



US 20240083670A1

(19) **United States**

(12) **Patent Application Publication**
Krauthamer et al.

(10) **Pub. No.: US 2024/0083670 A1**

(43) **Pub. Date: Mar. 14, 2024**

(54) **TILT-ACTIVATED BEVERAGE EFFECTS**

Publication Classification

(71) Applicant: **Universal City Studios LLC**, Universal City, CA (US)

(51) **Int. Cl.**
B65D 85/816 (2006.01)

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(52) **U.S. Cl.**
CPC **B65D 85/816** (2013.01)

(21) Appl. No.: **18/446,123**

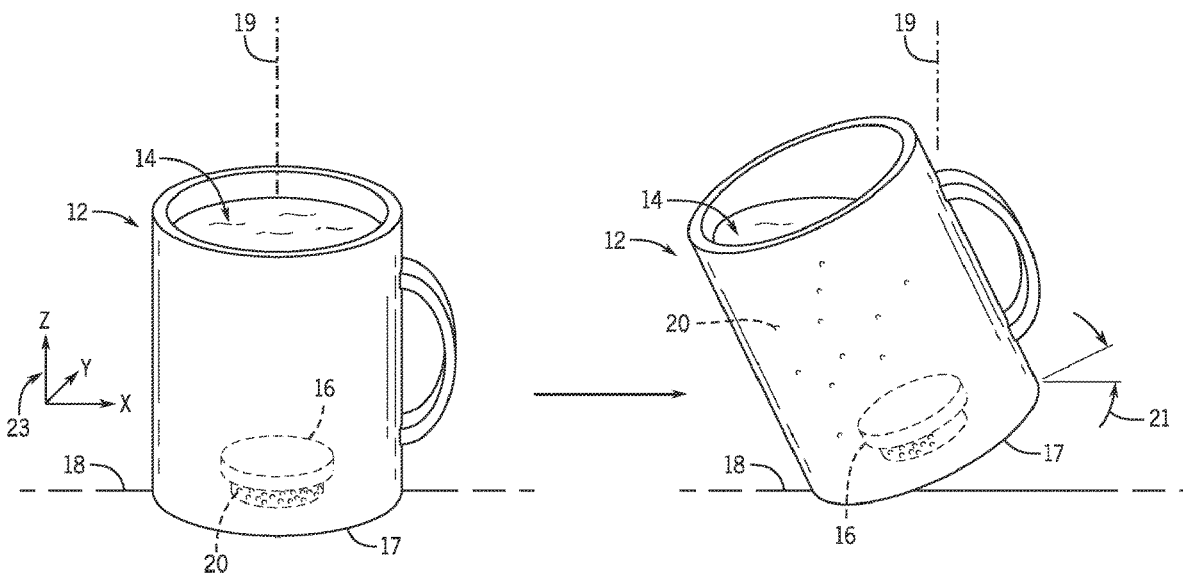
(22) Filed: **Aug. 8, 2023**

Related U.S. Application Data

(60) Provisional application No. 63/374,816, filed on Sep. 7, 2022.

(57) **ABSTRACT**

A tilt-activated beverage container is tilted to release an additive into a liquid. The additive is provided in an additive-release housing coupled to an inner wall of the beverage container. The additive-release housing includes a cap coupled to a base to form an additive-release compartment. When the base and cap are coupled, a channel is formed between a lip of the cap and an annular rim of the base. The additive is released into the liquid via the channel when the container is tilted.



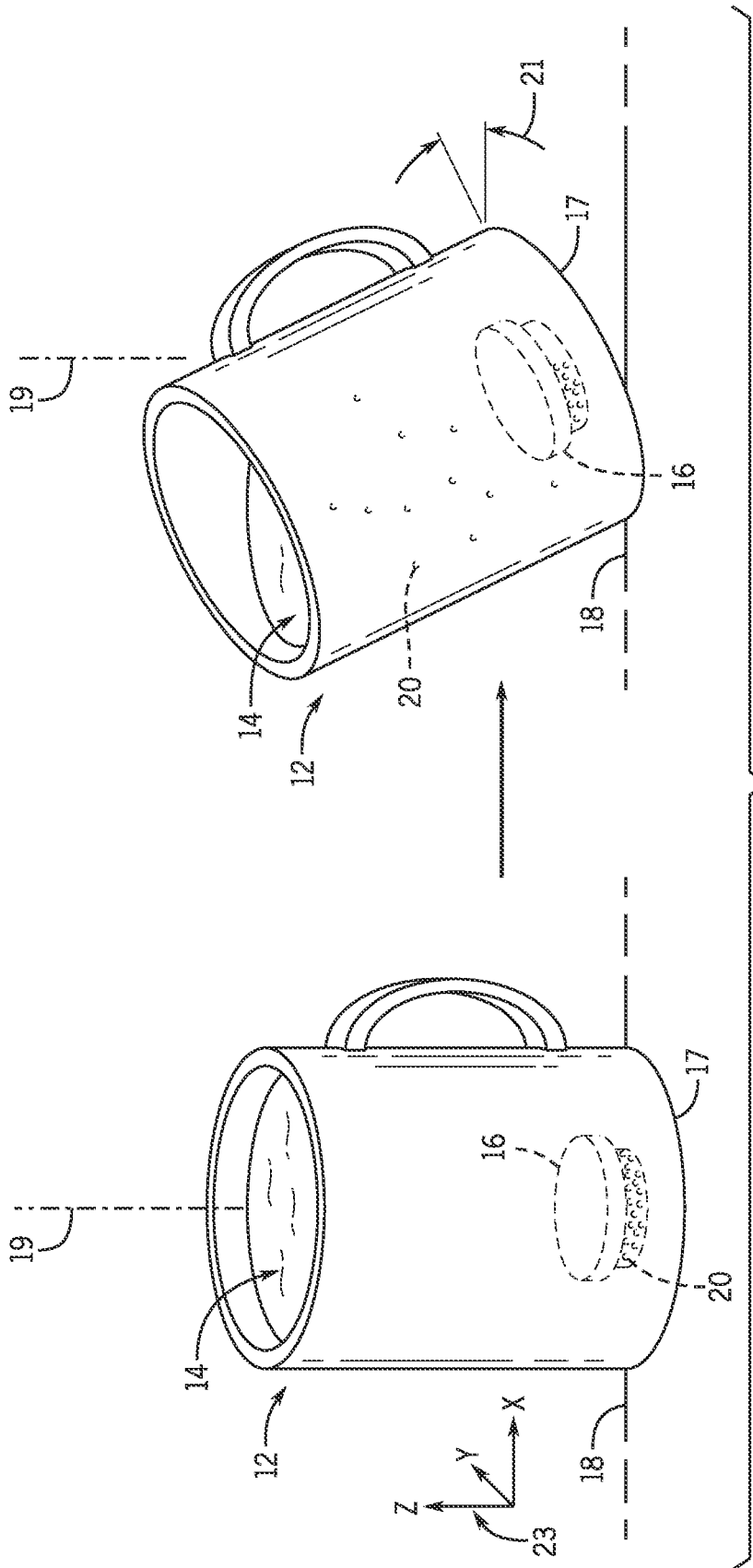
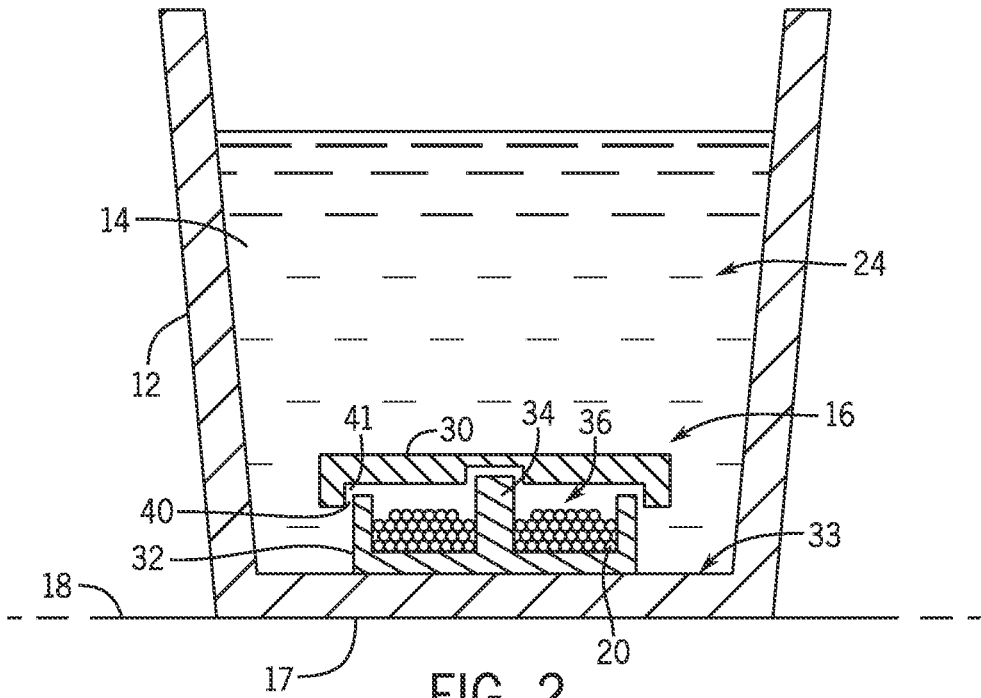


