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(54) **DISPENSING DEVICE**

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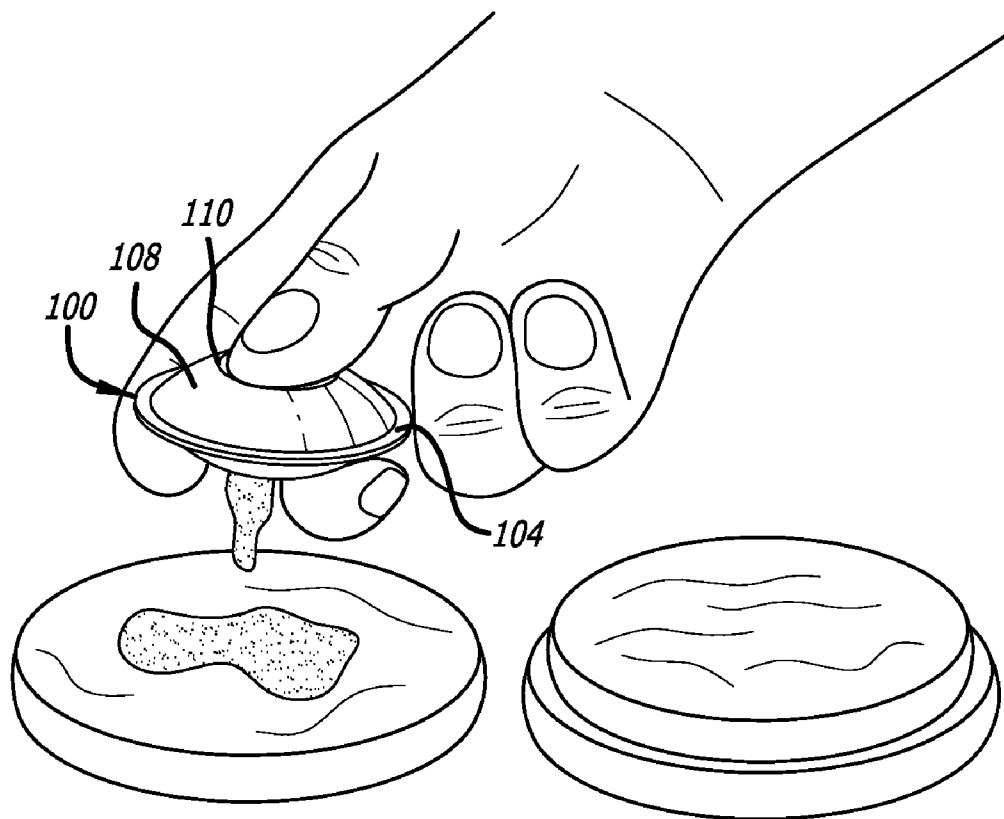
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USPC **222/107**

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(57) **ABSTRACT**

Dispensing devices are described which can contain at least one substance(s) that can be squished, emptied, extruded, and/or poured out. The dispensing devices can comprise an enclosure, a circumferential edge portion, a dispensing port, and a squeezable portion.



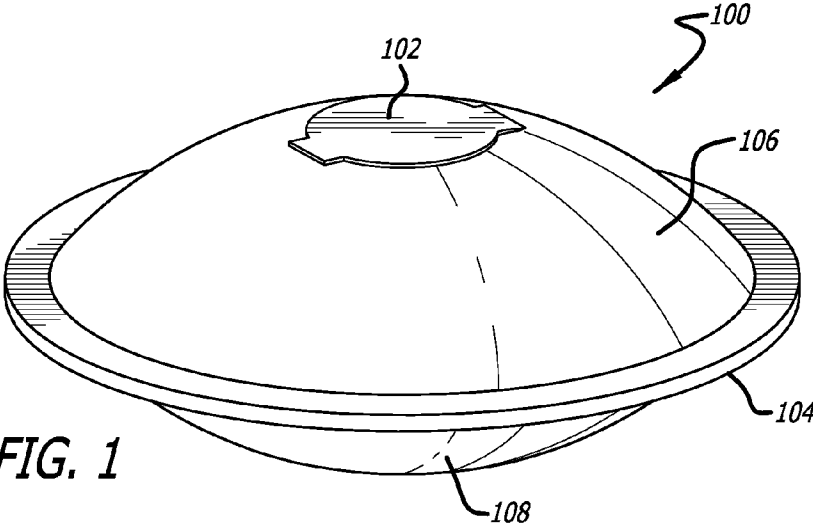


FIG. 1

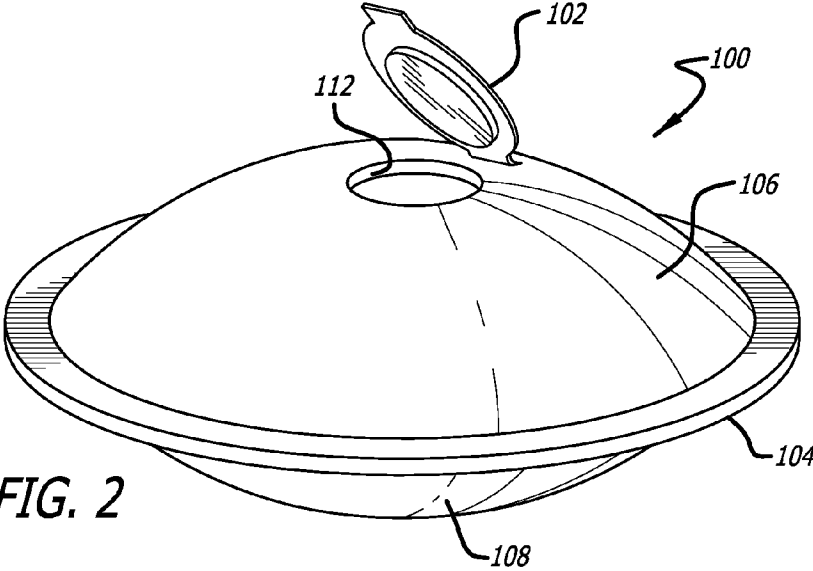
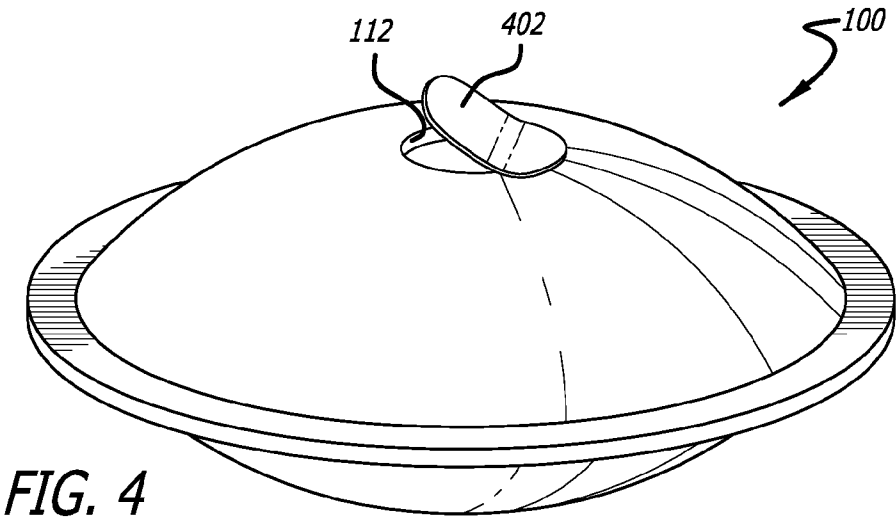
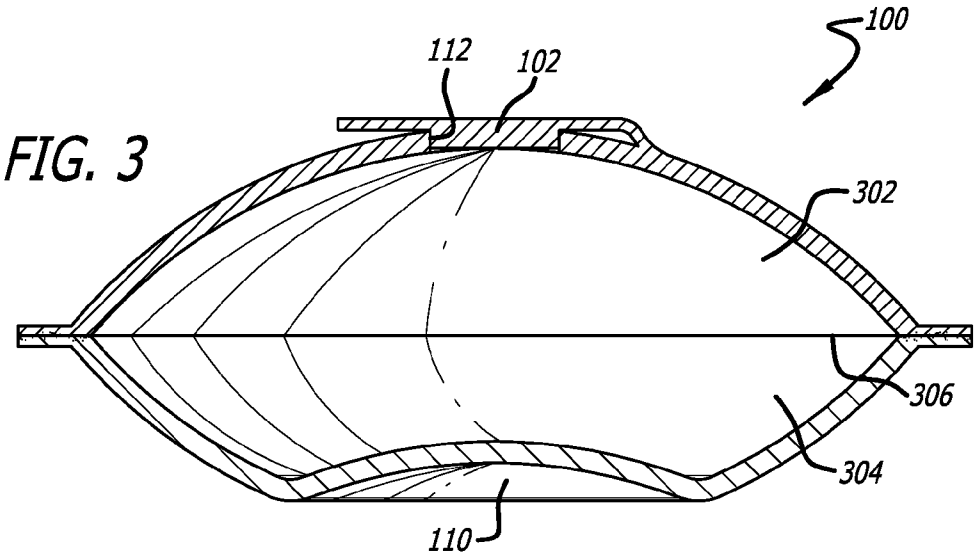


