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E. FIELDS

2,416,473

TOY ROAD SYSTEM

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Fig. 1

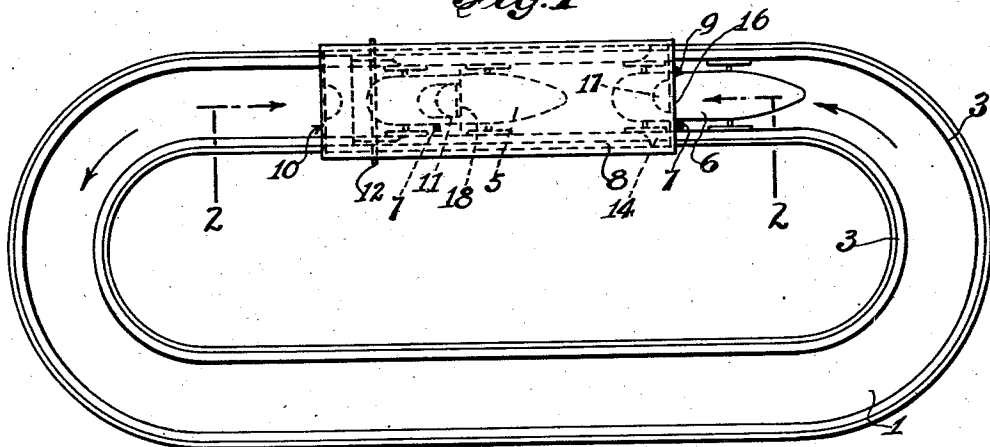


Fig. 2

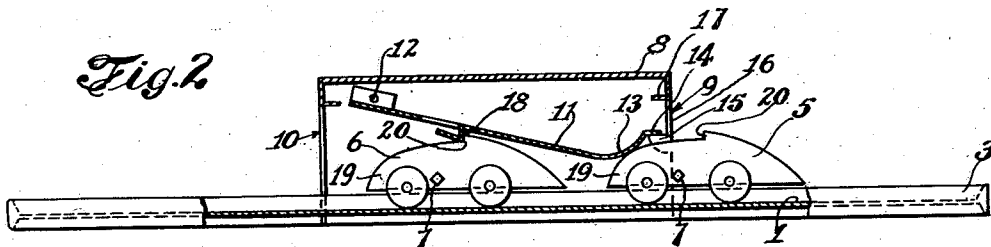


Fig. 3

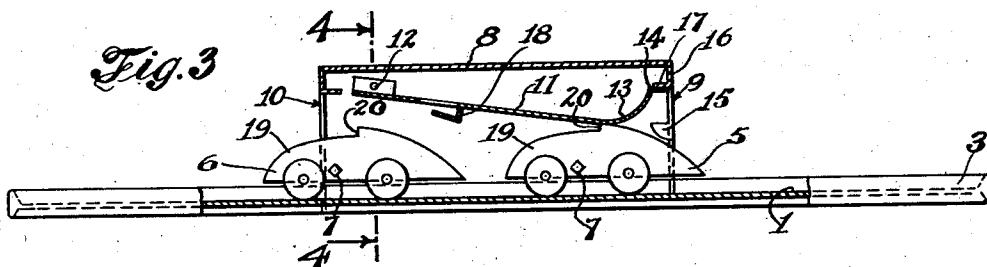
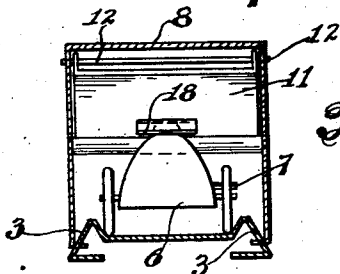


Fig. 4



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TOY ROAD SYSTEM

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9 Claims. (Cl. 104—253)

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My invention relates to improvements in toy road systems, particularly in toy road systems in which two or more vehicles run on the road system and are alternately arrested and released.