FIG. 1



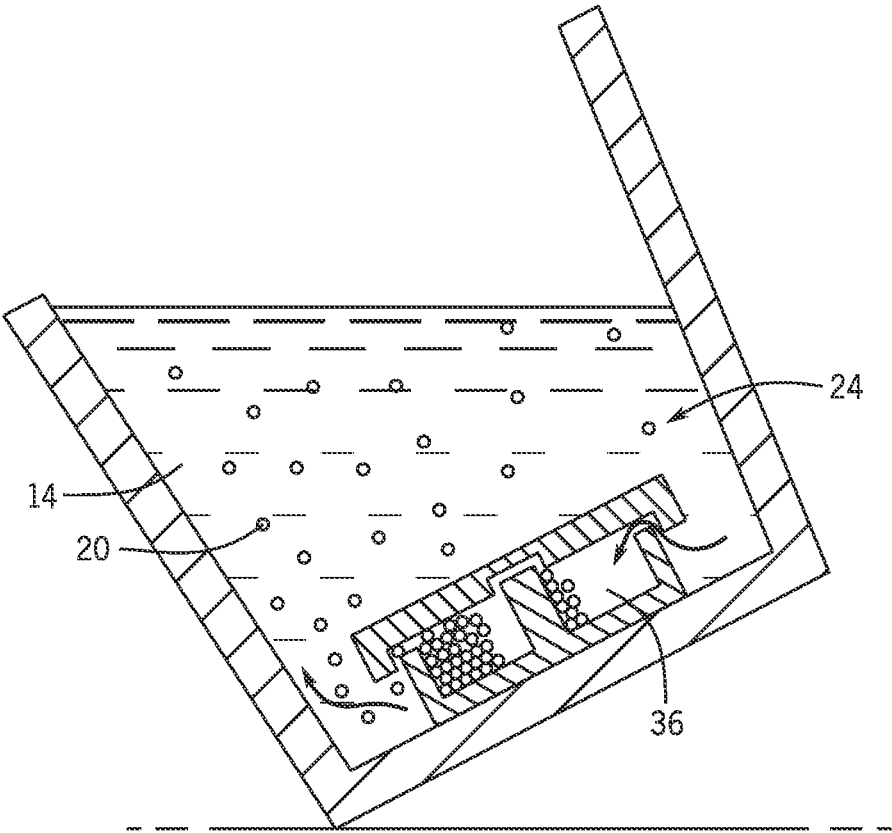


FIG. 3

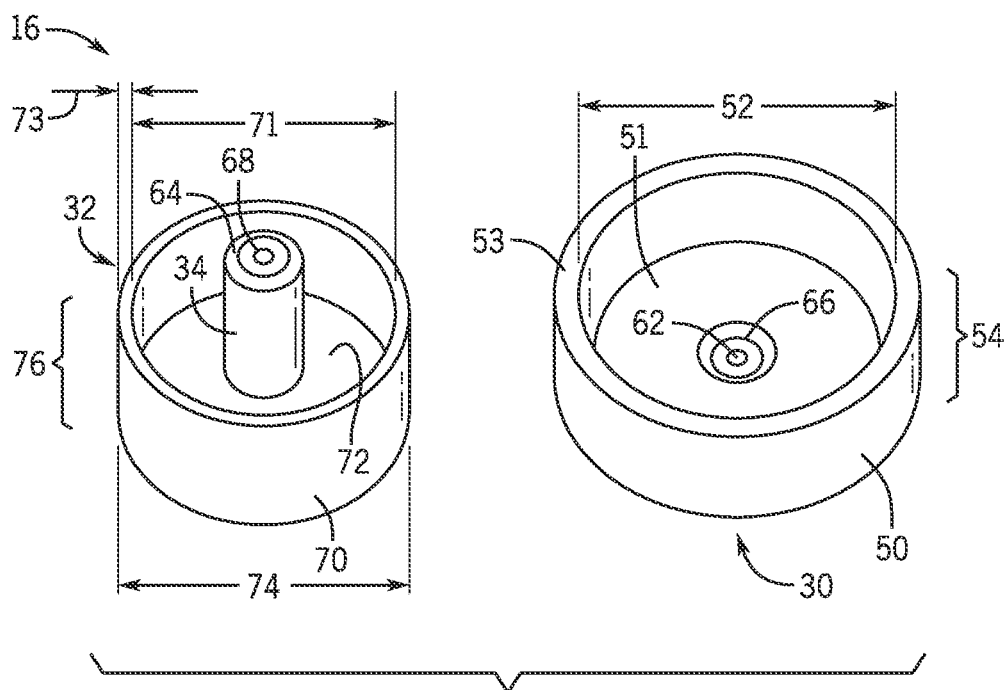


FIG. 4

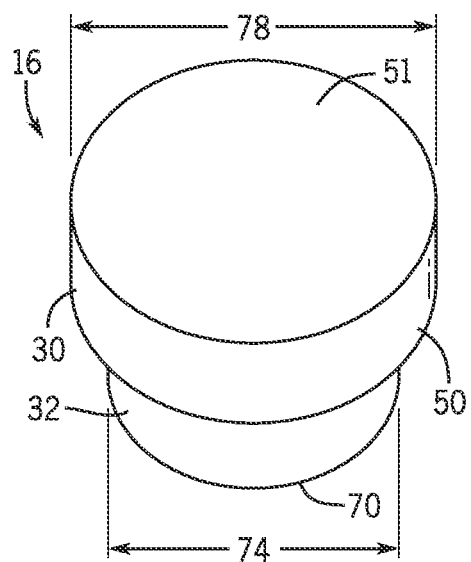


FIG. 5

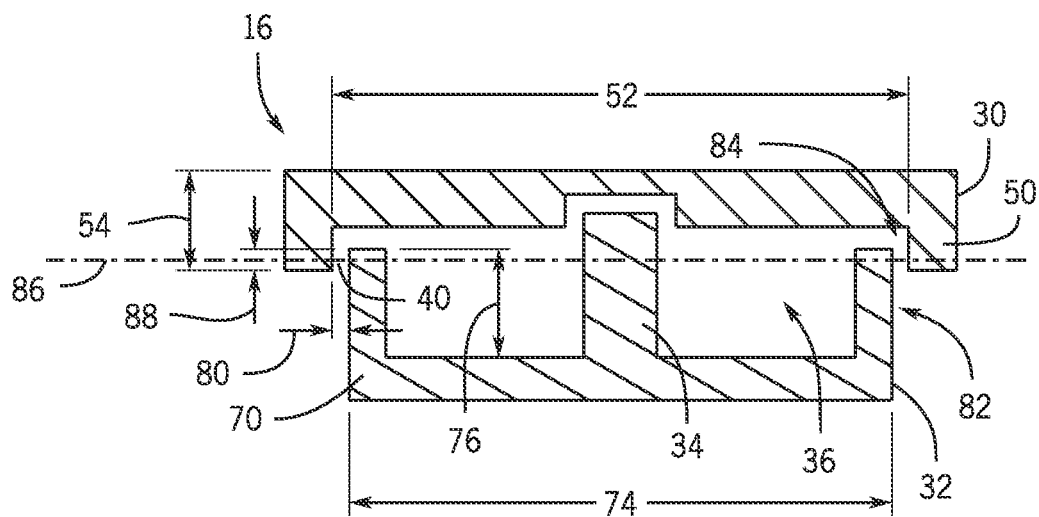


FIG. 6

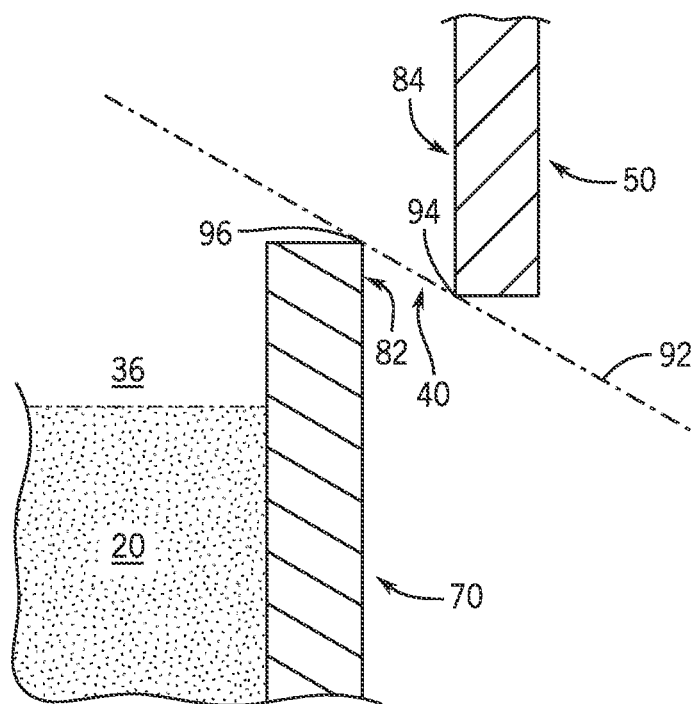


FIG. 7

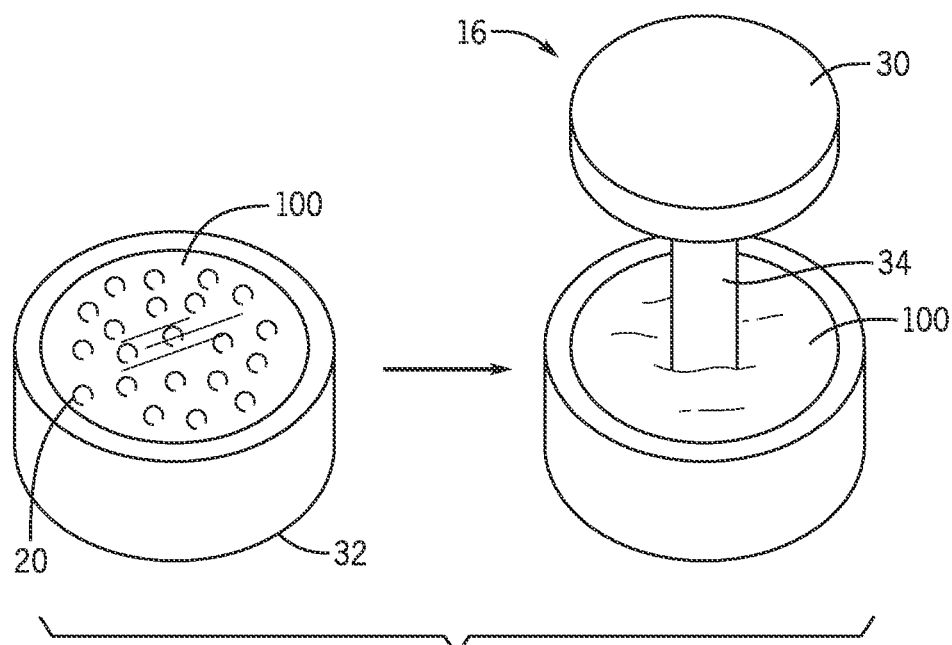


FIG. 8

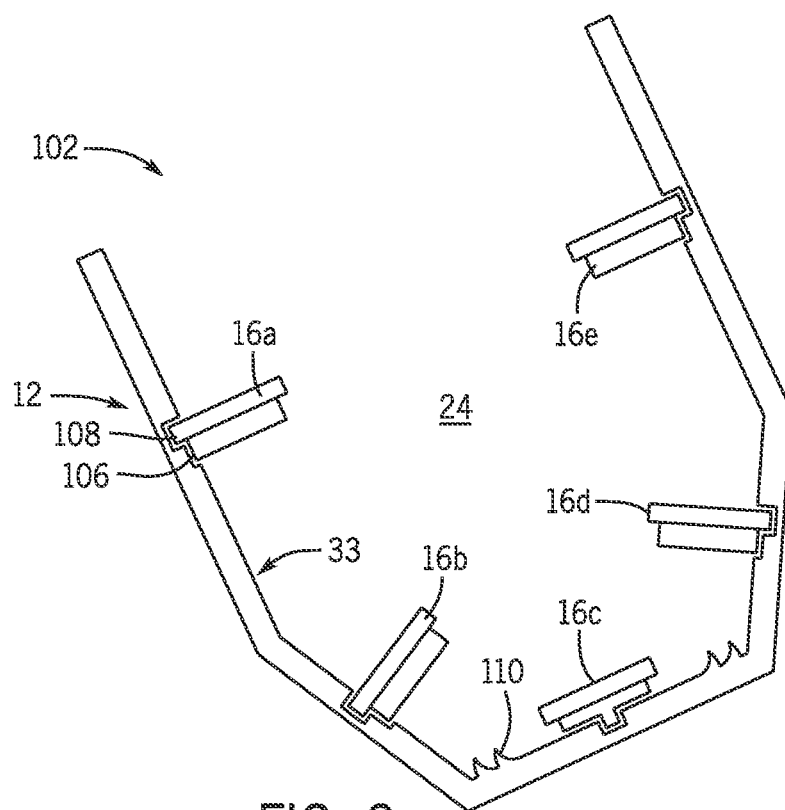


FIG. 9

TILT-ACTIVATED BEVERAGE EFFECTS

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] The present application claims priority to and the benefit of U.S. Provisional Application No. 63/374,816, entitled “TILT-ACTIVATED BEVERAGE EFFECTS”, filed on Sep. 7, 2022, the disclosure of which is hereby incorporated by reference in its entirety herein.

BACKGROUND

[0002] This section is intended to introduce the reader to various aspects of art that may be related to various aspects of the present techniques, which are described and/or claimed below. This discussion is believed to be helpful in providing the reader with background information to facilitate a better understanding of the various aspects of the present disclosure. Accordingly, it should be understood that these statements are to be read in this light, and not as admissions of prior art.

[0003] Amusement or theme parks include various features that each provides a unique experience for guests of the amusement park, such as rides, shows, interactive activities, dining, and the like, to enhance the unique experience provided to the guests. Such features may be included in the attractions and/or throughout the amusement park to entertain the guests. With the increasing sophistication and complexity of amusement park features, there is an increased expectation of entertainment quality and theming among amusement park patrons and guests. Therefore, improved and creative amusement park features are desirable. For example, guests may enjoy having immersive experiences throughout an amusement park and themed souvenir items that operate as part of an immersive experience.

BRIEF DESCRIPTION

[0004] Certain embodiments commensurate in scope with the originally claimed subject matter are summarized below. These embodiments are not intended to limit the scope of the claimed subject matter, but rather these embodiments are intended only to provide a brief summary of possible forms of the subject matter. Indeed, the subject matter may encompass a variety of forms that may be similar to or different from the embodiments set forth below.

