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(54) **Food transport and storage container having removable inner container and insulating outer sleeve**

Lebensmitteltransport- und -lagerungsbehälter mit entfernbarem Innenbehälter und isolierender Außenhülle

Transport d'aliments et conteneur de stockage ayant un récipient intérieur amovible et manchon extérieur isolant

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**Description****BRIEF DESCRIPTION OF THE DRAWINGS****BACKGROUND OF THE INVENTION****[0006]****Field of the Invention**

**[0001]** The present invention relates generally to a food container for storing and transporting food items, and in particular to a food container having a removable inner container and an insulating outer sleeve.

**Description of the Related Art**

**[0002]** Food containers have been developed to carry food at either warmer or cooler temperatures than the surroundings and to maintain the temperature differential. Students or workers may carry chilled food items to school or work to ensure that the food does not spoil, and then may desire to warm the food item prior to eating, for example using a microwave oven. People going to a pot luck party or a picnic may desire to bring a hot or warm dish to the event and may wish to transport the hot food without risk of contact with the hot food container and while maintaining the food in a hot state.

**[0003]** An example of a beverage container is described in US6367652, which discloses a cup holder comprising a double walled insulating vessel including an inner liner and an outer liner spaced therefrom to define an insulating space. In another example, US5875913 discloses a molded plastic pail and a snap-on closure having a flared skirt the bottom of which is manually engaged for removal purposes.

**SUMMARY OF THE INVENTION**

**[0004]** The present invention provides a food storage and transport container as defined in claim 1. The outer sleeve is an insulating sleeve to maintain a temperature differential between the contents of the inner container and the surroundings. The inner container is removable from the outer sleeve and may be placed into a heating device, such as a microwave oven, to heat the contents of the inner container.

**[0005]** A user of the present device may store chilled food items in the inner container or even place the food items in the inner container and place it in a cooling device, such as a refrigerator, to chill. The inner container with the chilled food items is placed into the insulated outer sleeve and is transported, for example, to school or work. When the user desires to eat the food items, the inner sleeve with the still chilled food items therein is removed from the outer sleeve and placed into a heating device, such as a microwave oven. The food items are heated and the user may eat the food items directly from the inner container or may transfer the food items to a plate or bowl for consumption.

5 **Figure 1** is an perspective view showing the food storage container of the present invention;

**Figure 2** is an exploded view of the food storage container with the lid removed;

10 **Figure 3** is an exploded view of the food storage container with the inner container removed from the outer sleeve;

15 **Figure 4** is an exploded view of the lid and lid gasket;

**Figure 5** is a top plan view of the food storage container including line A-A; and

20 **Figure 6** is a cross-sectional view of the food storage container along line A-A of Figure 5;

**Figure 7** is a perspective view of a second embodiment of the food storage container;

25 **Figure 8** is a cross-sectional view of the second embodiment;

30 **Figure 9** is an enlarged, fragmentary view of a locking structure of the second embodiment;

**Figure 10** is a top perspective view of the outer sleeve of the second embodiment showing a projection of the locking structure;

35 **Figure 11** is a bottom perspective view of the inner container of the second embodiment showing a bayonet slot of the locking structure;

40 **Figure 12** is a bottom view of the inner container of the second embodiment showing cross section lines through a handle;

45 **Figure 13** is a side cross-sectional view along the line D-D of **Figure 12** showing the bayonet slot of the second embodiment;

**Figure 14** is a top perspective view of the inner container of the second embodiment;

50 **Figure 15** is a top, perspective, exploded view of the lid of the second embodiment; and

55 **Figure 16** is a top perspective view of the inner container locked in the outer sleeve of the second embodiment.

## DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0007] The food storage container 20 of **Figure 1** includes a container body 22, a lid 24, and a collar 26. Handles 28 extend from the collar 26 by which the container may be carried. The body 22 includes a base 30. The container 20 has a generally wide, cylindrical shape.

[0008] **Figure 2** shows the food storage container 20 with the lid 24 removed. The collar 26 has a threaded lip 32 that extends upwardly from the collar 26 and defines a wide-mouth opening 34 to the container. The cylindrical lid 24 has corresponding interior threads that selectively engage the exterior threads of the lip 32. In the illustrated embodiment, the threads on the threaded collar 32 are course threads so that the lid may easily be started on the threads without risk of cross threading. The wide mouth opening 34 of the inner container readily accepts foods such as stew, chili, or other foods that might not fit so easily into a narrow mouth container. The base 30 of the illustrated embodiment is wider than the upper portion of the container 22 to add stability and prevent accidental spills. The base 30 may be formed of a pliable, non-skid material to prevent the slipping of the container.

[0009] The handles 28 extend outward from opposite sides of the collar 26 and include raised upper and lower edges 36 and 38 and a membrane 40 extending from the edge to the collar 26. The user can grasp the handles 28 and lift or carry the container 20 without spilling the contents. The handles 28 extend only a short distance from the collar 26 and have a curved outer edge. The container 20 can thereby be packed away in a lunch bag or other enclosure without the handles 28 taking up unnecessary room. The exterior surfaces of the container and lid are generally smooth and un-textured to provide an easy to clean surface.

[0010] In **Figure 3**, an inner container 42 has been lifted out of the outer sleeve 44. The outer sleeve 44 is a preferred embodiment is insulated. The inner container 42 includes the threaded lip 32 and the collar 26 with the two handles 28 and also includes a cylindrical inner body 46 that fits into the cylindrical interior 48 of the outer sleeve 44. The outer sleeve 44 has an upper lip 50 set inward from the outer wall 52 of the outer sleeve 44. The collar 26 fits onto the upper lip 50 of the outer sleeve 44 when the inner container 42 is in position in the outer sleeve 44. In the illustrated embodiment, the inner body 46 of the inner container 42 fits snugly into the outer sleeve 44 so that the friction fit of the inner container 42 within the outer sleeve 44 holds the two parts together, yet permits the inner 42 container to be removed from the outer sleeve 44. The collar 26 may also have a friction fit onto the upper lip 50 of the outer sleeve 44, although this may not be necessary.

[0011] In one embodiment, the inner body 46 of the inner container 42 is ridged to permit easy sliding movement of the inner container into and out of the outer sleeve. The ridges not only reduce the surface contact

area, and therefore the friction, between the parts, but also provide channels for air flow so that air pressure differences do not prevent insertion and removal of the inner container 42.

[0012] Other means for engaging between the inner container and outer sleeve are envisioned and are encompassed within the present invention.

[0013] The collar 26 and handles 28 form part of the inner container 42. The user who has placed food items into the present container may remove the food items from the insulated outer sleeve 44 without contacting the food items. The food items and the interior container 42 are lifted and carried by the handles 28. The interior container 42 is of a material that can withstand heating, for example. In one example, the outer sleeve 44 is of a metal material or other sturdy material to withstand possible rough treatment in being moved about and transported, and may be formed as an insulated sleeve. The interior container 42 of one embodiment is of a plastic or other microwavable material that can withstand heating of the food contents as well as being cool enough to the touch to enable the user to hold the inner container 42 by the handles 28 after heating. The material of the inner container 42 may be of a material that resists staining by certain foods, particularly during heating of the food items.

[0014] The user may take the inner container 42 from the outer sleeve 44, fill the container with food items, attach the lid 24 to the threaded lip 32 of the inner container 42, and place the inner container 42 into a refrigerator, for example, prior to leaving for work or school. When leaving for work or school, the inner container 42 is placed into the insulated outer sleeve 44 and brought with the user. The insulated outer sleeve 44 keeps the food chilled. When ready to eat, the user removes the inner container 42 from the outer sleeve 44, removes or loosens the lid 24, and heats the container and food in a microwave oven. The inner container 42 with the heated food may be lifted by the user using the handles 28. The warmed food may be eaten directly from the inner container 42 or the inner container 42 may be placed back into the outer sleeve 44 to keep the heated food warm and prevent user contact with the possibly hot container. The inner container 42 may be washed separately from the outer sleeve 44, if desired.

