TRACER RACE CARS AND TRACK

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Appl. No.: 14/289,918

Filed: May 29, 2014

Related U.S. Application Data

Provisional application No. 61/828,650, filed on May 29, 2013.

Publication Classification

Int. Cl.
A63H 17/28 (2006.01)

U.S. Cl.
A63H 17/28 (2013.01)

Publication

ABSTRACT

A toy car has one or more lights emitting light downward onto a glow in the dark track surface in order to leave temporarily illuminated tracer marks therealong. The lights of the cars can be set to be constantly on, constantly off, blinking on and off or timed, for example. The lights can be in various forms, such as black (ultraviolet) lights, purple lights, white lights, or the like. The glow in the dark track surface can be designed in various manners, provided that the light emitted from the toy car leaves a temporary tracer mark along the track as the car moves.
TRACER RACE CARS AND TRACK
CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims the benefit of priority of U.S. provisional patent application No. 61/828,650, filed May 29, 2013, the contents of which are herein incorporated by reference.

BACKGROUND OF THE INVENTION

[0002] The present invention relates to toys and tracks and, more particularly, to a moving toy, such as a toy car, with one or more lights pointing downward onto a glow in the dark surface/track that results in a temporarily illuminated tracer mark left behind on the surface.

[0003] Typical toy cars are designed to move along a track. Some toy cars can include lights to illuminate the car. Conventional tracks include a surface on which the car is moved and side walls to direct the motion of the car along the track.

[0004] As the car is moved along the track, there is no record left behind that the car actually traversed the track.

[0005] As can be seen, there is a need for a track that can provide a trace of the path recently taken by a car moving along the track.

SUMMARY OF THE INVENTION

[0006] In one aspect of the present invention, a toy comprises a toy body; a power supply; and one or more lamps emitting light at one or more defined points on a surface under the toy body when the toy is disposed on the surface.

[0007] In another aspect of the present invention, a toy car comprises a car body; wheels supporting the car body a defined distance from a surface; a power supply disposed in the car body; and one or more lamps emitting light at one or more defined points on the surface under the car body when the toy car is disposed on the surface.

[0008] In a further aspect of the present invention, a toy comprises a toy body; a track upon which the toy car moves; a glow surface disposed at least on a car moving surface of the track; wheels supporting the car body a defined distance from the track; and one or more lamps emitting light at one or more defined points on the track under the car body when the toy car is disposed on the track, wherein when the one or more lamps are illuminated, light from the one or more lamps activates the glow surface to leave a temporary trace disposed on the track as the toy car is moved along the track.

[0009] These and other features, aspects and advantages of the present invention will become better understood with reference to the following drawings, description and claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] FIG. 1 is a top view of a toy car according to an exemplary embodiment of the present invention;

[0011] FIG. 2 is a bottom view of the toy car of FIG. 1;

[0012] FIG. 3 is a cross-sectional view taken along line 3-3 of FIG. 1;

[0013] FIG. 4 is a perspective view of a track having a glow surface according to an exemplary embodiment of the present invention, usable with the toy car of FIG. 1;

[0014] FIG. 5 is a perspective view of the toy car of FIG. 1 moving along a track according to an exemplary embodiment of the present invention, illustrating the cars set to constantly emit light to create line traces on the tracks; and

[0015] FIG. 6 is a perspective view of the toy car of FIG. 1 moving along a track according to an exemplary embodiment of the present invention, illustrating the cars set to blink lights to create dot traces on the tracks.

DETAILED DESCRIPTION OF THE INVENTION

[0016] The following detailed description is of the best currently contemplated modes of carrying out exemplary embodiments of the invention. The description is not to be taken in a limiting sense, but is made merely for the purpose of illustrating the general principles of the invention, since the scope of the invention is best defined by the appended claims.