[0005] In an embodiment, a tilt-activated beverage container is provided. The tilt-activated beverage container includes a beverage container and an additive-release housing. The additive-release housing forms a compartment, and the additive-release housing is disposed on or in an inner wall of the beverage container. The additive-release housing includes a cap comprising a lip forming an inner diameter of the cap, wherein the lip extends away from a cap top. The additive-release housing also includes a base comprising an annular rim extending away from a support surface, the annular rim forming an outer diameter smaller than the inner diameter such that an annular rim of the base fits within the lip; a post protruding from the support surface and coupled to the cap top, wherein, when the post is coupled to the cap top, the lip extends past a upper edge of the annular rim and towards the support surface to form a channel between an inner surface of the lip and an outer surface of the annular rim; and an additive disposed within the compartment of the additive-release housing, wherein liquid of the beverage

container does not flow into the compartment in a first orientation of the beverage container and flows into the compartment via the channel in a second orientation.

[0006] In an embodiment, a method of providing tilt-activated beverage effects is provided that includes providing a tilt-activated beverage container, the tilt-activated beverage container comprising an inner wall comprising an additive-release housing forming a compartment. The additive-release housing includes a cap comprising a lip forming an inner diameter of the cap, wherein the lip extends away from a cap top. The additive-release housing also includes a base comprising an annular rim extending away from a support surface, the annular rim forming an outer diameter smaller than the inner diameter such that an annular rim of the base fits within the lip and a post protruding from the support surface and coupled to the cap top, wherein, when the post is coupled to the cap top, the lip extends past a upper edge of the annular rim and towards the support surface to form a channel between an inner surface of the lip and an outer surface of the annular rim. The method also includes providing an additive disposed within the compartment, wherein the additive release compartment is fluidically coupled via the channel to the beverage container holding a liquid in a first orientation of the beverage container and is not fluidically coupled via the channel to the beverage container holding the liquid in a second orientation.