[0015] **Figure 4** shows the lid 24 that threads onto the lip of the inner container 42. It is desirable that not only is the inner container 42 liquid tight but that the lid 24 is also liquid tight when secured to the inner container 42. A gasket 54 is provided to effect a liquid tight seal between the inner container 42 and the lid 24. The gasket 54 is annular shaped and seals the interior of the lid 24 against the upper edge of the threaded lip 32. The gasket 54 ensures that liquids or food materials do not leak from the food container. A fluid tight seal can be made with only a single seal element, and without requiring a seal or even a connection between the lid and the outer sleeve.

**[0016]** In **Figure 5**, the handles 28 enable grasping of the container 20 whether with the lid in place or with the lid removed and whether with the inner container within the outer sleeve or with the inner container removed from the outer sleeve. The handles 28 are compact to avoid occupying a significant amount of room in, for example, a lunch bag during use or in a cabinet when not in use. The circular shape of the container 20 facilitates microwave heating of the contents with fewer hot spots. The handles 28 are disposed below the top lip of the inner container 42 to enable the user to stir the contents, to access the contents with an eating or serving utensil, or to place the container 20 in a dish drying rack without the handles 28 getting in the way.

**[0017]** Turning to **Figure 6**, the container 20 in cross section reveals that the lid 24 is formed in two parts, an outer lid 56 having a domed top surface 58, an interior-threaded circular rim 60 and a circular flange 62 within the circular rim 60, and an inner lid 64 secured to the circular flange 62. The outer lid 56 and inner lid 64 form a hollow interior space 66 that serves to insulate the interior of the container from the surroundings. The hollow interior space 66 of the lid 24 may be filled with air, a neutral gas, a partial vacuum, or an insulating material. The circular space between the inner lid and outer lid holds the gasket 54, which may be formed of silicon or other low taste, heat resistant material.

**[0018]** The inner container 42 has the upper lip 50 threaded into the rim 60 of the lid 24. The upper lip 50 is recessed, having a smaller outer diameter, to enable the lid 24 to form a generally continuous surface with the collar 26. The upper lip 50 of the outer sleeve 44 is also recessed, or formed of a smaller diameter, so that the outer surface of the collar 26 forms a generally continuous surface with the outer surface of the outer sleeve 44. A generally smooth sided container 20 is formed by the assembled lid 24, inner container 42 and outer sleeve 44. The handles 28 with the raised lower and upper edges 38 and 36 and central membrane 40 are visible in this view. The collar 26 extends over the lip 50 of the outer sleeve 44, or considered another way, the lip 50 extends into the interior space of the collar 26.

**[0019]** The lower portion 46 of the inner container 42 extends into the interior 48 of the outer sleeve 44. The interior 48 of the outer sleeve 44 is generally form fitted to the shape of the inner container 42. The outer sleeve 44 has an inner wall 68 and an outer wall 70 defining an insulating space 72 therebetween. The insulating space 72 may be filled with air, a neutral gas, a partial vacuum, or an insulating material. The insulating space 72 insures that hot foods in the container stay hot and cold foods stay cold.

**[0020]** The base 30 of the outer sleeve 44 encloses the lower end 74 of the outer sleeve 44 and defines a further insulating space at the bottom of the food container.

**[0021]** Thus, there is shown and described a food container having a removable inner container that seals in

the food and can be heated or chilled with the food inside without the insulating sleeve. The insulating sleeve keeps the food either hot or cold as desired. Further heating or cooling of the food is facilitated by removing the outer sleeve and without the need to remove the food from the container to a separate plate or bowl.

**[0022]** **Figure 7** shows a second embodiment of the present food storage container 100 in its fully assembled condition. The food storage container 100 includes a lid 102 secured onto a top ring 104 of an inner container, a pair of handles 106 extending in opposite directions from the top ring 104 of the inner container, and an outer sleeve 108 into which the inner container fits. A base 110 is provided on the outer sleeve 108. The lid 102, inner container and base 110 are preferably formed of a plastic material and the outer sleeve 108 is preferably formed of steel configured as a vacuum insulated container.

**[0023]** In **Figure 8**, the lid 102 is threaded onto the top ring 104 of the inner container 114 and is thereby held in place. A gasket 112 within the lid 102 seals the lid 102 and inner container 114 together to prevent leakage of food or beverages from the inner container. The lid 102 includes a central projection 116 forming an air chamber or insulating chamber 118 to thermally insulate the interior of the inner container 114 from the environment.

**[0024]** The inner container 114 has a lower portion 120 extending into the interior of the outer sleeve 108. The lower portion 120 of the inner container 114 is hollow and intended to hold food items that are to be kept hot or cold. Other items may of course be stored in the inner container 114. The inner container 114 has the handles 106 extending from opposite sides at the top ring portion by which the inner container 114 can be lifted. The handles 106 can be of any shape. Here the handles are downwardly curved projections that provide fingertip spaces 122 on the underside to ensure that the container 100 does not slip as it is being lifted by the user.

**[0025]** The outer sleeve 108 fits over the lower portion 120 of the inner container 114 to enclose the lower part of the inner container 114. The outer sleeve 108 has a double wall 124 and 126 with a partial vacuum between the walls to provide thermal insulation for the food or other items in the inner container. The inner wall 124 of the lower sleeve 108 is contoured to fit closely with the outer surface of the inner container 114. The base 110 is mounted on the bottom of the outer sleeve 108. The inner container 114 and the outer sleeve 108 are fastened to one another by a locking structure in the form of a bayonet lock 128. The bayonet lock 128 includes a pair of projections 130 extending from the inner top surface of the outer sleeve 108, which projections 130 engage into bayonet slots 132 on the outer surface of the inner container 114. In the illustrated embodiment, the locking structures are beneath the handles, which facilitates aligning of the bayonet locking portions by the user.

**[0026]** **Figure 9** provides an enlarged cross-sectional view through the locking structure 128. The projection 130 on the inner wall of the outer sleeve 108 is rounded

and may be in the shape of a portion of a sphere. Other shapes are of course possible. The bayonet slot 132 in the inner container wall 114 is of a size and shape to accommodate the projection 130, preferably with room to spare. A bump 134 is provided in the bayonet slot 132 over which the projection 130 must pass to move the locking structure into the locked position.

**[0027]** In **Figure 10**, the outer sleeve 108 has the projection 130 on the inner surface. A second such projection 130 is provided on an opposing inner wall of the outer sleeve, although it is not visible in this view. The projection is here shown with a circular shape. Other shapes are possible.

**[0028]** **Figure 11** is a bottom view of the inner container 114. Beneath the handle 106 is an L-shaped recess or bayonet slot 132 formed into a raised rim 136 on the inner container 114. The recess or slot 132 has a vertical portion 138 extending generally along a direction parallel to an axis of the container 100 extending to the edge of the raised rim 136 by which the projection 130 of the outer sleeve 108 may enter the recess 132. The recess 132 has a horizontal portion 140 extending generally along a portion of the circumference of the container forming the second leg of the L-shaped recess. The locking bump 134 is near the end of the horizontal portion 140, with sufficient space at the end of the horizontal portion to accommodate the projection 130 in the locked position.