One object of my invention is a toy road system having a single track on which several vehicles follow each other. One is arrested by arresting means and released again by the following vehicle which in turn is arrested.

Another object of my invention is a continuous single track system on which two vehicles run in the same direction and to provide means by which the first vehicle is arrested at a certain point of the track and then released by the following vehicle which in turn is arrested by the same arresting means.

Another object of my invention is to provide vehicles having a different appearance. This increases the play value of my toy road system since it is very amusing to observe how the vehicle running on the track changes its appearance.

Another object of my invention is to provide a cover which encloses and conceals the control mechanism for the arresting and releasing of the vehicles. This, particularly in combination with using vehicles having a different appearance, gives a very surprising effect. The person playing sees a vehicle of a certain shape and type, for instance a blue car, disappear and a red car emerge. Since both vehicles are never simultaneously visible the result has an air of mystery.

Other and further objects and advantages of my invention will be hereinafter set forth and the novel features thereof defined by the appended claims.

In the accompanying drawing an embodiment of a toy road system according to my invention is shown.

Fig. 1 is a plan view of the road system according to my invention.

Fig. 2 is a longitudinal section of the control device for arresting and releasing the two vehicles running upon the road system along line 2—2 of Fig. 1; one car is shown in its arrested position and the second in a position where it just begins to operate the releasing mechanism of the control device.

Fig. 3 shows the same longitudinal section as Fig. 2 but one car is shown after its release and the other is approaching the arresting means of the control device after it has passed and operated the releasing means, and

Fig. 4 is a cross-section along line 4—4 of Fig. 3 on an enlarged scale.

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1 is a continuous single track road system. It may have the illustrated shape or any other suitable shape. The track consists of a lane and two curbs 3 to keep vehicles circulating on the tracks on the lane. Two vehicles 5 and 6 circulate on the road system. Both run counterclockwise as indicated by arrows. The two vehicles have the outer shape of racing cars but may have any other suitable shape. The play value of the toy road system will be increased by using two vehicles having a different appearance. In the embodiment shown the two cars are of different colors, for instance car 5 is red and car 6 is blue. The vehicles are propelled by a driving mechanism of any conventional type which may be wound up by winding wind up 7. The word "vehicle" is used here in its broadest sense. It shall include figures of animals, dolls, etc., which are propelled by a driving mechanism.

The road system includes one or more control devices. In the drawing one control device is shown. It is arranged within a cover 8 which has an entrance 9 and an exit 10. The cover serves partly to carry the control mechanism and partly to conceal it. Cover 8 may have the outer shape of a garage, house, repair shop, paint shop, or anything similar adapted to the peculiar shape and kind of the vehicles running on the track.

The control mechanism comprises a trigger 11 consisting of sheet metal or any other suitable material. This trigger is preferably suspended with one end by means of an axle 12, both ends of which are passed through the side walls of cover 8 as clearly shown in Fig. 4. Trigger 11 is curved toward its free end and its curved section 13 ends in a flange 14. Due to its own weight trigger 11 tends to swing downward around axle 12. It is limited in its downward movement by a catch 15 provided on the side walls or the front wall 16 of cover 8. The swinging movement of trigger 11 in the upward direction is limited by projection 17 provided on front wall 16. Trigger 11 is further provided with a nose 18 which may consist of a tongue punched out of the trigger material but it is also possible to provide a separate nose attached to trigger 11.

The control device cooperates with cars 5 and 6 and is operated by them. Each car has a rounded front section 19 and a nose or catch 20. This nose or catch may consist of a recess or extension in the outer body line of the car or may be formed by the figure of a dummy driver.

The size and arrangement of cars 5 and 6, of catch or nose 20 and of trigger 11 with its nose 18 and its curved front section 13 are

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chosen in such a manner that in the lowered position of trigger 11 in which its flange 14 rests on nose 15 catch 18 will engage nose 20 of a car and curved section 13 will lie in the path of a car entering entrance 9.

