



## FINISH INDICATING DEVICE

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This invention is directed to a finish indicating device particularly useful with toy road race sets to indicate which of a plurality of cars on separate tracks first reaches the finish line, to so indicate winning of a race.

Toy road race tracks are well known. The road race tracks usually provided in road race sets include a closed track circuit. Parallel tracks, crossovers, chicanes and other devices are employed along the length of the closed track to provide an interesting toy road race environment. Several starting means have previously been provided, but little has been done in the detection of the first car to cross the finish line on the road race track and to indicate which is the first of a plurality of cars on separate tracks to cross the finish line.

Accordingly, it is an object of this invention to provide a finish indicating device particularly suitable for road race sets and is capable of indicating which of a plurality of toy road race cars proceeding along a plurality of tracks first reaches the indicating device.

It is another object of this invention to provide a finish indicating device which extends over the top of the road race track to provide an arch which defines the finish line thereon.

It is still another object of this invention to provide a finish indicating device which is arranged to be physically actuated by the first car passing therethrough to indicate this fact.

It is another object of this invention to provide a finish indicating device which permits indication of which toy road race car is first to finish of several such cars on parallel tracks.

Other objects and advantages of this invention will become apparent from a study of the following portion of this specification, the claims and the attached drawings in which:

FIG. 1 is a side elevational view of the finish indicating device of this invention;

FIG. 2 is an enlarged view, with parts broken away, taken generally along the line 2-2 of FIG. 1; and

FIG. 3 is a further enlarged section taken generally along the line 3-3 of FIG. 2.

As an aid to understanding this invention it can be stated in essentially summary form that it is directed to a finish indicating device for indicating the first car to finish of a plurality of such cars operating upon a plurality of tracks in a toy road race set. The finish indicating device comprises an arch which extends over the track structure which has at least two separate road race car guiding tracks therein. The arch has physical detection devices which extend downwardly from the main cross beam of the arch so as to be physical contactable by cars passing along on the tracks. Each of these detection devices has a sear thereon. Each of the sears respectively engages in an indicating device which is retained by the sear in a non-indicating position. When released by the sear, the indicating device is urged toward an indicating position. Furthermore, each indicating device co-acts with its adjacent indicating device so that when one moves to the indicating position, it restrains the other in a non-indicating position.

This invention will be understood in greater detail by reference to the following portion of this specification wherein the drawings are described in detail. Referring now to the drawings, the finish indicating device of this

invention is generally indicated at 10. The finish indicating device 10 comprises a base 12 and a finish indicating arch 14 positioned thereover.

Base 12 has a substantially flat top surface 16 which provides the road surface for the operation of cars thereon. Depressed into top surface 16 are slots 18 and 20 which serve as guide slots for guide shoes upon the toy road race cars to be operated thereon. Adjacent each of the slots 18 and 20 are a pair of electrical conductors 22 and 24 which are supplied with a controlled amount of electrical current by the operator of each of the cars operating in slots 18 and 20. Thus, the operator of each car, operating in slots 18 and 20, is able to individually control the amount of power thereto so as to control the speed. Through this control, one or the other of the cars operates around the track at a greater speed or lower elapsed time. As has been previously described, track structures adjacent base 12 usually provide a continuous loop.

Finish indicator arch 14 has legs 26 and 28. These legs are secured into base 14, such as by arrow joint 29 shown in dotted lines in FIG. 1. Any convenient attachment means may be used. Cross piece 30 completes the arch. The finish indicating arch 14 is preferably made up of two side plates 32 and 34 which are spaced from each other and secured to each other by means of posts 36. If desired, edge flanges can be provided on side plates 32 and 34 so as to close the otherwise open edges. Such edge flanges or posts can also be provided at the top of the side plates where they join together at the top transverse center line to provide mutual support for side plates 32 and 34 if desired.

Indicators 44 and 46 are respectively pivoted between side plates 32 and 34 on pivots 48 and 50. Elastic band 51, engaged in notches 52 and 54 urge indicators 44 and 46 to an upward, indicating position, in which indicator 46 is shown. Each of the indicators 44 and 46 is of similar construction. Each has a handle 58 which permits it to be moved to the lowered, non-indicating position. Each of the flags 60 extend above the top of cross piece 30 when in the indicating position. Each has a latch opening 62 which permits it to be latched in the non-indicating position. Each has a stop shoulder 64 which is adapted to engage against stop surface 66 on the adjacent indicator so that only one indicator may rise to the indicating position at any one time and serves as a stop for the raised position of the indicator.

Depending below lower edge 68 of arch 30 are triggers 70 and 72. Each of the triggers 70 and 72 is pivotally mounted upon dependent brackets 74 and 75 and extend downwardly a sufficient distance when in the latched position of trigger 70 so that its tongue 76 is adapted for physical engagement by a car passing along one of the tracks. Each of the triggers 70 and 72 has a hook shaped latch 78 which has a sear 80. Openings 82 are suitably located in cross piece 30 so as to permit sear 80 to move into a position where it is located between side plates 32 and 34. In this position it is adapted for engagement in latch opening 62. When not locked in position, the center of gravity of triggers 70 and 72 is such that they occupy an angular position, as shown in FIGS. 1 and 3, wherein the tongue 76 is clear of any car passing along the track.