**[0029]** A handle support rim 142 of the inner container 114 extends toward the closed end of the inner container spaced from the raised rim 136 so as to define a generally annular space 144 into which the top edge of the outer sleeve 108 fits when the inner container 114 is assembled in the outer sleeve 108. Positioning the top edge of the outer sleeve 108 into the space 144 between the handle support rim 142 and the inner container 114 brings the upper rim of the outer sleeve 108 into position to permit the projections 130 to engage the bayonet slots 132. A second bayonet slot is provided on the opposite side of the inner container beneath the other handle 106.

**[0030]** The locking projection or bump 134 is visible in the second or horizontal leg 140 of the L-shaped bayonet slot. The projection 134 meets resistance upon encountering the locking projection 130 as the user rotates the inner and outer parts relative to one another. By exerting additional turning force between the inner container 114 and the outer sleeve 108, the resistance is overcome and the projection 130 moves past the locking projection 134 to the end of the L-shaped slot 140. The projection 130 on the outer sleeve 108 becomes trapped at the end of the bayonet slot 132, keeping the inner container 114 and the outer sleeve 108 together, but permitting them to be separated when desired. For example, the components do not come apart when being transported to work or school, but can be easily separated to permit heating of the food in the inner container 114 using a microwave oven, for example. Once the food is heated, the inner container 114 may be inserted back into the outer sleeve 108 to transport the warmed food to a table or the user's

desk.

**[0031]** The raised rim 136 of the inner container 114 also contacts ribs 146 or other structures at the top rim of the outer sleeve 108 to provide a frictional engagement of the inner and outer components - see **Figure 10**.

**[0032]** **Figure 12** shows the handles 106 and inner container 114. The vertical portions 138 of the L-shaped bayonet recesses are beneath the handles 106, offset from the center lines of the handles to receive the projections 130 on the outer sleeve 108. The user who is holding the handles may easily align the projection and bayonet slot using the handles as a guide.

**[0033]** **Figure 13** provides a view of the L-shaped bayonet recess 132 with the handle removed to better show the shape and position of the recess. The first portion or vertical portion 138 of the recess for receiving the projection at the lower edge of the raised rim 136 leads into the horizontal or second portion 140 of the L-shaped recess. The locking projection 134 extends across the second portion 140 of the recess spaced from the end of the recess by a sufficient distance to provide a capture space 148 for holding the projection 130 of the outer sleeve 108 when the two components are locked together.

**[0034]** Locking the inner container 114 into the outer sleeve 108 is performed by inserting the lower portion of the inner container 114 into the outer sleeve 108 until the projections 130 on the outer sleeve 108 contact the raised rim 136. After being slid into the outer sleeve 108, the inner container 114 and outer sleeve 108 are rotated relative to one another until the projections 130 reach the locking recesses 132 so that the projections 130 slide into the vertical portions 138 of the recesses. The inner container 114 and outer sleeve 108 are rotated relative to one another to move the projections 130 along the horizontal portions 140 of the recesses until resistance is met as a result of the outer sleeve projections 130 contacting the locking projections 134. By applying force to overcome the resistance to further turning, the user is able to move the projections 130 over the locking projections 134 and engage into the space 148 at the closed end of the locking recess 132. The locking projection 134 prevents rotation out of the locked position unless an unlocking force is applied. The components are thereby secured together.

**[0035]** The latching of the inner container 114 to the outer sleeve 108 can be accomplished by a single projection and a single bayonet recess or by multiple projections and multiple recesses. A combination of more bayonet recesses than projections may be provided to permit locking in several rotational positions. Other latching means to secure the components together may be provided as well.

**[0036]** Unlocking the inner container 114 from the outer sleeve 108 is performed by applying a twisting force or rotation force to overcome the locking resistance and permit the outer sleeve projection 130 to move over the locking projection 134. Further turning of the inner container 114 in the outer sleeve 108 moves the projection 130 to

the open end of the horizontal recess 140, where the sleeve 108 and container 114 may be separated by a vertical motion. The user may thereby remove the previously locked inner container 114 for heating or washing and may lock the inner container into the outer sleeve for transport and insulation.

[0037] The lid engaging threads 150 on the upper edge of the inner container 114 are shown. Cooperating threads are provided in the lid 102.

[0038] Figure 14 shows the inner container 114 fit into and locked to the outer sleeve 108. Food items may be placed into the interior of the inner container 114 for storage or transport and are thermally isolated from the environment so the food is kept warm or cool. The bayonet slots 132 are positioned beneath each handle 106 to enable the user to use the handles as a guide to aligning the locking projections 130 with the locking recesses 132. The user is able to visually align the handles 106, here shown at opposite sides of the inner container 114, with the projections 130 on the inside of the outer sleeve 108. Latching of the inner container 114 and outer sleeve 108 is thereby easily accomplished without the user needing to search for the latching recess 132 by rotating the components over significant rotational angles.

[0039] Figure 15 shows the lid 102 and lid gasket 112 that is affixed to the rim of the inner container by threaded connection. The gasket 112 of one embodiment is of silicon, although other materials are possible. The lid 102 is of a plastic material in one embodiment, although other materials are possible. The lid gasket 112 is fit into the recess in the lid 102 and remains there during use. The gasket 112 forms the seal between the inside surface of the lid 102 and the edge of the rim of the inner container 114. The lid 102 need not be removed from the inner container 114 to remove the inner container 114 from the outer sleeve 108 or to insert it into the outer sleeve 108. As such, the lid 102 can remain in place to prevent spilling of soup or other foods while removing the inner container. The lid 102 is removed from the inner container 114 before heating the food, for example, in a microwave oven.

[0040] Figure 16 shows the inner container 114 in the outer sleeve 108 but without the lid 102. The inner container 114 has been secured to the outer sleeve 108 by the bayonet connection. The outwardly projecting flange with the downwardly directed outer edge, or handle support rim, 142 on the inner container 114 extends over the rim of the outer sleeve. In addition to providing a more unitary structure to the assembled components, this structure prevents food from getting between the components. The inner container 114 is of a plastic material, and preferably a material that is microwavable with food contained therein. The outer sleeve 108 of a preferred embodiment is of stainless steel with a plastic base 110. After the food is heated in the microwave in the inner container, the inner container 114 may be slid into the outer sleeve 108 to insulate the heated food from the cooler environment. The inner container 114 may also be placed into a refrigerator or other cool place to cool

the food, and the cooled food and inner container 114 then slid into the outer sleeve to keep the food cool.

[0041] The inner container 114 and outer sleeve 108 may be held together by friction, by a latching structure - one example of which is shown - or by a combination of both friction and a latching structure.

[0042] It will be appreciated that in one embodiment a food container has an inner container for holding the food items and an outer sleeve into which the inner container fits. The inner container may be held in the outer sleeve by a friction fit or a bayonet latch or other fastening means. The inner container includes two handles by which the inner container is lifted from the outer sleeve or by which the entire container is carried. A threaded lid with a gasket fastens onto the inner container. The lid and the outer sleeve may be insulated.

[0043] A food container has an inner container for holding the food items and an outer sleeve into which the inner container fits. The inner container may be held in the outer sleeve by a friction fit or a bayonet latch or other fastening means. The inner container includes two handles by which the inner container is lifted from the outer sleeve or by which the entire container is carried. A threaded lid with a gasket fastens onto the inner container. The lid and the outer sleeve may be insulated.

[0044] Although other modifications and changes may be suggested by those skilled in the art, it is the intention of the inventors to embody within the patent warranted hereon all changes and modifications as reasonably and properly come within the scope of their contribution to the art.

