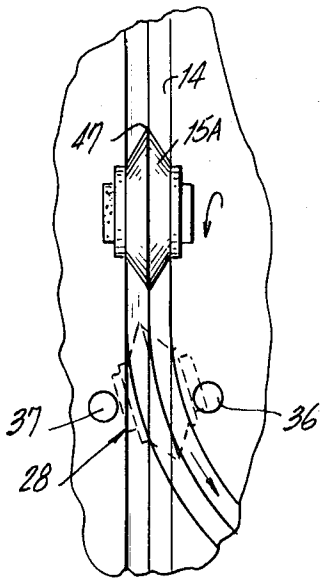


FIG. 9

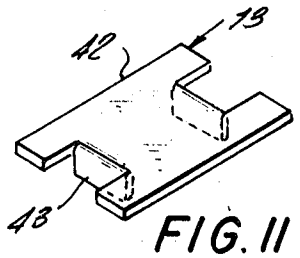


FIG. 11

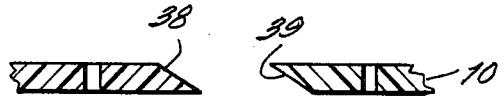


FIG. 12

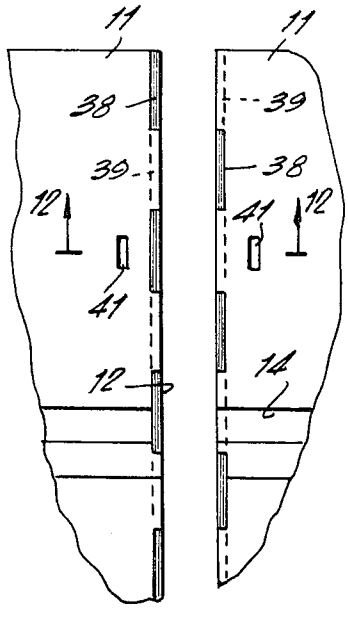


FIG. 10

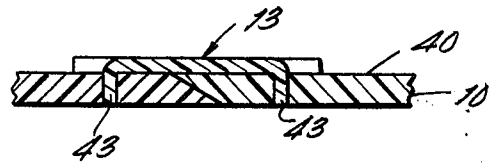


FIG. 13

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3,584,410

RACE TRACK TOY

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Int. Cl. A63h 33/26
U.S. Cl. 46—238 9 Claims

ABSTRACT OF THE DISCLOSURE

A race track toy in which one or more racing cars are driven around a track in the nature of a flat board having continuous grooves therein. The cars are shifted from groove to groove at intersections in the grooves by reason of a switching wheel carried at the front of each car. The switching wheel is asymmetric and will direct the car into whichever groove happens to coincide with the disposition of the wheel as it enters the intersection. The operator therefore has no control over the cars in their travel over the board.

BACKGROUND OF THE INVENTION

It is well known to provide race track toys in which the cars are propelled around a board simulating a race track in various tracks or grooves. Such toys frequently have switching means which can either be preset by the operator or are responsive to controls of the operator. Such devices often cause children to lose interest because of the limited performance of the toy and the lack of any element of surprise.

The present invention provides a race track toy in which the propelled cars switch from track to track without any direction from the operator and, in the case of a plurality of cars being run at the same time over the track, with many unexpected turns often resulting in narrow misses between the cars.

SUMMARY OF THE INVENTION

In one particular embodiment of the invention, a flat board is provided with a plurality of track-like grooves running continuously around the surface of the board. Small battery driven cars are propelled across the board in the well known manner with a small switching wheel located at the front of the car travelling within the track. The grooves of the track intersect one another at various points and by reason of the asymmetric configuration of the switching wheel, the cars will veer into one or another of the tracks at the intersections depending upon the particular disposition of the switching wheel at that juncture.

DESCRIPTION OF THE DRAWINGS

In the accompanying drawings forming a part hereof corresponding elements have been given identical reference numerals, in which drawings:

FIG. 1 is a top plan view of a complete embodiment of the present invention.

FIG. 2 is a view in front elevation of a racing car and switching wheel made in accordance with the present invention.

FIG. 3 is a view in front elevation on an enlarged scale showing the switching wheel illustrated in FIG. 2.

