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(54) **APPLICATOR HAVING
THREE-DIMENSIONAL SURFACE CONTACT
WITH RESERVOIR**

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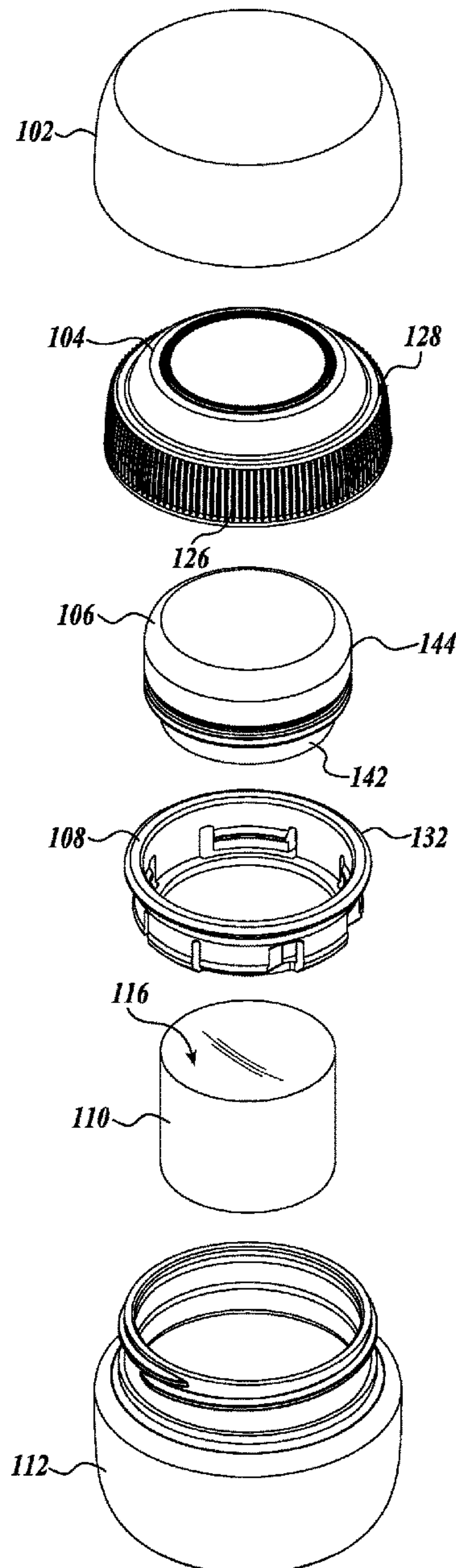
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(57) **ABSTRACT**

A package includes an applicator with a contacting surface including a first porous material and a reservoir with a contacting surface including a second porous material. The package is filled with a liquid that is absorbed onto the reservoir. The contacting surfaces of the applicator and reservoir are three-dimensional to improve the transfer of fluid from the reservoir to the applicator.



