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(71) Applicant: **Wilton Industries, Inc.**
Woodridge,
Illinios 60517 (US)

(72) Inventors:
- **Gorskey, Corinne**
  Woodridge, IL 60517 (US)
- **Starr, David**
  Woodridge, IL 60517 (US)
- **Christman, Paul**
  Woodridge, IL 60517 (US)
- **Conklin, Melanie**
  Woodridge, IL 60517 (US)
- **Chapple, Traci**
  Woodridge, IL 60517 (US)
- **Chiu, Jeff**
  Woodridge, IL 60517 (US)
- **Umholtz, Mason**
  Woodridge, IL 60517 (US)

(74) Representative: **Seitz, Holger Fritz Karl**
Exter Polak & Charlouis B.V.
P.O. Box 3241
2280 GE Rijswijk (NL)

(54) Pour and seal assembly

(57) The invention is directed to a pour and seal assembly and method of using the same. The assembly includes a closure configured to seal an opening of a food stuffs container including a lid configured to securely cover an opening to a container holding food stuffs, a lid collar configured to, in part, form the opening and further configured to engage the lid and seal the opening to the container, and an internal collar configured to be arranged at least partially in the lid collar and to hold a portion of the container against the lid collar and further, in part, seal the opening to the container.

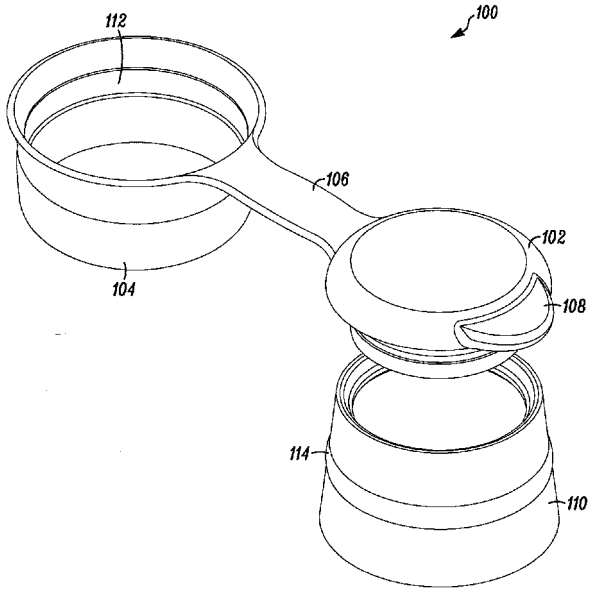


FIG. 1

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Description

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims priority under 35 U.S.C. §119(e) to provisional U.S. Patent Application No. 61/105,874, filed on October 16, 2008, the disclosure of which is expressly incorporated by reference herein in its entirety.

BACKGROUND OF THE INVENTION

Field of the Invention

[0002] The invention is directed generally to an assembly and a method of its use for sealing containers of food stuffs and, more particularly, to sealing bag containers of food stuffs.

Related Art

[0003] In order to maintain various food stuffs fresh, such as snacks, cereal, and the like, manufacturers will often place these food stuffs in bag containers or other types of containers for transport and storage. These containers will keep the food stuffs fresh for long periods of time. However, once a consumer opens the bag, the food stuffs are then exposed to the environment and this will in turn reduce the shelf life of the food stuffs. In other words, the food stuffs will become stale or the like. Consumers in the past have used a number of different approaches to keep such containers closed in order to increase the shelf life of the food stuffs. This include d rolling the open end of the bag in such a manner so as to close of the open end, clipping the bag with an elastic clip such as a "chip-clip," and so on. These approaches are not satisfactory as they do not always provide an air-tight closure, they may be cumbersome to use, and so on. Moreover, the open end of the bag often does not provide a very user -friendly opening for pouring. In this regard, the open end of the bag oftentimes collapses, is jagged or will close undesirably thereby making it difficult to pour out the content s of the bag or causing a spill.

[0004] Other approaches to trying to rectify the issue of providing increased shelf life of bagged food stuffs and also finding more user -friendly pouring have included moving the food stuffs into an altogether new container. The drawbacks on these new containers is that they are more costly and also more difficult to clean. In that regard, a consumer must buy a new container to contain each of the different kinds of food stuffs and then once the food stuffs have been depleted, m ust then clean the container. This is time consuming. Additionally, the new containers often have a great deal of open space or air space within the container itself. This air is exposed to the food stuffs and typically reduces the shelf life of the foo d stuffs whereas a bag of food stuffs will allow for the evacuation of air and will likely keep food stuffs fresher longer.

[0005] Accordingly, there is a need for a method and apparatus that provides a way in which to seal bagged food stuffs that also allows for a more user friendly sealing to increase freshness and shelf life, and pouring of the food stuffs therein.

SUMMARY OF THE INVENTION

[0006] The invention meets the foregoing need and provides an assembly that is lower cost, seals well, and allows for user frie ndly pouring and storage of food stuffs and that furthermore includes other advantages apparent from the discussion herein.

[0007] The invention may be implemented in a number of ways. According to one aspect of the invention includes a closure configured to seal an opening of a food stuffs container including a lid configured to securely cover an opening to a container holding food stuffs, a lid collar configured to, in part, form the opening and further configured to engage the lid and seal the opening to the container, and an internal collar configured to be arranged at least partially in the lid collar and to hold a portion of the container against the lid collar and further, in part, seal the opening to the container.

[0008] Another aspect of the invention include s a closure configured to attach and seal an opening of a food stuffs container including a lid configured to securely cover an opening to a container holding food stuffs, a lid collar configured to, in part, form the opening and further configured to enga ge the lid and seal the opening to the container, and an internal collar configured to be arranged at least partially in the lid collar and to hold a portion of the container against the lid collar and further, in part, seal the opening to the container, w herein the container comprises a bag.

[0009] Yet another aspect of the invention includes a closure configured to attach and seal an opening of a food stuffs container including a lid configured to securely cover an opening to a container holding food stuffs, a l id collar configured to, in part, form the opening and further configured to engage the lid and seal the opening to the container, an internal collar configured to be arranged at least partially in the lid collar and to hold a portion of the container agai nst the lid collar and further, in part, seal the opening to the container, and wherein the lid collar and the internal collar are configured to have a frictional fit with respect to one another and the container, and a lid connector that is configured to connect the lid to the lid collar, wherein the container comprises a bag and at least one of the lid collar, lid, and internal collar are formed of synthetic materials.

[0010] Additional features, advantages, and embodiments of the invention may be set forth or apparent from consideration of the following detailed description, drawings, and claims. Moreover, it is to be understood that both the foregoing summary of the invention and the following detailed description are exemplary and intended to provide further explanation without limiting the scope

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of the invention as claimed.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] The accompanying drawings, which are included to provide a further understanding of the invention, are incorporated in and constitute a part of this specification, illustrate embodiments of the invention and together with the detailed description serve to explain the principles of the invention. No attempt is made to show structural details of the invention in more detail than may be necessary for a fundamental understanding of the invention and the various ways in which it may be practiced. In the drawings:

[0012] Figure 1 shows a perspective view of the pour and seal assembly in a disassembled configuration with the lid open;

[0013] Figure 2 is a side view of the pour and seal assembly in the assembled configuration with the lid closed;

[0014] Figure 3 is a top view of the pour and seal assembly with the lid open;

[0015] Figure 4 is a side view of the pour and seal assembly in the disassembled configuration with the lid open;

[0016] Figure 5 is a front view of the pour and seal configuration with the lid closed but in the disassembled configuration;

[0017] Figure 6 is a cross-section view of the pour and seal assembly in the disassembled configuration and with the lid open;

[0018] Figure 7 is a perspective view of another aspect of the pour and seal assembly having a larger configuration with the lid closed and fully assembled ;

[0019] Figure 8 is a cross-section view of the pour and seal assembly aspect of Figure 7;

[0020] Figure 9 is a top view of the Figure 7 aspect;

[0021] Figure 10 is a side view of the pour and seal assembly in the process of going from the unassembled open lid arrangement on the left to the lid closed arrangement on the right aligned with a collar prior to assembly ;

[0022] Figure 11 shows a partial view of the pour and seal aspect of Figure 7 with the lid in the open position;

[0023] Figure 12 is another aspect of the pour and seal assembly that has a large opening with the lid closed and assembled;

[0024] Figure 13 is a cross-sectional view of the Figure 1 2 aspect;

[0025] Figure 14 is a partial side view of the pour and seal assembly aspect of Figure 12 in the unassembled arrangement with the lid open;

[0026] Figure 15 is an assembled view of the pour and seal assembly aspect of Figure 12 with the lid in the closed position;

[0027] Figure 16 is a cross-sectional view of the Figure 1 2 aspect;

[0028] Figure 17 is a perspective view of the Figure 12 aspect with the lid open;

[0029] Figure 18 is a partial perspective view of the pour and seal assembly of the Figure 12 aspect that includes only the collar; and

[0030] Figure 19 is a cross section of another aspect of the pour and seal assembly .

