A toy for creating visual and audial patterns that employs chemiluminescent members, colored sticks or rollers, or light tubes within an inflated bladder. The light may be generated by the chemiluminescent sticks, rollers, or the light tubes or by the reflected color of the hollow or solid sticks, balls, or rollers visible outside the bladder. The rolling members are generally elongated and have outer side walls which roll along the inner walls of the inflated bladder creating unique audial perceptions and visual designs. A sealing closure is used to prevent deflation of the inflated bladder containing the members.
TOY FOR CREATING VISUAL AND AUDIAL PATTERNS

BACKGROUND OF THE INVENTION


[0002] The present invention relates generally to a game toy for recreation; amusement; education; and, more particularly, to a game toy that creates unique visual and audial patterns. Colored, lighted, or luminescent members which may be activated before or after insertion within an inflated bladder result in the members being observable or detectable outside the bladder by an observer of the bladder. The members are shaped to roll along the inner arcuate walls of the bladder to create a unique sound and visual impression.

[0003] U.S. Pat. No. 5,947,581 teaches the insertion of a light button within the gas region of a balloon which is free to move about in the balloon. Such buttons are disclosed in U.S. Pat. No. 5,143,439. The button has a mechanical on/off switch. Thus, a significant disadvantage of the light button is that it must be activated prior to inflation of the balloon. The buttons are generally disk or wafer shaped. The buttons may bounce or rebound about within the balloon, but do not roll along the arcuate inner walls of the balloon creating a distinctive swirling sound along with a vibrant visual impression.

[0004] In the present invention elongated cylindrical sticks or generally spherical or elliptical members may be colored to cooperate with the balloon color. Such colored members may simply be colorful plastic or rubber tubes or rods (hollow or solid). Further, the members contain chemiluminescent compositions or agents or may be members with lighted ends.

[0005] It is desirable to provide a toy for use by children that is attractive, interesting, and kinetic which holds the attention through both the visual and audial senses.

SUMMARY OF THE INVENTION

[0006] The present invention provides a toy which may be luminescent with a unique sound capacity for recreation, amusement and education. The present invention provides an inflatable bladder or balloon having an inlet port or inflation mouth designed to accommodate one or more luminescent members, colored rods or sticks, or spherical or elliptical balls, or light tubes. The luminescent members, colored rods, or spherical or elliptical balls, or lighted sticks are sized and shaped so as to be introducible to the bladder via the inlet port. The luminescent members may be activated before, during, or after insertion. After insertion of the members into the bladder, the bladder is inflated and a closure is provided to ensure maintenance of an inflated state for the bladder. As a result of the inflation, there exists additional space in which the luminescent members, or spherical or elliptical balls, or colored or lighted sticks may move about within the bladder. The additional space created by the inflation of the bladder, coupled with an agitation of the bladder containing the members, results in the members emitting light or clearly being visible as the members move about inside inflated bladder. More specifically, the members are generally elongated, cylindrical, spherically or elliptically shaped and are adapted to roll lengthwise along the inside walls of the balloon. The toy makes a very distinctive sound when the members roll along inside the walls of the bladder. In some situations, the user may wish to use simple elongated, cylindrical colored sticks, balls or light tubes to replace, or in addition to, chemiluminescent sticks. This approach is effective when the toys are used in lighted environments, rather than operated in a dark or unlit environment. The toy creates unusual visual designs and audial perceptions notable outside the inflated bladder.

[0007] The present invention, thus, provides an amusement device. It also provides a child's game that is inexpensive. The present invention also provides a toy that is luminescent (which may be activated even after the balloon is inflated) and may be played with in the dark. The device indirectly develops abilities in mathematics and pattern recognition. The present invention provides an inflatable bladder toy which may be easily constructed from components in kit form.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] FIG. 1 illustrates a cutaway perspective view of the present invention with the bladder inflated and a multiplicity of chemiluminescent members, colored sticks, spherical or elliptical rollers and light tubes inside the bladder.

