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(54) Device and method for applying a glowing trail onto a surface

(57) A device and method are provided for applying a glowing trail onto a surface on a playmat of material that glows in the dark, which lasts only fora limited time depending on the type and strength of the light and playmat material. The trail can be generated by a game piece that moves on the playmat, or a game board.

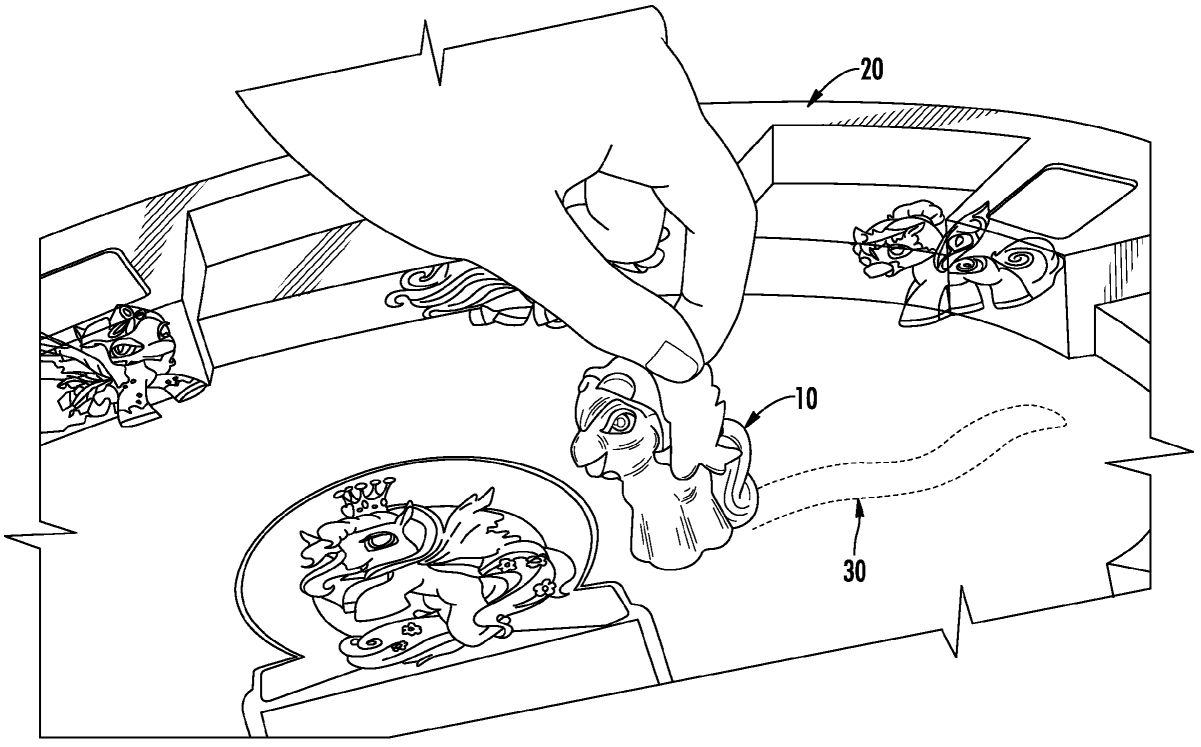

FIG. 1

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Description

FIELD OF INVENTION

[0001] The present invention relates to a device and method for applying a glowing trail onto a surface on a playmat, for example by dragging a toy (that projects a light underneath) on a playmat and thereby leaving a magic trail, which lights up only for a limited time due to the glowing effect that fades out in the material of the playmat.

BACKGROUND

[0002] Children enjoy playing with toys that color as well as toys with magical or special effects such as glowing material.

[0003] Glow-in-the-dark products generally contain phosphors (phosphorescence). A phosphor being a substance that radiates visible light after it is energized. Other types of glow-in-the-dark production can result from bioluminescence where light is emitted by a living organism as the result of a chemical reaction during which chemical energy converts to light energy. This is related to chemiluminescence where light is emitted without heat as a result of a chemical reaction. Other types of glow-in-the-dark material are those that glow when exposed to ultraviolet (UV) a.k.a. blacklight.

[0004] Such materials that glow in the dark have been popularly used for many years in toys, decorations and novelty products.