## Claims

1. A food container (20, 100), comprising:

an outer sleeve (44, 108) having an outer wall (70, 126) and an inner wall (68, 124) so as to define an insulating space (72) therebetween, the outer sleeve (44, 108) defining an interior space and an opening to access the interior space;

a lip (50) of the outer sleeve (44, 108) at the opening (34) to the interior space of the outer sleeve (44, 108);

an inner container (42, 114) having an inner body (46) that fits within the interior space of the outer sleeve (44, 108) such that the inner body (46) is removable from the outer sleeve (44, 108), the inner body (46) defining a food containing cavity;

a collar (26) on the inner container (42, 114), the collar (26) fitting over the lip (50) of the outer sleeve (44, 108) when the inner body (46) is disposed within the interior space of the outer sleeve (44, 108), the collar (26) defining a portion of an exterior surface of the food container

- (20, 100);  
 a lid (24, 102) selectively fastenable to the collar (26) in sealing engagement;  
**characterised by**  
 at least one handle (28, 106) extending from the collar (26).
2. A food container as claimed in claim 1, further comprising;  
 a bayonet latching structure (128) securing the inner container (42, 114) to the outer sleeve (44, 108).
  3. A food container as claimed in claim 1 or claim 2, wherein the at least one handle (28, 106) includes two handles extending from opposing sides of the inner container (42, 114).
  4. A food container as claimed in claim 3, wherein the handles (38, 106) each include oppositely projecting rims (36, 38) at a perimeter and a web (40) extending between the perimeter of the handle (28, 106) and a body of the inner container (42, 114).
  5. A food container as claimed in claim 3 or claim 4, wherein the handles (28, 106) each include a handle surface defining a finger space opening (122) toward a closed end of the inner container (42, 114).
  6. A food container as claimed in claim 1 or any preceding claim, wherein the lid (24, 102) includes an inner lid (64) and an outer lid (56) affixed to one another to define an insulating space (66) within the inner and outer lids.
  7. A food container as claimed in claim 1 or any preceding claim, wherein the outer sleeve (44, 108) includes an outer cylindrical wall (52, 126), wherein the lip (50) of the outer sleeve (44, 108) has a cylindrical outer surface of a lesser diameter than the outer cylindrical wall (52, 126) of the outer sleeve (44, 108), and wherein the collar (26) has a cylindrical outer surface that forms a continuation of the cylindrical wall (52, 126) of the outer sleeve (44, 108).
  8. A food container (20, 100) according to any one of claims 1 to 7, wherein the outer sleeve (44, 108) has a cylindrical outer wall (70, 126) and the outer sleeve (44, 108) has a lip (50) of a smaller outer diameter than the cylindrical outer wall (70, 126);  
 the food containing portion being of a size and shape to fit into the interior space of the outer sleeve (44, 108), the food containing portion defining an interior food containing space;  
 the collar (26) extending from the food containing portion and defining a lip accepting space between the collar (26) and the food containing portion, the lip (50) of the outer sleeve (44, 108) fitting into the lip accepting space when the food containing portion of the inner container (42, 114) is within the interior space of the outer sleeve (44, 108); and further comprising;  
 first and second handles (28, 106) extending from the collar (26) in opposite directions from opposite sides of the collar (26);  
 a threaded cylindrical portion extending from the collar (26), the threaded cylindrical portion including an exterior threaded cylindrical surface of a smaller diameter than a diameter of the collar (26); and  
 a lid (24, 102) having an interior threaded portion (60) for threadably engaging the exterior threaded cylindrical surface of the threaded cylindrical portion, the lid (24, 102) closing the interior food containing space when the lid (24, 102) is in a sealed condition on the threaded cylindrical portion, the lid (24, 102) maintaining the sealed condition regardless of whether the inner container (42, 114) is in the outer sleeve (44, 108) or the outer sleeve (44, 108) is removed from the inner container (42, 114).
  9. A food container as claimed in claim 8 or any of claims 1 to 7, further comprising:  
 a bayonet lock (128) between the inner container (42, 114) and the outer sleeve (44, 108) to releasably lock the inner container (42, 114) to the outer sleeve (44, 108).
  10. A food container as claimed in claim 9, wherein the bayonet lock (128) includes two bayonet locks (128), each bayonet lock (128) being aligned with a corresponding one of the first and second handles (28, 106).
  11. A food container as claimed in claim 8 or claim 9 or claim 10, or any of claims 1 to 7, wherein the outer sleeve (44, 108) and the lid (24, 102) are insulated.
  12. A food container as claimed in claim 11, wherein the outer sleeve (44, 108) is vacuum insulated.
  13. A food container as claimed in claim 8, or any of claims 9 to 12, or any of claims 1 to 7, wherein the inner container (42, 114) and the collar (26) and the handles (28, 106) are formed in one piece of a microwave-safe material.
  14. A food container as claimed in claim 8, or any of claims 9 to 13, or any of claims 1 to 7, wherein the inner container (42, 114) and the outer sleeve (44, 108) are held together by a friction fit when the food containing portion is within the interior space of the outer sleeve (44, 108).

## Patentansprüche

1. Ein Lebensmittelbehälter (20, 100), bestehend aus:
- einer Außenhülle (44, 108) mit einer Außenwand (70, 126) und einer Innenwand (68, 124), die einen Isolierraum (72) dazwischen definieren, die Außenhülle (44, 108) definiert einen Innenraum und eine Öffnung, um Zugang zum Innenraum zu haben;
  - einem Rand (50) der Außenhülle (44, 108) an der Öffnung (34) zum Innenraum der Außenhülle (44, 108);
  - einem Innenbehälter (42, 114) mit einem Innengehäuse (46), das in den Innenraum der Außenhülle (44, 108) passt, so dass das Innengehäuse (46) von der Außenhülle (44, 108) entfernt werden kann, das Innengehäuse (46) definiert dabei einen Lebensmittel enthaltenden Hohlraum;
  - einem Ring (26) am Innenbehälter (42, 114), der Ring (26) passt dabei über den Rand (50) der Außenhülle (44, 108), wenn das Innengehäuse (46) in den Innenraum der Außenhülle (44, 108) eingesetzt ist, der Ring (26) definiert einen Teil einer Außenfläche des Lebensmittelbehälters (20, 100);
  - einem Deckel (24, 102), der wahlweise als Dichtungsverbindung am Ring (26) befestigt werden kann, **gekennzeichnet durch** mindestens einen Griff (28, 106), der vom Ring (26) ausgeht.
2. Ein Nahrungsmittelbehälter gemäß Anspruch 1, darüberhinaus bestehend aus:
- einer Bajonettverschluss-Struktur (128), die den Innenbehälter (42, 114) mit der Außenhülle (44, 108) verbindet.
3. Einem Nahrungsmittelbehälter gemäß Anspruch 1 oder Anspruch 2, wobei der mindestens eine Griff (28, 106) zwei Griffe einschließt, die von gegenüberliegenden Seiten des Innenbehälters (42, 114) ausgehen.
4. Ein Nahrungsmittelbehälter gemäß Anspruch 3, wobei die Griffe (38, 106) jeweils gegenüberliegende Überstandsflächen (36, 38) in einem Umfang einschließen, und einen Steg (40), der sich zwischen dem Umfang des Griffes (28, 106) und einem Gehäuse des Innenbehälters (42, 114) erstreckt.
5. Ein Nahrungsmittelbehälter gemäß Anspruch 3 oder Anspruch 4, wobei die Griffe (28, 106) jeweils eine Grifffläche einschließen, die eine Fingeröffnung (122) zu einem geschlossenen Ende des Innenbehälters (42, 114) definiert.
6. Ein Nahrungsmittelbehälter gemäß Anspruch 1 oder eines der vorhergehenden Ansprüche, wobei der Deckel (24, 102) einen Innendeckel (64) und einen Außendeckel (56) einschließt, die aneinander befestigt sind, um einen Isolierraum (66) im Innen- und Außendeckel zu definieren.
7. Ein Nahrungsmittelbehälter gemäß Anspruch 1 oder eines der vorhergehenden Ansprüche, wobei die Außenhülle (44, 108) eine zylindrische Außenwand (52, 126) einschließt, wobei der Rand (50) der Außenhülle (44, 108) eine zylindrische Außenfläche mit geringerem Durchmesser einschließt als die zylindrische Außenwand (52, 126) der Außenhülle (44, 108), und wobei der Ring (26) eine zylindrische Außenfläche aufweist, die eine Fortsetzung der zylindrischen Wand (52, 126) der Außenhülle (44, 108) bildet.
8. Ein Nahrungsmittelbehälter (20, 100) gemäß eines der Ansprüche 1 bis 7, wobei die Außenhülle (44, 108) eine zylindrische Außenwand (70, 126) aufweist und die Außenhülle (44, 108) einen Rand (50) mit kleinerem Außendurchmesser als den der zylindrischen Außenwand (70, 126) aufweist; der Nahrungsmittel enthaltende Teil hat dabei eine Größe und Form, die in den Innenraum der Außenhülle (44, 108) passt, der Nahrungsmittel enthaltende Teil definiert dabei einen Nahrungsmittel enthaltenden Innenraum; der Ring (26), der sich vom Nahrungsmittel enthaltenden Teil erstreckt und einen Rand definiert, der einen Raum zwischen dem Ring (26) und dem Nahrungsmittel enthaltenden Teil bildet, der Rand (50) der Außenhülle (44, 108) passt dabei in den deckelaufnehmenden Raum, wenn der Nahrungsmittel enthaltende Teil des Innenbehälters (42, 114) im Innenraum der Außenhülle (44, 108) liegt; und darüberhinaus bestehend aus:
- einem ersten und zweiten Griff (28, 106), die sich vom Ring (26) in gegenüberliegende Richtungen von den gegenüberliegenden Seiten des Rings (26) erstrecken;
  - einem mit einem Gewinde versehenen Teil, der sich vom Ring (26) erstreckt, der mit dem Gewinde versehene zylindrische Teil schließt dabei eine mit einem Gewinde versehene zylindrische Außenfläche mit einem kleineren Durchmesser als einem Durchmesser des Rings (26) ein; und
  - einem Deckel (24, 102) mit einem mit einem Gewinde versehenen Innen-Teil (60) für die schraubbare Verbindung mit einer mit einem Gewinde versehenen zylindrischen Außenfläche des mit einem Gewinde versehenen zylindrischen Teils, der Deckel (24, 102) schließt dabei den Nahrungsmittel enthaltenden Innenraum ab, wenn sich der Deckel (24, 102) in einem Abdichtungszustand auf dem mit einem Gewinde versehenen zylindrischen Teil befin-

