

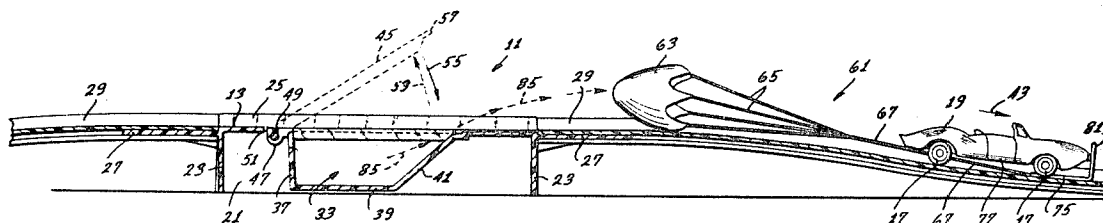
[72] Inventor **Lester T. Stormon**
Manhattan Beach, Calif.
 [21] Appl. No. **849,387**
 [22] Filed **Aug. 12, 1969**
 [45] Patented **June 29, 1971**
 [73] Assignee **Mattell, Inc.**
Hawthorne, Calif.

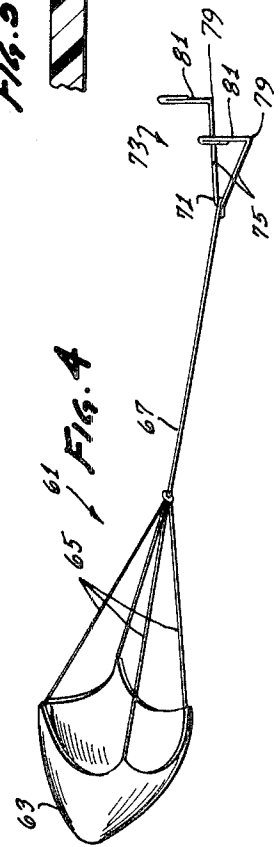
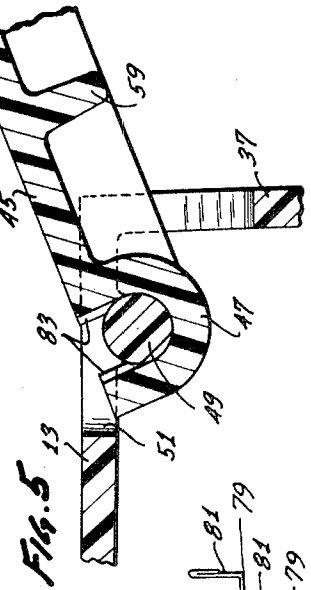
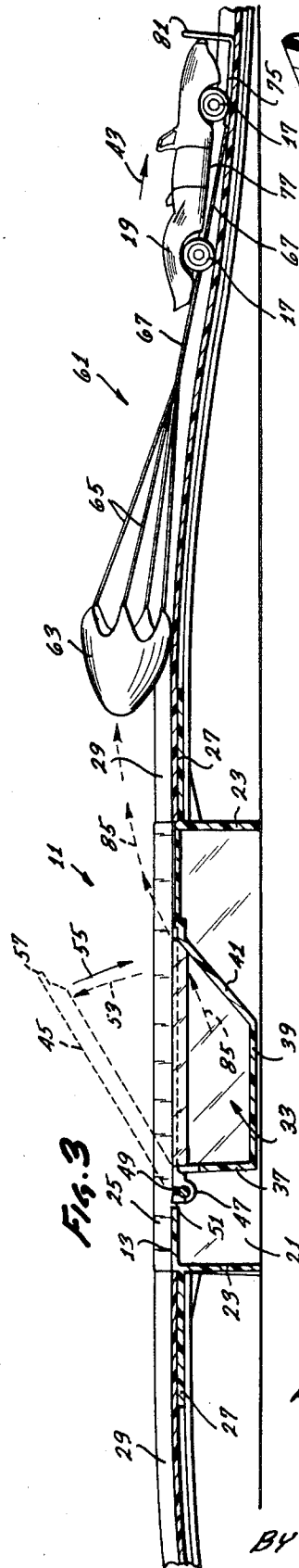
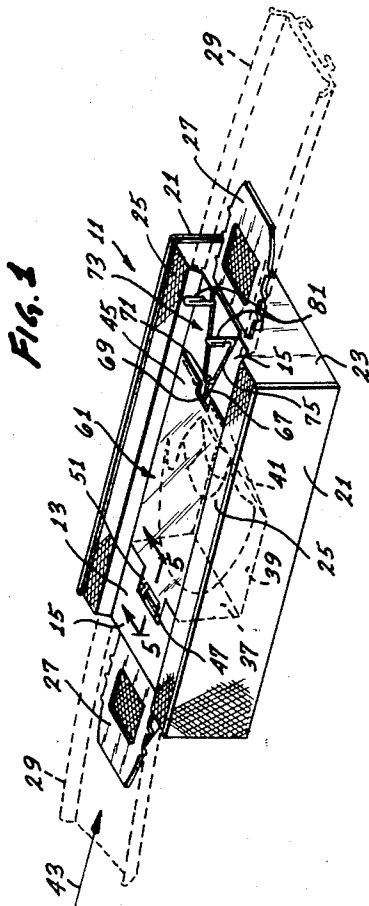
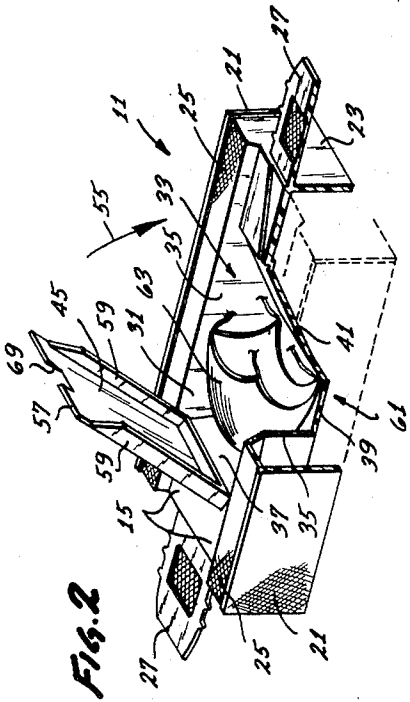
[56] **References Cited**
UNITED STATES PATENTS
 3,029,049 4/1962 Walker..... 188/87
 3,134,194 5/1964 Boswell..... 46/86
Primary Examiner Louis G. Mancene
Assistant Examiner—A. Heinz
Attorney—Seymour A. Scholnick