DETAILED DESCRIPTION OF THE INVENTION

[0031] The embodiments of the invention and the various features and advantageous details thereof are explained more fully with reference to the no n-limiting embodiments and examples that are described and/or illustrated in the accompanying drawings and detailed in the following description. It should be noted that the features illustrated in the drawings are not necessarily drawn to scale, and feat ures of one embodiment may be employed with other embodiments as the skilled artisan would recognize, even if not explicitly stated herein. Descriptions of well -known components and processing techniques may be omitted so as to not unnecessarily obscure the embodiments of the invention. The examples used herein are intended merely to facilitate an understanding of ways in which the invention may be practiced and to further enable those of skill in the art to practice the embodiments of the invention. Accordingly, the examples and embodiments herein should not be construed as limiting the scope of the invention, which is defined solely by the appended claims and applicable law. Moreover, it is noted that like reference numerals represent similar parts thr oughout the several views of the drawings.

[0032] Figure 1 shows a perspective view of the pour and seal assembly in a disassembled configuration with the lid open; Figure 2 is a side view of the pour and seal assembly in the assembled configuration with the lid closed; Figure 3 is a top view of the pour and seal assembly with the lid open; Figure 4 is a side view of the pour and seal assembly in the disassembled configuration with the lid open; Figure 5 is a front view of the pour and seal configuration with the lid closed but in the disassembled configuration; and Figure 6 is a cross -section view of the pour and seal assembly in the disassembled configuration and with the lid open. As shown in Figure 1, the pour and seal closure 100 may be used to attach to a co ntainer, such as a bag of food stuffs , in order to close and seal the opening of the container of food stuffs to seal the same within the container. Moreover, the pour and seal closure 100 may also provide a more user friendly opening from which to pour the contents of the container, in particular to pour the food stuffs out of the container. In one particular aspect, the pour and seal closure 100 may include a lid collar 104, a lid 102, and an internal collar 110. The lid 102 may be used to interact and close the opening to the container formed by at least the lid collar 104. The internal collar 110 may be used to cooperate with the lid collar 104 to connect to the food container to form a strong connection to the container and maintain the pour and sea l closure 100 arranged firmly

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with the container so that it w ill not easily be removed therefrom.

[0033] The lid 102 may take a number of different arrangements, but in the arrangement shown in the figures, the lid 102 may include a tab 108 to allow a user to more easily grasp the lid 102 so that it may be removed from the closed position relative to the lid collar 104. For example, as shown in Figure 2, when the lid 102 is moved into engagement (closed) with the lid collar 104 and/or internal collar 110, thus providing a sealed arrangement with respect to the lid collar 104, the lid 102 may be removed from the lid collar 104 and/or internal collar 110 by the user grasping the tab 108 and moving the tab upwardly to pry the lid 102 out of engagement (open) with the lid collar 104 and/or internal collar 110. Of course, other arrangements of the tab 108 and lid 102 , including no tab, are con templated by the invention herein.

[0034] The lid 102 may engage the lid collar 104 and/or internal collar 110 by any known type of arrangement. In particular, the invention contemplates some form of frictional fit between the lid 102 and the internal collar 110. In particular, as shown, for example in Figure 6, the lid collar 102 may include a locking groove 118. This locking groove may be a groove or other type of structure within the lid 102 to engage a similar or opposite structure in the internal collar 110. As further shown in Figure 6, the internal collar 110 may include a locking ridge 116. When the lid 102 is inserted into th e internal collar 110 the locking groove 118 may engage the locking ridge 116 and form a frictional fit connection therebetween. Accordingly, the lid 102 may be held firmly and not have a tendency to easily open. Of course these features may be reversed, rearranged, or replaced with equivalent features. For example, the Figure 19 aspect shows the ridge 116 on the lid 102 and the groove 118 on the lid collar 104.

[0035] The internal collar 110 may be used to engage, as noted above, the food stuffs container. In this regard, a food stuffs container such as a bag, may be opened by the user in a normal fashion. Thereafter, the open end of the bag 202 may be inserted through the internal collar 110 with the remaining portion of the bag 204 extending therebelow. Thereafter, the lid collar 104 may be pressed onto the internal collar 110 providing a firm connection and seal thereto. This is best shown in Figure 6 wherein the open end of the bag 202 is shown extending out from the internal collar 110. The remaining part of the bag portion 204 holding food stuffs is shown with dotted lines to indicate that this is a partial view only. From the Figure 6 arrangement , the lid collar 104 may be pushed downwardly , as shown by arrow A, toward the internal collar 110 to engage and lock thereto. Thereafter, the lid 102 may be moved in the direction of arrow B and rotated into the lid collar 104 to engage the same to provide a frictional fit thereto. When a user decides that they would like to obtain some of the contents in the container, then the user may then grasp the lid 102, for example by the tab 108 , and rotate the lid 102 in the direction of arrow C to open the container. The internal collar 110 and lid collar 104 then provide a convenient and open pouring opening f or the user to pour out the contents of the container. Thereafter , to seal the container the user may then rotate the lid 102 in the direction of arrow D to again seal the container 200.

[0036] The internal collar 110 may engage the lid collar 104 in any number of different ways. However, in the aspects shown in the figures, the lid collar 104 may engage the internal collar 110 through a frictional fit type of arrangement. In this regard, the frictional fit arrangement may include a locking groove 112 on the li d collar 104 that may engage with a locking ridge 114 on the internal collar 110. Accordingly, these two components engaging each other may engage a portion of the food stuffs container therebetween the locking ridge 114 and the locking groove 112 to provide a frictional engagement between each other to provide a snug fit that will not allow the pour and seal closure 100 to be easily removed from the container. Of course other arrangements to connect these components are also contemplated.

[0037] The lid 102 may be connected to the lid collar 104 with a lid connector 106. In this regard, the lid connector 106 may take any particular form or configuration, however a flat, flexible material arrangement provides a useful way to connect the lid top 102 to the lid collar 104.

[0038] Figure 7 is a perspective view of another aspect of the pour and seal assembly having a larger configuration with the lid closed and fully assembled; Figure 8 is a cross-section view of the pour and seal assembly aspect of Figure 7; Figure 9 is a top view of the aspect of Figure 7; Figure 10 is a side view of the pour and seal assembly in the process of going from the unassembled open lid arrangement on the left to the lid closed arrangement to the right aligned with a collar prior to assembly; and Figure 11 shows a partial view of the pour and seal aspect of Figure 7 wit h the lid in the open position. In particular, Figures 7 to 11 show a different arrangement of the pour and seal closure 100 that includes a different arrangement and sizing of th e various components of the pour and seal closure 100.

[0039] Figure 12 is another aspect of the pour and seal assembly that has a large opening with the lid closed and assembled; Figure 13 is a cross -sectional view of the Figure 12 aspect; Figure 14 is a partia l side view of the pour and seal assembly aspect of Figure 12 in the unassembled arrangement with the lid open; Figure 15 is an assembled view of the pour and seal assembly aspect of Figure 12 with the lid in the closed position; Figure 16 is a cross -sectional view of the Figure 12 aspect; Figure 17 is a perspective view of the Figure 12 aspect with the lid open; Figure 18 is a partial perspective view of the pour and seal assembly of the Figure 12 aspect that includes only the collar; and Figure 19 is a cr oss section of another aspect of the pour and seal assembly.

[0040] In particular, Figures 12 through 19 show yet another aspect of the pour and seal closure 100 having a different arrangement, configuration, and sizing. This aspect has a large curved corner rectangle opening and

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the groove 118 and ridge 116 is rearranged.

[0041] The construction of the above noted pour and seal closure 100 may be made by molding synthetic materials. In particular, the pour and seal closure may be formed of a synthetic plastic or rub ber material. For example, the lid and the lid collar may be formed from thermoplastic elastomers (TPE) and the internal collar may be formed of polypropylene. However, any type of material that may provide the required strength and flexibility is within the scope of the invention. Moreover, the materials may include any combination of new or recycled materials as needed.