[0009] FIG. 2 illustrates a toy kit with a stick member external to the deflated bladder.

[0010] FIG. 3 shows a view of the deflated bladder containing a stick member.

[0011] FIG. 4 shows a cutaway perspective of the inflated bladder containing a chemiluminescent member as agitated, activated, and rolling lengthwise along the inner, arcuate walls of the bladder. Also illustrated are colored and lighted sticks and rollers.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0012] For the purposes promoting and understanding of the principles of the invention, reference will now be made to the embodiment illustrated in the drawings and specific language will be used to describe the same. It will nevertheless be understood that no limitations of scope of the invention is hereby intended, such alterations and further modifications in the illustrated device, and such further applications of the principles of the inventions as illustrated therein being contemplated as would normally occur to one skilled in the art to which the invention relates.

[0013] Referring now in more detail to the drawings, in which like numerals indicate like parts throughout the several views, FIGS. 1-5 show an assembled tool (10), kit (10a), and method of assembly according to a preferred embodiment of the present invention.

[0014] FIG. 1 shows the preferred luminescent toy assembly (10) includes an inflatable bladder (20), an inlet port or mouth (30) on a terminal end of the inflatable bladder (20), a closure for sealing (30a) the inflated bladder also located at the terminal end of the inflatable bladder (20) thereby...
preventing deflation of the inflatable bladder (20). The closure (30a) is functionally secured at the inlet port (30). The sealing closure may be a simple pinch ring which fits over the bladder and, when crimped, seals the inlet port (30). FIG. 4 shows an alternative closure (30a') which has a one-way check valve (80) within the closure. The closure (30a') is a tube which allows the user to blow into the bladder but does not allow air to escape. Further, the closure prevents the light stick (40) from accidentally going into the user’s mouth.

[0015] FIG. 1 shows that a combination of chemiluminescent members (40), colored sticks (41a and 41b), a spherical ball (44), an elliptical roller (45), and an end lighted tube (42) may be combined in a balloon (20). The figure shows one solid colored stick (41a) and one hollow stick (41b). The hollow sticks or tubes create a varying swirl sound when rolling within the balloon. It should be understood that the stick inside the bladder may be a clear tube 42 with a lamp or LED type bulb (43) on one or both ends. The tube (42) reflects the light which may be colored along the tube surface creating the desired visual effect.

[0016] FIG. 2 shows the separate parts of the present invention. One or more sticks (40, 41a, 41b), tubes (42), balls (44), or rollers (45) are suitably sized and cylindrically shaped to be insertable through the inlet port (30) of the inflatable bladder (20). As previously stated, in some situations the members (40) may be elongated, spherically, elliptically, or cylindrically shaped colored sticks or end lighted tubular lamps. FIG. 2 shows the bladder (20) deflated. These members (40) which are chemiluminescent tubes contained within the bladder (20) may be activated by agitation such that the chemical constituents within the chemiluminescent members (40) are mixed and a light beam becomes visible. Alternatively, the members may be initially frozen and activated upon thawing. The member is thereby activated after insertion into the balloon. One style of chemiluminescent light is known as CYALUME® a product of American Cyanamid Corporation. One distributor of such light sticks (40) is Omniglow Corporation, Novato, Calif. These sticks are described in U.S. Pat. Nos. 4,076,645; 4,313,843; 4,678,608; 4,717,511; and 5,122,306.

[0017] Where the stick is tubular lamp (42), the lamp may be of a combined battery and light construction. A bulb may be affixed to one or both ends of the stick. The tubular portion of the lamp may be clear, colored, or semitransparent to provide the desired visual effect. The light may be activated before or after the stick is inserted into the bladder.