[0017] Broadly, an embodiment of the present invention provides a toy car having one or more lights emitting light downward onto a glow in the dark track surface in order to leave temporarily illuminated tracer marks thereon. The lights of the cars can be set to be constantly on, constantly off, blinking on and off or timed, for example. The lights can be in various forms, such as black (ultraviolet) lights, purple lights, white lights, or the like. The glow in the dark track surface can be designed in various manners, provided that the light emitted from the toy car leaves a temporary tracer mark along the track as the car moves.

[0018] Referring now to FIGS. 1 through 3, a toy car 10 of the present invention can include a car body 11 supported by wheels 14. The car 10 can be designed with wheels 14 similar to various cars known in the art and may contain various number of wheels 14. A power source, such as one or more batteries 20 can be disposed inside the car body 11. A battery compartment case 16 can cover the batteries 20.

[0019] The batteries 20 can provide power to one or more lights 18 operable to emit light downward to a surface on which the car 10 moves. In some embodiments, one light 18 can be disposed on each side of the bottom surface of the car 10, as best shown in FIG. 2, for example. While two lights 18 are shown, a single light may be used or more than two lights may be disposed on a bottom side of the car 10.

[0020] The lights 18 can be configured to emit light onto a defined point on a surface upon which the car 10 rests. This defined point typically has a width less than a width of the car 10. In some embodiments, this defined point has a width approximating a width of a wheel 14 of the car 10, where, when the car is moved along a glow surface (as described below), the car 10 can leave traces that mimic wheel tracks.

[0021] A control button 12 can be mounted on the car body 11. Typically, the control button 12 is disposed on a top side of the car body, as shown in FIG. 1, however, other locations may be used to position the control button 12. A controller 22 may be disposed within the car body 11 and receive a signal each time the control button 12 is depressed. The signal may be an electronic signal or may be a physical signal, such as physically depressing a switch on the controller 22 when the control button 12 is depressed. The controller 22 may be integrated with the control button or may be separate therefrom.

[0022] The controller 22 can control the delivery of power from the batteries 20 to the lights 18. For example, the lights 18 can be set (by pressing the control button 12) to be constantly on, constantly off, to blink on and off (simultaneously or alternatively), to be timed to come on after a certain period of time (or timed to stay on a certain period of time), or the like. In some embodiments, when the lights 18 are off, depressing the control button 12 a first time may set the lights 18 to flash on and off in a first flash pattern, depressing the
control button 12 a second time may set the lights 18 to flash on and off in a second flash pattern, depressing the control button 12 a third time may set the lights 18 to be on continuously, and depressing the control button 12 a fourth time may turn the lights 18 off. Of course, other settings of the lights may be programmed depending on the desires of the end user. To that end, the cars 10 may be programmed, for example, to flash one and off twice a second. A user may measure the distance traveled and count the number of traces left on a surface from the lights (as described below) to calculate physical properties, such as velocity, acceleration, friction/drag, or the like.

The lights 18 can be various types of lights, including ultraviolet light, white lights, or colored lights, for example. The lights 18 can be light emitting diodes (LEDs), fluorescent lights, incandescent lights, or the like.

While this description focuses on cars having lights pointing downward onto a surface over which the car moves, the shape of the object (car) can be designed in various shapes, such as animals, airplanes, trains, or the like.

Referring now to FIGS. 4 through 6, the cars 10 described above can be designed to move along a track 24. The track 24 can include a light-activated glow material 26 such that, when light (such as light from the lights 18 on the cars 10) impinges the surface of the track 24, the area of the track 24 receiving the light will emit a glow for a period of time after the light source is removed.

When the light 18 is set to emit a constant light from the cars 10, the traces 26 left behind on the tracks 24 can be lines, as shown in FIG. 5. When the light 18 is set to blink, the traces 26 left behind on the tracks 24 can be dots or dashes, as shown in FIG. 6. Typically, the cars 10 and tracks 24 of the present invention are used as toys, where the cars 10 move along the tracks 24 to leave traces to show their presence.