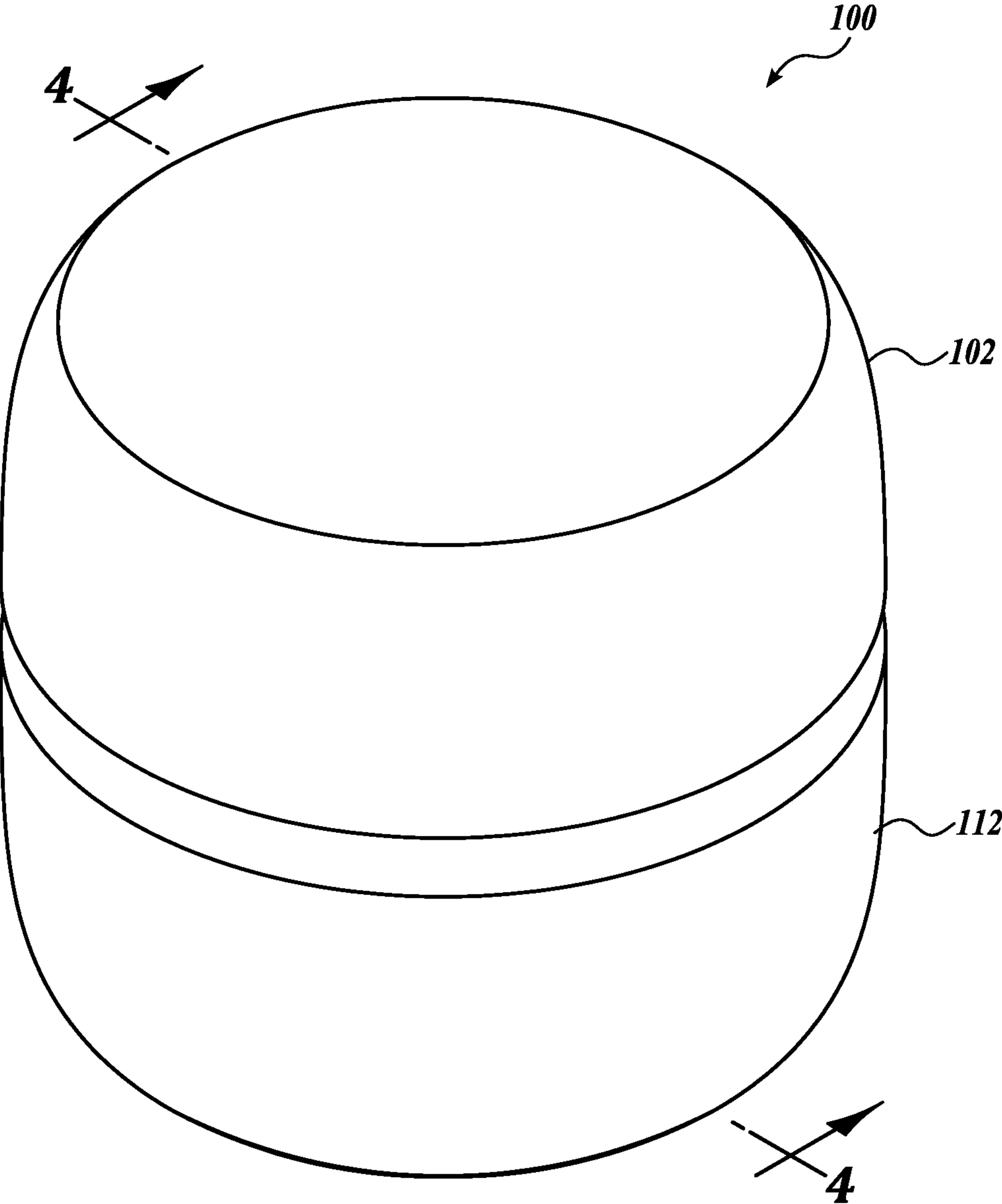
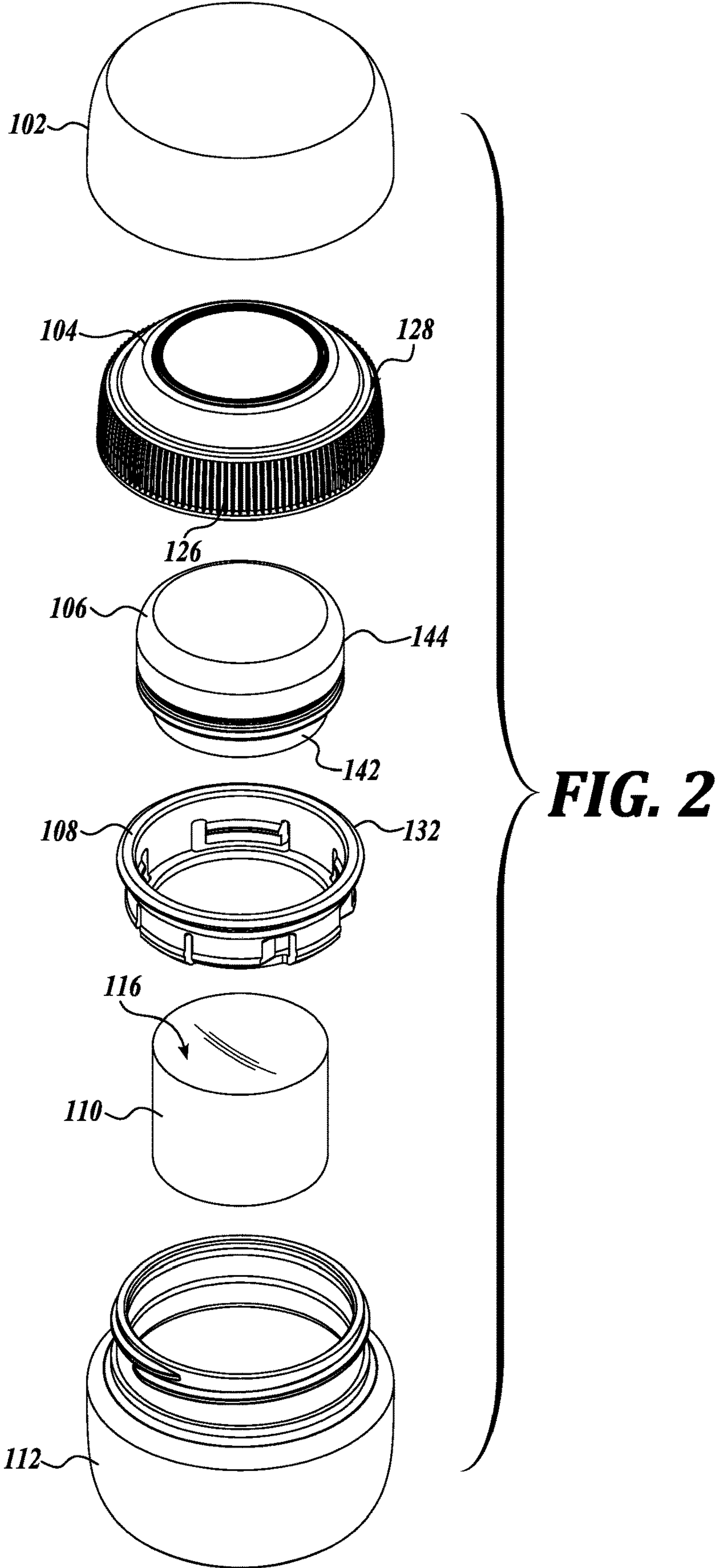
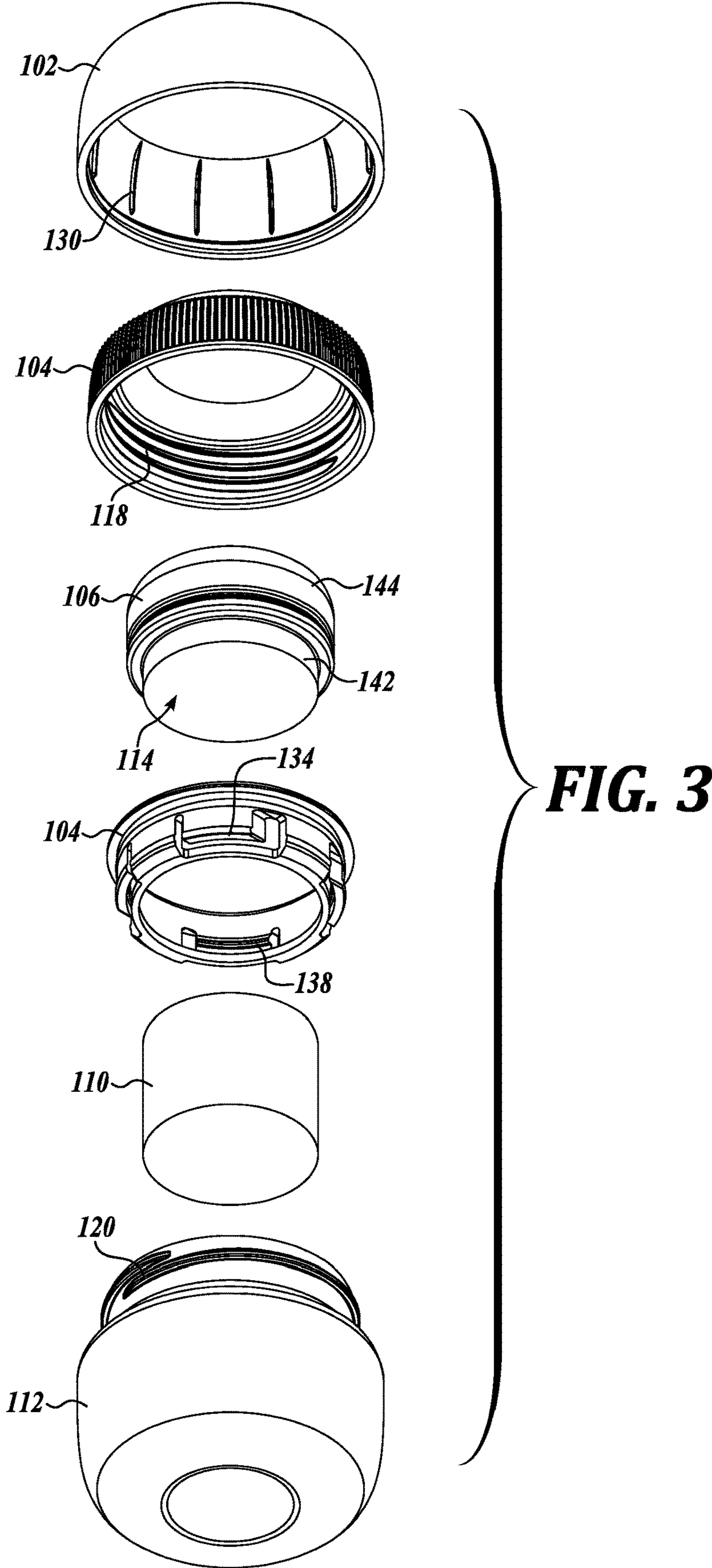


