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2,664,831

SINGLE TRACK GAME FOR TWO VEHICLES

Filed Oct. 4, 1950

2 Sheets-Sheet 1

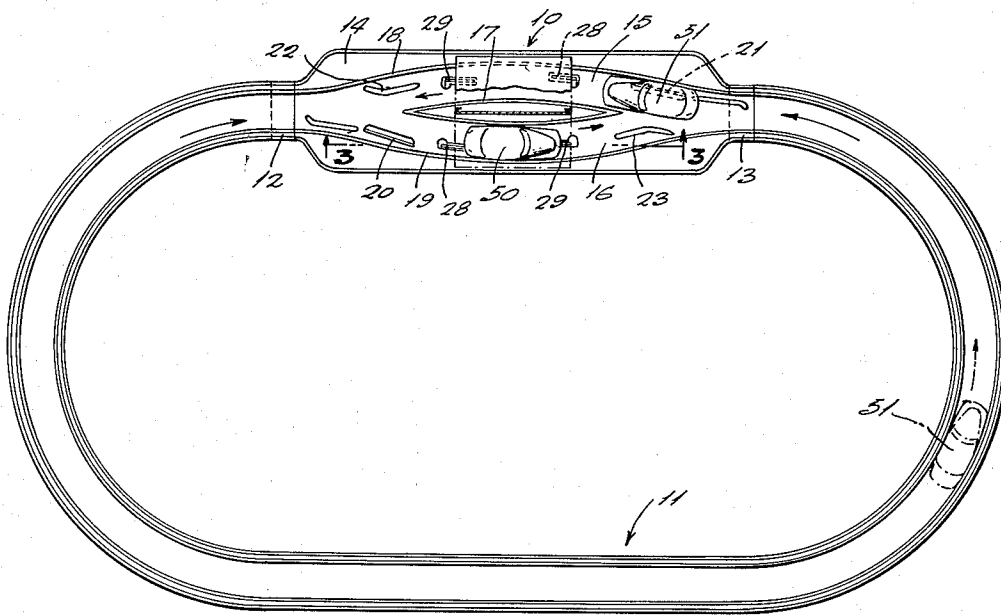


Fig. 1.