det, der Deckel (24, 102) hält dabei diesen Abdichtungszustand aufrecht, unabhängig davon, ob sich der Innenbehälter (42, 114) in der Außenhülle (44, 108) befindet oder ob die Außenhülle (44, 108) aus dem Innenbehälter (42, 114) entfernt wurde.

9. Ein Nahrungsmittelbehälter gemäß Anspruch 8 oder eines der Ansprüche 1 bis 7, darüberhinaus bestehend aus:

einem Bajonettverschluss (128) zwischen dem Innenbehälter (42, 114) und der Außenhülle (44, 108), um den Innenbehälter (42, 114) abnehmbar mit der Außenhülle (44, 108) zu verriegeln.

10. Ein Nahrungsmittelbehälter gemäß Anspruch 9, wobei der Bajonettverschluss (128) zwei Bajonettverschlüsse (128) einschließt, jeder Bajonettverschluss (128) ist dabei am entsprechenden ersten oder zweiten Griff (28, 106) ausgerichtet.

11. Ein Nahrungsmittelbehälter gemäß Anspruch 8 oder Anspruch 9 oder Anspruch 10 oder eines der Ansprüche 1 bis 7, wobei die Außenhülle (44, 108) und der Deckel (24, 102) isoliert sind.

12. Ein Nahrungsmittelbehälter gemäß Anspruch 11, wobei die Außenhülle (44, 108) vakuumisoliert ist.

13. Ein Nahrungsmittelbehälter gemäß Anspruch 8 oder eines der Ansprüche 9 bis 12 oder eines der Ansprüche 1 bis 7, wobei der Innenbehälter (42, 114) und der Ring (26) und die Griffe (28, 106) in einem Stück aus mikrowellenfestem Material geformt sind.

14. Ein Nahrungsmittelbehälter gemäß Anspruch 8 oder eines der Ansprüche 9 bis 13 oder eines der Ansprüche 1 bis 7, wobei der Innenbehälter (42, 114) und die Außenhülle (44, 108) von einem Friction Fit zusammengehalten werden, wenn sich der Nahrungsmittel enthaltende Teil im Innenraum der Außenhülle (44, 108) befindet.

## Revendications

1. Un récipient pour aliments (20, 100), comprenant :

un manchon extérieur (44, 108) possédant une paroi extérieure (70, 126) et une paroi intérieure (68, 124) destinées à définir un espace d'isolation (72) entre celles-ci, le manchon extérieur (44, 108) définissant un espace intérieur et une ouverture permettant d'accéder à l'espace intérieur, une lèvre (50) du manchon extérieur (44, 108) au niveau de l'ouverture (34) vers l'espace intérieur du manchon extérieur (44, 108),

un récipient intérieur (42, 114) possédant un corps intérieur (46) qui s'ajuste à l'intérieur de l'espace intérieur du manchon extérieur (44, 108) de sorte que le corps intérieur (46) soit amovible du manchon extérieur (44, 108), le corps intérieur (46) définissant une cavité contenant des aliments,

un collier (26) sur le récipient intérieur (42, 114), le collier (26) s'ajustant sur la lèvre (50) du manchon extérieur (44, 108) lorsque le corps intérieur (46) est disposé à l'intérieur de l'espace intérieur du manchon extérieur (44, 108), le collier (26) définissant une partie d'une surface extérieure du récipient pour aliments (20, 100), un couvercle (24, 102) pouvant être fixé de manière sélective au collier (26) en prise hermétique, **caractérisé par** au moins une poignée (28, 106) s'étendant à partir du collier (26).

2. Un récipient pour aliments selon la Revendication 1, comprenant en outre :

une structure de verrouillage à baïonnette (128) fixant le récipient intérieur (42, 114) au manchon extérieur (44, 108).

3. Un récipient pour aliments selon la Revendication 1 ou 2, où la au moins une poignée (28, 106) comprend deux poignées s'étendant à partir de côtés opposés du récipient intérieur (42, 114).

4. Un récipient pour aliments selon la Revendication 3, où les poignées (38, 106) comprennent chacune des bordures en saillie de manière opposée (36, 38) au niveau d'un périmètre et une bande (40) s'étendant entre le périmètre de la poignée (28, 106) et un corps du récipient intérieur (42, 114).

5. Un récipient pour aliments selon la Revendication 3 ou 4, où les poignées (28, 106) comprennent chacune une surface de poignée définissant une ouverture de l'espace d'un doigt (122) vers une extrémité fermée du récipient intérieur (42, 114).

6. Un récipient pour aliments selon la Revendication 1 ou selon l'une quelconque des Revendications précédentes, où le couvercle (24, 102) comprend un couvercle intérieur (64) et un couvercle extérieur (56) rattachés l'un à l'autre de façon à définir un espace d'isolation (66) à l'intérieur des couvercles intérieur et extérieur.