FIG. 4 is a view in front elevation of the switching wheel member disposed in the board track.

FIG. 5 is a fragmentary view on an enlarged scale showing an intersection in the track illustrated in FIG. 1.

FIG. 6 is a view in side elevation of the racing car used in the present device with the body shown in dashed lines.

FIG. 7 is a fragmentary view in front elevation of a switching wheel according to the present invention illustrating a second embodiment.

FIG. 8 is a view in side elevation of the switching wheel assembly shown in FIG. 7.

FIG. 9 is a fragmentary top plan view somewhat enlarged illustrating the manner in which the switching wheel of the car guides it from one track into another.

FIG. 10 is a top plan fragmentary view of two elements which are to be joined together to form the race track over which the cars are driven.

FIG. 11 is a somewhat isometric view of a locking key used to tie the members forming the race track together.

FIG. 12 is a fragmentary view taken on lines 12—12 of FIG. 10 looking in the direction of the arrows.

FIG. 13 is a view similar to FIG. 12 in the assembled condition.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to the drawings, **10** indicates a flat board made of some suitable rigid material, such as linoleum, vinyl, plywood or the like. The board can be formed of a plurality of members **11** secured together at their adjoining edges **12** by means of clips **13** hereinafter more fully described.

A series of continuous grooves **14** are cut into the surface of the board **10** to form a guide track for the cars. The grooves **14** are preferably V shaped as shown in FIG. 2 and are adapted to receive a small vehicle switching wheel **15** best shown in FIGS. 3 and 4. The switching wheel **15** is loosely carried by an axle **48** supported by a bracket **16** freely journaled at the front of the toy automobile **17**. The switching wheel **15** is tapered on each side of a peripheral rim **47** as best s hown in FIGS. 3 and 4. However, the tapers **18**, **19**, are not symmetrical about the rim **47**. As a result, the switching wheel **15** will wobble upon its axle **20**, which axle is loosely carried within the bracket **21** of the switching wheel assembly. The action of the switching wheel **15** is shown in a somewhat exaggerated manner by the dashed lines in FIG. 3.

The top of the bracket **21** is provided with a small stud **22** which is journaled within the body **23** of the toy car **17**. A small coil spring **24** is disposed between the top of the bracket **21** and body of the car **23** to urge the wheel **15** against the sides of the track **14**.

The front wheels **24** of the toy vehicle ride upon the board **10** on either side of the track **14**. The front wheels **24** are made of some suitable plastic which will enable the wheels **24** to slide laterally without great difficulty as the car **17** is switched from track to track. As shown in FIG. 6, the car **17** is preferably driven by means of a motor **25** having a battery **26** as a source of power supply. In this manner, the car **17** is self contained and does not rely upon exterior power sources for propulsion. Nevertheless, it is within the purview of the present invention to use the well known "electric train" driving mechanism well known in the art.

With the board **10** assembled in the manner shown in FIG. 1, one or more cars **17** can be placed upon the board **10** with their switching wheels **15** within one of the grooves **14**. The cars will be propelled across the board by the operation of their motors **25** connected to the rear wheels **27**. When the car **17** reaches an intersection, such as the one indicated at **28** in FIG. 1, the car will either continue in the direction in which it was proceeding or will veer off in another direction, depending upon the disposition of the switching wheel **15** at that juncture. If the switching wheel is skewed in one direction, the car will make the appropriate turn. If, in its rotation, the switching wheel is in another position, the

car will be guided accordingly. In this manner, it is impossible for the child playing with the toy to determine in advance the course it will take when it reaches an intersection. Where two or more cars are running around tracks on the same board, they will often have narrow misses or may even collide depending upon the operation of the switching wheels **15** as the respective cars reach the various intersections.

Another way in which the toy can be used is to provide one or more garages **29** located at the terminus of one or more tracks. The child can then compete with other children to see which car will enter the garage first. Various other interesting games can be built around this apparatus, which may involve substituting toy horses for cars or even airplanes.