[0042] Moreover, the pour and seal closure may take any known configuration. As noted above, the pour and seal closure 100 may take a circular or curved corner rectangle cross section to provide a unique opening to the container of food stuffs that it is connected to, however any shape is contemplated by the invention including square, rectangular, oval, triangular and so on. Additionally, although the connector 106 is shown as a flat material, any type of arrangement that connects the lid 102 to the food collar 104 is contemplated by the invention including none at all. Furthermore, although the type of container used in conjunction with the pour and seal closure 100 is a bag container, any type of container may be used in conjunction with the invention as long as it is able to, with modifications known to the skill of the art , connect to the pour and seal enclosure 100. F inally, it is noted above that this seal and pour closure 100 may be used with food stuffs, it is contemplated that other types of storage materials may be used in conjunction with this device that are non -food stuffs.

[0043] While the invention has been described in terms of exemplary embodiments, those skilled in the art will recognize that the invention can be practiced with modifications in the spirit and scope of the appended claims. These examples given above are merely illustrative and are not meant to be an exhaustive list of all possible designs, embodiments, applications or modifications of the invention.

Claims

1. A closure configured to seal an opening of a food stuffs container comprising:

   a lid configured to securely cover an opening to a container holding food stuffs;
   a lid collar configured to, in part, form the opening and further configured to engage the lid and seal the opening to the container; and
   an internal collar configured to be arranged at least partially in the lid collar and to hold a portion of the container against the lid collar and further, in part, seal the opening to the container.

2. The closure according to claim 1 wherein the lid collar and the internal collar are configured to have a frictional fit with respect to one another and the container.

3. The closure according to claim 1 or 2 wherein the lid further comprises a lid connector that is configured to connect the lid to the lid collar.

4. The closure according to any of claims 1 - 3 wherein at least one of the lid collar, lid, and internal collar are formed of synthetic materials.

5. The closure according to any of the preceding claims wherein the lid has a frictional engagement with respect to the internal collar to maintain a closed opening.

6. The closure according to any of the preceding claims wherein at least one of the lid and the internal collar comprises a locking groove; and
   wherein at least the other one of the lid and the internal collar comprise a locking ridge, wherein the locking gro ove and the locking ridge are configured to interact to maintain the lid and internal collar such that the opening is closed.

7. The closure according to any of the preceding claims wherein the lid has one of a circular cross section, an oval cross sec tion, or a curved corner rectangular cross section.

8. The according to any of the preceding claims wherein the lid comprises a tab arranged to be engaged by a user and configured to make moving the lid to an open position easier.

9. The closure according to any of the preceding claims wherein a locking groove is arranged on one of the lid collar and internal collar; and
   a locking ridge is arranged on the other one of the lid collar and internal collar, wherein the locking groove and the locking ridge are configured to interact to maintain the lid collar and internal collar together and connected to the container.

10. The closure according to any of the preceding claims, wherein the container comprises a bag.

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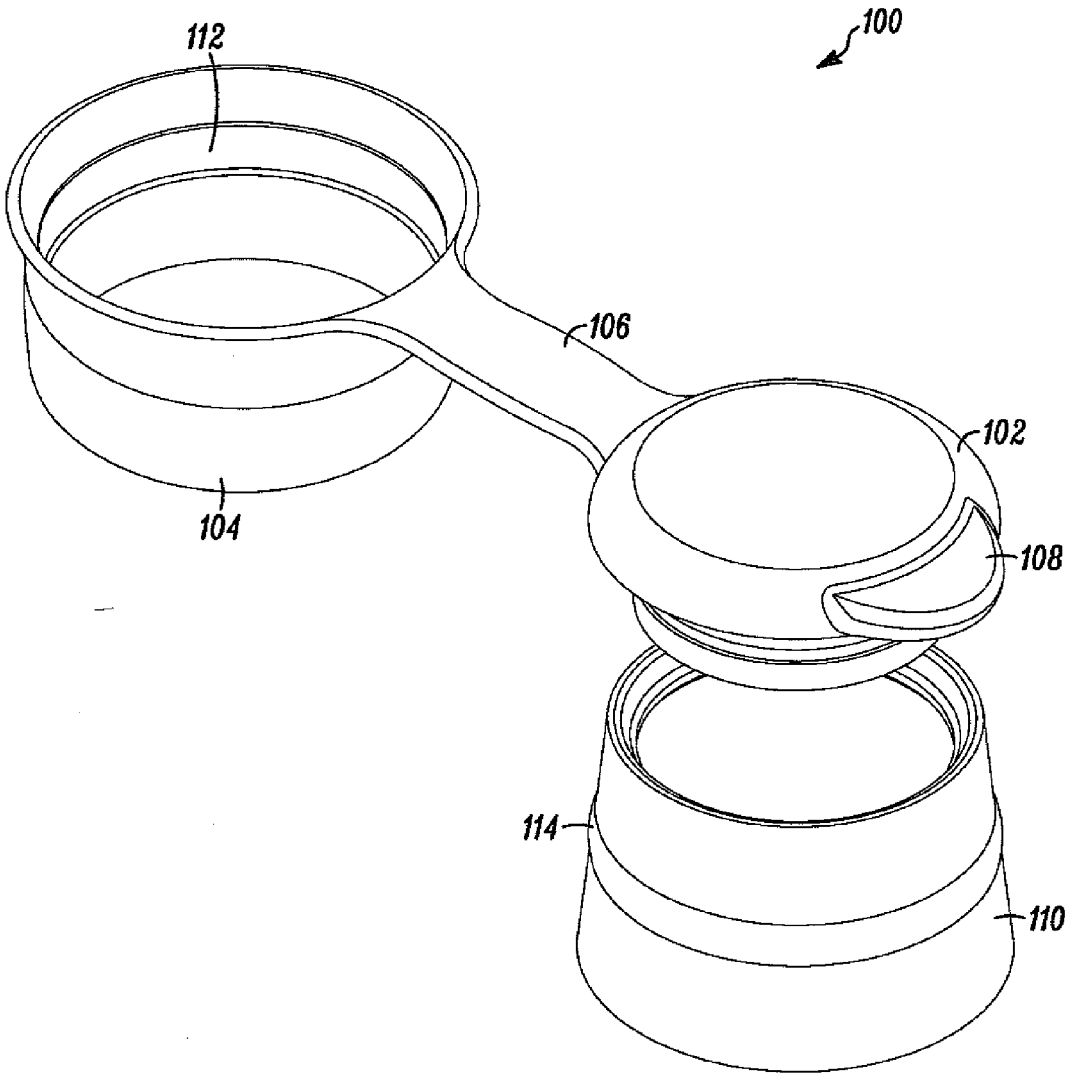