7. Un récipient pour aliments selon la Revendication 1 ou selon l'une quelconque des Revendications précédentes, où le manchon extérieur (44, 108) comprend une paroi cylindrique extérieure (52, 126), où la lèvre (50) du manchon extérieur (44, 108) pos-

sède une surface cylindrique extérieure d'un diamètre inférieur à celui de la paroi cylindrique extérieure (52, 126) du manchon extérieur (44, 108), et où le collier (26) possède une surface cylindrique extérieure qui forme une prolongation de la paroi cylindrique (52, 126) du manchon extérieur (44, 108).

8. Un récipient pour aliments (20, 100) selon l'une quelconque des Revendications 1 à 7, où le manchon extérieur (44, 108) possède une paroi cylindrique extérieure (70, 126) et le manchon extérieur (44, 108) possède une lèvre (50) d'un diamètre extérieur inférieur à celui de la paroi cylindrique extérieure (70, 126), la partie contenant des aliments étant d'une taille et d'une forme s'ajustant dans l'espace intérieur du manchon extérieur (44, 108), la partie contenant des aliments définissant un espace intérieur contenant des aliments, le collier (26) s'étendant de la partie contenant des aliments et définissant un espace acceptant une lèvre entre le collier (26) et la partie contenant des aliments, la lèvre (50) du manchon extérieur (44, 108) s'ajustant dans l'espace acceptant une lèvre lorsque la partie contenant des aliments du récipient intérieur (42, 114) se situe à l'intérieur de l'espace intérieur du manchon extérieur (44, 108), et comprenant en outre :

une première et une deuxième poignée (28, 106) s'étendant à partir du collier (26) dans des directions opposées à partir de côtés opposés du collier (26),

une partie cylindrique filetée s'étendant à partir du collier (26), la partie cylindrique filetée comprenant une surface cylindrique filetée extérieure d'un diamètre inférieur au diamètre du collier (26), et

un couvercle (24, 102) possédant une partie filetée intérieure (60) destinée à une mise en prise par filetage de la surface cylindrique filetée extérieure de la partie cylindrique filetée, le couvercle (24, 102) refermant l'espace intérieur contenant des aliments lorsque le couvercle (24, 102) est dans un état scellé sur la partie cylindrique filetée, le couvercle (24, 102) conservant l'état scellé que le récipient intérieur (42, 114) soit dans le manchon extérieur (44, 108) ou le manchon extérieur (44, 108) soit retiré du récipient intérieur (42, 114).

9. Un récipient pour aliments selon la Revendication 8 ou selon l'une quelconque des Revendications 1 à 7, comprenant en outre :

un verrou à baïonnette (128) entre le récipient intérieur (42, 114) et le manchon extérieur (44, 108) destiné à verrouiller de manière libérable

le récipient intérieur (42, 114) au manchon extérieur (44, 108).

10. Un récipient pour aliments selon la Revendication 9, où le verrou à baïonnette (128) comprend deux verrous à baïonnette (128), chaque verrou à baïonnette (128) étant aligné avec une poignée correspondante des première et deuxième poignées (28, 106).
11. Un récipient pour aliments selon la Revendication 8, 9 ou 10, ou selon l'une quelconque des Revendications 1 à 7, où le manchon extérieur (44, 108) et le couvercle (24, 102) sont isolés.
12. Un récipient pour aliments selon la Revendication 11, où le manchon extérieur (44, 108) est isolé sous vide.
13. Un récipient pour aliments selon la Revendication 8, ou selon l'une quelconque des Revendications 9 à 12, ou selon l'une quelconque des Revendications 1 à 7, où le récipient intérieur (42, 114), le collier (26) et les poignées (28, 106) sont formés d'une seule pièce d'un matériau protégé contre les micro-ondes.
14. Un récipient pour aliments selon la Revendication 8, ou selon l'une quelconque des Revendications 9 à 13, ou selon l'une quelconque des Revendications 1 à 7, où le récipient intérieur (42, 114) et le manchon extérieur (44, 108) sont maintenus ensemble par un ajustement serré lorsque la partie contenant des aliments se situe à l'intérieur de l'espace intérieur du manchon extérieur (44, 108).