FIG. 2



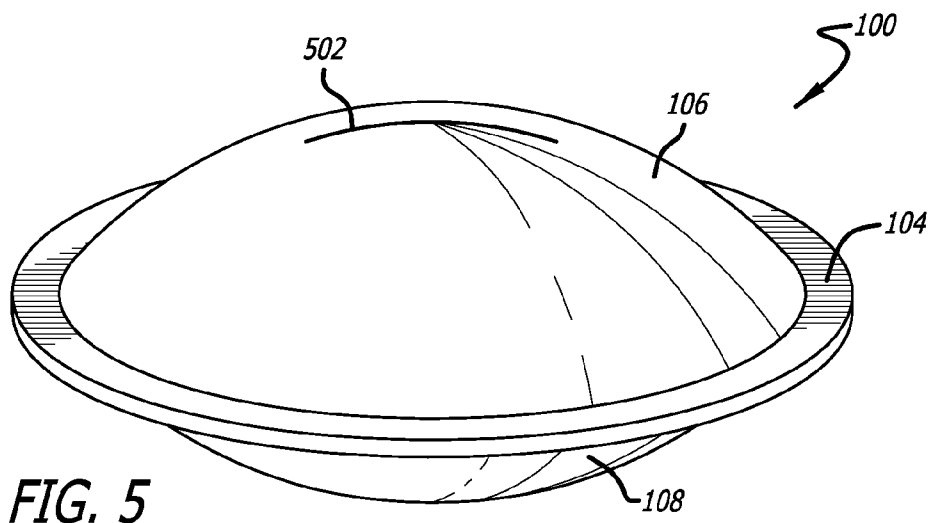


FIG. 5

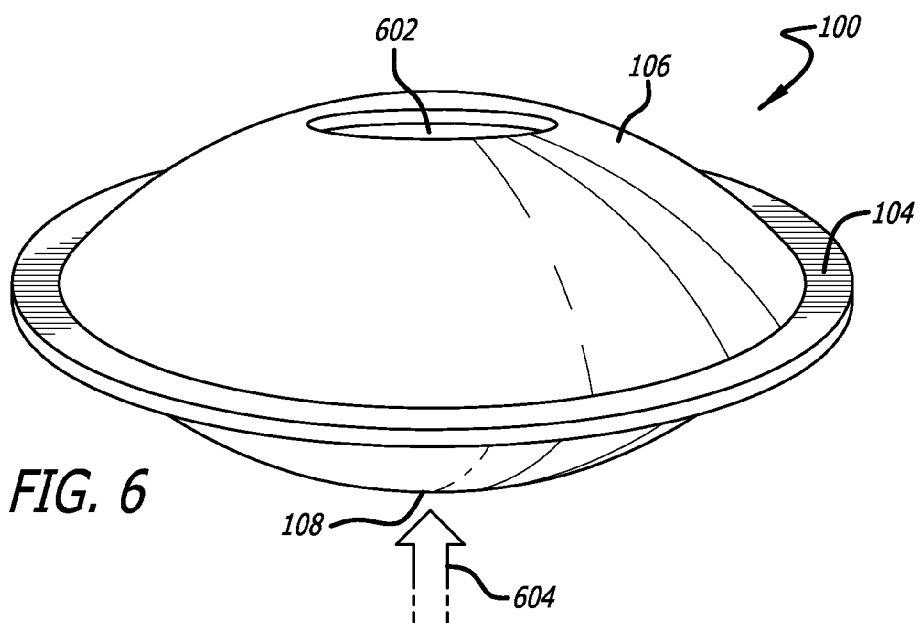
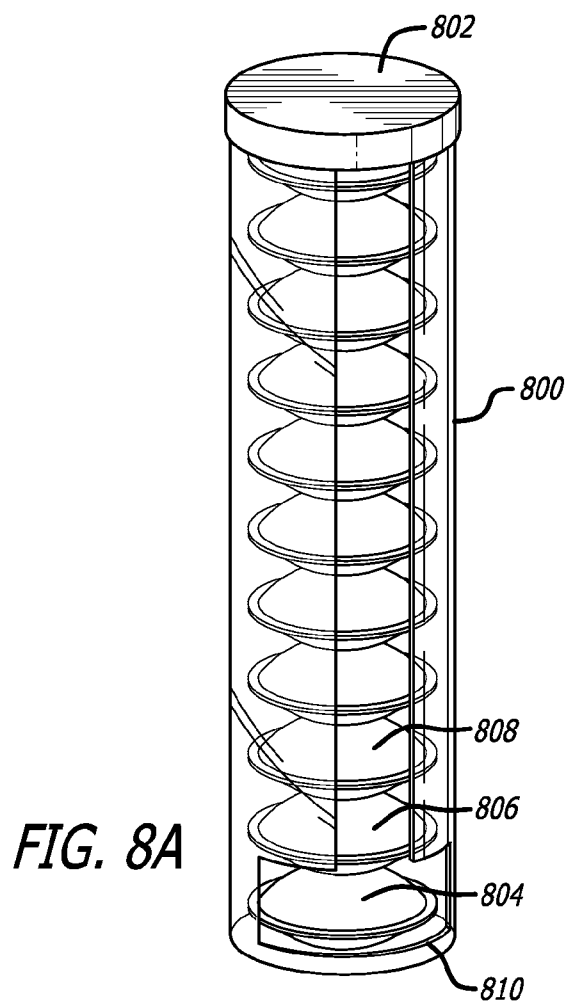
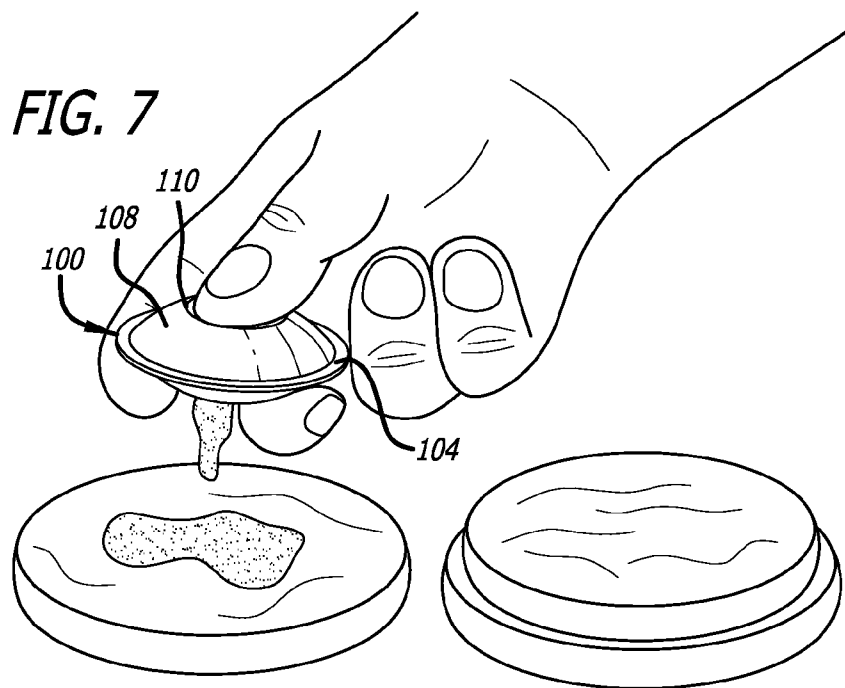