[0007] In an embodiment, a tilt-activated beverage container system is provided. The system includes a tilt-activated beverage container, the tilt-activated beverage container comprising an inner wall comprising at least one mating feature configured to receive an additive-release housing. The system also includes a plurality of additive-release housings, each additive-release housing including a cap comprising a lip forming an inner diameter of the cap, wherein the lip extends away from a cap top. Each additive-release housing also includes a base comprising: an annular rim extending away from a support surface, the annular rim forming an outer diameter smaller than the inner diameter such that an annular rim of the base fits within the lip; a post protruding from the support surface and coupled to the cap top, wherein, when the post is coupled to the cap top, the lip extends past a upper edge of the annular rim and towards the support surface to form a channel between an inner surface of the lip and an outer surface of the annular rim; and an additive disposed within a compartment formed by the housing, wherein an individual housing of the plurality of housings is configured to couple to the inner wall via the at least one mating feature.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] These and other features, aspects, and advantages of the present invention will become better understood when the following detailed description is read with reference to the accompanying drawings in which like characters represent like parts throughout the drawings, wherein:

[0009] FIG. 1 is a schematic illustration of a tilt-activated beverage container in a first, non-tilted, configuration and a transition of the container to a second, tilted, configuration to cause release of an additive in a tilt-activated beverage effect, according to an embodiment of the disclosure;

[0010] FIG. 2 is a schematic illustration of a tilt-activated beverage container in the non-tilted configuration according to an embodiment of the disclosure;

[0011] FIG. 3 is a schematic illustration of tilt-activated beverage container in the tilted configuration according to an embodiment of the disclosure;

[0012] FIG. 4 is a component view showing a base and cap of an additive-release housing for tilt-activated beverage effects, according to an embodiment of the disclosure;

[0013] FIG. 5 is a perspective view showing an assembled additive-release housing for tilt-activated beverage effects, according to an embodiment of the disclosure;

[0014] FIG. 6 is a cross-sectional view of the additive-release housing of FIG. 5;

[0015] FIG. 7 is a partial cross-sectional view of the of the additive-release housing;

[0016] FIG. 8 is a schematic illustration of a housing component including a sealed additive reservoir, according to an embodiment of the disclosure; and

[0017] FIG. 9 is a schematic illustration of a tilt-activated beverage container that can be used in conjunction with multiple housings to release multiple additives, according to an embodiment of the disclosure.