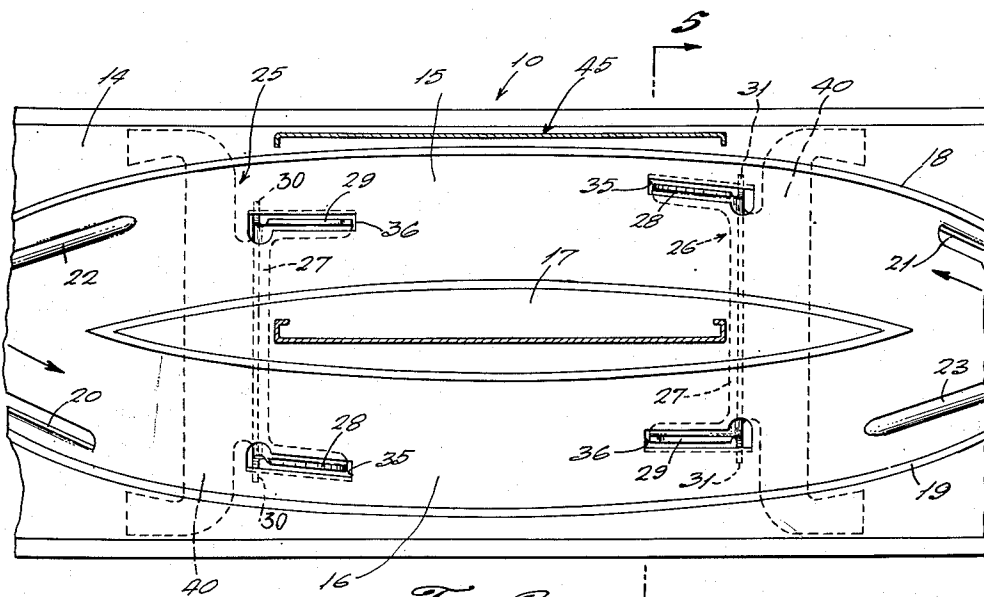


Fig. 2

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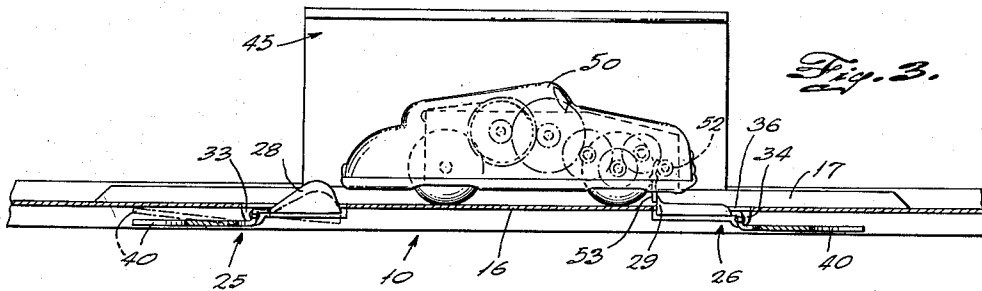
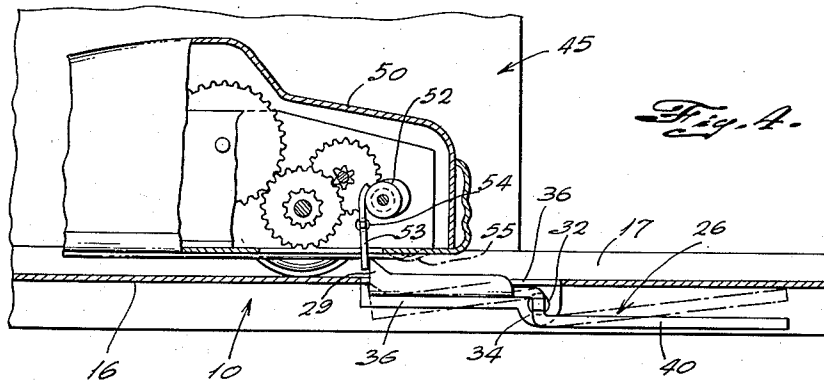
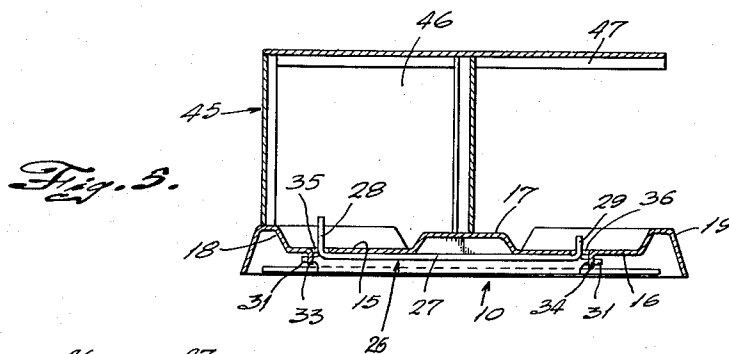
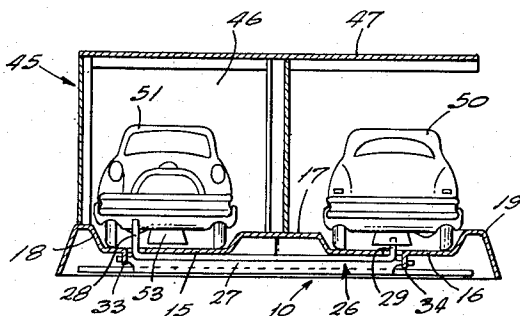


Fig. 6.

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SINGLE TRACK GAME FOR TWO VEHICLES

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7 Claims. (Cl. 104—253)

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This invention relates to a toy track system, particularly to a toy track game comprising a preferably endless single track system including a double-track switching section over which system two motor driven vehicles can travel in opposite directions. These vehicles are alternately and automatically stopped and released when passing through the said switching section thereby permitting unimpeded opposite travel of the vehicles over the single track system.

One of the objects of the invention is to provide novel and improved control means for a toy track game of the general type, above referred to, which means are simple and yet effective in operation.

Another object of the invention is to provide a novel and improved track system of the general type, above referred to, the control means of which can be inexpensively manufactured.

Still another object of the invention is to provide a novel and improved track system of the general type, above referred to, which requires only a minimum of moving parts, to wit, two parts associated with the track system proper or more specifically with the switching section thereof and one associated with each vehicle.

Other and further objects, features and advantages of the invention will be pointed out hereinafter and set forth in the appended claims forming part of the application.

In the accompanying drawing a now preferred embodiment of the invention is shown by way of illustration and not by way of limitation.

In the drawing:

Fig. 1 is a plan view of a toy track system according to the invention.

Fig. 2 is a plan view of the double-track switching section of the toy on an enlarged scale.

Fig. 3 is an elevational fragmentary side view of the switching section on an enlarged scale taken on line 3—3 of Fig. 1, one of the vehicles being shown standing on the switching section.