[0005] Coloring is a main component in many creative toys, and many variations of coloring e.g. color pens with invisible ink where color only appears by re-coloring with another pen or where the colors disappear or reappear under certain conditions have also been popular in past years. Other toys are also known where a special pen is used to create a glow-in-the-dark effect on a particularly adapted surface due to a reaction between the materials drawn by the pen and the surface (chemiluminescence). Such arrangements are limited in that they are single use and must be discarded when consumed.

[0006] The objective of the present invention is to combine action toys with a special light for use with a playmat or other suitable surface comprising a material that interacts with the light, which creates a glowing trail when such toy is in contact with the playmat or other suitable surface.

SUMMARY

[0007] The present disclosure is directed to a system including a device with a built-in light that creates a temporary glow effect on a playmat when the device moves about the playmat.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] Further features and advantages of the present invention shall become clearer from the following detailed description of some preferred embodiments thereof, made with reference to the attached drawings. In the drawings:

FIG. 1 is a schematic depiction of an embodiment of the invention depicting use with a toy figurine;
FIG. 2 is a schematic depiction of another embodiment of the invention depicting use with a spinning top;
FIG. 3 is a schematic depiction of a further embodiment of the invention depicting use in a chess set;
FIG. 4 is a schematic depiction of a cross section of a device or game piece of the present invention;
FIG. 5 is a schematic depiction of a playmat or game board of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

INTRODUCTION TO THE EMBODIMENTS

[0009] The present invention provides a device and method for applying a glowing trail onto a surface on a playmat of material that glows in the dark, which lasts only for a limited time depending on the type and strength of the light and playmat material. The trail can be generated by a game piece that moves on the playmat, or a game board.

[0010] The device that applies the glowing trail includes a built-in light. The device can be configured to be a game piece or a toy figurine. The built-in light creates a glow effect on certain materials. The materials glow when exposed to the light generated by the device. The length and glow time of the trail can also be variable with regards to the type of game piece that is being moved. For example, larger toys or game pieces having a higher value are arranged with a larger or more powerful light for greater interaction with the materials on the playmat or game board. The materials are arranged on a playmat or game board, which is used in conjunction with the device. The materials are not visible to the naked eye and are only noticeable when exposed to the light generated by the device. The device and playmat may have different sizes, shapes and colors.

[0011] Such playmat material may have different colors or strength of the glow, which thereby creates different effects, as well as possibly leaving the glow effect for shorter or longer time.

[0012] The light in the device is UV-light, which can be produced in different strength and shapes to thereby leave different types of patterns on the playmat.

[0013] The material of the playmat can be made of different materials as an example, it can be a plastic sheet printed with ink that glows in the dark.

[0014] The device can be configured for many different purposes and playing patterns, thus it can be for creating a magic trail behind a toy figurine, which is slid on a surface or it can be activated by a light built into an action minded toy such as a spinning top.

[0015] In addition a toy car can be built to include such special light, and when driving on a surface with such glow effect, it will leave a temporary glowing pattern after the toy car.

DETAILED DESCRIPTION

[0016] As illustrated in Fig. 1, the device 10, in this case a toy horse, leaves a magic trail 30 when sliding on a playmat 20, which may be in one color or decorated according to the character universe of the toy 10. The toy 10 includes a switch that, when the toy 10 makes contact with a surface, activates a (UV) light to create the trail 30 by interacting with luminescent material contained in or on the playmat 20. Alternatively, the contact switch can be omitted and a user can manually activate the light. Remote areas of the playmat 20 can be situated with indicia or special markings that are infrequently revealed.

[0017] In Fig. 2, another area of use 20' is shown, where a (UV) light is built into the axis balancing point of a spin top 10', and can be activated by the spinning motion of the spin top 10' or manually, where the playmat 20'will then show the movement pattern for the spin top by leaving a glowing line 30 generated by the (UV) light interacting with luminescent material of the surface of the playing area 20'. The light of the top 10' can be activated by an external manual switch or an internal switch that automatically activates when the top 10' is spun. Such trails/lines 30 will only remain for a limited time giving users the option to continuously start new games using the same playmat 20, 20'. Alternatively, the device can be configured as a self-propelled automobile comprising the UV light in/on a bottom portion thereof.