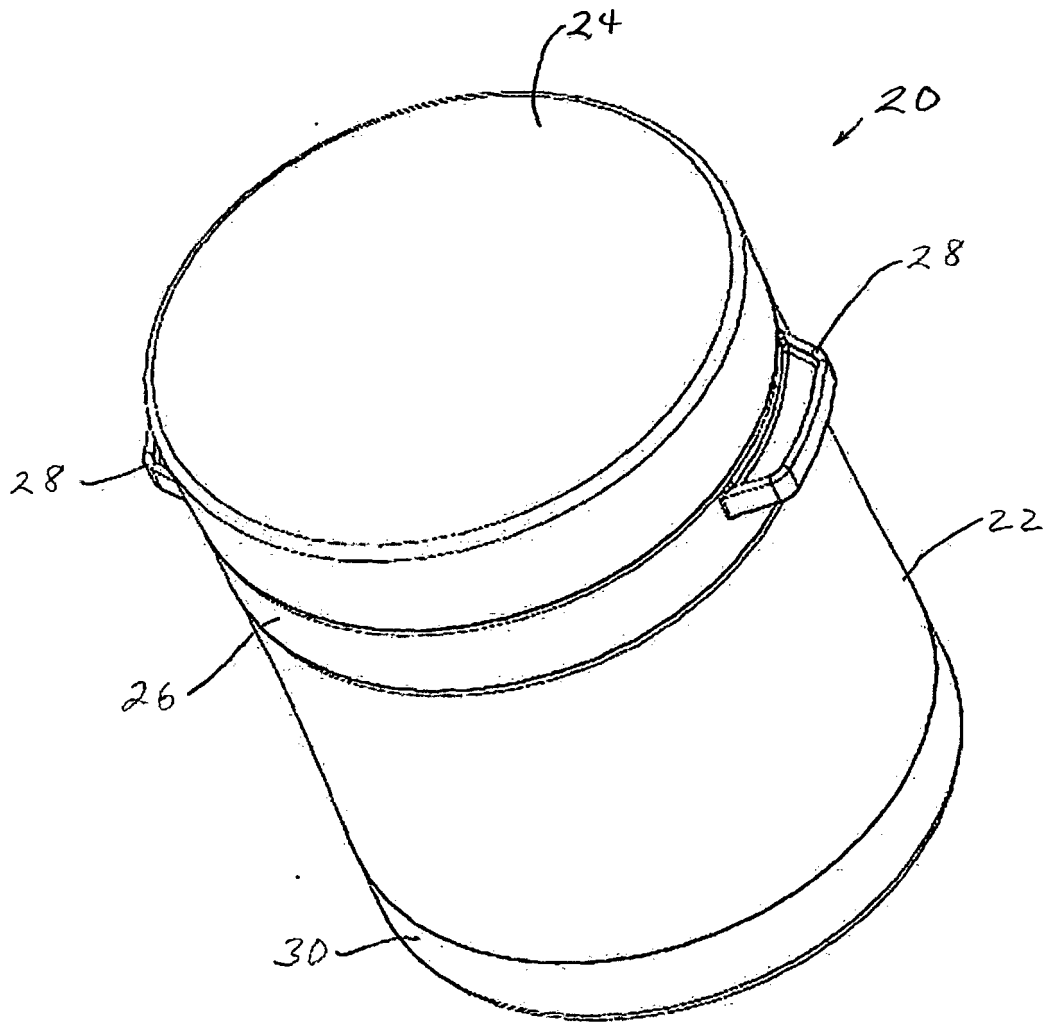


Figure 1

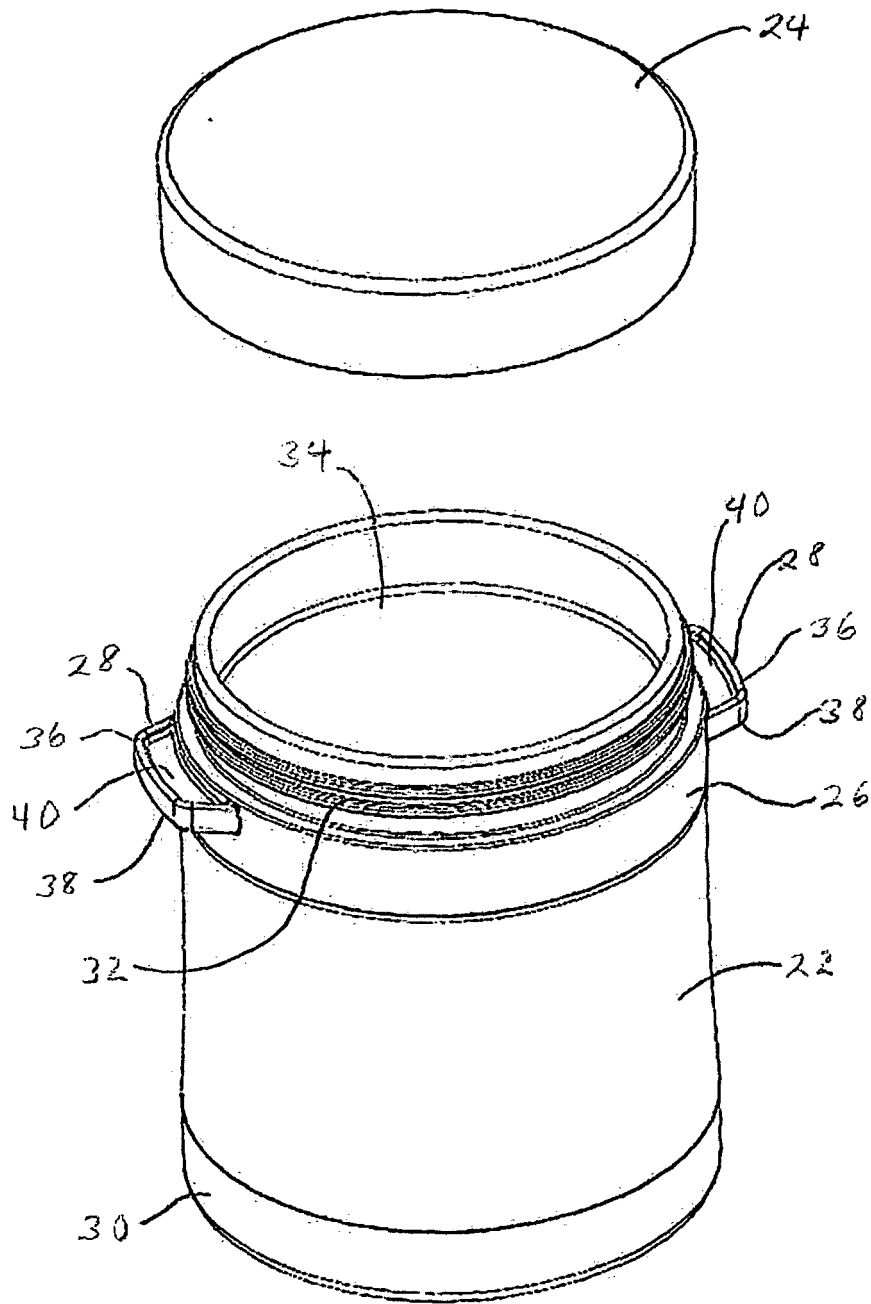


Figure 2

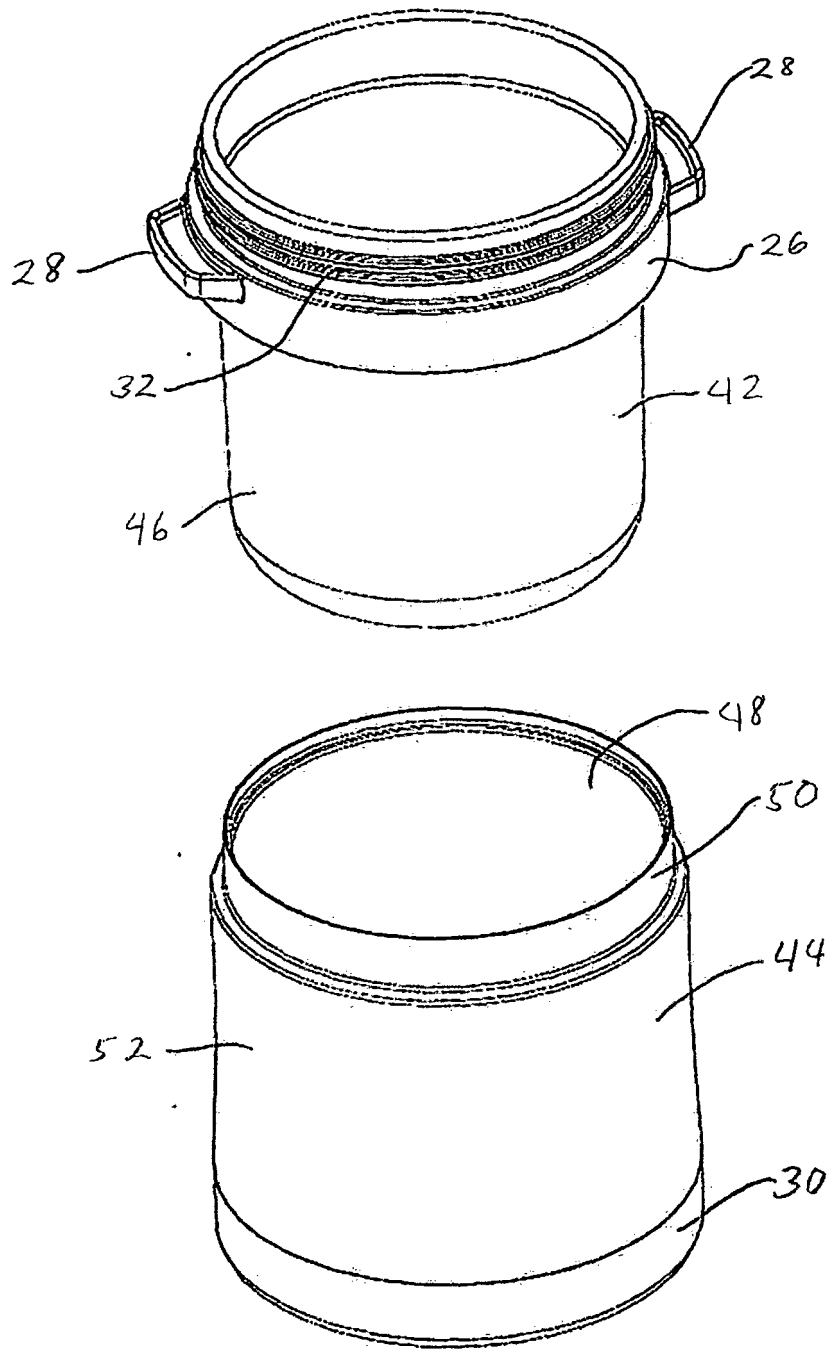
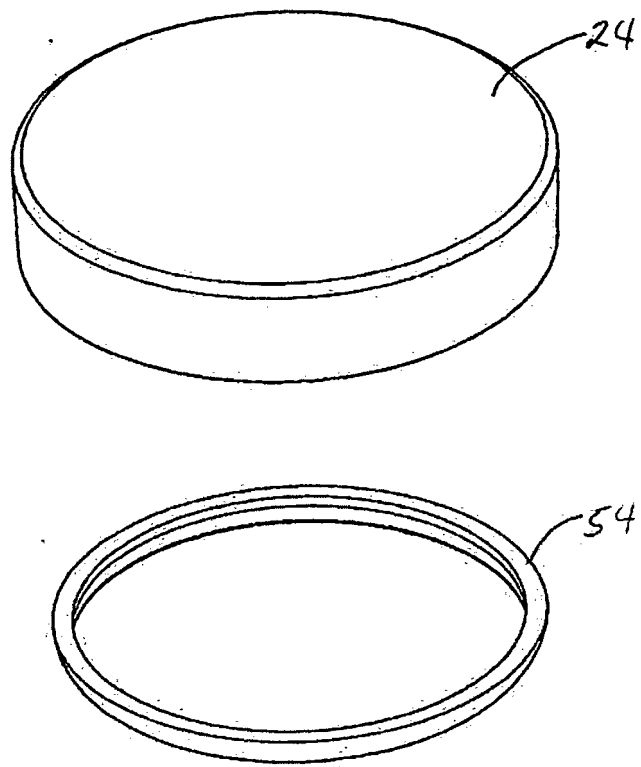