FIG. 1





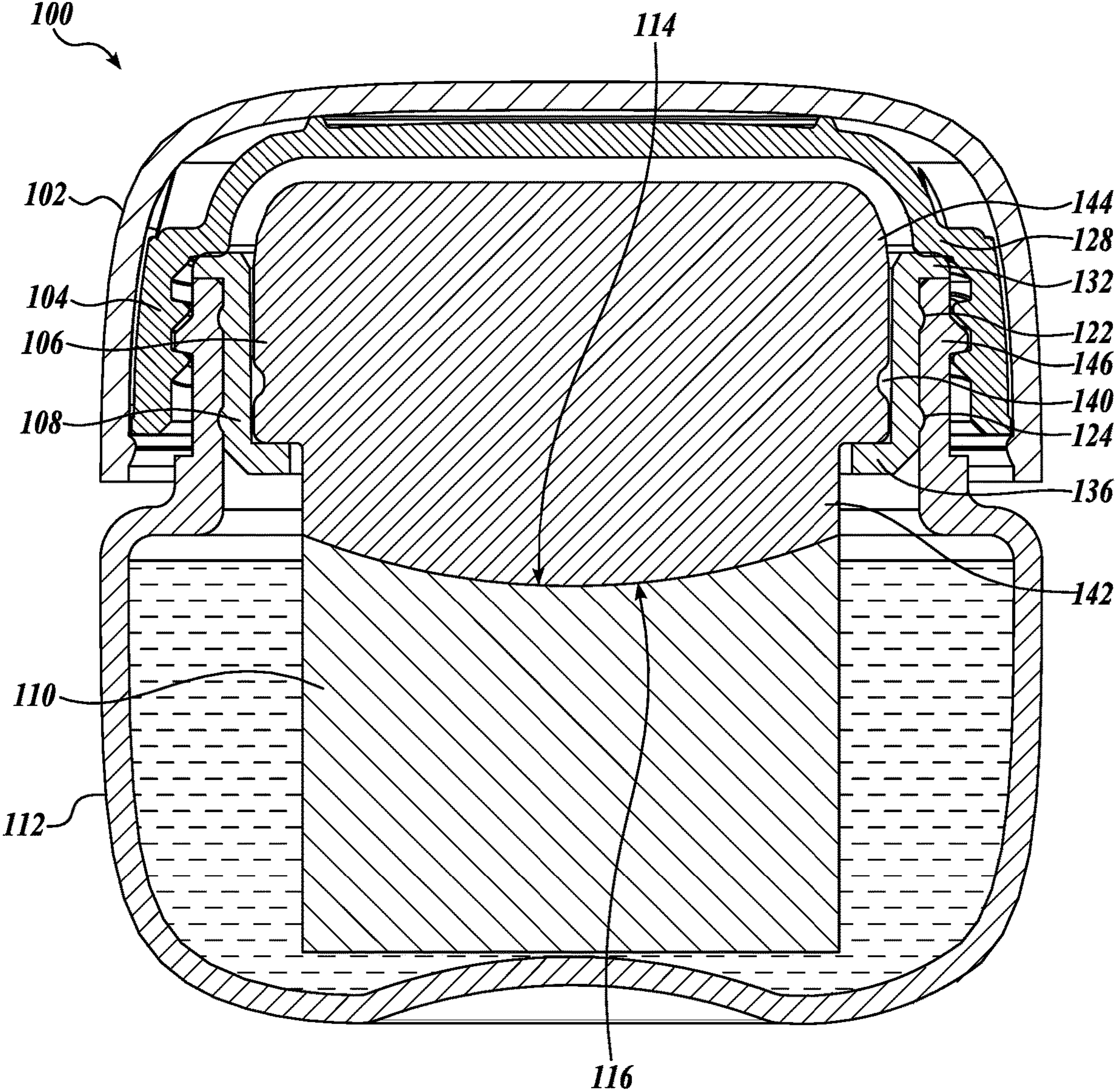


FIG. 4

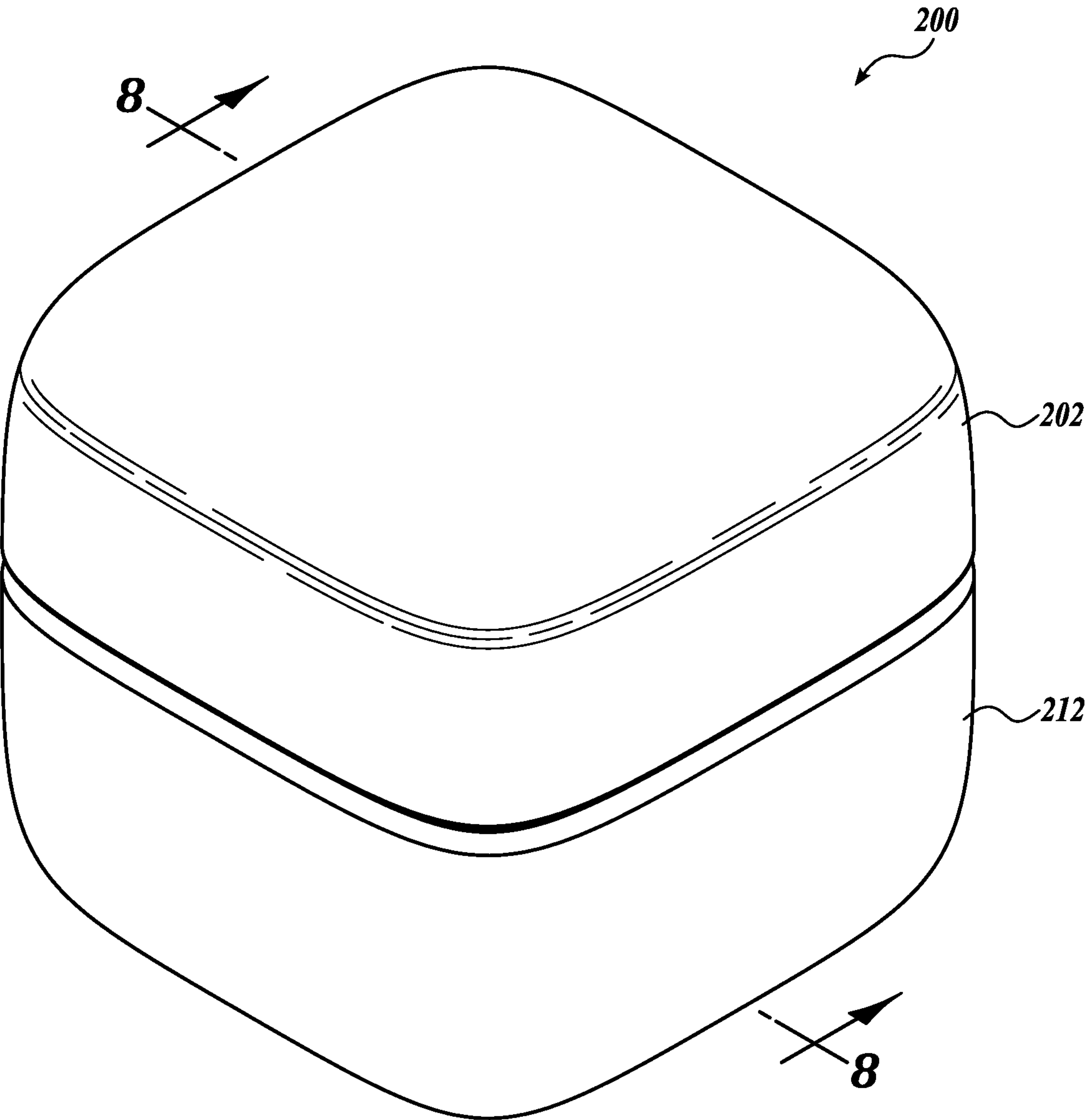