FIG. 6



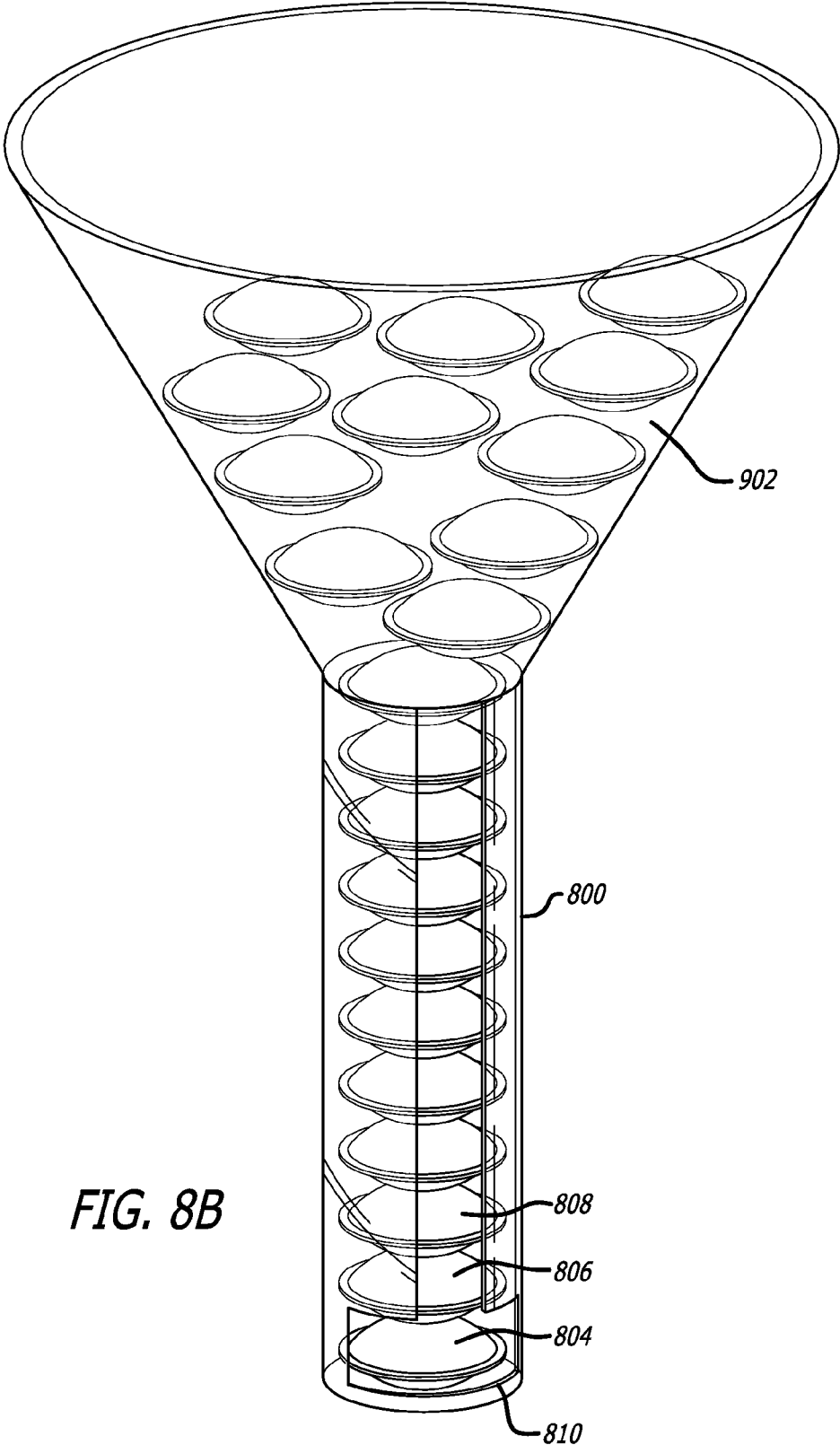
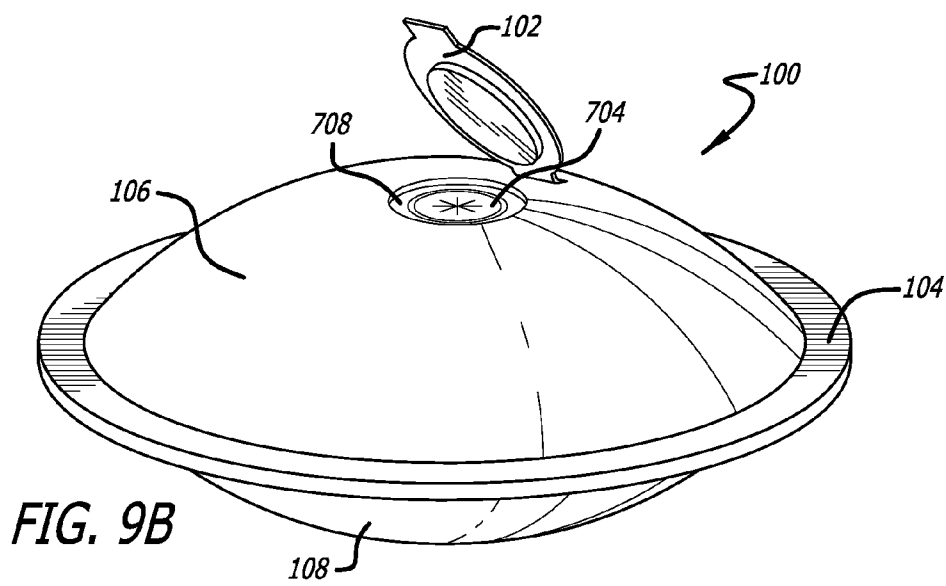
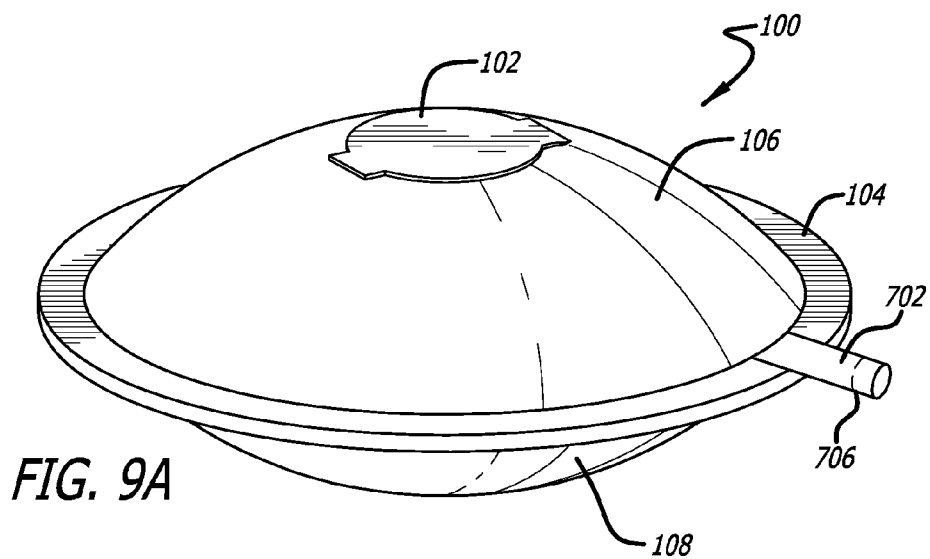
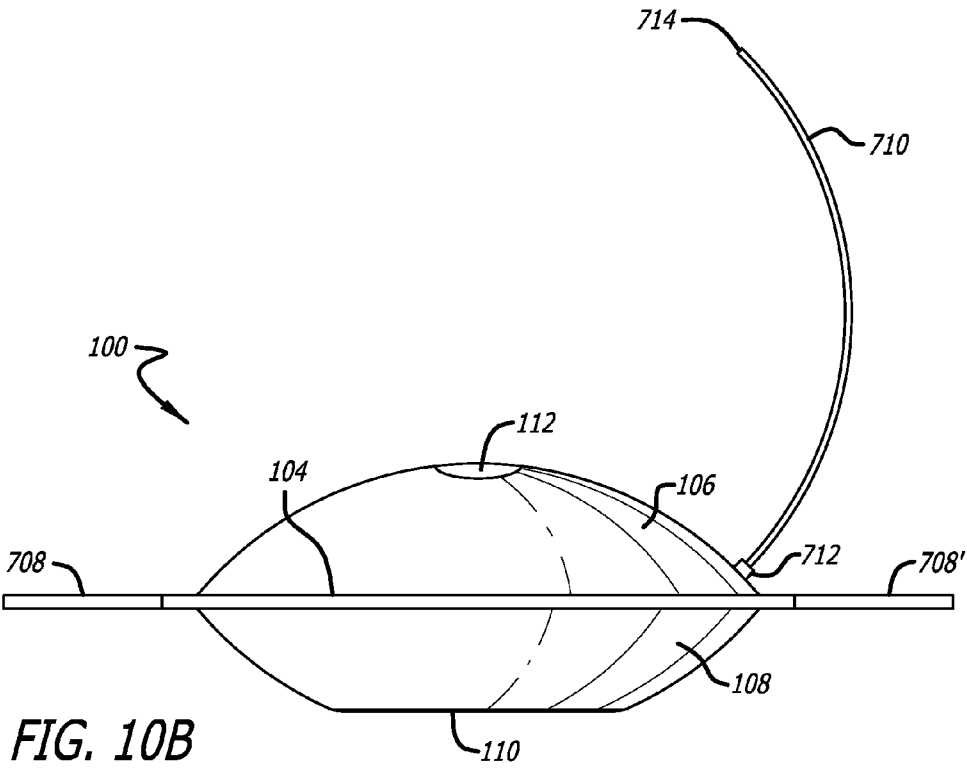
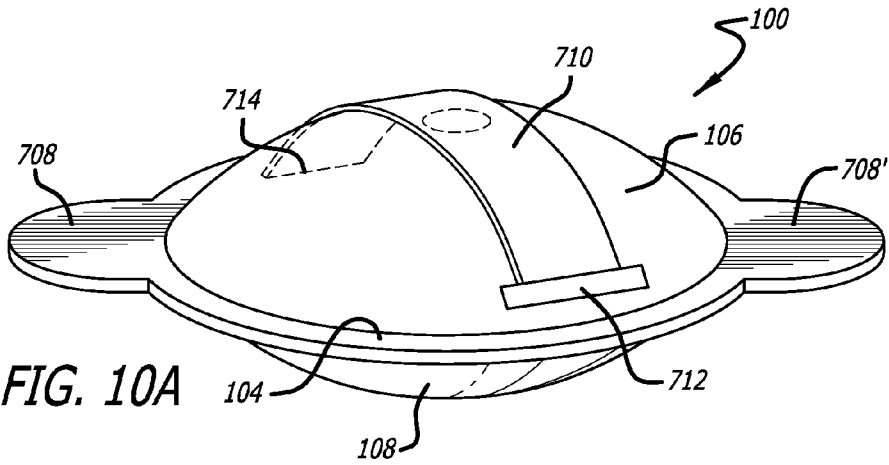