[0018] The present invention can also be applied to chess (and/or checkers), as shown in Fig. 3. A chessboard 20 is provided having a luminescent material on its surface. The pieces 10" contain a light in their lower portion that either has a contact switch or a user-actuated switch and thereby creates a trail 30, when the piece 20" is moved along the board. The user-actuated switch can be embodied as any type of electronic switch, e.g. a spring-loaded push button-type switch, a membrane switch, etc. for easy user actuation. As a result of the trail 30 being visible on the board 20, a player's last move will be evident. The duration of the glow of the trail 30 can serve as a timing indicator for the next move if a timed game is desired. Accordingly, the light emitted from the pieces 10" or the luminescent material of the board 20 can be adjusted to vary the duration and intensity of the trail 30.

[0019] Fig. 4 is a cross section of a device or game piece 10 and illustrates a battery 60 that is contained within the device 10. The battery 60 can be a simple button type LiOH, NiCad, etc. and is connected to the light source 40. A switch 50 is connected to the light source 40 and the battery 60 and selectively turns on and off the light source 40. The light source can comprise a UV LED lamp to maximize battery life and to fit in relatively small areas.

[0020] As shown in Fig. 5, the play mat or game board 20, comprises selected sections of luminescent material 70 such that game pieces will only create trails 30 when a game piece 10 is passed over one of the sections containing the luminescent material 70. The luminescent material 70 can be arranged in such a fashion that it is not discernable by the naked eye. The luminescent material 70 can be arranged to indicate indicia, which could provide instructions or indications for playing a game in addition to the trails 30. The board 20 can be arranged such that the luminescent material 70 is situated beneath a layer of clear protection film that protects the luminescent material 70 from abrading away.

EMBODIMENTS

[0021]

1. A system comprising a device (10, 10', 10") with a built-in light (40) that creates a temporary glow effect (30) on a playmat (20, 20') when said device (10, 10', 10") moves about the playmat (20, 20').

2. The system of embodiment 1, wherein the playmat (20, 20') comprises a luminescent material.

3. The system of embodiment 1, wherein the light (40) of the device (10, 10', 10") is variable in intensity of light emitted thereby creating a different duration of the glow effect (30).

4. The device of embodiment 1, wherein the device is a toy character (10) moved manually on the playmat (20), and wherein the built-in light is a UV-light housed in a bottom portion of the toy character (10), which is activated manually or by a push button.

5. The device of embodiment 1, wherein the device (10') is a spin top comprising a UV-light source (40) built into a balancing point of an axis of the spin top (10').

6. The device of embodiment 5, wherein the UV-light (40) is activated by a spinning motion of the spin top (10').

7. The device of embodiment 1, wherein the device is a vehicle, comprising a light (40) arranged in a lower portion thereof, said light is activated by motion of the vehicle.

8. The device of embodiment 7, wherein the vehicle is self-propelled.

9. The device of embodiment 1, wherein the light (40) is activated by contact with the playmat (20).

10. The device of embodiment 1, wherein the device is user-actuated by a push button or a membrane switch.

11. The system of embodiment 1, wherein the device (10") is a chess piece and the play mat (20) is a chessboard (20).

12. The system of embodiment 11, wherein the trail (30) is indicative of a player's move on the chessboard (20).

13. The playmat (20, 20') of embodiment 2, further comprising a clear film arranged over the luminescent material (70).

Claims

1. A system comprising a device (10, 10', 10") with a built-in light (40) that creates a temporary glow effect (30) on a playmat (20, 20') when said device (10, 10', 10") moves about the playmat (20, 20').

2. The system of claim 1, wherein the playmat (20, 20') comprises a luminescent material.

3. The system of claim 1, wherein the light (40) of the device (10, 10', 10") is variable in intensity of light emitted thereby creating a different duration of the glow effect (30).

4. The device of claim 1, wherein the device is a toy character (10) moved manually on the playmat (20), and wherein the built-in light is a UV-light housed in a bottom portion of the toy character (10), which is activated manually or by a push button.

5. The device of claim 1, wherein the device (10') is a spin top comprising a UV-light source (40) built into a balancing point of an axis of the spin top (10').

6. The device of claim 5, wherein the UV-light (40) is activated by a spinning motion of the spin top (10').

7. The device of claim 1, wherein the device is a vehicle, comprising a light (40) arranged in a lower portion thereof, said light is activated by motion of the vehicle.