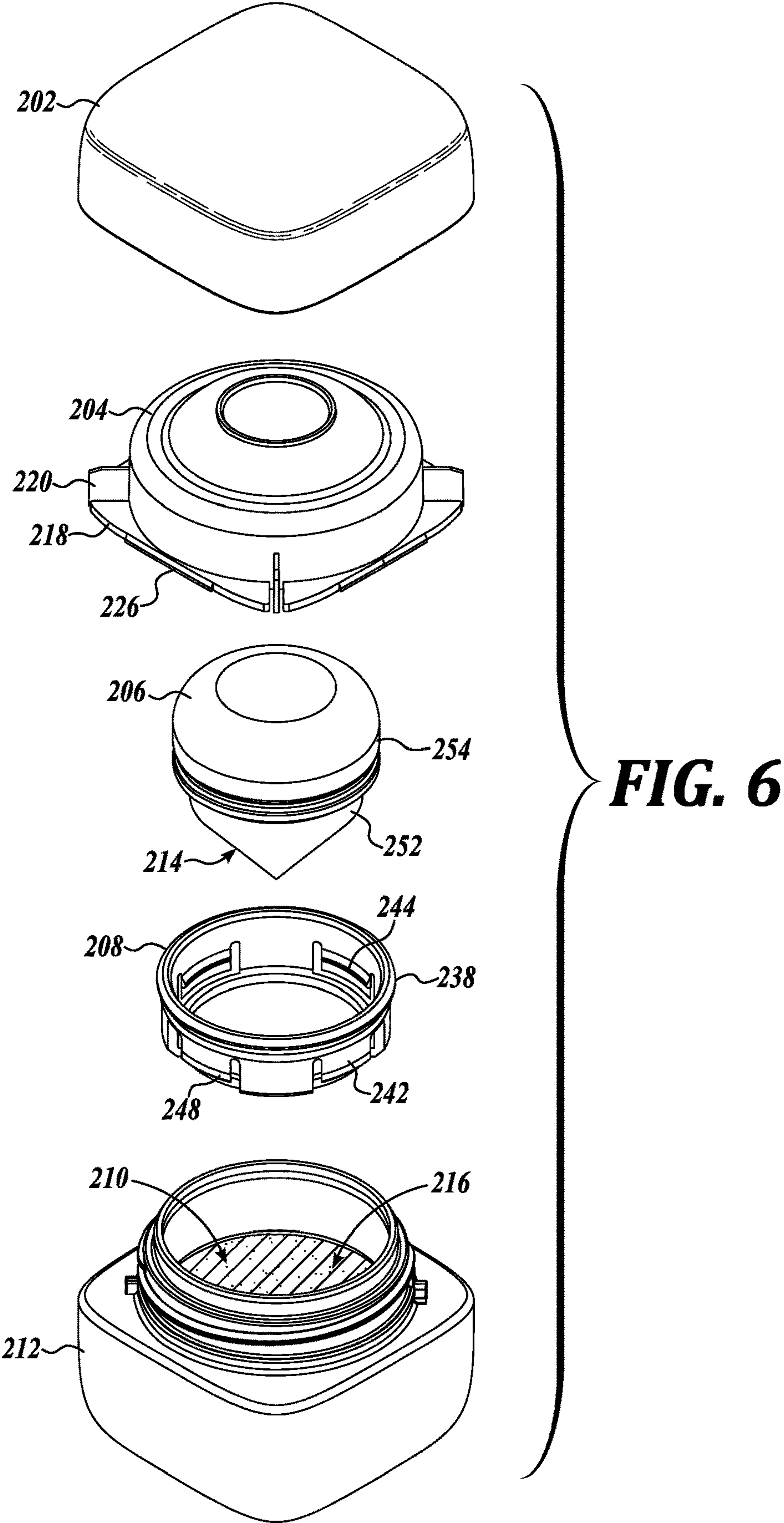
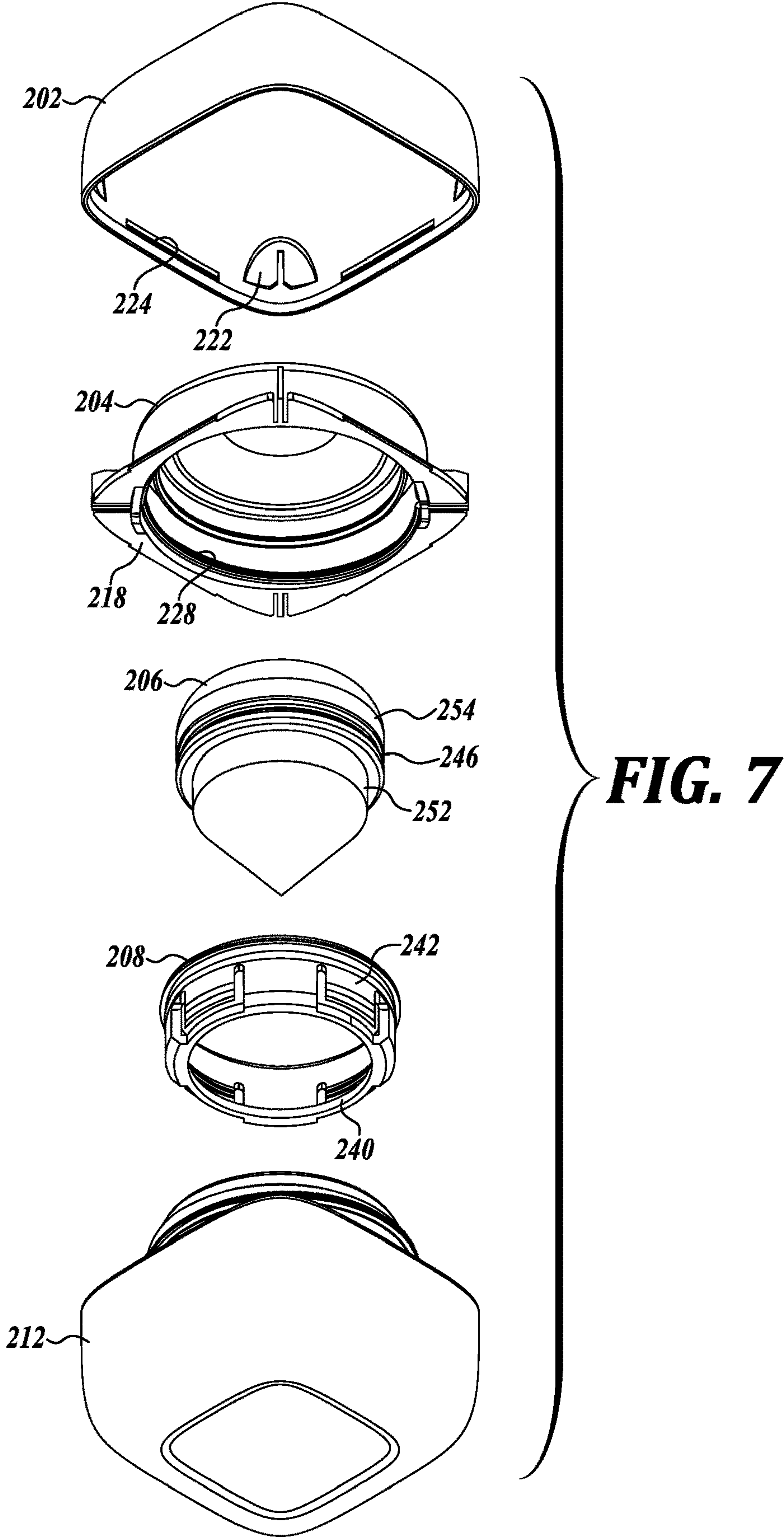