[54] **SIMULATED BRAKING DEVICE FOR TOY VEHICLES**
8 Claims, 5 Drawing Figs.

[52] U.S. Cl..... 46/1 K,
 46/202, 188/87
 [51] Int. Cl..... A63h 33/00
 [50] Field of Search..... 46/201, 86,
 202, 1, 1 K; 188/87

ABSTRACT: A toy for use with toy vehicles that travel along a track whereby a simulated drag-parachute is pulled from a storage area adjacent the track by means of a simulated shock cord attached to an arrangement that engages and is dragged by a toy vehicle. The storage area may be a compartment disposed below the track surface between the spaced parallel roadway portions on which the toy's wheels run. The compartment may also be provided with a hinged door which conceals the parachute but allows it to be pulled from the compartment with negligible resistance.





INVENTOR
LESTER T. STORMON

Gerald L. Rice

BY

ATTORNEY

SIMULATED BRAKING DEVICE FOR TOY VEHICLES

BACKGROUND OF THE INVENTION

The background of the invention will be set forth in two parts.

1. Field of the Invention

The present invention pertains generally to the field of toy vehicles and more particularly to devices used in conjunction with toy vehicle tracks or roadways to enhance the toy's operation and more closely simulate the operation and equipment of full-sized vehicles of similar design.

2. Description of the Prior Art

It is well known in the toy industry that toys which are realistic counterparts of actual devices, vehicles, objects, animals or human beings, hold much more attention for children and even adults than toys which are not. Accordingly, it is generally found that the more closely a doll can be made to resemble a human child, adolescent or adult, the more demand there will be for the doll. So it is with other fields of toys making. For example, toy automobiles and airplanes are manufactured to be exact scale replicas of actual vehicles.

There have, however, been found to be problems in manufacturing accessories to complement the realistic scale toys, especially where the toys are very small, light, unpowered or any combination of these. In the area of small unpowered toy vehicles which are adapted to travel on tracks or roadways, any accessory which is desired to be used must be scaled to match that of the vehicles and must not interfere or interrupt the desired operation.

SUMMARY OF THE INVENTION

In view of the foregoing factors and conditions characteristic of unpowered toy vehicles, it is a primary object of the present invention to provide a new and improved toy that advances the toy art and allows a simulated drag-parachute to be engaged and pulled behind a moving toy vehicle in a manner imitating the use of such parachutes by high-speed drag racers and the like.

Another object of the present invention is to provide a simulated braking device for toy vehicles which may be inserted in series with preexisting track.

Still another object of the invention is to provide a simulated braking device for toy vehicles which enhances the realistic operation of the toy with which it is used.

Yet another object of the invention is to provide a simulated braking device for toy vehicles which includes a hidden drag-parachute that is pulled from a recessed compartment beneath the level of the track.

It is also another object of the present invention to provide a simple-to-fabricate simulated braking device for toy vehicles which includes a hinged compartment door that is easily opened by the action of the parachute being pulled from the compartment by a toy vehicle passing over and beyond the braking device.