[0018] The inflatable bladder (20) is a one piece construct having a first terminus at the inlet port (30). The inflatable bladder (20) may be colored, transparent, or semitransparent such that the light emitted or reflected by the enclosed members (40, 41, 41a, 42, 44, 45) is visible outside the inflatable bladder (20) membrane. The inflatable bladder (20) also acts as a container within which the members (40) are confined. The bladder (20) acts so as to restrict the movement of the sticks within the boundaries of the bladder (20). Further, due to its physical properties, the bladder (20) may cause the sticks, balls or rollers to rotate against the arcuate internal walls of the inflatable bladder (20) in a random fashion so as to create a chaotic, attractive, and aesthetically pleasing arrangements and visual designs and audial perceptions to an observer (see FIG. 4). Sticks, balls, and rollers (40, 41a, 41b or 42, 44, or 45) with generally elongated, spherical, elliptical, and cylindrical shapes cooperate with the inflated bladder walls to create a unique sound as the sticks roll along the inner arcuate wall surface of the balloon yielding a swirling sound audible outside the balloon. Hollow sticks or textured surfaced sticks or rollers create a uniquely distinct sound as compared to the solid members or tubular lamps that have smoother outer surfaces.

[0019] All of the FIGS. 1-4 illustrate the elongated, cylindrical shape of the members. The outer surface of the members (not the ends) roll (as indicated by the rotation arrow in FIG. 4) along the inner walls of the balloon like logs or balls on an arcuate surface to make a swirling sound. The members may also be bounced or rebound from the walls; this yields a popping or snapping sound.

[0020] The inlet port or mouth (30) of the inflatable bladder (20) is positioned at a terminus of the inflatable bladder (20) such that the inflatable bladder (20) may be sufficiently inflated and further such that sticks of suitable size and shape may be inserted into the inflatable bladder (20) (FIG. 3). The inlet port (30) provides an opening which communicates and traverses the external environment in relation to the inflatable bladder (20) to the internal portion of the inflatable bladder (20). The inlet port (30) provides a location for the sealing closure (30a) to be affixed to the mouth (30) to prevent deflation of the bladder (20). Again, an alternative closure (30a') may be used.

[0021] It should be understood that the present invention includes the unique feature that the color of the bladder may cooperate with the colors of the stick to create yet other colors of visible light to the observer. For example, a “red” bladder with “yellow” chemiluminescent members, colored or lighted sticks will yield a “green” light visual pattern.

[0022] The chemiluminescent members (40), as shown in FIG. 1 are integral to the functionality of one embodiment of the present invention in the dark or lightly lighted environments, and may be activated before, during, or after insertion through the inlet port (30) into the inflatable bladder (20). It is preferable that the sticks be activated after the balloon is inflated. This allows for the toy to be activated in the dark or lightly lighted areas.

[0023] The chemiluminescent characteristic of the chemiluminescent members (40) is understood to be activated by slight bending or deforming each chemiluminescent member (40) from its original shape such that the chemiluminescently reactive chemicals contained within each chemiluminescent member (40) react to emit light from each chemiluminescent member (40) which then may be observed outside the inflatable bladder (20). Alternatively, there are frozen sticks (40) which maybe activated by thawing. Lighted tubes (42) may be activated by pressing the bulb into electrical contact with the battery inside the tubular portion.

[0024] In one embodiment of the present invention, an elastic band (90) may be affixed to the bladder (20) so that the user can “punch” the bladder back and forth as the band flexes upon the punch’s impact. The attachment may be made at the end opposite the closure (30a) as shown in FIG. 4.