FIG. 5





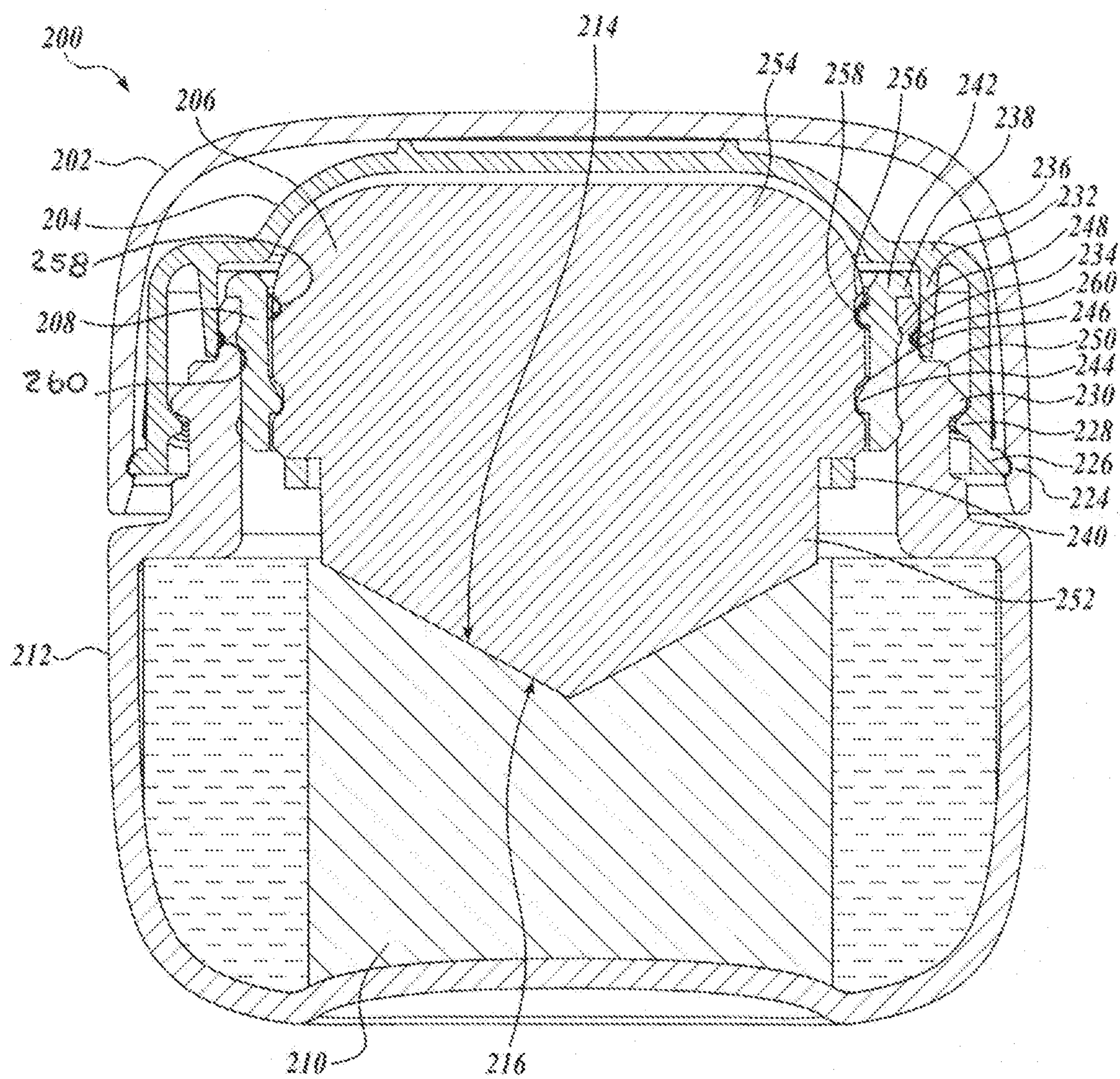


FIG. 8

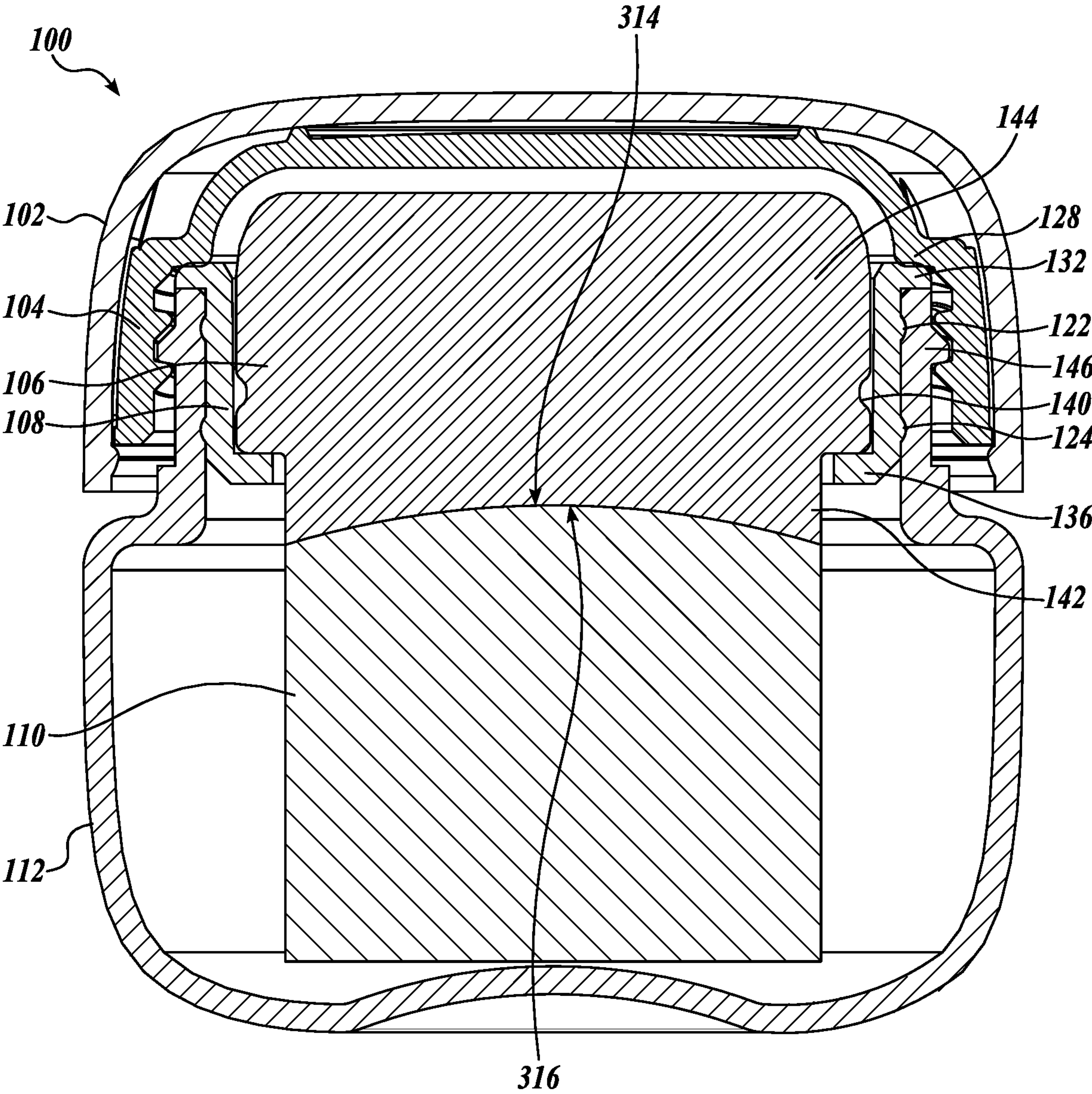


FIG. 9

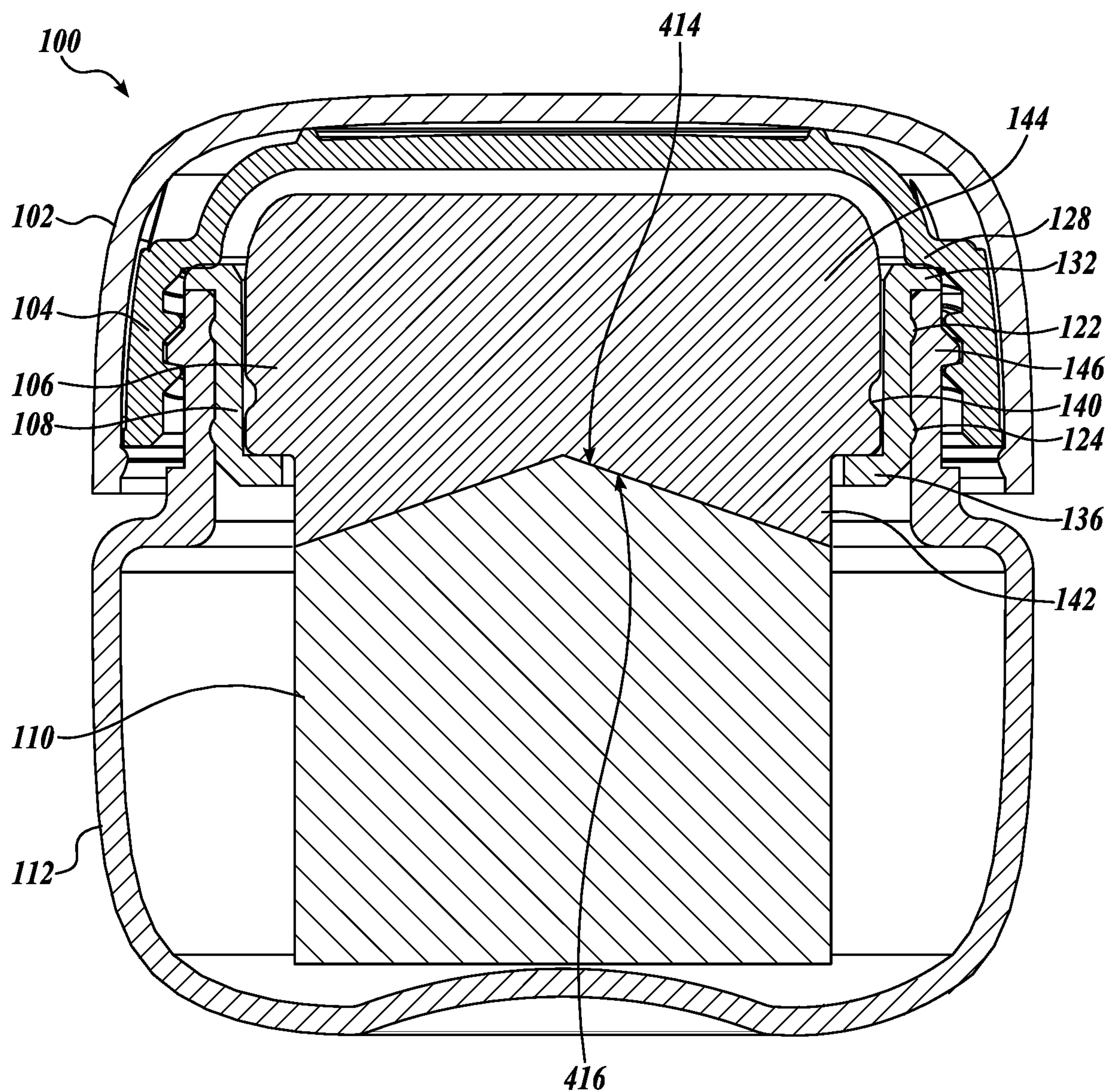


FIG. 10

APPLICATOR HAVING THREE-DIMENSIONAL SURFACE CONTACT WITH RESERVOIR

SUMMARY

[0001] This disclosure is related to a method of contacting two porous materials to allow more efficient capillary fluid transfer between the materials. For example, in the case of cosmetic formulations, an applicator can be contacted with a reservoir containing the formulation. The shapes of applicator and reservoir improve surface contact and fluid transport between two porous materials via three-dimensional surface contact and compression.