Fig. 4 is a fragmentary view of Fig. 3 on a still more enlarged scale.

Fig. 5 is a cross-sectional view of the switching section taken on line 5—5 of Fig. 2, and

Fig. 6 is a cross-sectional view similar to Fig. 5 showing the two vehicles standing on the switching section.

Referring now to the figures in detail, the illustrated exemplification of a track layout according to the invention comprises a double-track switching section, generally designated by 10, and connected at both ends to an endless single track, generally designated by 11. The

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single track is shown as oval shaped but any other suitable shape may be employed. The single track may also be visualized as an open track. It may consist of one piece or be composed of several sections. The single track is connected to the switching section at 12 and 13 by any suitable means known in the toy art.

Switching section 10 comprises a base 14 widened relative to the single track section and on which are provided guide means to form two track sections 15 and 16. These guide means are shown as comprising a raised center portion 17 which together with outer shoulders 18 and 19 forms the two track sections 15 and 16. The raised center portion 17 is formed by two circle sections the chords of which face each other, as can best be seen on Fig. 2. There are further provided a raised guide rib 20 to lead a vehicle travelling in clockwise direction onto track section 16 and a raised guide rib 21 to lead a vehicle travelling in counterclockwise direction onto track section 15. Ribs 20 and 21 may be formed by punching out and bending up a suitable strip of the section base 14. The vehicles may be further guided by additional raised ribs such as indicated at 22 and 23.

The control mechanism for automatically stopping and releasing the two vehicles travelling in opposite directions over the track system comprises a pair of control members, generally designated by 25 and 26 respectively. The two control members are identical. Each comprises a substantially U-shaped portion having a bight 27 and two side arms 28 and 29. The control members are pivoted with their bight below the track sections 15 and 16 by means of pivots 30 and 31 engaging eyelets 32 formed for instance in strips 33 and 34 punched out of the base of track sections 15 and 16 and bent downwardly. As a result of punching out strips 33 and 34, slots 35 and 36 are formed in the base of tracks 15 and 16 through which slots arms 28 and 29 protrude upwardly from the running bases of track sections 15 and 16. Each arm 28 has a rounded shape and extends considerably above the level of the respective track section, as can best be seen on Figs. 3 and 5, and each arm 29 has a pointed portion and extends slightly above the level of the respective track section, as can best be seen on Figs. 4 and 5. The purpose of the different shapes and protrusion of arms 28 and 29 will be explained later on.

As will be noted and can best be seen on Figs. 1 and 2, each arm 29 is positioned behind an arm 28 as seen in the direction of travel of a

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vehicle through the respective track section 15 or 16. Each control member 25 and 26 is extended beyond its bight by a portion 40 shown as being substantially U-shaped. Portions 40 serve as a counterweight biasing each control member into a position in which the arms 28 and 29 thereof are in a position in which they protrude as much as possible from the levels of the track sections 15 and 16. This position of the control members is shown in Figs. 3 and 4 in full lines.

For the purpose of concealing the control members and making the appearance of the toy track system more realistic and its operation more surprising, a building structure, generally designated by 45, extends from base 14 of switching section 10. This building structure may take any desired shape, for instance it may be formed and painted to simulate a filling station which has a closed section 46 concealing track section 15 and an open section 47 forming a roof over track section 16.

The two vehicles are designated by 50 and 51. These vehicles are driven by a conventional spring actuated motor which is indicated on Figs. 3 and 4. The details of the motor are not essential for the understanding of the invention with the exception of the means for braking or releasing the motor which are part of the invention. The vehicles simulate two toy cars but may of course have any other configuration.

The motor of each car includes a governor, partly formed by a smooth hub 52. This hub coacts with a two-arm brake plate 53 pivoted at 54 to the car body. One arm of plate 53 is slightly curved and frictionally engageable with hub 52. The other arm extends below the bottom of the car body and is engageable with arm 29 of the respective control member 25 or 26. The bottom of the body of each car or another suitable part of the car, such as the grill is so shaped and positioned that it is enagageable with the arm 28 of the control members for the purpose of pivoting the control members. To secure a slight and yet effective engagement between the body of a car and an arm 28, a curved protrusion 55 may be provided at the bottom of the cars. In this connection it should be mentioned that the tip of arms 29 is in all positions of the control members below the level of the bottom of the car body.