In operation, the finish indicating device 10 is employed by placing its base 16 in the track system of a toy road race car set. It is arranged in the track system so that cars pass through the finish indicating device in a right to left direction, as is seen in FIG. 1. The cars to be raced are placed at the starting line to the left of the finishing indicating device 10 as it is seen in FIG. 1. Both of the indicators 44 and 46 are moved to the downward, non-indicating position and their respective triggers 70 and 72 are manually moved into latching en-

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gement therewith. In this position, the triggers are moved to a point where their sears 80 pass through the openings 82 and latch opening 62. Elastic band 51 urges the indicators upward and frictionally maintain triggers in place.

At that point, the race is started. The toy road race cars traverse the track and one of them first enters the finish indicating device 10 from the right thereof proceeding toward the left, as is seen in FIG. 1. The first car contacts one of the triggers 70 or 72 and thrusts it to the position shown by trigger 72. In this position, sear 80 moves out of latch opening 62 and the elastic band urges that indicator to the upper, indicating position, stop shoulder 64 moves in front of stop surface 66 on the adjacent indicator to stop the indicator. Thereupon as the second car crosses the finish line it also swings its trigger to the actuated position. However, the second indicator is prevented from rising by the interengagement of the stop shoulder with the stop surface. Thus, the rising indicator indicates which of the cars is first to cross the finish line indicated by finish indicator arch 14. If desired, both of the triggers 70 and 72 may be left in the unlatched position where their tongues 76 are positioned away from contact with cars traversing the track. After a predetermined number of laps, the indicators can be moved to the non-indicating position and the triggers moved to the latched position so that as the next lap is completed, the finish is indicated.

This invention having been described in its preferred embodiment, it is clear that it is susceptible to numerous modifications and embodiments within the ability of those skilled in the art and without the exercise of the inventive faculty. Accordingly the scope of this invention is defined by the scope of the following claims.

I claim:

1. A finish indicating device for road race cars, said finish indicating device comprising a base member and a finish indicating arch structure;

said base member having a top surface upon which road race cars are adapted to traverse, at least one guide slot formed in said base member adapted to guide a road race car thereacross;

said finish indicating arch structure positioned on said base member, said finish indicating arch structure having a cross piece extending across at least part of said top surface including said guide slot, an indicator means pivotally mounted on said cross piece, said indicator means being movable from a non-indicating position to an indicating position, a trigger means pivoted to said cross piece and extending towards said top surface so that said trigger means is adapted to be actuated by a road race car traversing in said slot, said trigger means engaging said indicator means and retaining said indicator means in its non-indicating position, biasing means urging said indicator means into said indicating position when said trigger means is moved out of engagement therewith.

2. A finish line indicating device as claimed in claim 1 wherein two of said slots are formed on said base, two of said trigger means are located on said cross piece, two of said indicator means are located on said cross piece, each of said trigger means engaging one of said indicator

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means and retaining the engaged indicator means in its non-indicating position, and wherein said biasing means connects both of said indicator means.

3. A finish line indicating device as claimed in claim 2 wherein said biasing means is an elastic band.

4. A finish line indicating device as claimed in claim 2 including means for holding one of said indicator means in a non-indicating position when the other of said indicator means is in its indicating position.

5. A finish line indicating device as claimed in claim 4 wherein said indicator means are members and where said means for holding comprises a stop shoulder and a stop surface on each of said indicator members, said stop shoulder surfaces on both of said indicator members being capable of interengaging one another when one of said indicator members is moved from its non-indicating position from its indicating position and the other of said indicator members is in a non-indicating position so as to hold said other indicator members in its non-indicating position.

6. A finish line indicating device for road race cars, said finish indicating device comprising a base member and a finish indicating arch structure;

said base member having a top surface upon which road race cars are adapted to traverse, two guide slots formed in said base member which are adapted to guide road race cars located therein;

said finish indicating arch structure positioned on said base member, said finish indicating arch structure having a cross piece extending across at least part of said top surface including said guide slots, two indicator means, each of which is pivotally mounted on said cross piece, said indicator means each being movable from a non-indicating position to an indicating position, two trigger means, each of said trigger means being pivoted to said cross piece and extending towards said top surface so that each of said trigger means is adapted to be actuated by a road race car traversing in one of said slots, each of said trigger means engaging one of said indicator means and retaining the engaged said indicator means in its non-indicating position, permitting said engaged indicator means to move to its indicating position when this trigger means is moved out of engagement therewith, and means for holding one of said indicator means in a non-indicating position when the other of said indicator means is in a non-indicating position.

7. A finish line indicating device as claimed in claim 6 wherein each of said indicator means is an indicator member, and wherein said means for holding comprise a stop shoulder and a stop surface on each of said indicator members, said stop shoulders and surfaces on both of said indicator members being capable of interengaging one another when one of said indicator members is moved from its non-indicating position to its indicating position and the other of said indicating members is in a non-indicating position so as to hold said other indicator member in its non-indicating position.

No references cited.

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