FIG. 8B





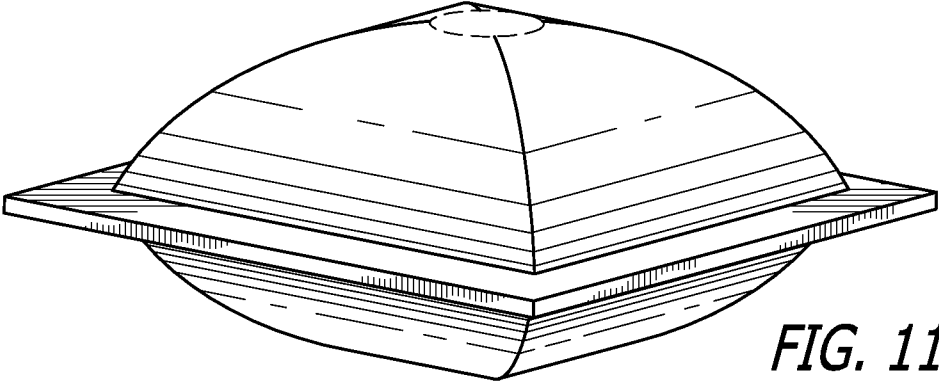


FIG. 11A

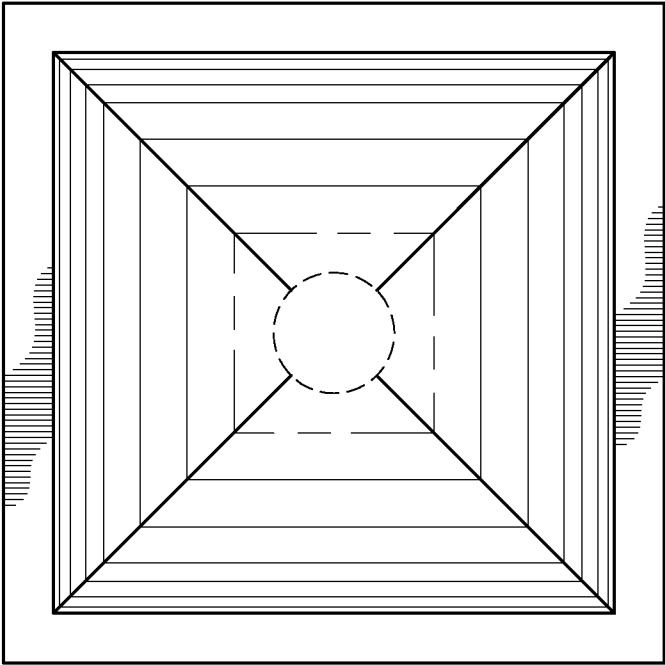


FIG. 11B

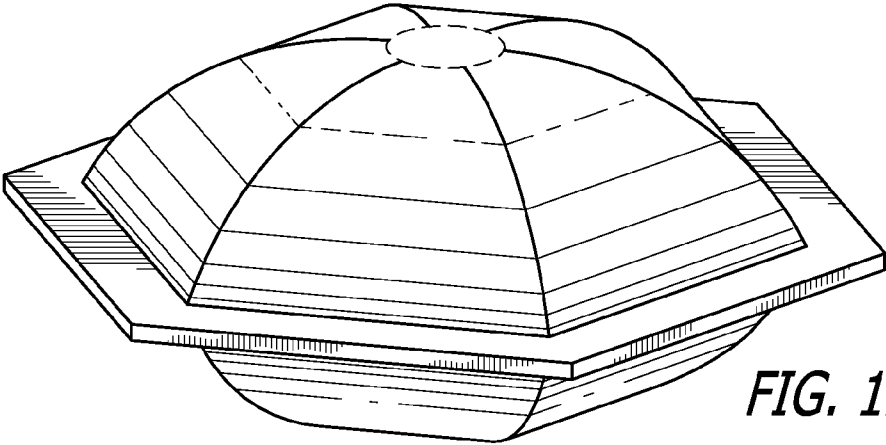


FIG. 12A

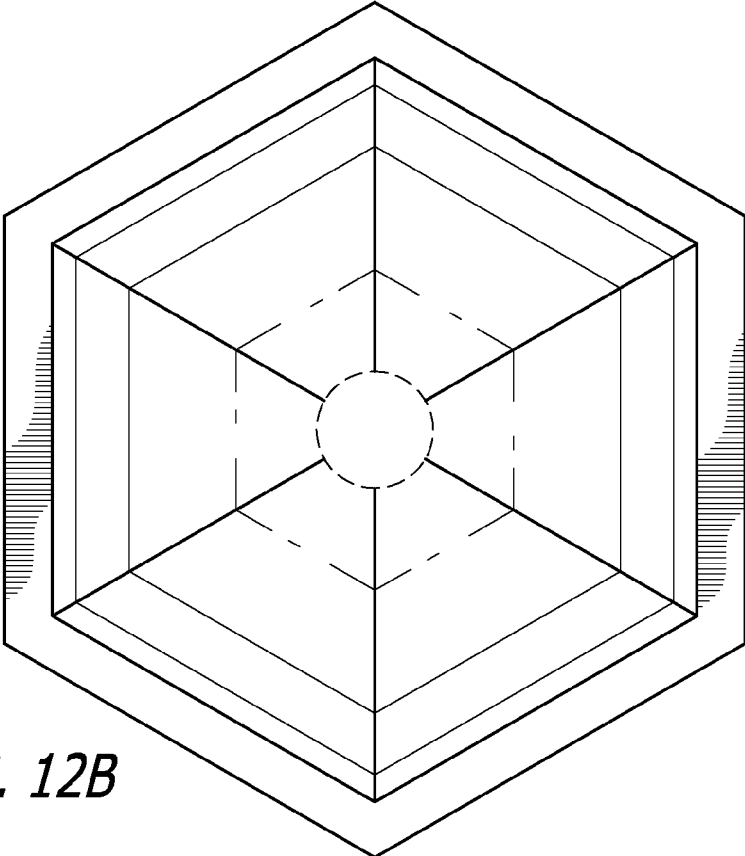


FIG. 12B

DISPENSING DEVICE

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This application claims priority to U.S. provisional patent application No. 61/641,477 filed on May 2, 2012 and U.S. provisional patent application No. 61/656,456 filed on Jun. 6, 2012, the disclosures each of which are incorporated herein by reference in their entirety.

SUMMARY

[0002] Described herein generally are dispensing devices which can contain at least one substance that can be removed from the devices by deforming at least a portion of the device. In some embodiments, a substance can be squished, extruded, emptied and/or poured out. The dispensing devices can comprise an enclosure, a circumferential edge portion, a dispensing port, and a squeezable portion. The dispensing devices can include internal volumes which can house the at least one substance either together or independently.

[0003] The dispensing device can include a top portion including a dispensing port and a bottom portion including an inset groove. The circumferential edge portion can be a ring, securing mechanism, border, or rim and can protrude from the device or can be formed as a part of the device without protruding.

[0004] Methods are also described wherein the at least one substance is dispensed from the dispensing device by squeezing at least a portion of the squeezable enclosure. The dispensing device can be formed partially or completely from compressible material wherein the compressible material contains at least one polymer.

[0005] The dispensing device can have any shape that can be at least partially deformed to remove the substance from the internal volume. In one embodiment, the dispensing device can be substantially spherical. The dispensing device can also comprise a substantially circular or oval cross-section.

BRIEF DESCRIPTION OF THE DRAWINGS

[0006] FIG. 1 illustrates the dispensing device with a dispensing port.