[0002] Cosmetic formulations are formulations that can be applied with an applicator. Cosmetic formulations can include but are not limited to formulations relating to make-up, and formulations that are meant to be applied to the skin and hair, such as creams, lotions, gels, dyes, and the like.

[0003] In one embodiment, the applicator and reservoir are created having a three-dimensional surface that protrudes from the surface of the applicator that contacts the reservoir. Typically, applicators and reservoirs contact each other via a flat, two-dimensional surface, such as any flat surface area against an equal flat surface area). According to this disclosure, and to improve this contact between applicator and reservoir, the applicator is formed with a three-dimensional surface having a length, width, as well as height dimension that increases the surface area beyond a flat profile. In one embodiment, the reservoir that is contacted by the applicator is also formed having a three-dimensional surface that is the negative of the three-dimensional surface of the applicator. For example, when the applicator has convex shape, the reservoir can have a concave shape.

[0004] The reservoir within the jar serves to contain the bulk of the formulation, such as liquid, in the package. The reservoir can be a sintered porous material, a closed cell material (like a urethane foam/sponge), or could be fibrous (like a sintered fiber reservoir in a highlighter marker for example). The applicator could be fastened or adhered to the reservoir, or could be unbonded but contacting surfaces. In one embodiment, the reservoir can have a flat surface against the domed or conical surface of the applicator due to manufacturing requirements, but could have an inverse shape that compliments the dome or cone of the applicator. The three-dimensional surface could include facets (i.e. a polyhedral dome surface) and could have a smooth, textured or rough surface depending on the fluid to transfer.

[0005] The jar serves to protect and contain the reservoir and potentially the applicator. However, the applicator could be separate from the reservoir. When the applicator is attached to a cap used to close the jar, the applicator would contact the reservoir when closed, but be separated from the reservoir when opened. In this case, the applicator would charge or recharge itself when the pack is closed.

[0006] This summary is provided to introduce a selection of concepts in a simplified form that are further described below in the Detailed Description. This summary is not intended to identify key features of the claimed subject matter, nor is it intended to be used as an aid in determining the scope of the claimed subject matter.

DESCRIPTION OF THE DRAWINGS

[0007] The foregoing aspects and many of the attendant advantages of this invention will become more readily appreciated as the same become better understood by reference to the following detailed description, when taken in conjunction with the accompanying drawings, wherein:

[0008] FIG. 1 is a diagrammatical illustration of a package containing an applicator and reservoir having three-dimensional contacting surfaces;

[0009] FIG. 2 is a diagrammatical illustration of an exploded view of the package of FIG. 1;

[0010] FIG. 3 is a diagrammatical illustration of an exploded view of the package of FIG. 1;

[0011] FIG. 4 is a diagrammatical illustration of a cross-sectional view of the package of FIG. 1;

[0012] FIG. 5 is a diagrammatical illustration of a package containing an applicator and reservoir having three-dimensional contacting surfaces;

[0013] FIG. 6 is a diagrammatical illustration of an exploded view of the package of FIG. 5;

[0014] FIG. 7 is a diagrammatical illustration of an exploded view of the package of FIG. 5;

[0015] FIG. 8 is a diagrammatical illustration of a cross-sectional view of the package of FIG. 5;

[0016] FIG. 9 is diagrammatical illustration of a cross-sectional view of the package of FIG. 1 with alternate three-dimensional contacting surfaces; and

[0017] FIG. 10 is diagrammatical illustration of a cross-sectional view of the package of FIG. 1 with alternate three-dimensional contacting surfaces.

DETAILED DESCRIPTION

[0018] FIGS. 1 to 4 illustrate an embodiment of a package 100 comprising an applicator 106 having a surface 114 including a first porous material, a reservoir 110 having a surface 116, including a second porous material, wherein the first surface 114 extends in length, width and height, and the second surface 116 has an inverse shape of the first surface 114, wherein the first surface 114 contacts the second surface 116 along the length, width, and height.

[0019] In one embodiment, the reservoir 110 is wetted with a liquid formulation, and the applicator 106 becomes wetted with the liquid formulation through contact of the first 114 and second 116 surfaces including length, width, and height dimensions of the surfaces. The three-dimensional surfaces that make contact between the reservoirs and applicators improve on the transfer from one medium to the other. For example, contact alone of the first and second surfaces is sufficient to transfer the liquid formulation from the reservoirs to the applicators. In one embodiment, formulations are formulations that can be applied with an applicator. Formulations can include but are not limited to formulations relating to make-up, and formulations that are meant to be applied to the skin and hair, such as creams, lotions, gels, salves, dyes, and the like.

[0020] In one embodiment, the applicator 106 or at least the first surface 114 is made from a first porous material which can be made from a foam. In one embodiment, the reservoir 110 including the second surface 116 includes a second porous material which can be made from a sintered porous material, a closed cell material, a urethane foam, or a fibrous material.

[0021] In one embodiment, the first surface 114 of the applicator 106 can be convex, conical, concave, or inverse conical. Generally, regardless of the shape, the first surface 114 of the applicator 106, and the second surface 116 of the reservoir 110 are the inverse shape of each other.

[0022] Referring to FIGS. 2 to 4, the package 100 includes an outer cap 102, an inner cap 104, a holder 108, and a jar 112, wherein the outer cap 102 is connected to the inner cap 104 to fix the inner cap 102 to the outer cap 102, and the holder 108 supports the applicator 106.

[0023] In one embodiment, the outer cap 102 has an outer continuous sidewall surrounding a closed top, and the inner cap 104 has an outer continuous sidewall surrounding a closed top. Both the outer caps and the inner caps are open at the bottom. In one embodiment, both the outer sidewall of the outer cap 102 and the outer sidewall of the inner cap 104 are circular. In one embodiment, the jar 112 also has a circular sidewall, with a closed bottom and an open top.

[0024] In one embodiment, the inner cap 104 includes screw threads 118 that thread onto matching screw threads 120 on the jar. Upon screwing the inner cap 104 on the jar 112, the holder 108 is compressed between the inner cap 104 and a top edge of the jar 112. When the inner cap 104 is unscrewed from the jar 112, the holder 108 with the applicator 106 is removable from the jar 112, and the applicator 106 is removed being wetted with formulation that is transferred through contact alone with the reservoir 110. The transfer of formulation from the reservoir 110 to the applicator 106 happens at the inverse shaped contacting surfaces 114, 116. The reservoir 110 is not consumed, because the reservoir 110 sits in a liquid within the jar 112 and is constantly being replenished. The reservoir 110 functions to transfer the liquid in the jar 112 to the surface 116 where it is absorbed by the applicator 106. Therefore, the contacting surfaces 114, 116 make contact whenever the holder 108 is placed on the jar 112.

[0025] Referring to FIG. 4, the inner cap 104 fits entirely within the outer cap 102. As seen in FIGS. 2 and 3, the outer sidewall of the inner cap 104 has ridges 126 formed into the outer sidewall. The ridges 126 can form a continuous sawtooth texture around the outer sidewall. The ridges 126 extend from just above a ridge around the lower opening of the inner cap 104 to a shelf 128. The shelf 128 forms a transitional section connecting the top of the outer sidewall and the closed top of the inner cap 104. As seen in FIG. 3, the inner sidewall of the outer cap 104 also has a plurality of ridges 130. However, the ridges 130 are not continuously formed around the entire inner periphery, but, can be separated equidistant from each other. The ridges 130 are just wide enough to fit with any valley formed by any two of the ridges 126 on the inner cap 104. Accordingly, the inner cap 104 can be attached to the inside of the outer cap 102 by forcing the ridges 130 of the outer cap 102 within the grooves of the ridges 126 of the inner cap 104. The bottom side of the small diameter section 142 includes the first surface 114 extending in length, width and height that contacts the reservoir. The first surface 114 is a three-dimensional convex surface. The radius of convexity of the first surface 114 can be any radius, that is not infinite, meaning the first surface 114 is curved in three dimensions. Further, the convex first surface 114 is symmetrical about the center axis of the surface. The second surface 116 is the inverse shape of the first surface 114. However, the second surface 116 can have a larger or smaller diameter as com-

pared to the first surface 114. When the first surface 114 or the second surface 116 are not circular in plan view, the first surface 114 and the second surface 116 can have similar or unequal peripheries.