DETAILED DESCRIPTION

[0018] One or more specific embodiments of the present disclosure will be described below. In an effort to provide a concise description of these embodiments, all features of an actual implementation may not be described in the specification. It should be appreciated that in the development of any such actual implementation, as in any engineering or design project, numerous implementation-specific decisions must be made to achieve the developers' specific goals, such as compliance with system-related and business-related constraints, which may vary from one implementation to another. Moreover, it should be appreciated that such a development effort might be complex and time consuming, but would nevertheless be a routine undertaking of design, fabrication, and manufacture for those of ordinary skill having the benefit of this disclosure.

[0019] When introducing elements of various embodiments of the present disclosure, the articles "a," "an," and "the" are intended to mean that there are one or more of the elements. The terms "comprising," "including," and "having" are intended to be inclusive and mean that there may be additional elements other than the listed elements. Additionally, it should be understood that references to "one embodiment" or "an embodiment" of the present disclosure are not intended to be interpreted as excluding the existence of additional embodiments that also incorporate the recited features.

[0020] Provided herein are techniques for tilt-activated beverage effects that may be used in conjunction with a tilt-activated beverage container. A tilt-activated beverage container may include an additive-release housing that encloses or holds an additive that is released into a fluid, such as a liquid beverage, when the beverage container is tilted during drinking. Release of the additive into the liquid changes a characteristic of the liquid, such as one or more of a taste, smell, color, viscosity, thickness, or effervescence as part of the tilt-activated beverage effect. The additive-release housing can be implemented as a passive device that does not involve a power source in an embodiment. Accordingly, the liquid change may appear to be magical to enhance an immersive experience.

[0021] As shown in FIG. 1, a tilt-activated beverage container 12 holds a liquid 14 and includes an additive-

release housing 16. In a first or non-tilted configuration (e.g., non-tilted orientation), a bottom 17 of the beverage container 12 may rest on a surface 18 or may be held flat or substantially flat such that the bottom 17 is generally orthogonal to a vertical axis 19. In the non-tilted configuration, an additive 20 is retained within the housing 16 and does not exit passages in the housing 16 to mix with the liquid 14. In a second or tilted configuration, the liquid 14 flows into the housing 16 to cause the additive to be released into the liquid 14. The tilted configuration (e.g., tilted orientation) may be tilted relative to the non-tilted configuration. For example, in the non-tilted configuration, the bottom 17 of the beverage container 12 may be resting on a relatively flat or planar table. In one example, the beverage container 12 can be filled in the non-tilted configuration at a bar and while being served. A guest can pick up the beverage container 12 for drinking in the tilted configuration.

[0022] In an embodiment, the tilted configuration is relative to fixed components in the environment, such as the floor or a table. Accordingly, the non-tilted configuration may be a 180 degree angle of the bottom 17 of the beverage container 12 relative to the floor or the surface 18. The tilted configuration may be within a range of non-180 angles, shown as angle 21 by way of example, of the bottom surface 17 (or a line extending through a plane of the bottom surface 17) with the floor or the surface 18. In an embodiment, the tilted configuration is relative to an absolute direction, such as relative to a direction of the force of gravity, e.g., along a y-axis of the x-y-z axis, indicated by reference numeral 23. For example, the beverage container 12 may be in a tilted configuration when the bottom 17 is non-orthogonal to the direction of the force of gravity or when the bottom 17 is within a range of non-90 degree angles relative to direction of the force of gravity. In one example, the axis 19 is aligned with the direction of the force of gravity, and the beverage container 12 may be considered tilted when the bottom surface 17 forms an angle with the axis 19 that is 80 degrees or less. In an embodiment, the beverage container 12 may be considered tilted when the bottom surface 17 forms an angle with the axis 19 that is 0 to 80 degrees or 0 to 60 degrees. It should be understood that, in embodiments, the bottom surface 17 may be nonplanar. Accordingly, the tilted configuration or additive-release configuration may be achieved when angles of 80 degrees or less are formed between a plane of a cap top 51 (see FIG. 4) and the axis 19. Thus, it should be understood that certain angles (e.g., 0-10 degrees, 0-30 degrees, 0-45 degrees) formed between the bottom surface 17 and the axis 19 may be considered part of a non-tilted configuration or additive-retaining configuration of the beverage container 12 if the additive 20 is not released even if the beverage container 12 is tilted.

[0023] FIG. 2 is a cutaway side view of the beverage container 12 in the non-tilted configuration and resting on the surface 18. In the non-tilted configuration, the liquid 14 within a main body of the beverage container 12 is isolated from the additive 20 that is contained within the housing 16. The housing 16 includes a cap 30 coupled to a base 32 via a post 34. The base 32 is coupled to or integrated in an inner surface 33 of the beverage container 12. In the illustrated example, the inner surface 33 opposes the bottom surface 17.

[0024] The housing 16 forms a compartment 36 that holds the additive 20. The housing 16 includes at least one channel

40 between the main chamber **24** of the beverage container **12** and the compartment **36**. However, the liquid **14** does not flow into the compartment **36** via the channel **40** in the non-tilted configuration due to the air-liquid interface and the existing air trapped in the housing **16**. That is, the liquid **14** may rise only partially into the channel **40** but a top surface **41** of the liquid within the channel **40** does not flow into the additive-release compartment.

[0025] In an embodiment, the non-tilted configuration or an additive-retaining configuration may encompass configurations in which the beverage container **12** is flat or in which the beverage container is tilted to some degree relative to a floor or table (e.g., tilted 0 to 10 degrees, 0 to 30 degrees, 0 to 60 degrees, 0 to 180 degrees, 10 to 90 degrees) or a direction of the force of gravity, but not sufficiently tilted to overcome the surface tension of the liquid **14** in the channel **40**. In an embodiment, the beverage container **12** may be in a non-additive release configuration. The additive-release configuration is one in which the beverage container **12** is tilted at an angle sufficient to permit liquid infiltration into the compartment **36**. The tilted configuration may refer to a configuration in which the beverage container is tilted enough to permit the liquid to flow into the compartment **36** and such that the compartment **36** and the main chamber **24** are fluidically coupled by the liquid **14**. Accordingly, when the beverage container **12** is tilted, the compartment **36** and the main chamber **24** are fluidically coupled, and air trapped in the housing **16**, and between the liquid **14** and the additive **20**, is released. When the beverage container **12** is not tilted, the compartment **36** may be fluidically isolated from the main body by the air trapped in the housing and, in embodiments, tension of the top surface **41**. Thus, when the beverage container **12** is not tilted, there is a gas or air gap or a gas or air-liquid interface within the channel **40**. When the beverage container **12** is tilted, liquid fills the compartment **36** and the channel **40**.

[0026] As shown in FIG. 3, tilting the tilt-activated beverage container **12** disrupts the trapped air and permits the liquid **14** to flow through the compartment **36** to mix the additive **20** into the liquid **14** in the main chamber **24**. Thus, the tilting causes a change to a characteristic of the liquid as part of a tilt-activated beverage effect. In an embodiment, the beverage container **12** holds the liquid **14**. However, the beverage container **12** may hold one or more of a gas, liquid, or solid. In an embodiment, the beverage container **12** holds a frozen or blended drink. In an embodiment, the beverage container **12** holds a heated drink. The beverage container **12** may hold a complex beverage item, such as a liquid drink that gas elements (e.g., carbonation) and solid components (e.g., fruit or candy). In one embodiment, the beverage container **12** may hold dry ice that is part of a beverage effect.