8. The device of claim 7, wherein the vehicle is self-propelled.

9. The device of claim 1, wherein the light (40) is activated by contact with the playmat (20).

10. The device of claim 1, wherein the device is user-actuated by a push button or a membrane switch.

11. The system of claim 1, wherein the device (10") is a chess piece and the play mat (20) is a chessboard (20).

12. The system of claim 11, wherein the trail (30) is indicative of a player's move on the chessboard (20).

13. The playmat (20, 20') of claim 2, further comprising a clear film arranged over the luminescent material (70).

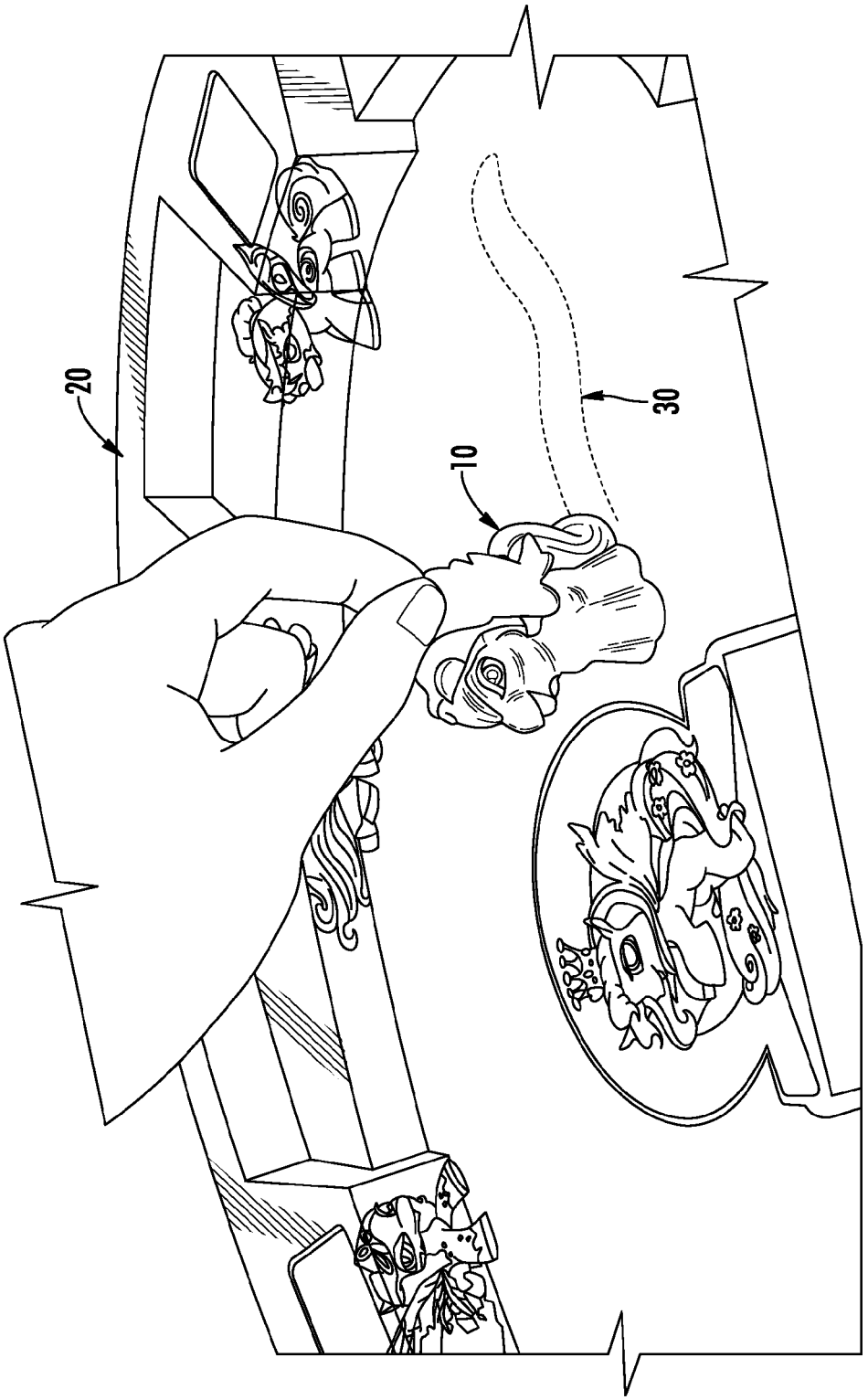