[0007] FIG. 2 illustrates the dispensing device when the dispensing port lid is open.

[0008] FIG. 3 illustrates a cross-sectional view of the dispensing device.

[0009] FIG. 4 illustrates the dispensing device where the dispensing port lid can be an adhesive alloy or tape.

[0010] FIG. 5 illustrates the dispensing device where the dispensing port lid can be a pressure actuated slit.

[0011] FIG. 6 illustrates pressure applied to the inset groove on the dispensing device thereby opening the actuated slit of FIG. 5.

[0012] FIG. 7 illustrates an embodiment where a person is using the dispensing device as described herein to squish ketchup on a hamburger.

[0013] FIG. 8A illustrates a storage compartment for the storage of the dispensing devices.

[0014] FIG. 8B illustrates a storage compartment for the storage of the dispensing devices with a hopper attached.

[0015] FIG. 9A illustrates a dispensing device with a tearable side port.

[0016] FIG. 9B illustrates the dispensing device where there is a spray nozzle or a one way nozzle inside the enclosure.

[0017] FIG. 10A illustrates a dispensing device with a spreader hinged to the top of the dispensing device, which also acts as the dispensing port lid, and appendages extending from the circumferential edge portion.

[0018] FIG. 10B illustrates a side view of a dispensing device with a spreader hinged to the top of the dispensing device, which also acts like the dispensing port lid, and appendages extending from the circumferential edge portion.

[0019] FIG. 11A illustrates a perspective view of a dispensing device with a rectangular circumferential edge portion and rectangular enclosure.

[0020] FIG. 11B illustrates the top view of the dispensing device illustrated in FIG. 11A.

[0021] FIG. 12A illustrates a perspective view of a dispensing device with a hexagonal circumferential edge portion and hexagonal enclosure.

[0022] FIG. 12B illustrates the top view of the dispensing device illustrated in FIG. 12A.

DETAILED DESCRIPTION

[0023] Described herein are dispensing devices configured to contain at least one substance. The dispensing devices can be formed in such a manner that the substance(s) can be emptied from the devices by applying pressure to and/or deforming at least a portion of the device. Upon applying pressure and/or deforming at least a portion of a device, the substance(s) can be said to be squished, extruded or emptied out. In one embodiment, the substances can be poured out. In one embodiment the dispensing device can comprise an enclosure including an internal volume, a circumferential edge portion and a dispensing port. The at least one substance can be housed within the internal volume.

[0024] In one embodiment, a dispensing device can be formed from two halves or portions, a top portion and a bottom portion, along the circumferential edge portion. The top portion can have a dispensing port and the bottom portion can have an inset groove. Further, the top portion can be formed of rigid and/or non-deformable material and the bottom portion can be formed of a compressible and/or deformable material.

[0025] In another embodiment, the top portion and the bottom portion can be independently sealed along the circumferential edge portion and the top portion can have an inset groove opposite the side with the dispensing port, and the bottom portion can have a dispensing port opposite the side with the inset groove thereby creating two dispensing devices in one.

[0026] In one embodiment, as illustrated in FIG. 1, dispensing device 100 comprises a dispensing port lid 102 and a circumferential edge portion 104. Dispensing device 100 can also include a top enclosure portion 106 and a bottom enclosure portion 108. Dispensing device 100 in open position, as illustrated in FIG. 2, can be held upside down and stabilized by the use of fingers at the circumferential edge portion 104 and bottom enclosure portion 108 while applying pressure at inset groove 110 thereby emptying the contents. The packaging can be convenient in that it can allow a person to open and use dispensing device 100 with one hand. It is especially easy to use for those with physical ailments such as but not limited

to arthritis. The use of one hand to open and use dispensing device **100** can be particularly convenient for people trying to multi-task.

[0027] In another embodiment, as illustrated in FIGS. **5** and **6**, dispensing device **100** can include a sealed slit **502** that can be unsealed and opened by applying pressure **604** to bottom enclosure portion **108**. When pressure **604** is applied to bottom enclosure portion **108**, sealed slit **502** unseals and opens to form a slit dispensing port **602**.

[0028] In one embodiment, as illustrated in FIG. **3**, dispensing device **100** comprises two portions that can be halves, top half **302** and bottom half **304**. In some embodiments, the two portions do not need to be halves. For example, a top portion can be larger than a bottom portion or vice versa. FIG. **3** illustrates a cross sectional view of dispensing device **100** in which imaginary line **306** is drawn to represent where circumferential edge portion **104** would be. Bottom half **304** can contain inset groove **110** and top half **302** can contain dispensing port **112**. In one particular embodiment, dispensing device **100** can contain a pierceable membrane located inside dispensing device **100** at imaginary line **306** to keep the contents in bottom half **304** separated from the contents in top half **302**. For instance, there can be a piercer (not illustrated) inside dispensing device **100**, connected to inset groove **110** on the interior of the device. Once pressure is applied to at least a portion of inset groove **110** the piercer can pierce through a pierceable membrane. The pierceable membrane can be located anywhere in dispensing device **100**. In a preferred embodiment the pierceable membrane can be located in dispensing device **100** at circumferential edge portion **104** to separate the top half **302** from the bottom half **304**.

[0029] Dispensing device **100** can have any shape that can hold at least one substance within internal volume. For example, dispensing device **100** can be substantially spherical. Dispensing device **100** can also comprise a substantially circular cross-section. A substantially spherical shape can allow the enclosure to be printed on and to be easily readable and seen from all angles. The enclosure can include one or more linear portions. For example, it can include 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, or 25 linear portions. The enclosure can be any polygonal shape such as but not limited to a triangle, a square, a rectangle, a pentagon, a hexagon, a heptagon, an octagon, a nonagon, or a decagon. The enclosure can also be non-polygonal for example, a circle or oval.

[0030] Circumferential edge portion **104** can be a ring, securing mechanism, border, or rim. Circumferential edge portion **104** can include one or more linear portions. For example, it can include 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, or 25 linear portions. Circumferential edge portion **104** can be a polygonal shape such as but not limited to a triangle, a square, a rectangle, a pentagon, a hexagon, a heptagon, an octagon, a nonagon, or a decagon. Circumferential edge portion **104** can also be non-polygonal for example, a circle or oval.

[0031] As an example, FIG. **11A** illustrates a side view of a dispensing device with a rectangular circumferential edge portion and substantially rectangular enclosure. A top view of this substantially rectangular dispensing device is illustrated in FIG. **11B**. FIG. **12A** illustrates a side view of a dispensing device with a hexagonal circumferential edge portion and substantially hexagonal enclosure. A top view of this substantially hexagonal dispensing device is illustrated in FIG. **12B**.

[0032] Dispensing device **100** can be formed in a shape to allow multiple devices to be stacked in storage compartment **800** as illustrated by FIG. **8**. Storage compartment lid **802** can be removed and multiple dispensing devices can be stacked in storage compartment **800**. First dispensing device **804** easily rests at the bottom of storage compartment **800**. Second dispensing device **806** can easily be stacked on first dispensing device **804** by inset groove **110** of second dispensing device **806** lying on top of dispensing port lid **102** of first dispensing device **804**. This continues as inset groove **110** of third dispensing device **808** lies on top of dispensing port lid **102** of second dispensing device **806**. Dispensing device **804** can easily be removed at opening **810** of storage compartment **800**. Storage compartment **800** can hold anywhere from 1 to 100 dispensing devices. For example, there can be 1-10, 10-20, 20-30, 30-40, 40-50, 50-60, 60-70, 70-80, 80-90, or 90-100 dispensing devices in storage compartment **800**.

[0033] In another embodiment, dispensing devices are stored in hopper **902** where the removal of one dispensing device allows through gravity for the other dispensing devices to funnel down as illustrated in FIG. **8B**. Storage compartment **800** can include a loader device or hopper **902**. Hopper **902** can hold one or more devices that can feed into the top of storage compartment **800**. The loading of devices can be by gravity as a device is removed from the bottom of storage compartment **800**. A hopper can house 1-10, 10-20, 20-30, 30-40, 40-50, 50-60, 60-70, 70-80, 80-90, 90-100, 100-500, 500-1,000, or 1,000-5,000 or more devices.

[0034] The ease of packaging and stackability of dispensing device **100** allows for clear advertising space. Even while stacked substantially all of top enclosure portion **106** and bottom enclosure portion **108** can be used for advertising space by the product housed by dispensing device **100** and/or can be clearly seen through storage compartment **800** allowing great marketability of the product. This can be very beneficial in attracting consumers of all types. Further, the stackability and ease of removing one dispensing device from storage compartment **800** without touching any of the other dispensing devices allows for a state of sterility among the dispensing devices remaining in storage compartment **800**. This application could be extremely useful in hospitals or doctor offices where sterility can be important. However, this application can also be beneficial among other establishments as well as people in today's age are very cautious about what they touch and what contaminants they come in contact with. For instance, people don't want someone else's germs on their dispensing device. Thus the ease in stackability and ability to remove one dispensing device without touching the other is very attractive to many individuals who are worried about becoming sick or fearful of encountering contaminants.