The operation of the toy track system, as hereinafter described, is as follows:

Let it be assumed that both cars are fully wound and that car 50 is placed in the position shown on Fig. 1 facing in clockwise direction and that car 51 is placed in the position shown in dotted lines and facing in counterclockwise direction. The brake plate 53 of car 50 then engages the protruding portion of arm 29 of control member 25. As a result, the curved upper arm of the brake plate is pressed against governor hub 52 so that the motor of car 50 is arrested. The other car 51, the motor of which is released will travel over the track and be guided by guide rib 21 onto track section 15 of the switching section. Shortly after car 51 has entered this track section the grill of the car or bump 55 will engage arm 28 of control member 26 and by reason of the curved shape of this arm depress the arm against the action of counterweight 40. As a result, the other arm 29 of this control member 26 is pivoted into the position shown in dotted lines on Fig. 4. Arm 29 now slips off brake plate 53 so that car 50 is released and

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begins to run in clockwise direction. Car 51 continues on track section 15 until its brake plate 53 is caught by arm 29 of control member 25. Consequently, car 51 is arrested in a position on track section 15 corresponding to the position previously occupied by car 50 on track section 16. Car 50 has continued its clockwise run over the single track section 11 until it is guided by rib 20 onto track section 16 of the switching section. Then, the car body engages arm 28 of control member 25 thereby pivoting this control member into a position in which its arm 29 releases car 51. This car now begins to run in counterclockwise position and the same cycle is repeated until the motors of both cars are run down.

As will be realized the alternating stopping and release of the two cars, concealed by the building structure 45, is quite surprising and amusing for a playing child.

While the operation of the toy has been described for two vehicles, it will be obvious that also four cars or any other multiple of two can be employed, provided the vehicles are properly spaced.

While the invention has been described in detail with respect to a certain now preferred example and embodiment of the invention it will be understood by those skilled in the art after understanding the invention, that various changes and modifications may be made without departing from the spirit and scope of the invention and it is intended, therefore, to cover all such changes and modifications in the appended claims.

What is claimed as new and desired to be secured by Letters Patent is:

1. In a toy track system of the type in which two motor driven vehicles are arranged to travel in opposite directions over a single track system a double track switching section included in said single track system, a pair of control members, each of said members having an intermediate bight and a pair of side arms, means for pivotally supporting the bight of each member on said switching section in a position in which each bight extends transversely to the direction of said section tracks, each of said arms being biased to protrude from the running surface of one of said section tracks and into the path of vehicles travelling over said switching section for engagement with the said vehicles, one arm of each control member being positioned to abut in one pivotal position of the respective control member against a vehicle travelling over the respective track of said switching section so as to arrest the vehicle and in another pivotal position of the control member to release an arrested vehicle for travel, the said arm forming a locking element, the other arm of each control member being positioned to pivot, in response to an engagement with the vehicle, the respective control member into the position in which the locking element thereof releases an arrested vehicle, the said other arm of each control member forming a release element; the locking element of one control member following the release element of the other control member as seen in the respective direction of travel of the vehicles over the tracks of the switching section, thereby causing the release element in one track of the switching section, upon engagement of the said element by a vehicle, to pivot the locking element in the other track of the switching section into the release

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position for release of a vehicle arrested by the said locking element.

2. A track system as defined in claim 1, wherein each of the two tracks of said switching section includes two slots in its running surface, said slots being spaced in the longitudinal direction of said tracks, and wherein each of said control members is pivotally mounted below the said section tracks in a position in which each of the said elements is in registry with one of the slots to provide for pivotal movement of the said elements within the slots and relative to the track surfaces.

3. A track system as defined in claim 2, wherein a portion of each control member constitutes a counterweight biasing the respective control member into a position in which the elements thereof protrude from the slots.

4. A track system as defined in claim 3, wherein the bight of each of the said control members is extended in the direction opposite to the arms of the members so as to form said counterweight.

5. A track system as defined in claim 1, wherein each of the said vehicles comprises a body having a bottom portion shaped and positioned to be engageable with either of said release elements for pivoting the respective release element toward the running surface of the respective track of the switching section and to pass over the engaged release element in said pivoted position.

6. A track system as defined in claim 5, wherein each of the said vehicles comprises stop means

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for arresting the motor of an engaged vehicle, each of said stop means including a two-arm member pivotally mounted on the respective vehicle, one arm of the said member being engageable with a driving component of the vehicle motor and the other with either of said stopping elements, and means biasing the two-arm member into a position disengaged from the said motor component, engagement of the respective arm with a stopping element pivoting the two-arm member into a position in which the other arm thereof engages the said motor component, thereby arresting the vehicle.

7. A track system as defined in claim 6, wherein the arm of the two-arm member engageable with either of the stopping elements is substantially plate-shaped to assure engagement with a stopping element.

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