It is still a further object of the invention to provide a simulated braking device for toy vehicles incorporating a vehicle engaging device that pulls the simulated drag-parachute from its hidden recessed compartment maintaining the stability of the vehicle so that it will not tend to leave the track or roadway.

According to the present invention, a simulated braking device for toy vehicles includes a track section having a surface plane with spaced parallel roadway portions on which the wheels of the vehicles travel. Also included is a simulated parachute including an attached simulated shock cord and a storage means disposed along the track section for storing the parachute. The braking device further includes a vehicle engaging means coupled to the shock cord for engaging and being carried by the vehicles moving along the track section and thereby pulling the parachute from the storage means and dragging it behind the vehicles.

The storage means may take the form of a recessed opening below the surface plane between the spaced parallel roadway portions and may further include a cuplike compartment having a hinged door flush with the surface plane that is opened by the parachute being pulled from the compartment.

Also, the vehicle engaging means may preferably include a low profile horizontal portion having an end thereof connected to the shock cord and which is slidably disposed on the surface plane. To this horizontal portion, an upright vehicle engaging portion is attached.

The features of the present invention which are believed to be novel are set forth with particularity in the appended claims. The invention and specific embodiments thereof will be described hereinafter by way of example and with reference to the accompanying drawing wherein like reference numerals refer to like elements or parts.

DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of the invention indicating how the device may be coupled to a toy vehicle track or roadway;

FIG. 2 is a view, in perspective, that is partially broken away in order to more clearly indicate the operation of the hinged recess cover and the storage of the simulated dragging parachute;

FIG. 3 is a side elevational view of the invention showing how the movement of the toy vehicle along the track portion of the invention engages the parachute pulling mechanism and pulls the parachute from its storage compartment;

FIG. 4 illustrates, in perspective, the simulated parachute, shroud lines, shock cord and attached vehicle engaging mechanism as used in the invention; and

FIG. 5 is a cross-sectional view of the hinged recess cover portion of the embodiment shown in FIG. 1 taken along the line 5-5.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring again to the drawing and more particularly to FIGS. 1, 2 and 3, there is shown a track section 11 having a surface plane 13 with spaced parallel roadway portions 15 along which the wheels 17 of a toy vehicle 19 travel. The track section 11 may be fabricated from any suitable material such as a plastic and any suitable process such as vacuum molding may be used. The section 11 includes sidewalls 21, end walls 23 and vehicle retaining track walls 25. Parallel with the surface plane 13 are positioned track coupling tongues 27 which hold in alignment suitable track sections 29 as seen in phantom lines in FIG. 1 and in solid lines in FIG. 3. A more detailed description of the coupling tongues and mating track sections may be obtained by referring to a copending patent application, Ser. No. 779,874, assigned to the assignee of the present application.

Disposed in the surface plane 13 between the spaced parallel roadway portions 15 is an opening 31 revealing a compartment 33 having compartment sidewalls 35, a vertical rear wall 37, a floor 39 and an inclined ramp 41. The ramp 41 is inclined in the direction of vehicle travel as indicated by the arrows 43 and the compartment itself is provided with a cover 45 having a U-shaped hinge portion 47 for rotatable coupling to a hinge axle 49 mounted in a hinge groove extension 51 of the opening 31 adjacent the compartment rear wall 37. In this manner, the cover 45 opens and closes in the directions indicated by the arrows 53 and 55, respectively, and the end 57 of the cover 45 opposite the hinge portion 47 is downstream with respect to the direction of vehicle travel 43 and adjacent the ramp 41. For purposes of strengthening the cover 45, conventional reinforcing techniques such as providing ribs 59 may be used.

Within the compartment 33 may be stored a simulated drag-parachute 61 consisting of a canopy 63, shroud lines 65 and an attached simulated shock cord 67. The parachute 61 is stored in the compartment 33 by first lifting the cover 45, placing the canopy 63 and shroud lines 65 so that they rest on the com-

partment floor 39 and then lowering the cover 45 while allowing the attached shock cord 67 to pass through a forward notch 69 in the end 57 of the cover 45. The end of the shock cord 67 so protruding is attached to an apex portion 71 of vehicle engaging member 73. The member 73 comprises a generally V-shaped horizontal member 75 having a low profile to pass beneath the underside 77 of the toy vehicle 19. Extending upwardly from ends 79 of the member 75 are a pair of engaging members 81 which are adapted to come into contact with the front portion of a toy vehicle while maintaining balanced forces thereon so as not to cause instability in its progress down the track. The drag-parachute 61 and the vehicle engaging member 73 may also be fabricated from a conventional synthetic material and are shown in detail in FIG. 4.