FIG. 1

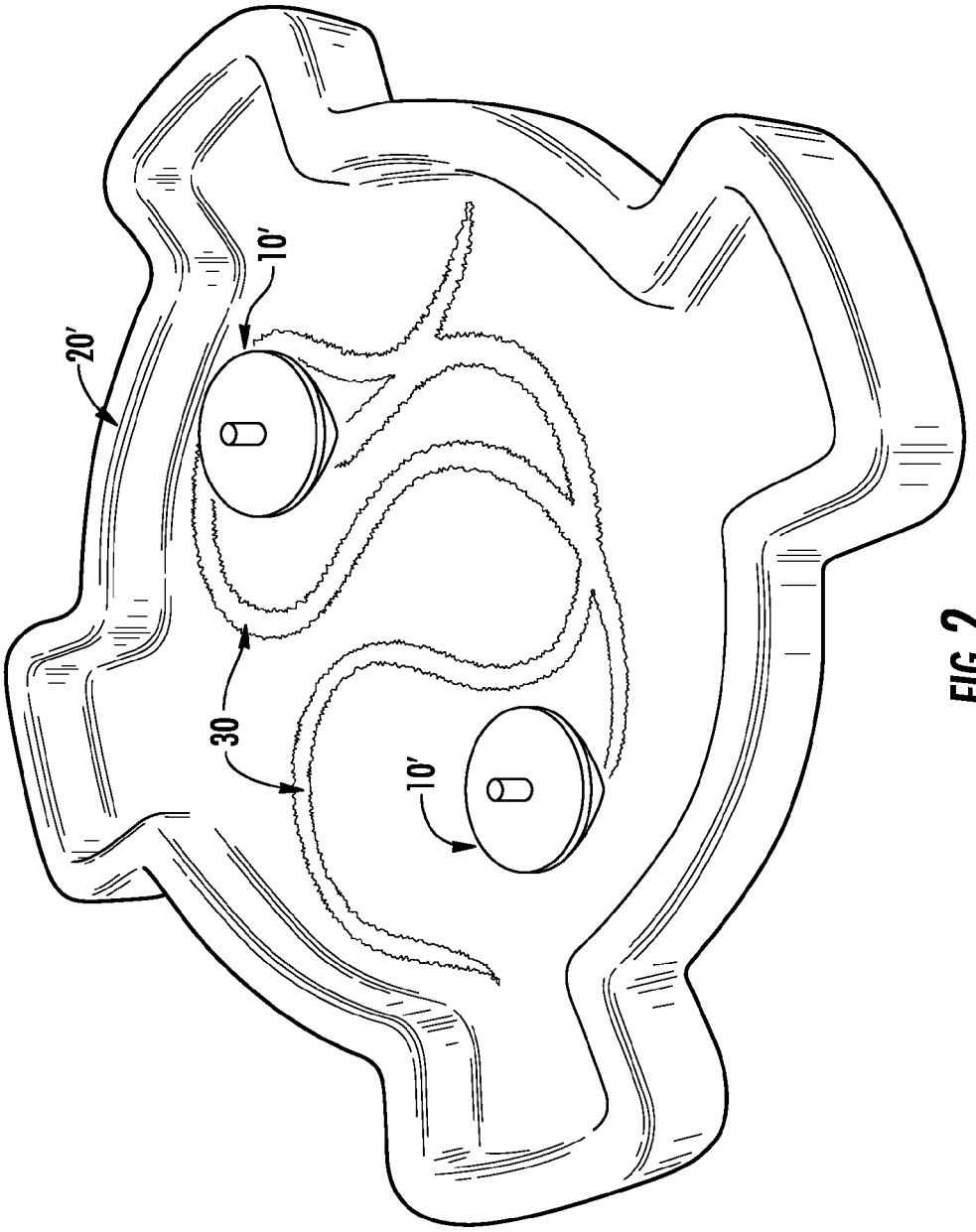

FIG. 2

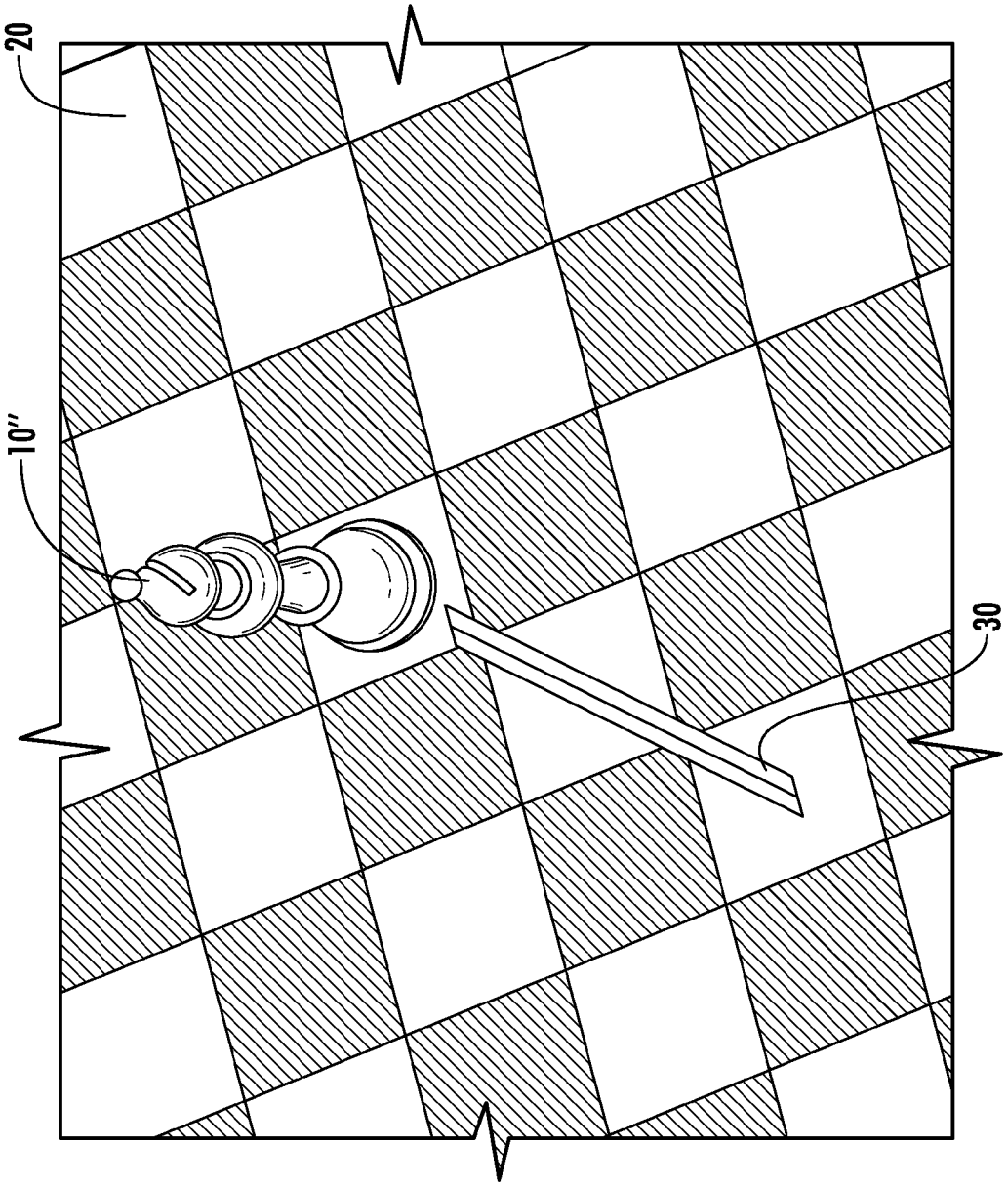

FIG. 3

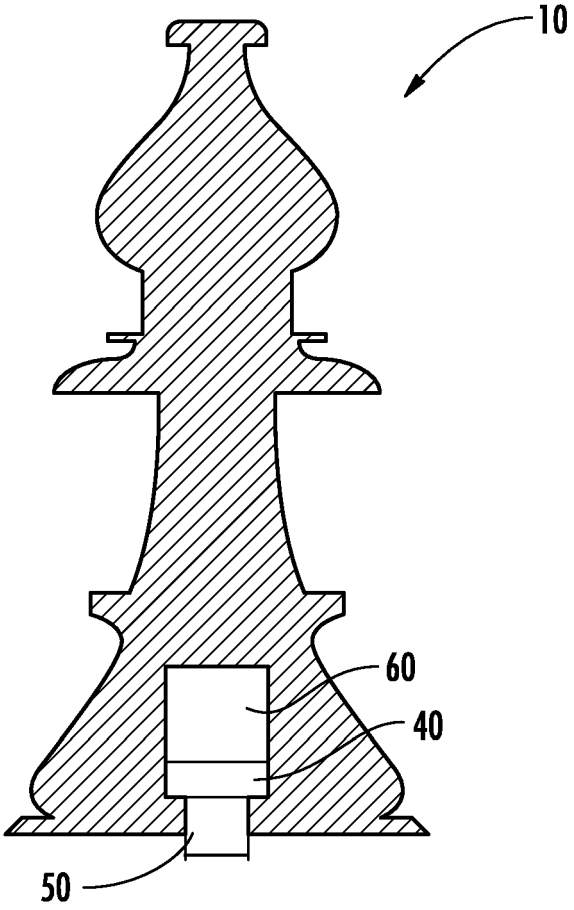

FIG. 4

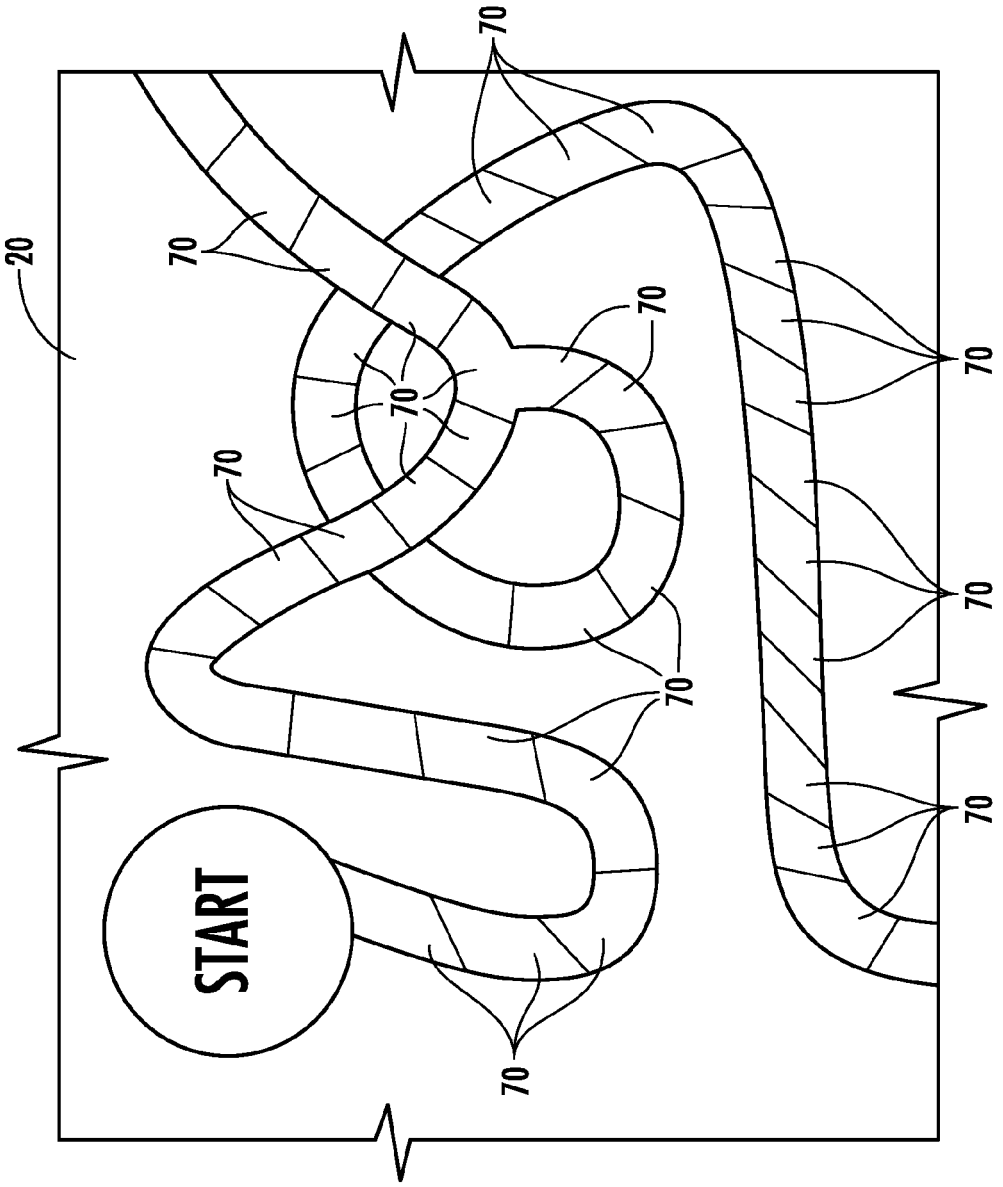

FIG. 5