[0026] In another embodiment, the first surface 114 and the second surface 116 can be conic surfaces, such as ellipses that are made when a cylinder is cut at an angle. In this embodiment, the surfaces 114 and 116 would be asymmetric, meaning not symmetrical about a center axis. Fluid flow and distribution between reservoir and applicator would also be asymmetric.

[0027] Referring to FIGS. 2 and 3, the holder 108 is formed having an outer sidewall formed in the shape of a ring. The holder 108 has an open top and an open bottom. A flange like border 132 surrounds and extends radially outward from the top opening of the holder 108. A flange like lip 136 forms a border around the bottom opening of the holder 108. The lip 136 extends radially inward and can serve as a stop to prevent the applicator 106 from sliding out relative to the holder as seen in FIG. 4. In one embodiment, the holder 108 may have a plurality of tabs 134 cut from the sidewall. The tabs 134 can be cut on three sides leaving the top connected to the sidewall, thereby allowing the tabs 134 to flex radially outward and apply compression radially inward. The tabs 134 can include a circumferential rib 138 on the inside surface of the tabs 134 which is used to keep the applicator 106 fixed to the holder 108 by fitting within a matching groove 140 on the applicator 106 which is made to receive the ribs 138 on the tabs 134.

[0028] Referring to FIGS. 2 and 3, the applicator 106 includes a larger diameter section 144 above a small diameter section 142 with a groove 140 on the periphery of the large diameter section 144, wherein the groove 140 mates to a rib 138 on the inner periphery of the holder 108, and a step between the large diameter section 144 and the small diameter section 142 is supported on a radially inward extending lip 136 of the holder 108 as seen in FIG. 4.

[0029] Referring to FIG. 4, the outer periphery of the holder 108 can have one or more circumferential ribs 122, 124 extending around the periphery of the holder 108 including the outer surface of the tabs 134. The circumferential ribs 122, 124 can be used to fix the holder 108 to the inside of the mouth 146 of the jar 112 when the inside of the mouth 146 is provided with grooves that accept the ribs 122, 124.

[0030] Referring to FIG. 4, when the outer cap 102 is placed on the jar 112, the underside of the shelf 128 of the inner cap 104 compresses the upperside of the border 132 at the upper opening of the holder 108, and the underside of the border 132 is compressed to an upperside of the edge of the mouth of the jar 112. In this manner, a seal can be formed.

[0031] FIGS. 5 to 8 illustrate an embodiment of a package 200 comprising an applicator 206 having a surface 214 including a first porous material, a reservoir 210 having a surface 216, including a second porous material, wherein the first surface 214 extends in length, width and height, and the second surface 216 has an inverse shape of the first surface 214, wherein the first surface 214 contacts the second surface 216 along the length, width, and height.

[0032] In one embodiment, the reservoir 210 is wetted with a liquid formulation, and the applicator 206 becomes wetted with the liquid formulation through contact of the first 214 and second 216 surfaces including length, width,

and height dimensions of the surfaces. The three-dimensional surfaces that make contact between the reservoirs and applicators improve on the transfer from one medium to the other. For example, contact alone of the first and second surfaces is sufficient to transfer the liquid formulation from the reservoirs to the applicators. In one embodiment, formulations are formulations that can be applied with an applicator. Formulations can include but are not limited to formulations relating to make-up, and formulations that are meant to be applied to the skin and hair, such as creams, lotions, gels, salves, dyes, and the like.

[0033] In one embodiment, the applicator 206 or at least the first surface 214 is made from a first porous material which can be made from a foam. In one embodiment, the reservoir 210 including the second surface 216 includes a second porous material which can be made from a sintered porous material, a closed cell material, a urethane foam, or a fibrous material.

[0034] In one embodiment, the first surface 214 of the applicator 206 can be convex, conical, concave, or inverse conical. Generally, regardless of the shape, the first surface 214 of the applicator 206, and the second surface 216 of the reservoir 210 are the inverse shape of each other. The first surface 214 is a three-dimensional conical surface. The angle of the cone of the first surface 214 can be any angle that is not zero, meaning the first surface 214 has a height dimension. Further, the conical first surface 214 is symmetrical about the center axis of the surface. The second surface 216 is the inverse shape of the first surface 214. However, the second surface 216 can have a larger or smaller diameter as compared to the first surface 214. When the first surface 214 or the second surface 216 are not circular in plan view, the first surface 214 and the second surface 216 can have similar or unequal peripheries.

[0035] In another embodiment, the first surface 214 and the second surface 216 can be conic surfaces, such as ellipses that are made when a cylinder is cut at an angle. In this embodiment, the surfaces 214 and 216 would be asymmetric, meaning not symmetrical about a center axis. Fluid flow and distribution between reservoir and applicator would also be asymmetric.

[0036] Referring to FIGS. 6 to 8, the package 200 includes an outer cap 202, an inner cap 204, a holder 208, and a jar 212, wherein the outer cap 202 is connected to the inner cap 204 to fix the inner cap 202 to the outer cap 202, and the holder 208 supports the applicator 206.

[0037] In the package 200 of FIGS. 5 to 8, the outer cap 202, the inner cap 204, the holder 208, and the jar 212 each includes four corners of each respective periphery, wherein the four corners of the outer cap 202 line up with the four corners of the jar 212 when the outer cap 202 is placed on the jar 212.

[0038] Referring to FIGS. 6 and 7, the outer cap 202 has an outer continuous sidewall with four sides surrounding a closed top, and the inner cap 204 has an outer continuous sidewall surrounding a closed top. Both the outer cap 202 and the inner cap 204 are open at the bottom. The jar 212 also has a four-sided sidewall and a circular mouth. The jar 212 has a closed bottom and an open top.

[0039] In one embodiment, the inner cap 204 includes a flat horizontal border 218 that forms four sides. The border 218 is placed around the bottom of circular sidewall and is made to extend radially outward of the sidewall. A tab 220 projects upward and outward at each of the four corners of

the inner cap 204, but may not be connected to the border 218. Instead, there are gaps on each side of the tabs 220 and the border 218 at each of the four corners. The tabs 220 are connected on the vertical side of the sidewall.

[0040] In one embodiment, a gusset 222 is placed inside of each of the four corners of the outer cap 202. A slot is made in each of the gussets 222. Therefore, each corner tab 220 of the inner cap 204 fits into a corner gusset 222 of the outer cap 202 to align the inner cap 204 to the outer cap 202. In one embodiment, the inner periphery of the opening in outer cap 202 can have a horizontal groove 224 on each of the four sides near to the bottom edge of the opening. The inner cap 204 can have a horizontal rib 226 on each of the four sides of the border 218 that correspond to the grooves 224 on the outer cap 202. Therefore, the inner cap 204 can be fixed to the outer cap 202 with the use of the tabs 220 and ribs 226 of the inner cap. Referring to FIG. 8, the inner cap 104 fits entirely within the outer cap 102.

[0041] Referring to FIGS. 6 and 7, the holder 208 is formed having an outer sidewall formed in the shape of a ring. The holder 208 has an open top and an open bottom. A border flange 238 surrounds and extends radially outward from the top opening of the holder 208. A flange like lip 240 forms a border around the bottom opening of the holder 208. The lip 240 extends radially inward and can serve as a stop to prevent the applicator 206 from sliding out relative to the holder as seen in FIG. 8. In one embodiment, the holder 208 may have a plurality of tabs 242 cut from the sidewall. The tabs 242 can be cut on three sides leaving the top connected to the sidewall, thereby allowing the tabs 242 to flex radially outward and apply compression radially inward. The tabs 242 can include a circumferential rib 244 on the inside surface of the tabs 244 which is used to keep the applicator 206 fixed to the holder 208 by fitting within a matching groove 246 on the applicator 206 which is made to receive the ribs 244 on the tabs 242. The tabs 242 can also have a circumferential rib 248 on the exterior surface. The rib 248 can be used to affix the holder 208 to a corresponding groove on the inside of the mouth of the jar 212 as seen in FIG. 8.