With reference to FIG. 5, an enlarged view of the cover hinge assembly is shown. It can be seen that for simplicity of construction and ease of assembly, the U-shaped hinge portion 47 includes inner-raised axle retaining lips 83 for snapping the portion 47 on the axle 49.

In operation, the track section 11 is coupled in series with the conventional track sections 29 by means of the coupling tongues 27. The drag-parachute 61 with its associated lines and cord are disposed in the storage compartment 33 with the end of the shock cord 67 passing through the notch 69 and attached to the vehicle engaging member 73 as shown FIG. 1. As the toy vehicle 19 passes over the section 11, the front portion of the moving vehicle strikes the engaging members 81 and causes the member 73 to slide along the downstream track 29. This action pulls the parachute 61 from its place of storage in the compartment 33, which movement also forces the cover 45 to move in the upward direction 53 as seen in dashed lines in FIG. 3. Once the parachute leaves the compartment, the cover 45 falls to again conceal it from view. The parachute 61 is so quickly pulled from the compartment 33 in the direction as indicated by arrows 85 that the appearance is presented that the parachute has been ejected from the rear of the vehicle as is done in actual practice with full-sized dragsters.

For proper operation of this toy, the parachute need not actually present a braking effect since merely the weight of the newly engaged assembly will cause the vehicle to slow and come to a stop. Thus, the canopy 63 may be molded in the shape shown and need not be fabricated from a lightweight flexible material such as the fabric used in actual models of such parachutes. In this regard, the materials used in the manufacture of this toy are not critical and any material suitable for a particular use may be employed.

From the foregoing, it will be evident that the invention provides a new and entertaining toy that very closely simulates the drag-parachute operation used in actual practice by high-speed racing automobiles.

Although a specific embodiment of the invention has been described in detail, other organizations of the embodiment shown may be made within the spirit and scope of this invention.

Accordingly, it is intended that the foregoing disclosure and drawing shall be considered only as illustrations of the principles of this invention and are not to be construed in a limiting sense, and the scope of this invention is to be defined by the scope of the following claims.

What I claim is:

1. A simulated braking device for toy vehicles, comprising: a track section having a surface plane with spaced parallel roadway portions on which the wheels of toy vehicles travel;

a simulated parachute including an attached simulated shock cord;

storage means comprising a recess disposed below said surface plane between said parallel roadway portions for storing said simulated parachute; and

vehicle engaging means coupled to said simulated shock cord for engaging and being carried with toy vehicles moving along said track section and thereby pulling said simulated parachute from said storage means and dragging it behind said toy vehicles.

2. A simulated braking device for toy vehicles according to claim 1, wherein said recess is covered by a hinged door that is opened by said simulated parachute being pulled from said recess.

3. A simulated braking device for toy vehicles according to claim 1, wherein said recess is provided with a cuplike structure having an inclined ramp over which said simulated parachute moves when being pulled from said recess.

4. A simulated braking device for toy vehicles according to claim 1, wherein said vehicle engaging means includes a low profile horizontal portion having a first end connected to said simulated shock cord and slidably disposed on said surface plane, and an upright vehicle engaging portion connected to a second end of said low profile horizontal portion.

5. A simulated braking device for toy vehicles according to claim 4, wherein said low profile horizontal portion is a yoke-shaped member, the apex of which is said first end, and wherein said upright vehicle engaging portion is a vertical bar attached to each of the extremities of said yoke-shaped member.

6. A simulated braking device for toy vehicles according to claim 1, wherein track coupling means is included in said track section for coupling said track section to and maintaining alignment with additional sections of track over which said vehicles travel.

7. A simulated braking device for toy vehicles, comprising: a track section having a surface plane with spaced parallel roadway portions on which the wheels of toy vehicles travel;

a simulated parachute;

storage means comprising a recess disposed below said surface plane between said parallel roadway portions for storing said simulated parachute; and

vehicle engaging means coupled to said simulated parachute for engaging and being carried with toy vehicles moving along said track section and thereby pulling said simulated parachute from said storage means and dragging it behind said toy vehicles,

said vehicle engaging means comprising a low profile horizontal portion having a first end connected to said simulated parachute and slidably disposed on said surface plane, and an upright vehicle engaging portion connected to a second end of said low profile horizontal portion.

8. A simulated braking device for toy vehicles for use with trackway sections having means defining a vehicle pathway on the upper surface thereof and flanges on the bottoms thereof;

said braking device comprising, a simulated parachute, storage means comprising a recess below said pathway for storing said simulated parachutes, and vehicle engaging means coupled to said parachute and positionable in said pathway for engaging and being carried with a toy vehicle moving along said pathway; and

said braking device having means for engaging said flanges on a section of trackway to couple said device to a section of trackway.