FIG. 1

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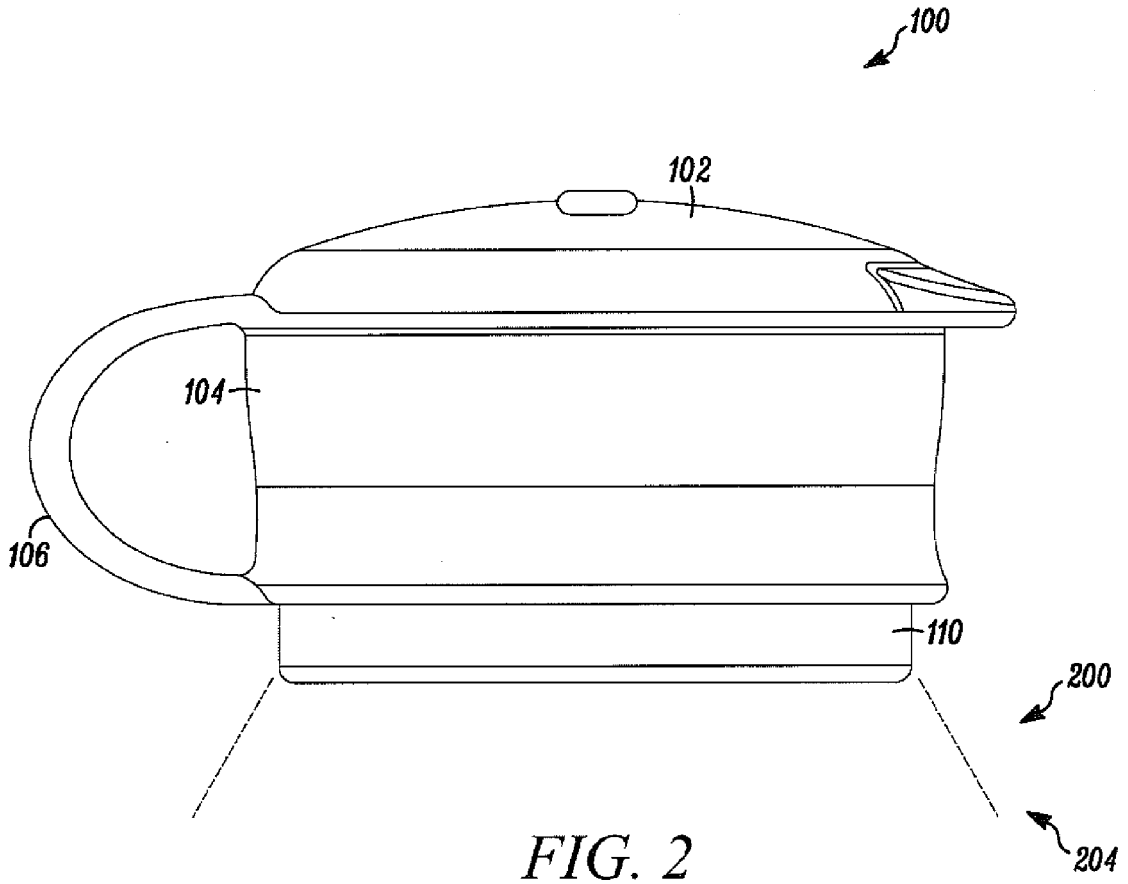


FIG. 2

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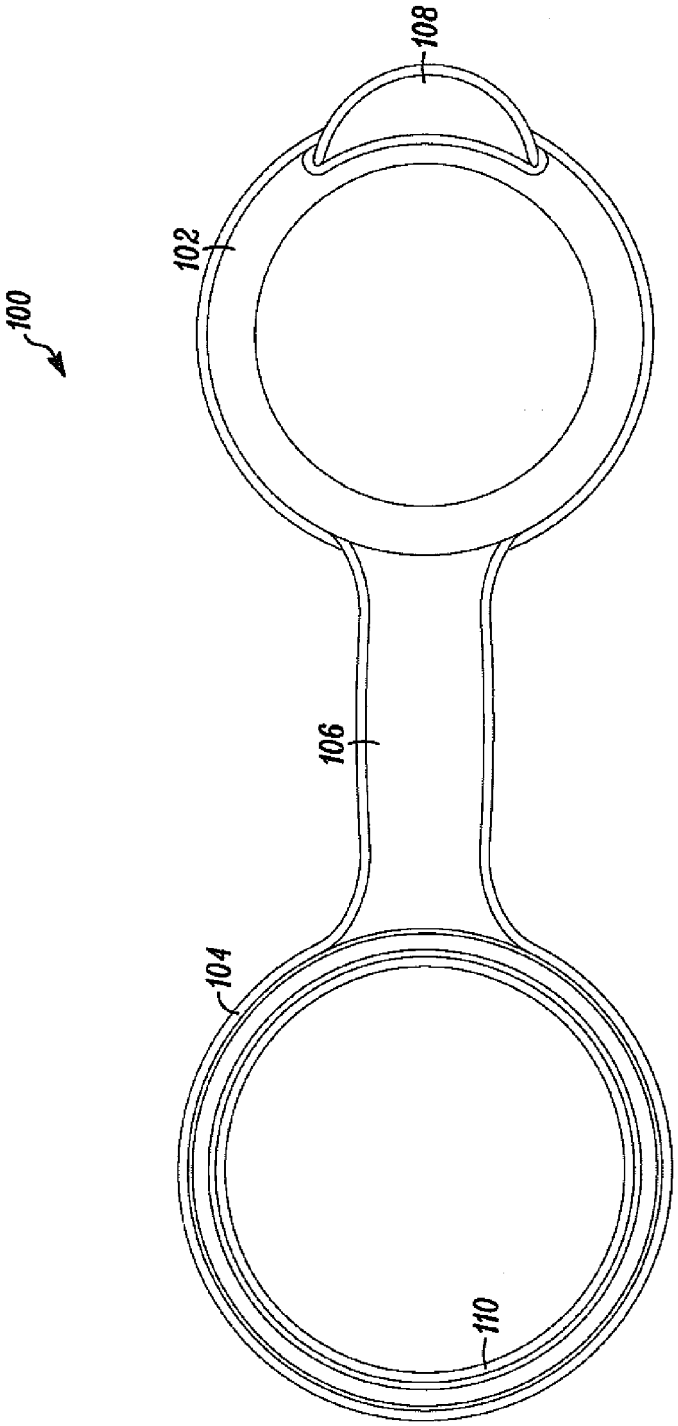


FIG. 3

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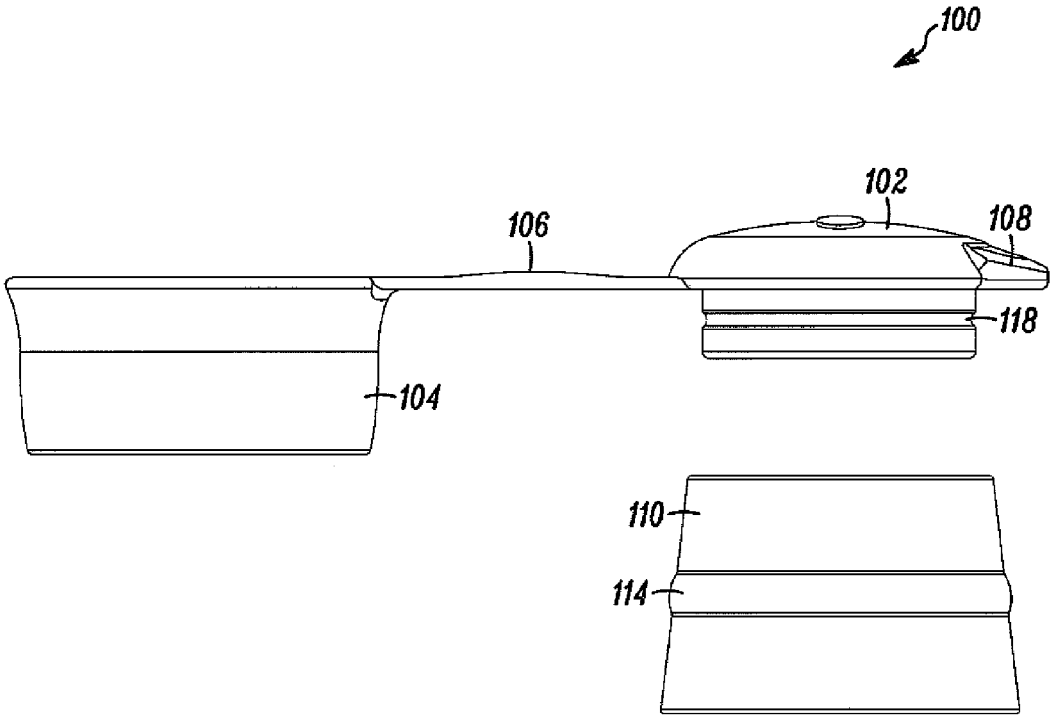