FIG. 5 illustrates, on an enlarged scale, the possible courses the car may take when it reaches an intersection **30**. As the switching wheel **15** reaches the point **31** it will either be in the upright position shown in FIG. 4, the skew to the left position shown in FIG. 3, or the skew to the right position shown in FIG. 3 in dashed lines. If upright, the switching wheel **15** will guide the car **17** in a straight path. If skewed to the right the car will follow one of the diverging tracks and if skewed to the left it will follow the opposite track.

Referring to FIGS. 7, 8 and 9, there is shown a second embodiment of the present invention in which the switching wheel **15A** is symmetrical about its periphery **47** so that it is in the shape of two frusto conical sections secured together at their large bases. In this embodiment, two rims **32, 33** are secured on each side of the wheel **15A**. A small permanent magnet **34, 35**, is glued to each of the rims **32, 33**. The magnets **34, 35**, are 180° apart on the rims as shown in FIG. 7. Small permanent magnets or ferrous blocks **36, 37**, are pressed into the board **10** on each side of the track **14**. The permanent magnets **36, 37**, are so disposed at the intersections of the tracks **14** that the wheel **15A** will be skewed in the direction where the permanent magnet **34, 35**, comes into close proximity with a board magnet or ferrous blocks **36** or **37**. Here again, the direction which the car takes as a result of the magnetic action is not under the control of the operator and therefore provides an element of surprise.

FIGS. 10 thru 13 illustrates the manner in which a large board track can be assembled without requiring complicated fastening devices to provide a smooth surface over which the cars can operate. As shown in FIG. 10, the board elements **11** are provided with a series of alternating bevels **38, 39**, which abutt complimentary bevels in the next adjacent board element. When the edges of the board elements **11** are brought into abuttment as shown in FIG. 13 a smooth top surface **40** is presented by the dove tailing of the bevels **38, 39**. The board elements **11** are provided with opposed slots **41**, which are cut through the board **11** at a point spaced from the track **14**. Small shaped clips **13** (best shown in FIG. 11), which may substantially H shaped and which have depending detents **43** are pressed into the slots **41** after the elements **11** are brought into abutting relationship. The clips **13** prevent lateral movement of the elements **11** so that the board remains attached at all times during use.

Having thus fully described the invention, what is claimed as new and desired to be secured by Letters Patents of the United States, is:

1. A race track toy comprising a horizontally disposed board, a plurality of elongated intersecting grooves in said board forming a track, wheeled toy car members receivable upon the grooved board surface, a switching wheel on said car, an axle for said switching wheel, said wheel being loosely carried upon said axle whereby the wheel may skew during its rotation, means to drive the car about the board while the switching wheel rides within the track and means to skew the switching wheel at the intersections of the grooves to change the direction of the cars.

2. A toy according to claim **1** in which the elongated grooves are V shaped in cross section and the periphery of the switching wheel is beveled to conform to the groove shape.

3. A toy according to claim **2** in which the switching wheel is asymmetrically beveled about its periphery whereby the wheel will skew from side to side as it rolls within the grooves.

4. A toy according to claim **2** in which the switching wheel is mounted at the front of the toy car between the toy car wheels and the car is self propelled.

5. A toy according to claim **2** in which the switching wheel is symmetrical about its periphery and provided with magnets on each side thereof and the board is provided with magnets adjacent the track intersections whereby the switching wheel is caused to skew as it reaches the said intersection.

6. A toy according to claim **2** in which the switching wheel is symmetrical about its periphery and provided with magnets on each side thereof and the board is provided with ferrous blocks adjacent the track intersections whereby the switching wheel is caused to skew as it reaches the said intersection.

7. A toy according to claim **5** in which the wheel magnets are mounted 180° apart and the board magnets are disposed on opposite sides of the groove intersections.

8. A toy according to claim **1** in which the board is made up of a plurality of flat elements having alternate complimentary bevels along their periphery edges and clip members bridging the abutting edges to prevent separation of the flat elements.

9. A toy according to claim **8** in which the flat elements are slotted to receive the clip members and the clip members are formed with depending detents to engage the slots in abutting elements.

References Cited

UNITED STATES PATENTS

2,068,403	1/1937	Ekstrom	46—213X
3,016,024	1/1962	Silver	46—201X
3,402,503	9/1968	Glass et al.	46—202X

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U.S. Cl. X.R.

46—201, 213, 243