[0027] The change in characteristic may be a change in a taste, smell, color, viscosity, or effervescence of the liquid **14**. The additive **20** may include colorants or food-safe dyes that, when added to the liquid **14**, cause a color change. The additive **20** may include annatto extract, (E160b), bixin, norbixin, astaxanthin, dehydrated beets (beet powder), beet-root red/betanin (E162), ultramarine blue, canthaxanthin (E161g), cryptoxanthin (E161c), rubixanthin (E161d), violaxanthin (E161e), rhodoxanthin (E161f), caramel (E150(a-d)), β -apo-8'-carotene (E160e), β -carotene (E160a), alpha carotene, gamma carotene, ethyl ester of beta-apo-8 carotene (E160f), flavoxanthin (E161a), lutein (E161b), cochineal

extract (E120); carmine (E132), carmoisine/azorubine (E122), sodium copper chlorophyllin (E141), chlorophyll (E140), toasted partially defatted cooked cottonseed flour, ferrous gluconate, ferrous lactate, grape color extract, grape skin extract (enocianina), anthocyanins (E163), haemato-coccus algae meal, synthetic iron oxide, iron oxides and hydroxides (E172), fruit juice, vegetable juice, dried algae meal, tagetes (Aztec marigold) meal and extract, carrot oil, corn endosperm oil, paprika, paprika oleoresin, phaffia yeast, riboflavin (E101), saffron, titanium dioxide, turmeric (E100), turmeric oleoresin, amaranth (E123), capsanthin/capsorbin (E160c), lycopene (E160d), or a combination thereof. The dyes may include FD&C (Food, Drug, and Cosmetic) blue #1, FD&C blue #2, FD&C green #3, FD&C red #3, FD&C red #40, FD&C yellow #5 and FD&C yellow #6, tartrazine (E102), quinoline yellow (E104), sunset yellow (E110), ponceau (E124), erythrosine (E127), patent blue V (E131), titanium dioxide (E171), aluminium (E173), silver (E174), gold (E175), pigment rubine/lithol rubine BK (E180), calcium carbonate (E170), carbon black (E153), black PN/brilliant black BN (E151), green S/acid brilliant green BS (E142), or aluminum or calcium salts of FD&C dyes.

[0028] The additive **20** may include agents that change a viscosity or thickness of the liquid **14**, such as natural and synthetic gums, for example locust bean gum, guar gum, gellan gum, xanthan gum, gum ghatti, modified gum ghatti, tragacanth gum, carrageenan, and the like; natural and modified starches, for example pregelatinized starch (corn, wheat, tapioca), pregelatinized high amylose-content starch, pregelatinized hydrolyzed starches (maltodextrins, corn syrup solids), chemically modified starches such as pregelatinized substituted starches (e.g., octenyl succinate), and the like; cellulose derivatives, for example carboxymethyl-cellulose, sodium carboxymethylcellulose, and the like; polydextrose; whey or whey protein concentrate; pectin; gelatin; or a combination of these.

[0029] The additive **20** may include flavoring aromatics and/or oils, oleoresins and extracts derived from plants, leaves, flowers, fruits, and so forth, and combinations thereof. The additive **20** may be a tingling agent such as Jambu Oleoresin or para cress.

[0030] The additive **20** may be a liquid, gas, and/or solid additive. In an embodiment, the additive **20** is a gel, powder, or oil. In an embodiment, the additive **20** is a microcapsule that dissolves in the liquid to provide a slower release of a component within the microcapsule. The additive **20** may be spray dried, powdered, beaded, encapsulated, and mixtures thereof. When in particulate form, the additive **20** may be sized or shaped to fit through the channel **40** and flow into the main chamber **24**. In an embodiment, the additive **20** may be a phase-changing material, such as dry ice or liquid nitrogen. In an embodiment, the additive **20** may be a polymerization catalyst that, when in contact with the liquid **14**, causes the liquid **14** to undergo a chemical change such as polymerization.

[0031] FIG. 4 is a component view of the additive-release housing **16** showing the cap **30** and the base **32** uncoupled from one another. The cap **30** has a lip **50** that extends away from a cap top **51**. A wall **53** of the lip **50** forms an inner diameter **52** of the cap **30**, and a wall height **54** defines at least a part of the channel **40** (see FIG. 2). The cap top **51** may include a mating feature **66** that receives and couples to a complementary feature **68** of a post surface **64** of the post

34 to couple the cap 30 and base 32 to one another. For example, the mating feature 66 and the complementary feature 68 may include interlocking threads that permit a reversible screw-type coupling arrangement. In another embodiment, the coupling may be an interference fit, a magnetic fit, or a snap fit. While illustrated embodiments show the post 34 extending from the base 32 and coupling to the cap 30, it should be understood that the reverse arrangement in which the post 34 extends from the cap 30 to couple to the base 32, e.g., via complementary mating features, is also contemplated. The base 32 includes an annular rim 70 that extends away from a support surface 72 by a height 76. A thickness 73 of the annular rim and an inner diameter 71 of the annular rim 70 define an outer diameter 74 of the base 32.

[0032] FIG. 5 shows an assembled additive-release housing 16 in which the cap 30 and the base 32 are coupled to one another. The annular rim 70 fits within the lip 50 to form the channel. Thus, the outer diameter 74 is smaller than an inner diameter 52 (see FIG. 4) of the lip 50. An outer diameter 78 of the cap 30 may cause an overhang relative to the base 32.

[0033] In the illustrated embodiment, the housing 16 is assembled when the cap 30 and base 32 are coupled. It is contemplated that the cap 30 and the base 32 may be separated by one another, e.g., by hand, so that the additive-release housing 16 can be opened, cleaned, and refilled. In an embodiment, the coupling between the cap 30 and the base 32 may be substantially fixed so that the cap 30 and the base 32 cannot be separated by hand. For example, the cap 30 and the base 32 may be adhered or affixed to one another. In an embodiment, the housing 16 may be affixed to or fixedly attached to the beverage container 12 or removable from the beverage container 12. Further, in an embodiment, the base 32 may be fixedly attached integrated into, adhered to, or formed within a wall of the beverage container 12. Accordingly, the cap 30 may be removable from the beverage container 12 to permit the additive 20 to be refilled.

[0034] FIG. 6 shows a cross-sectional view of the assembled additive-release housing 16 of FIG. 5. In the illustrated embodiment, the additive-release housing 16 is empty, i.e., does not include the additive 20. It should be understood that the additive-release housing 16 may be provided with the additive 20 or without the additive 20. For example, an end user may fill the housing 16 with the additive 20 prior to use.