[0035] Dispensing port lid **102** can be any device, substance, or shape that can allow for sealing of the at least one substance within the internal volume of a device. Dispensing port lid **102** can include, but is not limited to caps, lids, snap caps, peel caps, pressure actuated slits, spray actuated nozzles, mist nozzles, adhesive tape, or adhesive alloy. FIG. **4** illustrates adhesive alloy dispensing port **402** which can be peeled or pierced open. The alloy can be but is not limited to aluminum, bismuth, chromium, cobalt, copper, gallium, gold, indium, iron, lead, magnesium, mercury, nickel, potassium, plutonium, rare earth alloys, scandium, silver, sodium, titanium, tin, uranium, zinc, or zirconium. FIG. **5** illustrates pressure actuated slit dispensing port **502**. Pressure applied to

inset groove **110** can cause the pressure actuated slit to tear thereby allowing the contents of dispensing device **100** to be squished out.

[0036] In one embodiment, as illustrated in FIG. 9A, appendage **702**, can be connected to top enclosure portion **106** and bottom enclosure portion **108** at or near circumferential edge **104** and serve as a second dispensing port. Appendage **702** can be torn along the perforated edge **706** to allow at least one substance from the enclosure to be squished out. Appendage **702** can allow for a more controlled placement of the at least one substance to the desired area.

[0037] In another embodiment, as illustrated in FIG. 9B, nozzle **704** is situated in opening **708** of dispensing device **100**. Nozzle **704** can be but is not limited to a spray nozzle, a mist nozzle, or a one-way nozzle. Dispensing port lid **102** is configured to cover nozzle **704** when the dispensing device is in the closed position. Top enclosure portion **106** of dispensing device **100** can be made of slightly harder compressible material in relation to bottom enclosure portion **108** to allow ideal pressure conditions for the functioning of nozzle **704**.

[0038] In yet another embodiment, as illustrated in FIG. 10A, spreader **710** can be actuated using hinge **712**. Spreader **710** can function as a lid for dispensing device **100** in the closed position. Spreader **706** can act as a knife at distal end **714** to spread the at least one substance housed in dispensing device **100**. Distal end **714** can have any shape that allows spreading of the housed substance. FIG. 10B illustrates dispensing device **100** with spreader **706** in the open position as reflected by dispensing port **112**. The at least one substance can be squished onto the desired area and spread over an area by spreader **706** at distal end **714**.

[0039] In a further embodiment, as illustrated by FIG. 10A the circumferential edge portion **104** can extend outwards on the right and left side to form ear-like appendages **708** and **708'**. Ear-like appendages **708** and **708'** on dispensing device **100** can be easier for people with bigger hands and physical ailments to control. Ear-like appendages **708** and **708'** can allow for increased stability while holding dispensing device **100** and applying pressure to inset groove **108** in order to squish out the at least one substance. Ear-like appendages **708** and **708'** can have any shape that aids in using and/or holding dispensing device **100**.

[0040] Dispensing device **100** can be made of a polymer, metal, textile or a combination thereof. Further, top enclosure portion **106** and bottom enclosure portion **108** can be formed of the same or different materials. Polymeric materials can include but are not limited to thermosets, thermoplastics, solidified gels, tar, stucco, resin, rubber, vulcanized rubber, synthetic rubber, cement, silicone polymers, polyolefins, polyisobutylene, acrylic polymers, ethylene-co-vinylacetate, polybutylmethacrylate, vinyl halide polymers (for example, polyvinyl chloride), polyvinyl ethers (for example, polyvinyl methyl ether), polyvinylidene halides, polyacrylonitrile, polyvinyl ketones, polyvinyl aromatics, polyvinyl esters, acrylonitrile-styrene copolymers, ABS resins, ethylene-vinyl acetate copolymers, polyamides (for example, Nylon 66 and polycaprolactam), alkyd resins, polycarbonates, polyoxymethylenes, polyimides, polyethers, epoxy resins, polyurethanes, rayon, cellulose, cellulose acetate, cellulose butyrate, cellulose acetate butyrate, cellophane, cellulose nitrate, cellulose propionate, cellulose ethers, carboxymethyl cellulose, polytetrafluoroethylene (for example, Teflon), combinations thereof, and the like. Metal or metallic materials can include but are not limited to aluminum, copper, tin, steel, iron, tita-

nium, gold, silver, cobalt, chromium, or alloys or combinations thereof. Textile materials can include but are not limited to paper, carboard, fiberboard, cotton, hemp, other polymeric textiles, and combinations thereof.

[0041] In other embodiments, dispensing device **100** can be formed of a combination or combinations of polymeric materials, metallic materials, and textile materials.

[0042] In yet another embodiment, the compressible material can be aseptic. The material can be aseptic in order to prevent the contents in dispensing device **100** from spoiling. This allows for the contents to be refrigerated only upon opening of dispensing device **100**. For example, where the contents is sweetened condensed milk, the sweetened condensed milk would remain unspoiled due to compressible material which is aseptic thereby allowing the sweetened condensed milk to be fresh upon opening of dispensing device **100** and only require refrigeration after opening.

[0043] Further, the embodiment can also have compressible material which is free of Bisphenol A (BPA). Compressible material free of BPA is safer for the environment and humans. BPA is an industrial chemical which has been found in plastic bottles and metal-based cans since the 1960's. Toxicity reports have shown that BPA can have negative effects on the brain, behavior, and prostate gland in fetuses, infants, and young children. As such dispensing device **100** can provide a safer way to package edible contents in comparison with other packaging materials that are not BPA free.

[0044] The internal volume can be but is not limited to a void, an encasement, an empty space, or housing.

[0045] In another embodiment the internal void is an encasement containing at least one substance. The at least one substance can be in the form of a fluid or viscous substance. For example it could be a liquid, solid, powder, cream, gel, polymer, or semi-solid.

[0046] In one embodiment the substance can be a condiment, such as but not limited to ketchup, mustard, mayonnaise (regular, light, low-fat, fat-free), relish, sweet relish, oil, vinegar, salad dressing, peanut butter, jelly, jam, sweetened condensed milk, grey poupon, BBQ sauce, honey mustard sauce, spicy wing sauce, A1 steak sauce, cocktail sauce, tarter sauce, jellied cranberry sauce, brown and white gravy, pizza tomato sauce, hot sauce, Tabasco sauce, sriracha hot chili sauce, soy sauce, teriyaki sauce, balsamic vinegar, honey, nutella, frosting, cooking oil, liquid pancake batter, liquid waffle batter, soft butter, sour cream, cream cheese and coffee creamer. Dispensing device **100** offers an innovative enhancement to the way current condiment packaging controls the consumer; dispensing device **100** gives the piloting controls back so the consumer can "land" the liquid anywhere they want, using just one hand.

[0047] In yet another embodiment the substance can be related to personal care such as but not limited to body lotion, hand lotion, aftershave, soap, hand sanitizer, bath salts, powder, gel, body oil, cream, shampoo, conditioner, sample shampoos, hair gels, body soaps/washes, moisturizer, shaving cream, toothpaste, facial soap, anti-aging cream, mouth wash, asprcream, soothing gels or creams, suntan lotion, sample intensive conditioners, and sexual lubricant. These substances can be packaged into dispensing device **100** at a certain travel size approved by the Transportation Security Administration (TSA). Further, the substances can be packaged into dispensing device **100** for single-use in hotels, cruise lines, resorts, hotel chains, fast food restaurants, and airport lounge retail stores.

[0048] In even yet another embodiment the substance can be a medicament, therapeutic agent, and/or drug which may or may not include an active agent. A medicament can include any compound or drug having a therapeutic effect in an animal. Exemplary, non limiting examples include anti-proliferatives including, but not limited to, macrolide antibiotics including FKBP-12 binding compounds, estrogens, chaperone inhibitors, protease inhibitors, protein-tyrosine kinase inhibitors, leptomycin B, peroxisome proliferator-activated receptor gamma ligands (PPAR γ), hypothemycin, nitric oxide, bisphosphonates, epidermal growth factor inhibitors, antibodies, proteasome inhibitors, antibiotics, anti-inflammatories, anti-sense nucleotides and transforming nucleic acids. Drugs can also refer to bioactive agents including anti-proliferative compounds, cytostatic compounds, toxic compounds, anti-inflammatory compounds, chemotherapeutic agents, analgesics, antibiotics, protease inhibitors, statins, nucleic acids, polypeptides, growth factors and delivery vectors including recombinant micro-organisms, liposomes, and the like. Exemplary FKBP-12 binding agents include sirolimus (rapamycin), tacrolimus, everolimus, temsirolimus and zotarolimus.