FIG. 4

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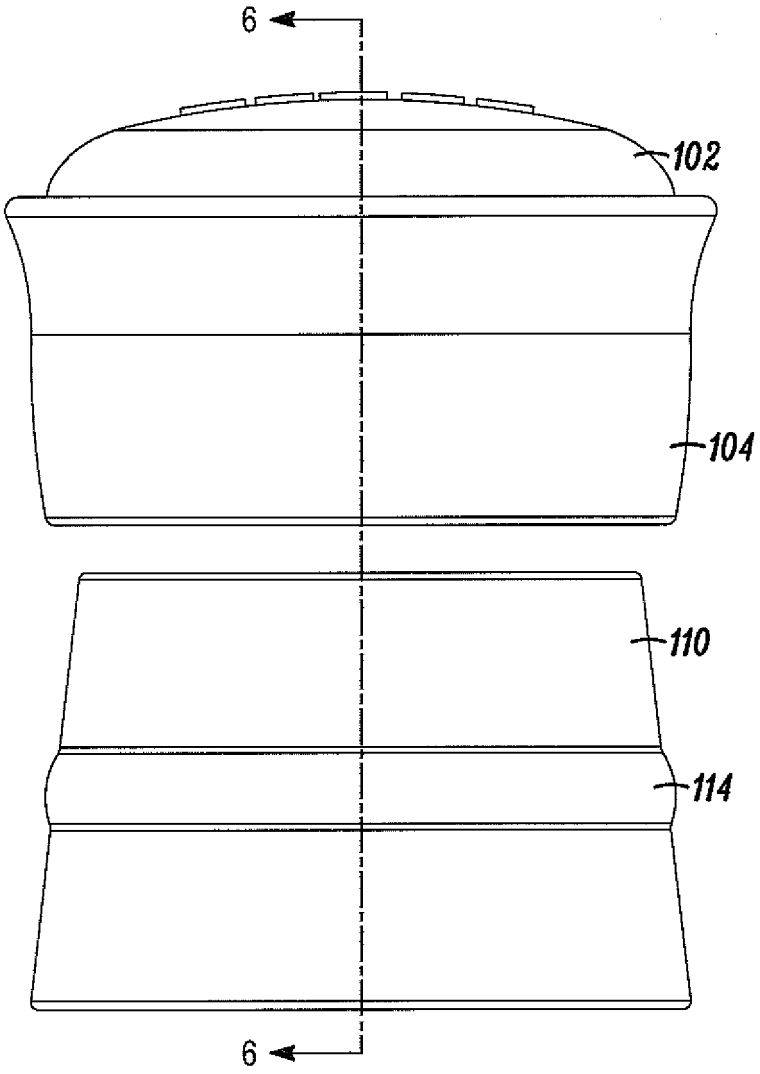


FIG. 5

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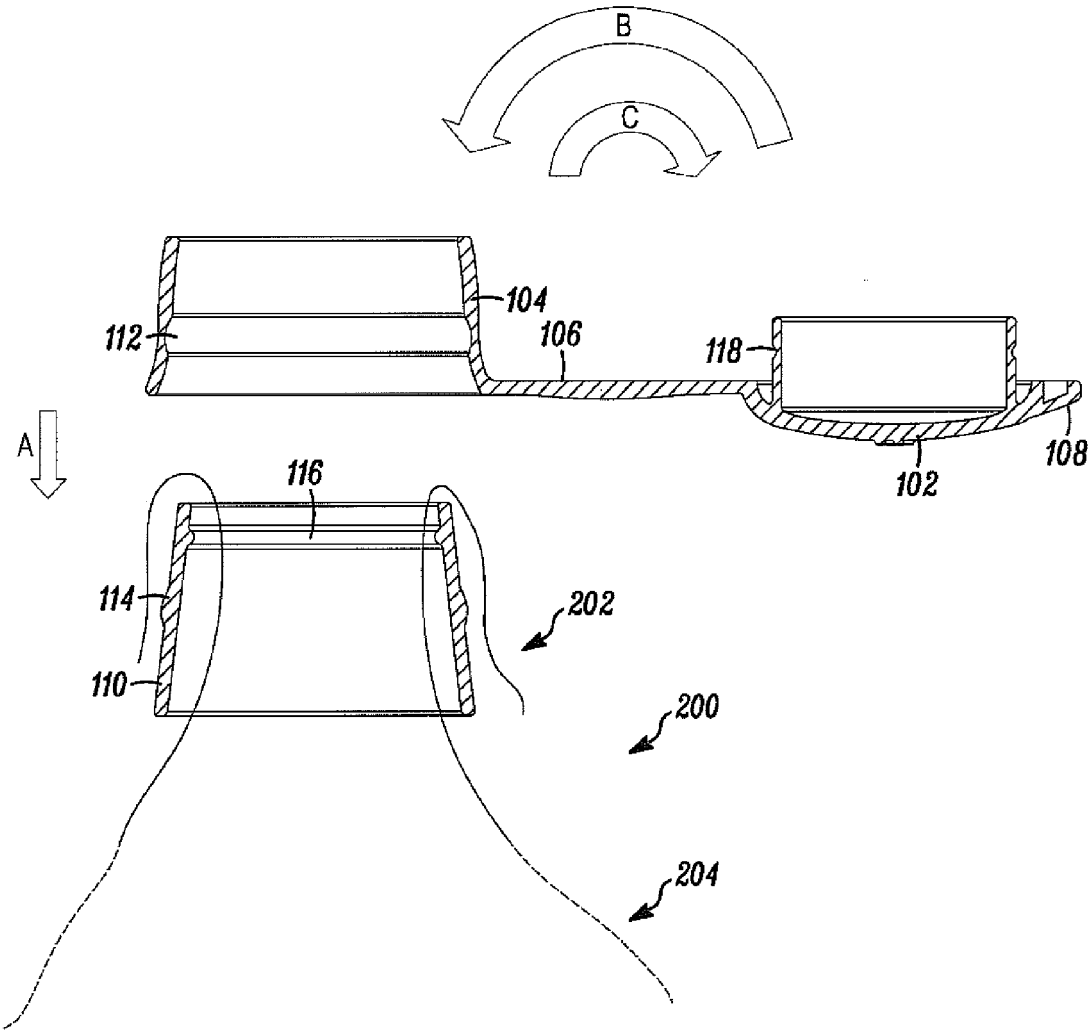


FIG. 6

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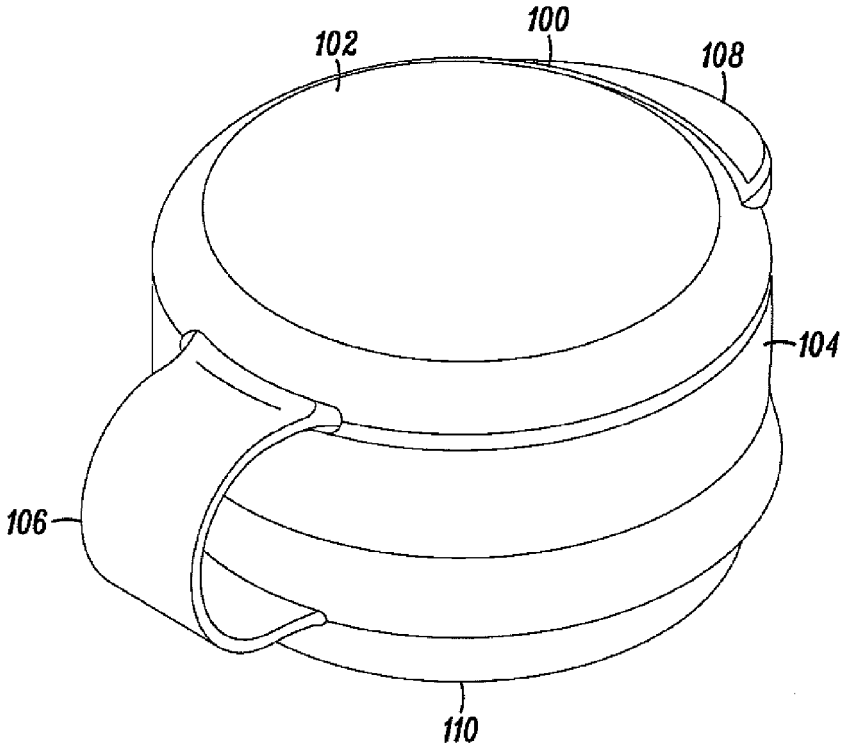


FIG. 7

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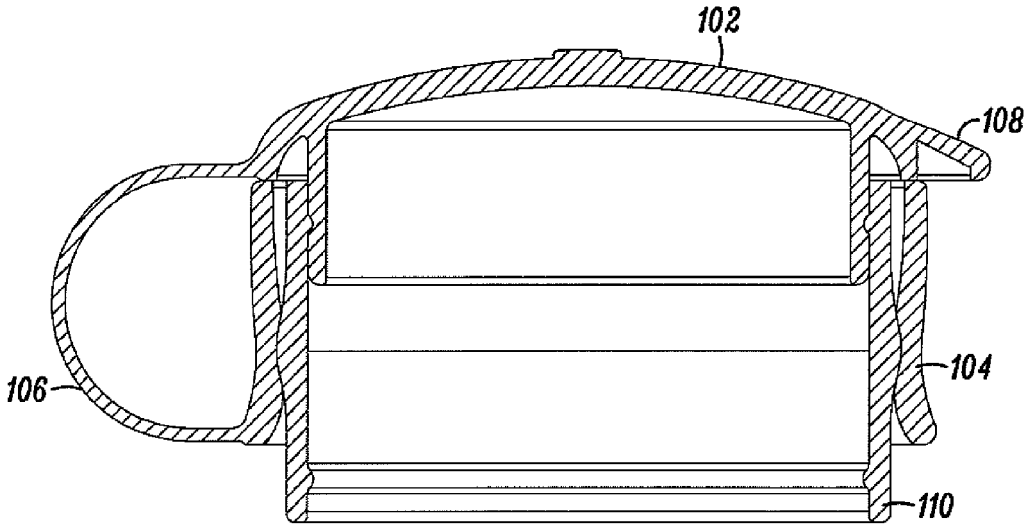