[0035] The housing 16 includes the channel 40 that permits ingress and egress of fluid into the compartment 36 when the beverage container (see FIG. 1) is tilted. The channel 40 may be generally annular and formed between the lip 50 and the annular rim 70 that are arranged coaxially relative to one another. When assembled, a gap 80 is present between lip 50 and the annular rim 70. The gap 80 is a distance between an outer surface 82 of the annular rim 70 and an inner surface 84 of the cap top 51 (see FIG. 4) and defines a width or diameter of the channel 40. A length 88 of the channel is based on an overlap between the lip 50 and the annular rim 70. That is, along the length 88, an axis parallel to the support surface 72 or orthogonal to the channel 40 will intersect the annular rim 70 and the lip 50. An intersecting axis 86 is shown by way of example.

[0036] The dimensions of the cap 30 and the base 32 may be selected such that liquid 14 held by the beverage container 12 (see FIG. 1) rises only partially within the channel

40 when the beverage container is in the non-tilted configuration. In an embodiment, the outer diameter 74 of the base 32 and the inner diameter 52 of the cap 30 may be selected to form at least a 1 mm gap 80. In an embodiment, the gap 80 is 0.5 mm-1 cm. In an embodiment, the gap 80 is 2 mm-5 mm. In an embodiment, the gap 80 is 1 mm-3 mm. Further, the height 54 of the lip 50, the dimensions of the post 34, and the height 76 of the annular rim 70 may be selected to define the length 88 of the channel 40. Longer channels 40 may permit liquids 14 with different surface tension characteristics to be held in the main chamber 24 of the beverage container 12 without flowing into the compartment 36 while the beverage container 12 is not tilted. In an embodiment, the length 88 of the channel 40 is at least 2 mm or at least 5 mm. In an embodiment, the length 88 is 2 mm-2 cm. In an embodiment, the length 88 is greater than the width of the gap 80. In an embodiment, the length 88 of the channel 40 is at least twice the width, at least 5 times the width, or at least 10 times the width of the gap 80. In an embodiment, the lip 50 extends past the annular rim 70 an amount corresponding to at least 5% of the height 76 of the annular rim 70.

[0037] The illustrated example shows a straight or regular channel 40. However, in embodiments, the walls of the channel 40 may be shaped or curved to create different liquid flow characteristics and/or an irregular profile. For example, in an embodiment, the width, e.g., gap 80, of the channel may be variable along the length 88. The annular rim 70 may be tapered or angled towards or away from the compartment 36 and/or the cap 30 may be angled or tapered.

[0038] FIG. 7 is a partial view of the additive-release housing 16 showing the channel 40 formed between the outer surface 82 of the annular rim 70 and the inner surface 84 of the cap 30. When an axis 92 between the lower edge 94 of the lip 50 and an upper edge 96 of the annular rim 70 is tilted horizontally during drinking, the additive 20 flows outside of the compartment 36 into the beverage. The tilt angle can be modified by changing the offset and relative spacing of the lip 50 and the annular rim 70.

[0039] The additive-release housing 16 may be formed from food-safe components such as metals, plastics, polymers, etc. In an embodiment, one or more surfaces of the housing 16 may be coated in or formed from a hydrophobic materials, such as polydimethylsiloxane (PDMS). Use of a hydrophobic material may change the liquid-channel contact angle and result in increased surface tension, thus enhancing the isolation of the additive 20 while in a non-tilted configuration.

[0040] FIG. 8 is a schematic illustration of the additive-release housing 16 in which the additive 20 is provided in a sealed area that is broken or unsealed upon coupling of the cap 30 and base 32. For example, the additive 20 may be held within the base 32 by a seal 100. The seal 100 may be a foil seal or a polymer film seal. In an embodiment, the seal 100 may be a dissolvable wax. In an embodiment, the seal 100 is transparent to permit a user to view the additive 20 held within the base 32. Coupling the cap 30 by pressing the post 34 into the seal 100 punctures the seal 100. In certain embodiments, the post 34 or other feature of the housing 16 acts to break up or otherwise disperse the additive 20 during coupling. For example, if the additive 20 is provided as a capsule (e.g., a gelatin capsule), the post 34 can act to pierce or crush the capsule and initiate dispersal of the additive from the capsule form. After the seal 100 is broken and the

additive-release housing 16 is assembled, the additive 20 can be released into the liquid 14 of a beverage for tilt-activated effects during use. Providing the additive 20 in a sealed area may improve shelf life of the additive 20. In another arrangement, the assembled housing 16 may be sealed within a wrapper before use.

[0041] In another arrangement, one or more components of the additive-release housing 16 may be dissolvable over time to release the additive 20. In an embodiment, the seal 100 may include a valve or flap that is opened when the additive-release housing 16 is coupled to the beverage container 12.

[0042] FIG. 9 is a partial cutaway illustration of a beverage container system 102 that includes the tilt-activated beverage container 12 and one or more additive-release housings 16. In this manner, a user of the beverage container system 12 can select from different additive-release housings 16 to customize a desired tilt-activated effect. In an embodiment, the tilt-activated beverage container 12 includes at least one mating feature 106 to permit coupling (e.g., removable coupling) of at least one additive-release housing 16 via a complementary feature 108 on or in the inner surface 33. For example, the mating feature 106 and/or the complementary feature 108 may be a complementary protrusion and recess or a magnetic or snap coupling. The additive-release housing 16 may include a suction cup that can couple along any location of the inner surface 33. In an embodiment, the inner surface 33 may include shaped features 110 (e.g., ribs, surface roughness) to add in dispersal of the additive 20. Further, the inner surface 33 may include contours or angled surfaces that include mating features 106 to orient the additive-release housing 16 at a desired angle for additive release during a normal drinking motion.

[0043] In an embodiment, the beverage container 12 may include multiple mating features 106 distributed at different locations along the inner surface 33 to permit mating with respective complementary features 108 of the additive-release housings 16. In an embodiment, the end user can choose to couple one or more additive-release housings 16 to the inner surface to achieve different combinations of effects, such as different flavor, aroma, and/or color combinations. Further, the end user can select between different relative positions of the additive-release housings 16 for different effects even among a same selected set of additive-release housings 16. That is, the same set of additive-release housings 16 arranged in different location patterns may cause different types of tilt-activated beverage effects. For example, certain additive-release housings 16 may have relatively heavier additives 20, e.g., oil-based additives, that will tend to sink to the bottom of the tilt-activated beverage container 12, while other additive-release housings 16 may include light additives 20 that tend to rise to the top of the tilt-activated beverage container 12. Placing an individual additive-release housing 16 with a heavy oil-based additive towards a top of the tilt-activated beverage container 12 may result in a visible downward sinking effect of a color-based additive 20. Placing the same additive-release housing 16 at a bottom or in a bottom portion of the tilt-activated beverage container 12 may result in creation of a color layer at the bottom.

[0044] In addition, the direction of the tilt may influence the beverage effect. Tilting toward the additive-release housing 16a may move liquid through the additive-release hous-

ing 16a while not activating the additive-release housing 16b on an opposite side. Accordingly, the tilt-activated beverage container 12 may include guides or indicators indicating a desired tilt direction to achieve different effects. For example, the indicator may be printed on the tilt-activated beverage container 12 and may indicate mouth positions corresponding with different effects (e.g., DRINK HERE FOR MINT! DRINK HERE FOR LEMON!) associated with different additive-release housings 16 and their respective different additives 20. Other contemplated indicators may include indicators for desired tilt angles. In an embodiment, the tilt-activated beverage container 12 may include an LED indicator that is activated when a desired tilt angle is achieved.