The tracks 24, as shown in FIGS. 4 through 6, can be straight sections of track 24, or may be shaped in various configurations in which the cars 10 can travel. The tracks 24 may be provided in sections with track couplings 30 usable to interconnect sections of the tracks 24 or hang the tracks 24 from an object, as shown in FIGS. 5 and 6.

The tracks 24 can be made from various materials, typically a flexible material that allows the tracks to be curved, as shown in FIGS. 5 and 6. For example, the light activated glow material 26 on the tracks 24 can be applied to a surface of the tracks 24, such as a car moving surface of the tracks 24 upon which the car 10 can move) or may be integrated into the material from which the tracks 24 are made.

While the Figures show tracks, instead of tracks, the cars can move along a surface having a glow surface. In this embodiment, the cars may be allowed to move in a free form style on the surface, leaving traces to mark the movements of the cars on this surface.

It should be understood, of course, that the foregoing relates to exemplary embodiments of the invention and that modifications may be made without departing from the spirit and scope of the invention as set forth in the following claims.

What is claimed is:

1. A toy comprising:
a body;
a power supply; and
one or more lamps emitting light at one or more defined points on a surface under the toy body when the toy is disposed on the surface.

2. The toy of claim 1, wherein the toy is a toy car.
3. The toy of claim 1, wherein the defined point has a width approximating a width of wheels that support the toy body on the surface.

4. The toy of claim 1, wherein the one or more lamps are two lamps disposed on opposite sides of a bottom surface of the toy body.

5. The toy of claim 1, further comprising a switch for controlling power from the power supply to the one or more lamps.

6. The toy of claim 5, further comprising a controller activated by the switch, the controller controlling a pattern of illumination of the one or more lamps.

7. The toy of claim 1, further comprising a glow surface upon which the toy body moves, the glow surface being disposed at least on a toy moving surface thereof, wherein when the one or more lamps are illuminated, light from the one or more lamps activates the glow surface to leave a temporary trace disposed thereupon.

8. The toy of claim 7, wherein the moving surface is a track.

9. The toy of claim 8, wherein the glow surface is integrated into the material from which the track is manufactured.

10. The toy of claim 7, wherein the track is a flexible track.

11. A toy car comprising:
a body;
wheels supporting the car body a defined distance from a surface;
a power supply disposed in the car body; and
one or more lamps emitting light at one or more defined points on the surface under the car body when the toy car is disposed on the surface.

12. The toy car of claim 11, wherein the defined point has a width approximating a width of the wheels.

13. The toy car of claim 11, wherein the one or more lamps are two lamps disposed on opposite sides of a bottom surface of the car body.

14. The toy car of claim 11, further comprising a switch for controlling power from the power supply to the one or more lamps.

15. The toy car of claim 14, further comprising a controller activated by the switch, the controller controlling a pattern of illumination of the one or more lamps.

16. The toy car of claim 11, further comprising a track upon which the toy car moves, the track including a glow surface disposed at least on a car moving surface thereof, wherein when the one or more lamps are illuminated, light from the one or more lamps activates the glow surface to leave a temporary trace disposed thereupon as the toy car is moved along the track.

17. A toy comprising:
a body;
a track upon which the toy car moves;
a glow surface disposed at least on a car moving surface of the track;
wheels supporting the car body a defined distance from the track; and
one or more lamps emitting light at one or more defined points on the track under the car body when the toy car is disposed on the track, wherein when the one or more lamps are illuminated, light from the one or more lamps activates the glow surface to leave a temporary trace disposed on the track as the toy car is moved along the track.
18. The toy of claim 17, wherein the defined point has a width approximating a width of the wheels.

19. The toy of claim 17, further comprising a switch for controlling power from the power supply to the one or more lamps.

20. The toy of claim 19, further comprising a controller activated by the switch, the controller controlling a pattern of illumination of the one or more lamps.

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