FIG. 8

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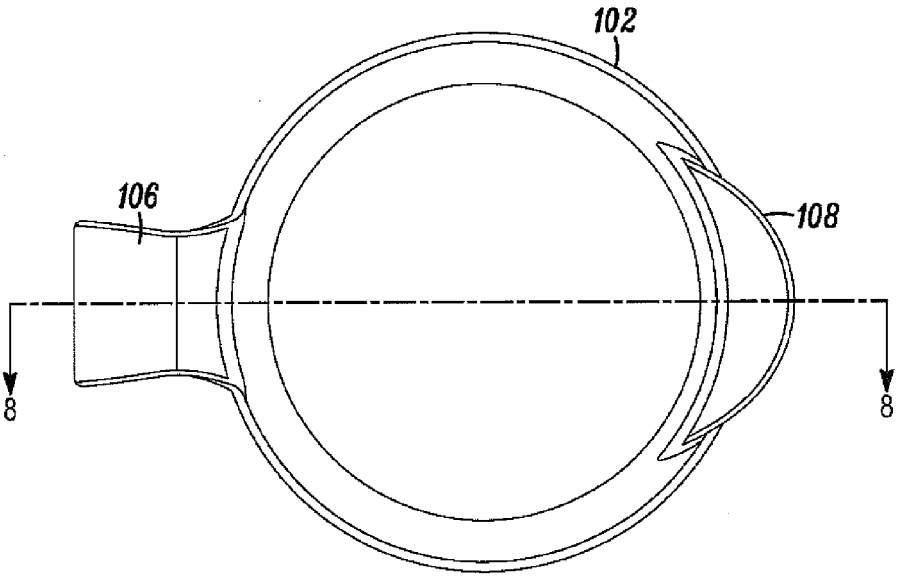


FIG. 9

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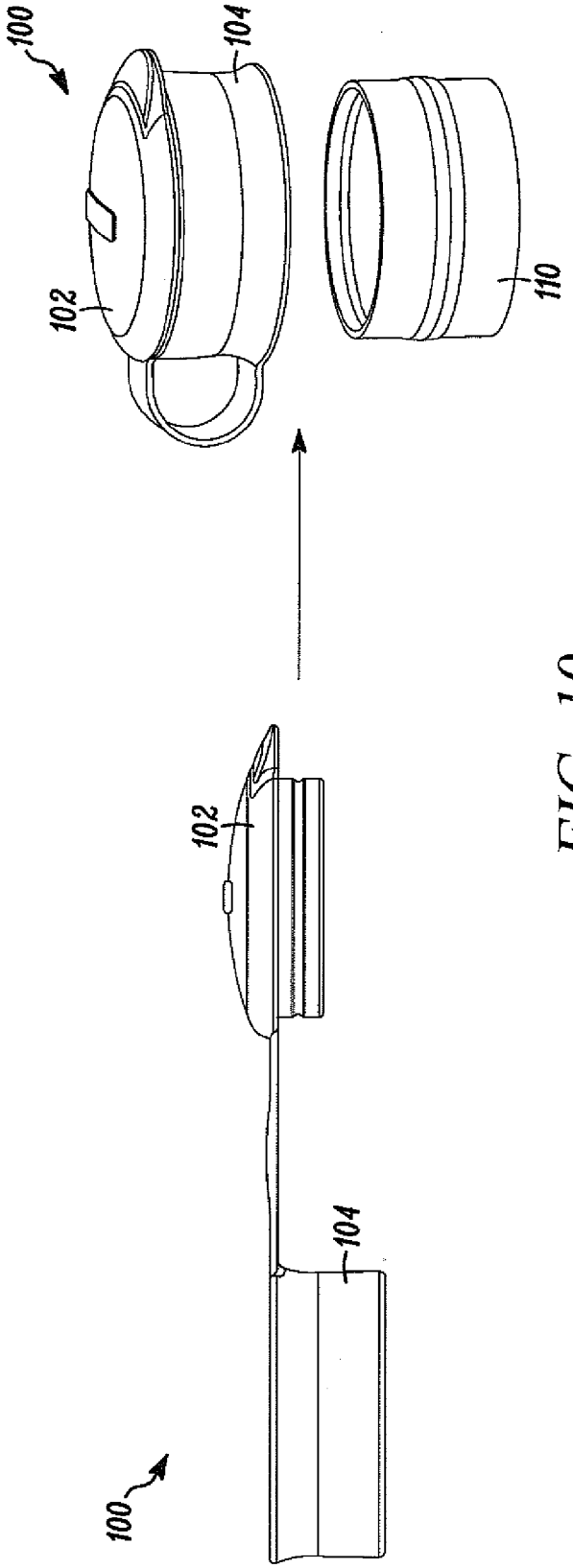


FIG. 10

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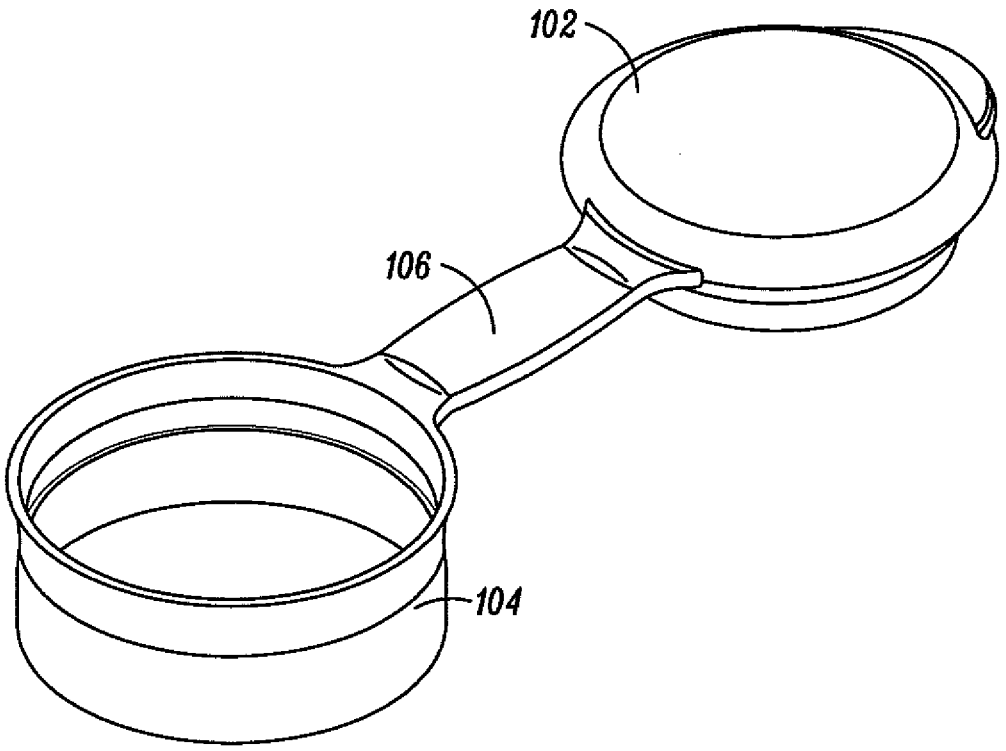