[0049] In one embodiment, a medicament can be baby Acetaminophen (TYLENOL $\text{\textcircled{R}}$), single-use androgel, single-use NEOSPORIN $\text{\textcircled{R}}$, single-use burn cream soother, single-use aloe vera, single-use arthritis cream, single-use cough syrup, hydrogen peroxide, sanitizer, or wound irrigation (ER surgery).

[0050] In another embodiment the substance can be related to health and beauty products such as, but not limited to, perfume, cologne, make-up, foundation, and nail polish remover.

[0051] In yet another embodiment the substance can be related to sports nutrition such as, but not limited to, GU energy gel, hammer gel, liquid Gatorade concentrate, Gatorade fuel pouch, accel gel, protein powder, energy boosts, and stimulants.

[0052] In a further embodiment the substance can be related to industrial use such as machine oils or machine lubricants.

[0053] In yet another embodiment the substance can be alcoholic beverages (which are mixable or not), JELL-O $\text{\textcircled{R}}$ shots, paint, mosquito/bug spray repellent or cake frosting for cake decorating.

[0054] In another embodiment, dispensing devices as described herein can have an internal volume of 3.0 fluid ounces and in another 6.0 fluid ounces. The internal volume can be anywhere from 0.5 fluid ounces to about 1.5 liters. The internal volume can be about 0.5 to about 1.0 fluid ounces, about 1.0 to about 2.0 fluid ounces, about 2.0 to about 3.0 fluid ounces, about 3.0 to about 4.0 fluid ounces, about 4.0 to about 5.0 fluid ounces, about 5.0 to about 6.0 fluid ounces, about 6.0 fluid ounces to about 7.0 fluid ounces, about 7.0 fluid ounces to about 8.0 fluid ounces, about 8.0 fluid ounces to about 9.0 fluid ounces, about 9.0 fluid ounces to about 10.0 fluid ounces, about 10.0 fluid ounces to about 11.0 fluid ounces, about 11.0 fluid ounces to about 12.0 fluid ounces, about 12.0 fluid ounces to about 13.0 fluid ounces, about 13.0 fluid ounces to about 14.0 fluid ounces, about 14.0 fluid ounces to about 15.0 fluid ounces, about 15.0 fluid ounces to about 16.0 fluid ounces, about 16.0 fluid ounces to about 17.0 fluid ounces, about 17.0 fluid ounces to about 18.0 fluid ounces, about 18.0 fluid ounces to about 19.0 fluid ounces, about 19.0 fluid ounces to about 20.0 fluid ounces, about 21.0 fluid

ounces to about 22.0 fluid ounces, about 22.0 fluid ounces to about 23.0 fluid ounces, about 23.0 fluid ounces to about 24.0 fluid ounces, about 24.0 fluid ounces to about 25.0 fluid ounces, about 25.0 fluid ounces to about 26.0 fluid ounces, about 26.0 fluid ounces to about 27.0 fluid ounces, about 27.0 fluid ounces to about 28.0 fluid ounces, about 28.0 fluid ounces to about 29.0 fluid ounces, about 29.0 fluid ounces to about 30.0 fluid ounces, about 30.0 fluid ounces to about 31.0 fluid ounces, about 31.0 fluid ounces to about 32.0 fluid ounces, about 32.0 fluid ounces to about 33.0 fluid ounces, about 33.0 fluid ounces to about 34.0 fluid ounces, about 34.0 fluid ounces to about 35.0 fluid ounces, about 35.0 fluid ounces to about 36.0 fluid ounces, about 36.0 fluid ounces to about 37.0 fluid ounces, about 37.0 fluid ounces to about 38.0 fluid ounces, about 38.0 fluid ounces to about 39.0 fluid ounces, about 39.0 fluid ounces to about 40.0 fluid ounces, about 40.0 fluid ounces to about 41.0 fluid ounces, about 41.0 fluid ounces to about 42.0 fluid ounces, about 42.0 fluid ounces to about 43.0 fluid ounces, about 43.0 fluid ounces to about 44.0 fluid ounces, about 44.0 fluid ounces to about 45.0 fluid ounces, about 45.0 fluid ounces to about 46.0 fluid ounces, about 46.0 fluid ounces to about 47.0 fluid ounces, about 47.0 fluid ounces to about 48.0 fluid ounces, about 48.0 fluid ounces to about 49.0 fluid ounces, about 49.0 fluid ounces to about 50.0 fluid ounces, about 50.0 fluid ounces to about 51.0 fluid ounces.

Example 1

Squishing Ketchup onto a Hamburger Bun

[0055] As illustrated, in FIG. 7, the dispensing device is used to apply ketchup onto a hamburger bun. The person first takes the dispensing device and opens the dispensing port lid. The dispensing port lid is a snap cap. The person then turns the dispensing device upside down while stabilizing it in the open position using the middle finger and index finger at the circumferential edge portion and squeezable enclosure. Any fingers can be used to stabilize the dispensing device. The thumb then applies pressure onto the inset groove of the dispensing device in order to squish out the ketchup. The burger can then be enjoyed.

Example 2

Salad Dressing Creation

[0056] The dispensing device is used to create an oil-vinegar dressing. The dispensing device contains a pierceable membrane at imaginary line 306 located at the circumferential edge portion to separate the top enclosure portion of the dispensing device from the bottom enclosure portion of the dispensing device. The top enclosure portion of the dispensing device contains the dispensing port and the bottom enclosure portion of the dispensing device contains the inset groove. The top enclosure portion houses the vinegar while the bottom enclosure portion houses the oil. Once a person is ready to eat their salad they can create a delicious oil-vinegar based dressing by keeping the dispensing port lid intact turning the dispensing device upside down and stabilizing it in their fingers while applying pressure to the inset groove with the thumb. The pressure applied to the inset groove allows a piercer located inside the enclosure at the inset groove to pierce through the pierceable membrane thereby allowing the oil and vinegar to come into contact with one another and mix. The dispensing device can then be given a little shake and the

dispensing port lid opened. Pressure can then be applied again while the dispensing device is open to empty out the oil-vinegar dressing onto the salad. The salad can then be enjoyed anytime anywhere with the convenient instant oil-vinegar dressing on hand. No longer does one have to worry about how to store their dressing and worry about spillage.

Example 3

Moisturizer on the Go

[0057] The dispensing device is used to apply moisturizer to the skin. The person first takes the dispensing device and opens the dispensing port lid. The dispensing port lid is a peel cap. The person then turns the dispensing device upside down while stabilizing it in the open position using the middle finger and index finger at the circumferential edge portion and enclosure. The thumb then applies pressure onto the inset groove of the dispensing device in order to squish out the moisturizer onto the desired area. The dispensing device is for a single use and is thrown out upon removal of all the moisturizer. This is extremely convenient for camping trips, trips in general, and for the average women on the go whose purse is too heavy to carry a bulky store brought moisturizer and desires that easy single use moisturizer to moisturize her skin during the day. The advantage is also having a different scented moisturizer for each day of the week. There is no monotony but only variety.

Example 4

Camping Meals

[0058] The dispensing device is used to make peanut butter and jelly sandwiches on a camping trip. There are two 3.0 fluid ounce dispensing devices; one contains peanut butter and the other jelly. Both dispensing devices have a spreader hinged to the top enclosure portion of the dispensing device. The spreader acts as both a knife and a snap cap to cover the dispensing port. The spreader is snapped open and the dispensing device turned upside down and stabilized by the index and middle finger. Pressure is then applied to the inset groove of the dispensing device with the thumb. The peanut butter or jelly, depending on which dispensing device is used first, is then squished onto the bread. The spreader then acts as a knife and spreads the peanut butter and jelly all over the bread. The spreader snaps back onto the dispensing port of the dispensing device to reseal the dispensing device. This is particularly beneficial for the wilderness because being able to reseal the dispensing devices will keep the smell of food intact and not attract bears and other animals.

Example 5

Perfume/Cologne on the Go

[0059] The dispensing device is used to store cologne or perfume for travel or everyday use when on the go. A 0.5 fluid ounce dispensing device contains men's cologne. There is a sponge applicator inside the enclosure at the dispensing port. The desired amount of cologne can be applied to the sponge applicator by the amount of pressure exerted by the thumb on the inset groove. The dispensing device is turned upside down and stabilized by the index and middle finger. Pressure is then applied to the inset groove of the dispensing device with the thumb and then the cologne gets absorbed by the sponge

applicator. The dispensing port lid is then opened and the cologne applied onto the desired area by the sponge applicator. The sponge applicator can be provided separately opposed to being situated inside the enclosure.