Fig. 2 shows a position of the various elements of the toy in which car 6 is arrested by the engagement of noses 18 and 20 and car 5 has just entered cover 8. Its front section 19 is in contact with curved trigger section 13 but has not yet lifted it. Fig. 3 shows a position in which car 5 has proceeded far enough to lift trigger 11 sufficiently to disengage noses 18 and 20. Car 6 has begun to proceed on its path.

The operation of a toy road system according to my invention is as follows. One car, for instance car 6, is wound up and set on the track in the direction indicated by the arrows. The car then will run on the track and enter cover 8. Trigger 11 is in a position shown in Fig. 2. Front section 19 of the car will lift trigger 11 and car 6 will pass under the lifted trigger. If the car has reached about the middle of cover 8 it will no longer support the trigger. The trigger will swing downward by its own weight and nose 20 will strike against catch 18. Consequently, car 6 will be arrested in the position shown in Fig. 2. Then car 5 is wound up and set on the track in the same direction as car 6. As soon as car 5 enters cover 8 its front section 19 will lift trigger 11 from the position shown in Fig. 2 into the position shown in Fig. 3. Consequently, car 6 will be released. Car 5 in turn will be arrested since trigger 11 will swing downward again as soon as the highest part of car 5 has passed under curved section 13 of trigger 11 and no longer supports trigger 11. As soon as car 6 has completed its run the same cycle is repeated. Car 5 is released and car 6 is arrested.

I accomplish by such a control system according to my invention the alternate running of two cars on a single track system. Since cover 8 conceals the operation of the control device and the alternation of the cars is completed in a very short time a surprising play effect is secured. The play is particularly surprising if the two cars have a different appearance. Then one sees one car disappear in a repair shop or whatever the outer shape of cover 8 might be and another car will appear.

It is obvious from the preceding specification that my invention is not limited to the peculiar shape of the vehicles shown or of the trigger mechanism. It is essential only that trigger and vehicles are shaped and arranged in such a manner that the trigger will arrest a car in a certain position and that an incoming car will remove the trigger from its arresting position but permit the trigger to return into its arresting position before the car reaches a certain position on the track. My invention also is not limited to the peculiar arrangement of the trigger itself and its suspension but various changes may be made without departing from the scope of my invention.

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

1. A toy road system comprising a continuous single track, at least two vehicles having a different appearance adapted to run in the same direction on said track, and each provided with a driving mechanism, a trigger provided with a catch, said trigger being arranged to assume either an arresting position in which said catch pro-

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jects into the path of a vehicle running on said track or a releasing position in which said catch is withdrawn from the path of a passing vehicle, said trigger being further arranged to tend to assume its arresting position, means for removing said trigger temporarily from its arresting position into its releasing position, arranged on said track at a point located before said trigger seen in the running direction of said vehicles, said releasing means being operated by a vehicle running on said track.

2. A toy road system comprising a single track, at least two vehicles adapted to run in the same direction on said track, and each provided with a driving mechanism, a trigger pivotally suspended above said single track, a shoulder for limiting a downward movement of said trigger, a catch provided on said trigger, said catch projecting in a certain position of said trigger into the path of a vehicle running on said track thus arresting a vehicle reaching said catch, said trigger being arranged to project in its arresting position into the path of a vehicle running on said track and to be removed temporarily from its arresting position into another position while a vehicle is passing said trigger thus releasing a vehicle arrested by said trigger catch.

3. A toy road system comprising a single track, at least two vehicles adapted to run in the same direction on said track, and each provided with a driving mechanism, a trigger pivotally suspended above said single track, a shoulder for limiting a downward movement of said trigger, a catch provided on said trigger projecting in the lowered position of said trigger into the path of a vehicle running on said track thus arresting a vehicle reaching said catch, said trigger including a rounded off section projecting in the lowered position of said trigger into the path of a vehicle running on said track at a point of said track before said catch seen in the running direction of said vehicles, said trigger being further arranged to be lifted out of its lowered position by a vehicle passing under said rounded off trigger section thus releasing a vehicle arrested by said trigger catch.