[0042] In one embodiment, the holder 208 has an inward protruding sealing bead 258 around the entire interior circumference of the holder 208. The cross section of the sealing bead 258 can take the form of a section of a circle, such as a half-moon shape, or may have straight edges, such as triangular. The sealing bead 258 can be located adjacent and just below on the interior of the upper border flange 238 of the holder. The sealing bead 258 fits into a groove 256 around the entire exterior circumference of the applicator 206. The groove 256 has the inverse shape of the sealing bead 258. The sealing bead 258 creates a seal between the two components so that no liquid escapes in between. A second sealing bead 260 protrudes inward from around the entire interior circumference of the annular wall 232. The second sealing bead 260 can be provided close or adjacent to the lower edge of the annular wall 232. The sealing bead 260 fits into a groove having the inverse shape of sealing bead 260. Such groove that accepts the sealing bead 260 can be placed on the exterior circumference of the mouth of the jar 212.

[0043] The inner cap 204 further has a shelf 236. The shelf 236 forms a transitional section connecting the top of the sidewall and the closed top of the inner cap 204 as seen in FIG. 8. Also as seen in FIG. 8, an annular wall 232 extends downward from the underside of the shelf 236. The annular

wall **232** is only connected at the top edge to the underside of the shelf **236**, thereby forming a gap between the annular wall **232** and the sidewall of the inner cap **204**. In one embodiment, the annular wall **232** has a tapered wedge profile that is thicker on top and thinner on bottom. The annular wall **232** may also be angled radially inward from bottom to top.

[0044] In one embodiment, the inner cap **204** includes a double-sided horizontally placed ramp **228** on the inside periphery of the circular sidewall of the inner cap **204**. The double-sided ramp **228** can be continuous around the inside of the sidewall and is placed toward the edge of the lower opening of the inner cap **204** as seen in FIG. 8. The jar **212** has a circular mouth forming an opening in the jar **212**. Similarly, a continuous double-sided ramp **230** is placed on the outer periphery of the mouth of the jar **212**. Therefore, the circular ramp **228** of the inner cap **204** can snap on and off from the circular ramp **230** of the jar **212**.

[0045] Upon placing the outer cap **202** and inner cap **204** on the jar **212**, the inside periphery of the annular wall **232** of the holder **208** pushes against the outer periphery of the mouth **234** at the top of the jar **212**. The bottom end of the wall **232** bottoms on a shelf **250** formed in the mouth of the jar **212** preventing further insertion of the inner cap **204**. If the holder **208** has been previously placed on the jar **212**, the sidewall of the holder **208** pushes against the inside of the annular mouth **234** of the jar **212**. Therefore, the annular mouth **234** of the jar **212** is captured between the outer periphery of the holder **208**, and the inner periphery of the wall **232** of the inner cap **204**. Accordingly, as the inner cap **204** and jar **212** are joined together to engage the ramps **228**, **230** with each other, the annular wall **232** of the inner cap **204** is compressed against the outer periphery of the mouth of the jar **212**. The holder **208** is stopped from further insertion into the jar **212** by the underside of the flange **238** resting on the top horizontal edge of the mouth of the jar **212**. Because of wall **232** bottoming on the shelf **250**, the flange **238** rests on a top edge of the mouth of the jar without the inner cap compressing the holder.

[0046] When the inner cap **204** is removed from the jar **212**, the holder **208** with the applicator **206** is removable from the jar **212**, and the applicator **206** is removed being wetted with formulation that is transferred through contact alone with the reservoir **210**. The transfer of formulation from the reservoir **210** to the applicator **106** happens at the inverse shaped contacting surfaces **214**, **216**. The reservoir **210** is not consumed, because the reservoir **210** sits in a liquid within the jar **212** and is constantly being replenished. The reservoir **210** functions to transfer the liquid in the jar **212** to the surface **216** where it is absorbed by the applicator **206**. Therefore, the contacting surfaces **214**, **216** make contact whenever the holder **208** is placed on the jar **212**.

[0047] Referring to FIGS. 6 and 7, the applicator **206** includes a larger diameter section **254** above a small diameter section **252** with a circumferential groove **246** on the periphery of the larger diameter section **254**, wherein the groove **246** mates to the circumferential rib **244** on the inner periphery of the holder **208**, and a step between the large diameter section **254** and the small diameter section **252** is supported on a radially inward extending lip **240** of the holder.

[0048] FIG. 9 illustrates the package **100** of FIGS. 1 to 4 where like numbers represent like parts. However, in FIG. 9,

the applicator **106** is provided with a concave surface **314** and the reservoir **110** is provided with a convex surface **316**.

[0049] FIG. 10 illustrates the package **100** of FIGS. 1 to 4 where like numbers represent like parts. However, in FIG. 10, the applicator **106** is provided with a surface shape **414** of an inverse cone, and the reservoir **110** is provided with a surface shape **316** of a cone.

[0050] While illustrative embodiments have been illustrated and described, it will be appreciated that various changes can be made therein without departing from the spirit and scope of the invention.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A package, comprising:
 - an applicator having a surface including a first porous material;
 - a reservoir having a surface including a second porous material, wherein the first surface extends in length, width and height, and the second surface has a negative shape of the first surface, wherein the first surface contacts the second surface along the length, width, and height.
2. The package of claim 1, wherein the reservoir is wetted with a liquid formulation, and the applicator is wetted with the liquid formulation through contact of the first and second surfaces.
3. The package of claim 2, wherein the contact alone of the first and second surfaces is sufficient to transfer the liquid formulation from the reservoir to the applicator.
4. The package of claim 1, wherein the first surface is made from a foam.
5. The package of claim 1, wherein the second surface is made from a sintered porous material, a closed cell material, a urethane foam, or a fibrous material.
6. The package of claim 1, wherein the first surface of the applicator is convex, or conical.
7. The package of claim 1, comprising an outer cap, an inner cap, a holder, and a jar, wherein the outer cap is connected to the inner cap to fix the inner cap to the outer cap, and the holder supports the applicator.
8. The package of claim 7, wherein the outer cap has an outer continuous sidewall surrounding a closed top, and the inner cap has an outer continuous sidewall surrounding a closed top.
9. The package of claim 7, wherein the inner cap includes screw threads that thread onto matching screw threads on the jar, and the holder is compressed between the inner cap and a top edge of the jar.
10. The package of claim 9, wherein the inner cap unscrews from the jar, and the holder with applicator are removable from the jar, wherein the applicator is wetted with formulation that is transferred through contact with the reservoir.
11. The package of claim 7, wherein an underside shelf of the inner cap compresses an upperside border on the holder, and the underside of the border is compressed to an upperside of the edge of the jar.
12. The package of claim 7, wherein the applicator includes a larger diameter section above a small diameter section with a groove on the periphery of the large diameter section, wherein the groove mates to a rib on the inner periphery of the holder, and a step between the large diameter section and the small diameter section is supported on a radially inward extending lip of the holder.

13. The package of claim **1**, wherein the applicator includes a larger diameter section above a small diameter section, wherein the small diameter section includes the first surface extending in length, width and height that contacts the reservoir.

14. The package of claim **7**, wherein the outer cap, the inner cap, the holder, and the jar each includes four corners of each respective periphery, wherein the four corners of the outer cup line up with the four corners of the jar.

15. The package of claim **14**, wherein the inner cap includes a flat border around a circular sidewall and a closed top, a tab projects upward from each of the four corners of the inner cap, a slot is placed inside of each of the four corners of the outer cap, wherein each corner tab of the inner cap fits into a corner slot of the outer cap.

16. The package of claim **14**, wherein the inner cap has an annular wall that extends downward that fits around the outer periphery of the mouth of the jar, the annular wall has a sealing bead that fits in a groove in the mouth of the jar.

17. The package of claim **16**, wherein the holder has an radially outward extending flange that rests on a top edge of the mouth of the jar without the inner cap compressing the holder, a sealing bead of the holder fits into a groove of the applicator.

18. The package of claim **16**, wherein the inner cap and jar have features which when engaged compress the annular wall of the inner cap against the outer periphery of the jar of the mouth.

19. The package of claim **16**, wherein the annular wall of the inner cap has a tapered wedge profile that is thicker on top and thinner on bottom.

20. The package of claim **14**, wherein the applicator includes a larger diameter section above a small diameter section with a groove on the periphery of the larger diameter section, wherein the groove mates to a rib on the inner periphery of the holder, and a step between the large diameter section and the small diameter section is supported on a radially inward extending border.

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