Example 6

Applying Paint without Bulky Cans

[0060] The dispensing device is used to apply paint to a desired area. This is convenient for the painter who wants to do a touch up or wants to paint without the bulkiness of paint cans. The 6.0 fluid ounce dispensing device contains the desired paint. There is a sponge applicator inside the enclosure at the dispensing port. The desired amount of paint can be applied to the sponge applicator by the amount of pressure exerted by the thumb on the inset groove. The dispensing device is turned upside down and stabilized by the index and middle finger. Pressure is then applied to the inset groove of the dispensing device with the thumb and then the paint gets absorbed by the sponge applicator. The dispensing port lid is then opened and the paint can be applied onto the desired area by the sponge applicator. The sponge applicator can be provided separately opposed to being situated inside the enclosure.

Example 7

Makeup on the Go

[0061] The dispensing device is used to apply makeup/foundation to the face. This is convenient for the woman who wishes to try different foundations, for instance one day she could be tanner than the next without the sun. The dispensing device is a 2.0 fluid ounces dispensing device with desired foundation shade. There is a sponge applicator inside the enclosure at the dispensing port. The desired amount of foundation can be applied to the sponge applicator by the amount of pressure exerted by the thumb on the inset groove. The dispensing device is turned upside down and stabilized by the index and middle finger. Pressure is then applied to the inset groove of the dispensing device with the thumb and then the foundation gets absorbed by the sponge applicator. The dispensing port lid is then opened and the foundation applied onto the desired area by the sponge applicator. The sponge applicator can be provided separately opposed to being situated inside the enclosure.

Example 8

Wash your Pet Anywhere without the Mess

[0062] The dispensing device is used to wash a pet. The dispensing device is 2.0 fluid ounces and contains animal safe shampoo for dogs. The dispensing device has a brush hinged to the top of the squeezable enclosure of the dispensing device. The brush acts as both a brush and a snap cap to cover the dispensing port of the dispensing device. The bristles of the brush point upwards from the dispensing port so that the non-bristle side is used to reseal the dispensing device and act as a dispensing port lid. The brush is snapped open and the dispensing device turned upside down and stabilized by the index and middle finger. Pressure is then applied to the inset groove of the dispensing device with the thumb. The shampoo is then squished onto the dog. The brush can then be used to brush the shampoo through the wet hair of the dog. Water can

then be poured on the dog to wash away the shampoo. The brush snaps back onto the dispensing port of the dispensing device to reseal the dispensing device. This is particularly beneficial as the dog can be bathed anywhere where there is water. The brush can also be provided separately and a dispensing port lid such as a snap cap used instead of the brush.

Example 9

Mosquito Spray Repellant

[0063] The dispensing device is used to spray mosquito repellant. This is convenient for camping trips and travel even in your own back yard during those beautiful summer nights. The dispensing device is a 3.0 fluid ounces dispensing device with mosquito repellant. There is a spray mist nozzle situated inside the enclosure at the dispensing port. The dispensing port lid is opened and the dispensing device turned upside down and stabilized by the index and middle finger. Pressure is then applied to the inset groove of the dispensing device with the thumb and the mosquito repellant gets sprayed out onto the desired area. The dispensing port lid can then be closed to reseal the dispensing device for later use.

[0064] Unless otherwise indicated, all numbers expressing quantities of ingredients, properties such as molecular weight, reaction conditions, and so forth used in the specification and claims are to be understood as being modified in all instances by the term “about.” Accordingly, unless indicated to the contrary, the numerical parameters set forth in the specification and attached claims are approximations that may vary depending upon the desired properties sought to be obtained by the present invention. At the very least, and not as an attempt to limit the application of the doctrine of equivalents to the scope of the claims, each numerical parameter should at least be construed in light of the number of reported significant digits and by applying ordinary rounding techniques. Notwithstanding that the numerical ranges and parameters setting forth the broad scope of the invention are approximations, the numerical values set forth in the specific examples are reported as precisely as possible. Any numerical value, however, inherently contains certain errors necessarily resulting from the standard deviation found in their respective testing measurements.

[0065] The terms “a,” “an,” “the” and similar referents used in the context of describing the invention (especially in the context of the following claims) are to be construed to cover both the singular and the plural, unless otherwise indicated herein or clearly contradicted by context. Recitation of ranges of values herein is merely intended to serve as a shorthand method of referring individually to each separate value falling within the range. Unless otherwise indicated herein, each individual value is incorporated into the specification as if it were individually recited herein. All methods described herein can be performed in any suitable order unless otherwise indicated herein or otherwise clearly contradicted by context. The use of any and all examples, or exemplary language (e.g., “such as”) provided herein is intended merely to better illuminate the invention and does not pose a limitation on the scope of the invention otherwise claimed. No language in the specification should be construed as indicating any non-claimed element essential to the practice of the invention.

[0066] Groupings of alternative elements or embodiments of the invention disclosed herein are not to be construed as limitations. Each group member may be referred to and claimed individually or in any combination with other mem-

bers of the group or other elements found herein. It is anticipated that one or more members of a group may be included in, or deleted from, a group for reasons of convenience and/or patentability. When any such inclusion or deletion occurs, the specification is deemed to contain the group as modified thus fulfilling the written description of all Markush groups used in the appended claims.

[0067] Certain embodiments of this invention are described herein, including the best mode known to the inventors for carrying out the invention. Of course, variations on these described embodiments will become apparent to those of ordinary skill in the art upon reading the foregoing description. The inventor expects skilled artisans to employ such variations as appropriate, and the inventors intend for the invention to be practiced otherwise than specifically described herein. Accordingly, this invention includes all modifications and equivalents of the subject matter recited in the claims appended hereto as permitted by applicable law. Moreover, any combination of the above-described elements in all possible variations thereof is encompassed by the invention unless otherwise indicated herein or otherwise clearly contradicted by context.

[0068] In closing, it is to be understood that the embodiments of the invention disclosed herein are illustrative of the principles of the present invention. Other modifications that may be employed are within the scope of the invention. Thus, by way of example, but not of limitation, alternative configurations of the present invention may be utilized in accordance with the teachings herein. Accordingly, the present invention is not limited to that precisely as shown and described.

I claim:

1. A dispensing device comprising:
an enclosure including an internal volume;
a circumferential edge portion;
a dispensing port; and
a squeezable portion.
2. A dispensing device according to claim 1, wherein the internal volume is a void.
3. A dispensing device according to claim 1, wherein the internal volume is an encasement.
4. A dispensing device according to claim 3, wherein the encasement contains at least one substance.
5. A dispensing device according to claim 4, wherein the at least one substance is a condiment, mayonnaise, sweetened condensed milk, lotion, soap, bath salts, powder, gel, body oil, cream, or medicament.
6. A dispensing device according to claim 5, wherein the medicament is baby Acetaminophen.
7. A dispensing device according to claim 1, wherein the circumferential edge portion is a ring, securing mechanism, border, or rim.
8. A dispensing device according to claim 7, wherein the circumferential edge portion separates the dispensing device into two portions, a top portion and a bottom portion.
9. A dispensing device according to claim 8, wherein the top portion comprises a dispensing port.
10. A dispensing device according to claim 8, wherein the bottom portion comprises an inset groove.
11. A dispensing device according to claim 1, wherein the dispensing port is covered by a dispensing port lid.
12. A dispensing device according to claim 11, wherein the dispensing port lid is a cap, lid, snap cap, peel cap, pressure actuated slit, adhesive tape, or adhesive foil.

13. A dispensing device according to claim 12, wherein the dispensing port lid is a cap.

14. A dispensing device according to claim 12, wherein the dispensing port lid is an adhesive strip.

15. A dispensing device according to claim 12, wherein the dispensing port lid is an adhesive alloy.

16. A dispensing device according to claim 4, wherein the at least one substance is dispensed from the dispensing device by applying pressure to the squeezable portion.

17. A dispensing device according to claim 1, wherein the dispensing device is formed from a compressible material.

18. A dispensing device according to claim 17, wherein the compressible material comprises at least one polymer.

19. A dispensing device according to claim 17, wherein the compressible material is aseptic.

20. A dispensing device according to claim 17, wherein the compressible material is free of Bisphenol A (BPA).

21. A dispensing device according to claim 1, wherein the dispensing device is substantially spherical.

22. A dispensing device according to claim 21, wherein the dispensing device comprises a substantially circular cross-section.

23. A dispensing device according to claim 1, wherein the internal volume is about 3.0 fluid ounces.

24. A dispensing device according to claim 1, wherein the internal volume is about 6.0 fluid ounces.

25. A dispensing device according to claim 1, wherein the internal volume is about 0.5 to about 1.0 fluid ounces, about 1.0 to about 2.0 fluid ounces, about 2.0 to about 3.0 fluid ounces, about 3.0 to about 4.0 fluid ounces, about 4.0 to about 5.0 fluid ounces, and about 5.0 to about 6.0 fluid ounces.

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