FIG. 11

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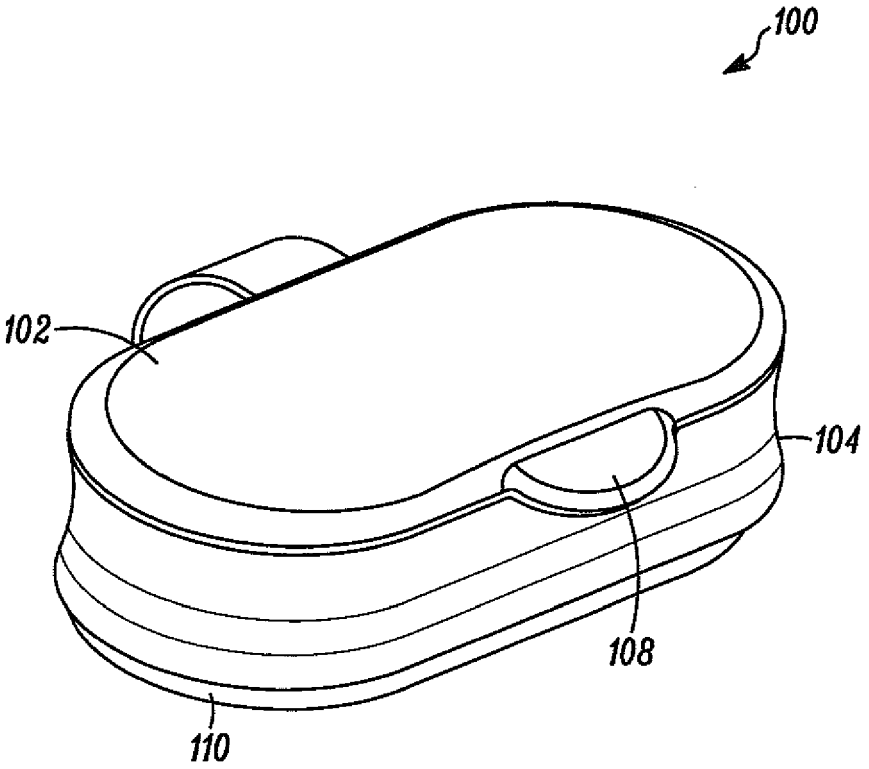


FIG. 12

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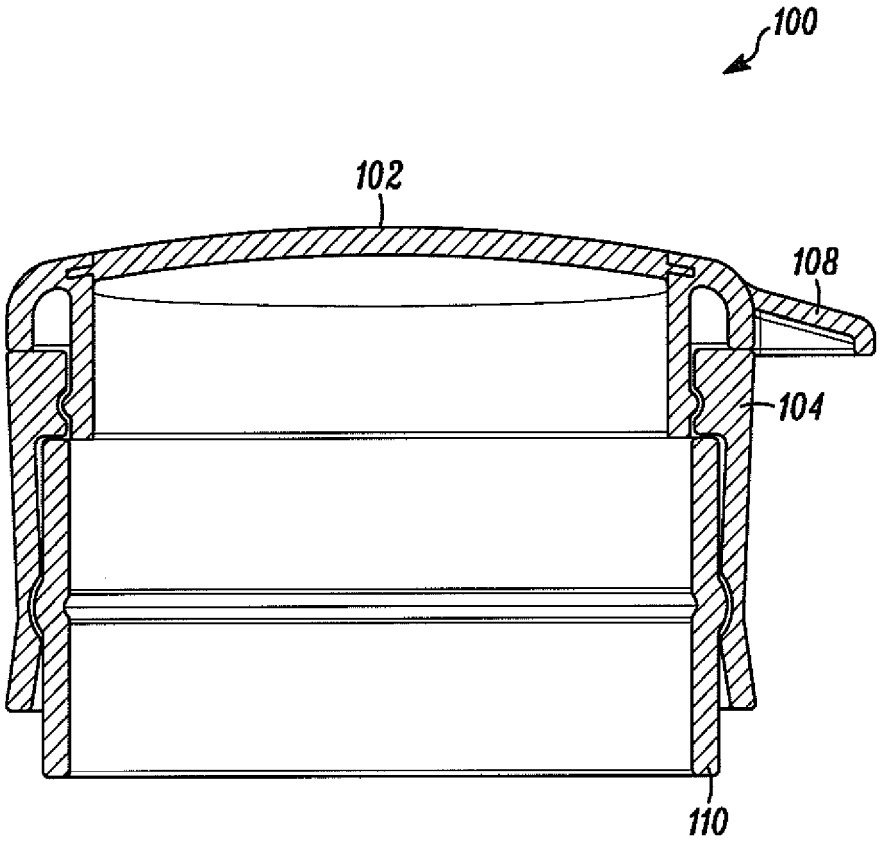


FIG. 13

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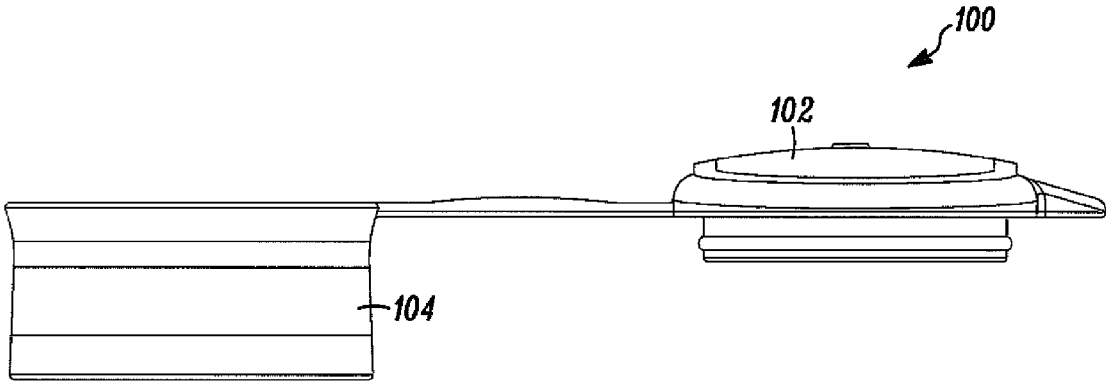


FIG. 14

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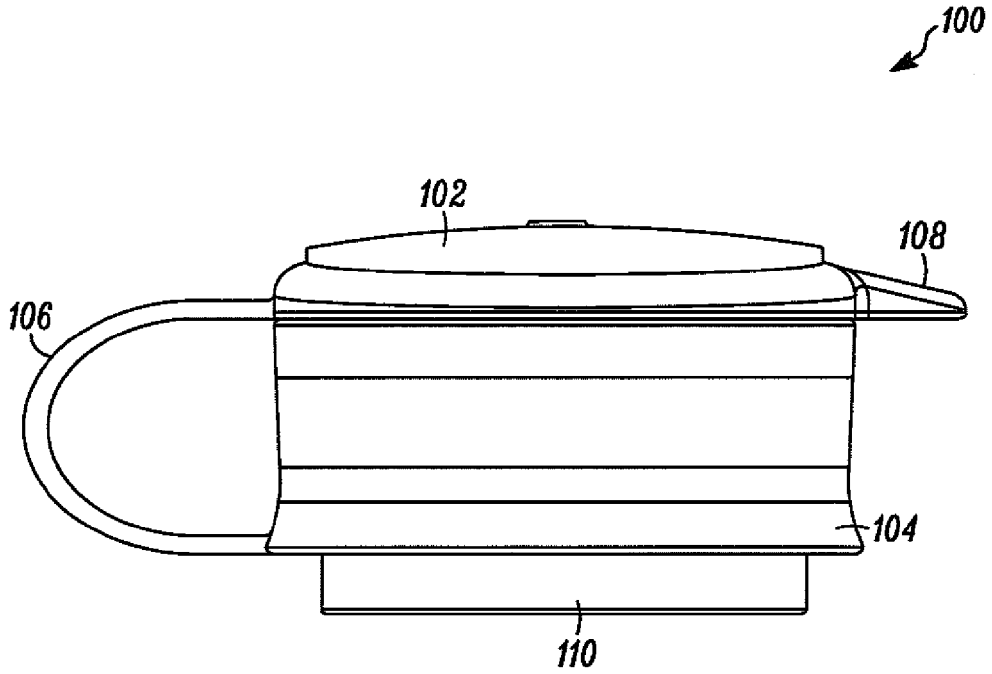