[0025] A method for assembly of the luminescence toy of the present invention (10) includes providing an inflatable
bladder (20) having an inlet port (30) located at a first terminus positioned such that one or more chemiluminescent members (40), colored sticks (41a or 41b), spherical balls (44), elliptical rollers (45) or lighted tube (42) may be inserted through the inlet port (30) into the inflatable bladder (20) (FIGS. 2 and 3). The sticks or tubes are activated as set out above either before, during or after insertion through the inlet port (30) of the inflatable bladder (20). Either before, during or after activation of the sticks as set out above, the inflatable bladder (20) is inflated by an introduction of a gas through the mouth (30) (with or without the one-way closure valve (30a)) until the inflatable bladder (20) is inflated to the desired extent. Once the inflatable bladder (20) is inflated to the extent desired, and the chemiluminescent members (40) have been inserted and activated or have been activated and inserted, a sealing closure (30a) is positioned on the inlet port (30) (if closure (30a) is not used) so as to prevent deflation of the inflatable bladder (20) which now contains one or more rolling members. After inflation of the inflatable bladder (20), the inflatable bladder (20) is substantially spherical in shape, depending on the degree of inflation. In practice, it has been found advantageous to fill the inflatable bladder (20) to the point of inflation such that the inflatable bladder (20) is substantially filled but leaves sufficient space and terminus area at the point of the inlet port (30) for the sealing closure (30a) to fit over the inlet port (30) thereby more dependable preventing deflation of the inflatable bladder (20).

Further, an elastic band (90) may be affixed to the bladder (20) at any convenient location to enable the user to snap the bladder back and forth. FIG. 1 shows the band (90) affixed at the inlet of the bladder. FIG. 2 shows the band (90) affixed to the closure (30a).

In kit form (10a)(FIG. 2), the luminescence toy is supplied in a package (80) with an inflatable bladder (20) having an inlet port (30), one or more chemiluminescent members (40) for activation, either before, during, or after inflation or colored sticks (41a or 41b), spherical balls (44), elliptical rollers (45), or lighted tube (42), and a sealing closure (30a or 30b) for fixation over the inlet port (30) after the inflation of the bladder having within it one or more sticks or tubes. Thus, the kit contains an inflatable bladder (20) having an inlet port (30), one or more rolling members securing closure (30a or 30b) of the inlet port (30) so as to prevent deflation of the inflated bladder (20), an elastic band (90), and the packaging (80). The kit may include a variety of chemiluminescent members and hollow or solid colored sticks and light tubes, or any combination of these.

While the invention has been illustrated and described in detail in the drawings and foregoing description, the same is to be considered as illustrative and not restrictive in character, it being understood that only the preferred embodiment has been shown and described and that all changes and modifications that come within the spirit of the invention are desired to be protected.

1. A toy kit for creating visual and audial patterns having component parts capable of being assembled in the field, said kit comprising:

   an inflatable bladder having an inlet port;

   one or more rolling members sized and shaped to be passable through said inlet port when said bladder is in a deflated condition, said one or more rolling members visible outside said bladder when said bladder is in an inflated condition, said one or more rolling members having outer side walls cooperating with arcuate inner walls of said bladder when said bladder is inflated such that said members contact and roll lengthwise along said walls; and

   a sealing closure adapted to be affixed to said inlet port after said bladder has been inflated with said members therein.

2. The kit of claim 1 wherein said stick members are selected from the group consisting of chemiluminescent members, hollow rods, solid rods, colored rods, spherical balls, elliptical rollers, and light tubes.

3. The kit of claim 1 further comprising an elastic band for affixation to said bladder.

4. The kit of claim 2 further comprising an elastic band for affixation to said bladder.

5. The kit of claim 1 wherein said closure has a one-way check valve.

6. The kit of claim 2 wherein said closure has a one-way check valve.

7. A toy for creating visual and audial patterns comprising:

   an inflatable bladder having an inlet port;

   one or more rolling members sized and shaped to pass through said inlet port when said bladder is in a deflated condition, said rolling members visible outside said bladder when said bladder is in an inflated condition, said rolling members having outer side walls cooperating with arcuate inner walls of said bladder when said bladder is inflated such that said members contact and roll lengthwise along said walls; and

   a sealing closure affixed to said inlet port to prevent deflation of said inflated bladder.

8. The toy of claim 7 wherein said stick members are selected from the group consisting of chemiluminescent members, hollow rods, solid rods, colored rods, spherical balls, elliptical rollers, and light tubes.