4. A toy road system comprising a continuous single track, two vehicles having a different appearance adapted to run in the same direction on said track, and each provided with a driving mechanism, a trigger pivotally suspended above said single track, a shoulder for limiting a downward movement of said trigger, a catch provided on said trigger projecting in the lowered position of said trigger into the path of a vehicle running on said track thus arresting a vehicle reaching said catch, said trigger including a rounded off section projecting in the lowered position of said trigger into the path of a vehicle running on said track at a point of said track before said catch seen in the running direction of said vehicles, said trigger being further arranged to be lifted out of its lowered position by a vehicle passing under said rounded off trigger section thus releasing a vehicle arrested by said trigger catch.

5. A toy road system comprising a single track, at least two vehicles adapted to run in the same direction on said track, and each provided with a driving mechanism, a trigger pivotally suspended above said single track, a shoulder for limiting a downward movement of said trigger, a catch provided on said trigger projecting in the lowered position of said trigger into the path of a vehicle running on said track thus arresting

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a vehicle reaching said catch, said trigger including a rounded off section projecting in the lowered position of said trigger into the path of a vehicle running on said track at a point of said track before said catch seen in the running direction of said vehicles, said trigger being further arranged to be lifted out of its lowered position by a vehicle passing under said rounded off trigger section thus releasing a vehicle arrested by said trigger catch, and a tunnel-shaped cover having an entrance and an exit for said vehicles running on said track for enclosing and concealing said trigger mechanism.

6. A toy road system comprising a single track, at least two vehicles adapted to run in the same direction on said track, and each provided with a driving mechanism, a tunnel-shaped cover over part of said single track, a trigger pivotally suspended within said cover above said track, a shoulder for limiting a downward movement of said trigger provided on said cover, a catch provided on said trigger projecting in a lowered position of said trigger into the path of a vehicle running on said track thus arresting a vehicle reaching said catch, said trigger including a rounded off section projecting in the lowered position of said trigger into the path of a vehicle running on said track at a point of said track located before said trigger catch seen in the running direction of said vehicles, said trigger being arranged to be lifted out of its lowered position by a vehicle passing under said rounded off trigger section, thus releasing a vehicle arrested by said trigger catch.

7. A toy road system comprising a continuous single track, two vehicles having a different appearance adapted to run in the same direction on said track, and each provided with a driving mechanism, a tunnel-shaped cover over part of said single track, a trigger pivotally suspended within said cover above said track, a shoulder for

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limiting a downward movement of said trigger provided on said cover, a catch provided on said trigger projecting in a lowered position of said trigger into the path of a vehicle running on said track thus arresting a vehicle reaching said catch, said trigger including a rounded off section projecting in the lowered position of said trigger into the path of a vehicle running on said track at a point of said track located before said trigger catch seen in the running direction of said vehicles, said trigger being arranged to be lifted out of its lowered position by a vehicle passing under said rounded off trigger section, thus releasing a vehicle arrested by said trigger catch.

8. A toy road system comprising a single track, at least two cars adapted to run in the same direction on said track, and each provided with a driving mechanism, a tunnel-shaped cover over part of said single track, a trigger pivotally suspended within said cover above said track, a shoulder for limiting the downward movement of said trigger provided within said cover, a catch provided on said trigger projecting in a lowered position of said trigger into the path of a car running on said track thus arresting a car reaching said catch, said trigger including a rounded off section projecting in the lowered position of said trigger into the path of a car running on said track at a point of said track located before said trigger catch seen in the running direction of said vehicles, said trigger being arranged to be lifted out of its arresting position while a car is passing under said rounded off trigger section thus releasing a car arrested by said trigger catch.

9. A toy road system according to claim 8 in which each of said cars is provided with a recess adapted to be engaged by said trigger catch and with a front section adapted to cooperate with said rounded off trigger section.

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