FIG. 15

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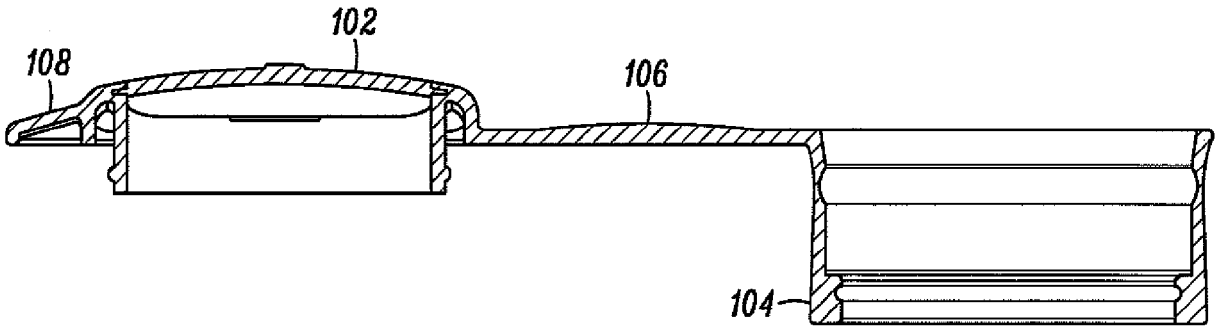


FIG. 16

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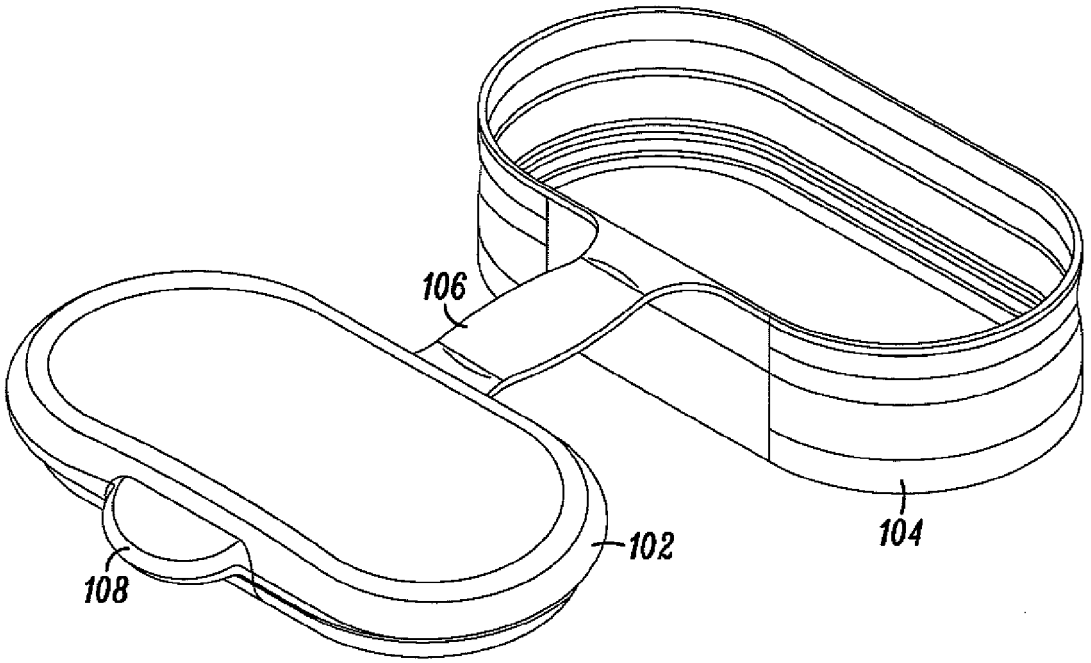


FIG. 17

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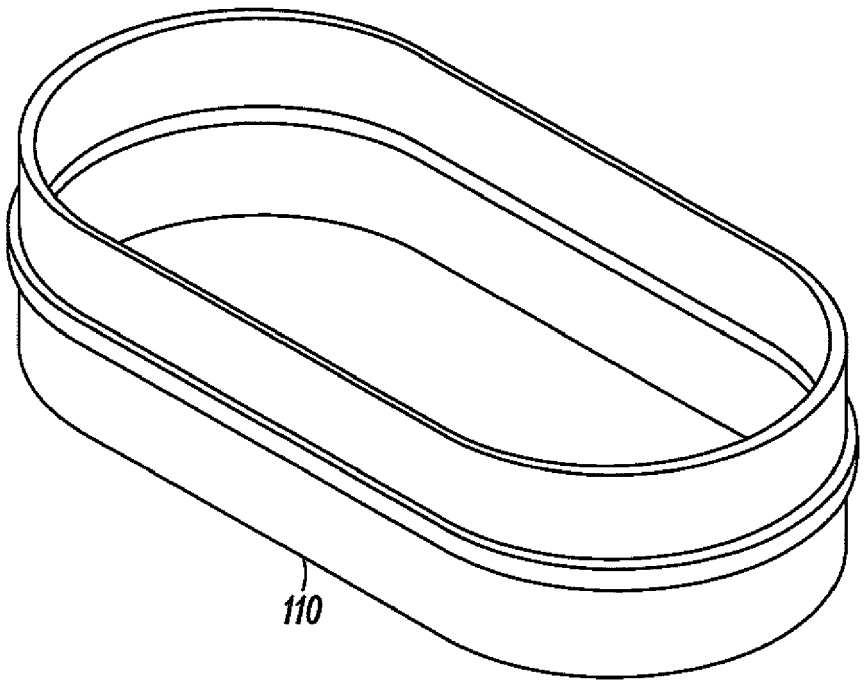


FIG. 18

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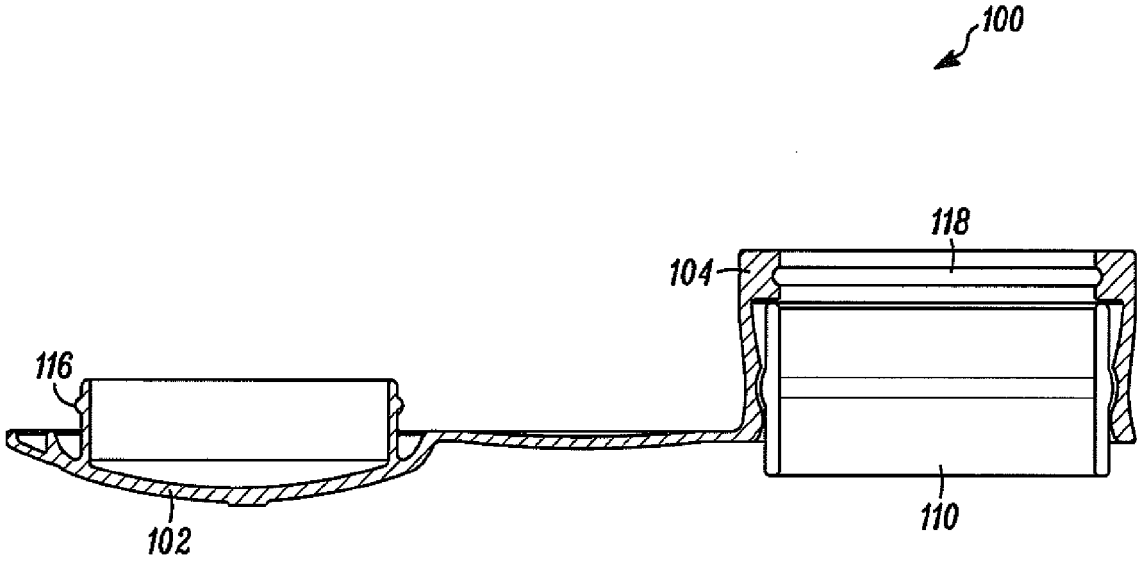


FIG. 19

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EUROPEAN SEARCH REPORT

Application Number
EP 09 15 8006

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	DE 93 17 973 U1 (BRAEM GUENTHER [DE]) 23 June 1994 (1994-06-23) * page 3, paragraph 6 - page 5, paragraph 5; figures 1.0-1.6, 3.0-3.2 *	1-4,7-10	INV. B65D33/16 B65D75/58
X	US 4 290 466 A (VILLA OSCAR ET AL) 22 September 1981 (1981-09-22) * column 2, lines 31-57; figures 1-3 *	1-2,4,7, 9-10	
A	US 2004/124210 A1 (BARTLEIN JAMES L [US]) 1 July 2004 (2004-07-01) * paragraph [0030] - paragraph [0034]; figures 5-7 *	1-10	
			TECHNICAL FIELDS SEARCHED (IPC)
			B65D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	13 January 2010	Leijten, René

CATEGORY OF CITED DOCUMENTS

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13-01-2010

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE 9317973 U1	23-06-1994	NONE	
US 4290466 A	22-09-1981	NONE	
US 2004124210 A1	01-07-2004	NONE	

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

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REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- US 61105874 A **[0001]**

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