[0045] In one example, different additive-release housings 16 (illustrated using reference numerals 16a, 16b, 16c, 16d, 16e) may have respective different additive types, e.g., different colors. As the beverage container 12 is tilted during drinking, release of the different additives 20 at different times and to different degrees may generate a rainbow effect within the main chamber 24. The mating features 106 and/or the complementary features 108 may be different from one another such that only certain types of additive-release housings 16 can be coupled at particular locations. The orientation of the additive release housings 16 may be selected such that the additive is released during tilting.

[0046] The system 102 may be reused with one or more new additive-release housings 16. Accordingly, after use with a particular set of additive-release housings 16, the end user can uncouple the used additive-release housings 16, clean the tilt-activated beverage container 12, and couple one or more additive-release housings 16 to the inner surface. In an embodiment, the system 102 may be provided as a kit, and refill additive-release housings 16 may also be provided so that an end user can select different tilt-activated beverage effects in subsequent uses.

[0047] While only certain features of the invention have been illustrated and described herein, many modifications and changes will occur to those skilled in the art. It is, therefore, to be understood that the appended claims are intended to cover all such modifications and changes as fall within the true spirit of the invention.

[0048] The techniques presented and claimed herein are referenced and applied to material objects and concrete examples of a practical nature that demonstrably improve the present technical field and, as such, are not abstract, intangible or purely theoretical. Further, if any claims appended to the end of this specification contain one or more elements designated as “means for (perform)ing (a function) . . .” or “step for (perform)ing (a function) . . .”, it is intended that such elements are to be interpreted under 35 U.S.C. 112(f). However, for any claims containing elements designated in any other manner, it is intended that such elements are not to be interpreted under 35 U.S.C. 112(f).

1. A tilt-activated beverage container, comprising:
 - a beverage container;
 - an additive-release housing forming a compartment, the additive-release housing disposed on or in an inner wall of the beverage container, wherein the additive-release housing comprises:
 - a cap comprising a lip forming an inner diameter of the cap, wherein the lip extends away from a cap top;

- a base comprising:
- an annular rim extending away from a support surface, the annular rim forming an outer diameter smaller than the inner diameter of the cap such that the annular rim fits within the lip; and
 - a post protruding from the support surface and configured to be coupled to the cap top, wherein, when the post is coupled to the cap top, the lip extends past an upper edge of the annular rim and towards the support surface to form a channel between an inner surface of the lip and an outer surface of the annular rim; and
 - an additive disposed within the compartment of the additive-release housing, wherein liquid of the beverage container does not flow into the compartment in a first orientation of the beverage container and flows into the compartment via the channel in a second orientation.
2. The tilt-activated beverage container of claim 1, wherein a width of the channel formed by a gap between the inner surface of the lip and the outer surface of the annular rim is 2-5 mm.
 3. The tilt-activated beverage container of claim 1, wherein the additive comprises a liquid additive or a solid additive.
 4. The tilt-activated beverage container of claim 1, wherein the lip extends past the annular rim an amount corresponding to at least 5% of a height of the annular rim.
 5. The tilt-activated beverage container of claim 1, wherein the additive-release housing at least in part removably couples to the inner wall of the beverage container.
 6. The tilt-activated beverage container of claim 5, wherein the base is fixedly coupled to the inner wall of the beverage container and the cap is removable from the base.
 7. The tilt-activated beverage container of claim 1, wherein the base is removable from the cap to permit the additive-release housing to be refilled with additional additive.
 8. The tilt-activated beverage container of claim 1, wherein the additive-release housing is coupled to a bottom portion of the beverage container such that a top of the liquid is generally parallel to a plane of the cap top.
 9. The tilt-activated beverage container of claim 1, wherein the liquid extends at least partially into the channel in the first orientation and the liquid fills the channel in the second orientation.
 10. The tilt-activated beverage container of claim 9, wherein the first orientation is a non-tilted orientation and the second orientation is a tilted orientation.
 11. The tilt-activated beverage container of claim 1, wherein a top surface of the post couples to a mating feature of the cap top.
 12. The tilt-activated beverage container of claim 1, wherein the post couples to the cap top via an interference fit with a recess formed in the cap top.
 13. A method of providing tilt-activated beverage effects, comprising:
 - providing a tilt-activated beverage container, the tilt-activated beverage container comprising an inner wall comprising an additive-release housing forming a compartment, wherein the additive-release housing comprises:
 - a cap comprising a lip forming an inner diameter of the cap, wherein the lip extends away from a cap top;

- a base comprising:
- an annular rim extending away from a support surface, the annular rim forming an outer diameter smaller than the inner diameter of the cap such that the annular rim fits within the lip; and
 - a post protruding from the support surface and coupled to the cap top, wherein, when the post is coupled to the cap top, the lip extends past an upper edge of the annular rim and towards the support surface to form a channel between an inner surface of the lip and an outer surface of the annular rim; and
- providing an additive disposed within the compartment, wherein the compartment is not fluidically coupled via the channel to the beverage container holding a liquid in a first orientation of the beverage container and is fluidically coupled via the channel to the beverage container holding the liquid in a second orientation.
14. The method of claim 13, wherein providing the additive comprises disposing the additive within the cap or the base and coupling the base and the cap together via the post.
 15. The method of claim 14, wherein the additive is sealed within a reservoir of the cap or the base and the post disrupts the seal when coupling the base and the cap together to dispose the additive within the compartment.
 16. The method of claim 13, comprising coupling the additive-release housing to the inner wall via complementary mating features.
 17. The method of claim 16, comprising uncoupling the additive-release housing from the inner wall and coupling a new housing comprising a different additive.
 18. The method of claim 13, comprising filling the tilt-activated beverage container with the liquid.
 19. A tilt-activated beverage container system, comprising:
 - a tilt-activated beverage container, the tilt-activated beverage container comprising an inner wall comprising at least one mating feature configured to receive an additive-release housing; and
 - a plurality of additive-release housings, each additive-release housing comprising:
 - a cap comprising a lip forming an inner diameter of the cap, wherein the lip extends away from a cap top;
 - a base comprising:
 - an annular rim extending away from a support surface, the annular rim forming an outer diameter smaller than the inner diameter of the cap such that the annular rim fits within the lip;
 - a post protruding from the support surface and coupled to the cap top, wherein, when the post is coupled to the cap top, the lip extends past an upper edge of the annular rim and towards the support surface to form a channel between an inner surface of the lip and an outer surface of the annular rim; and
 - an additive disposed within a compartment formed by the additive-release housing,

wherein each individual additive-release housing of the plurality of additive-release housings is configured to couple to the inner wall via the at least one mating feature.

20. The tilt-activated beverage container system of claim 19, wherein each respective additive-release housing of the plurality of additive-release housings has a different type of additive.

21. The tilt-activated beverage container system of claim 19, wherein the at least one mating feature comprises a plurality of mating features distributed about the inner wall.

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