Figure 3



**Figure 4**

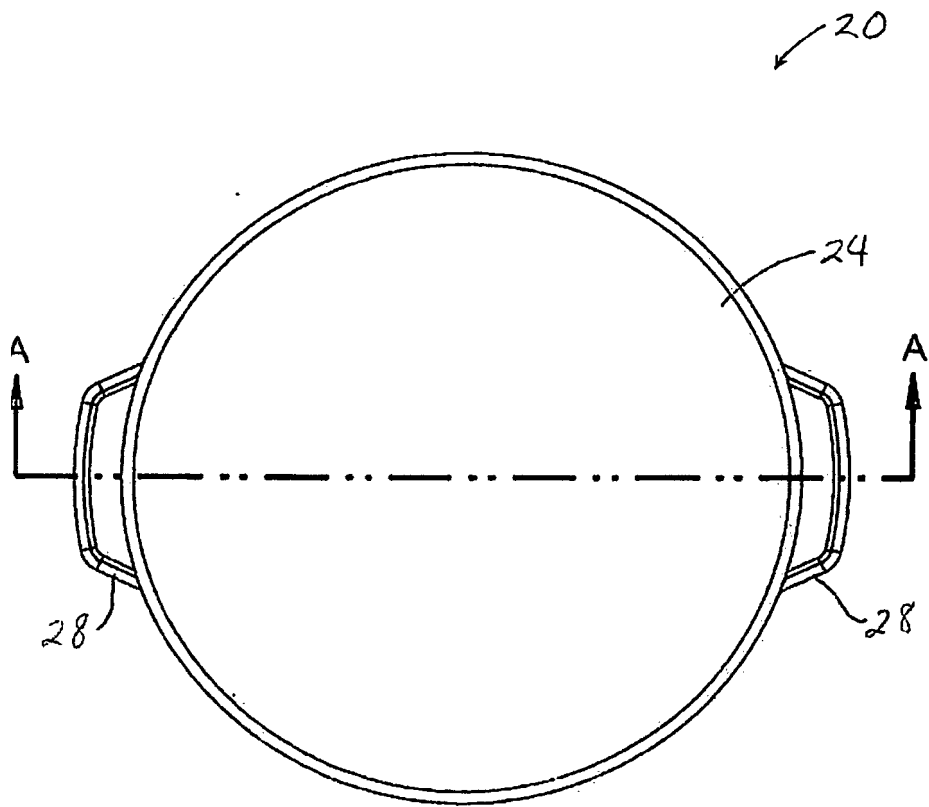


Figure 5

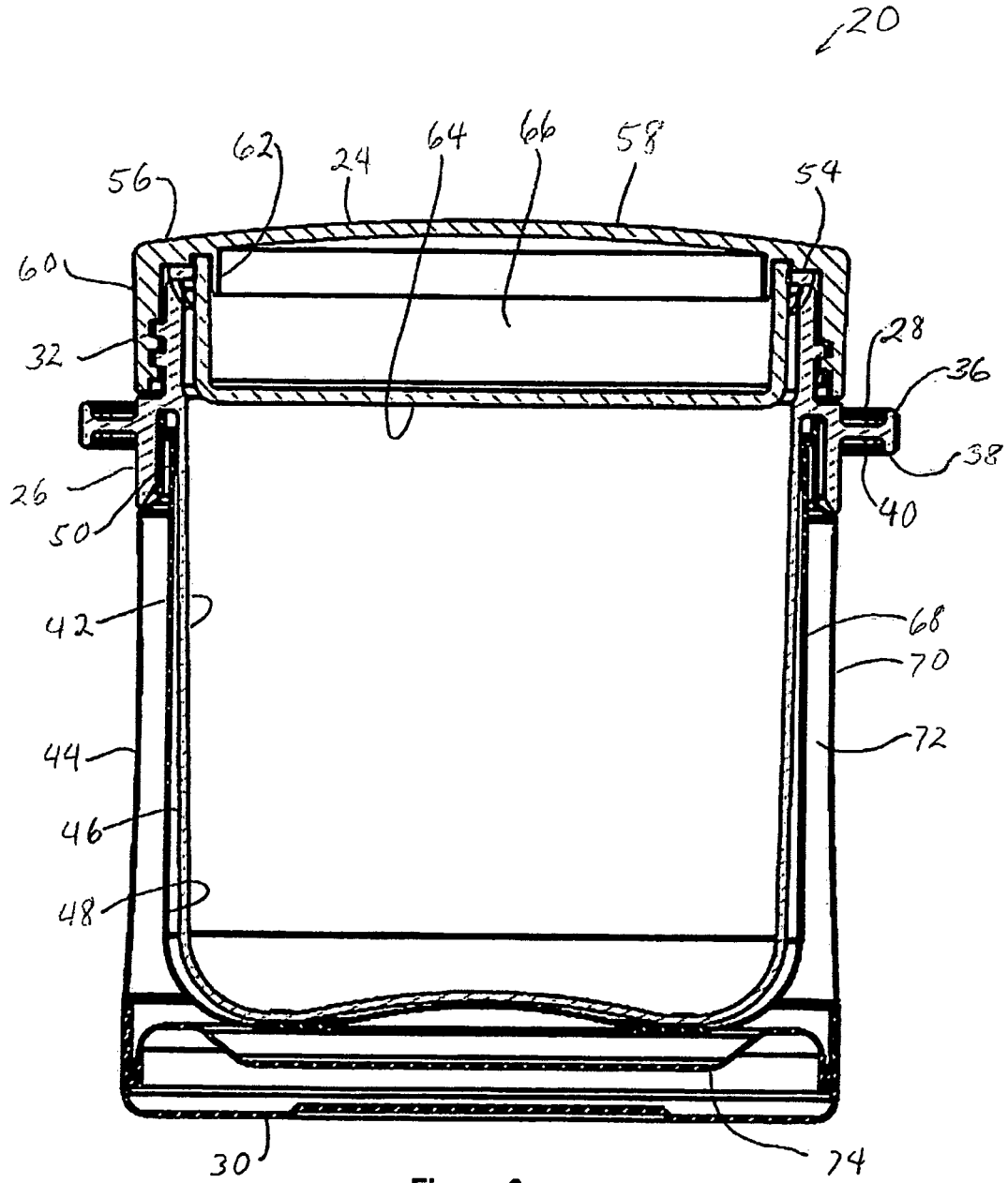


Figure 6

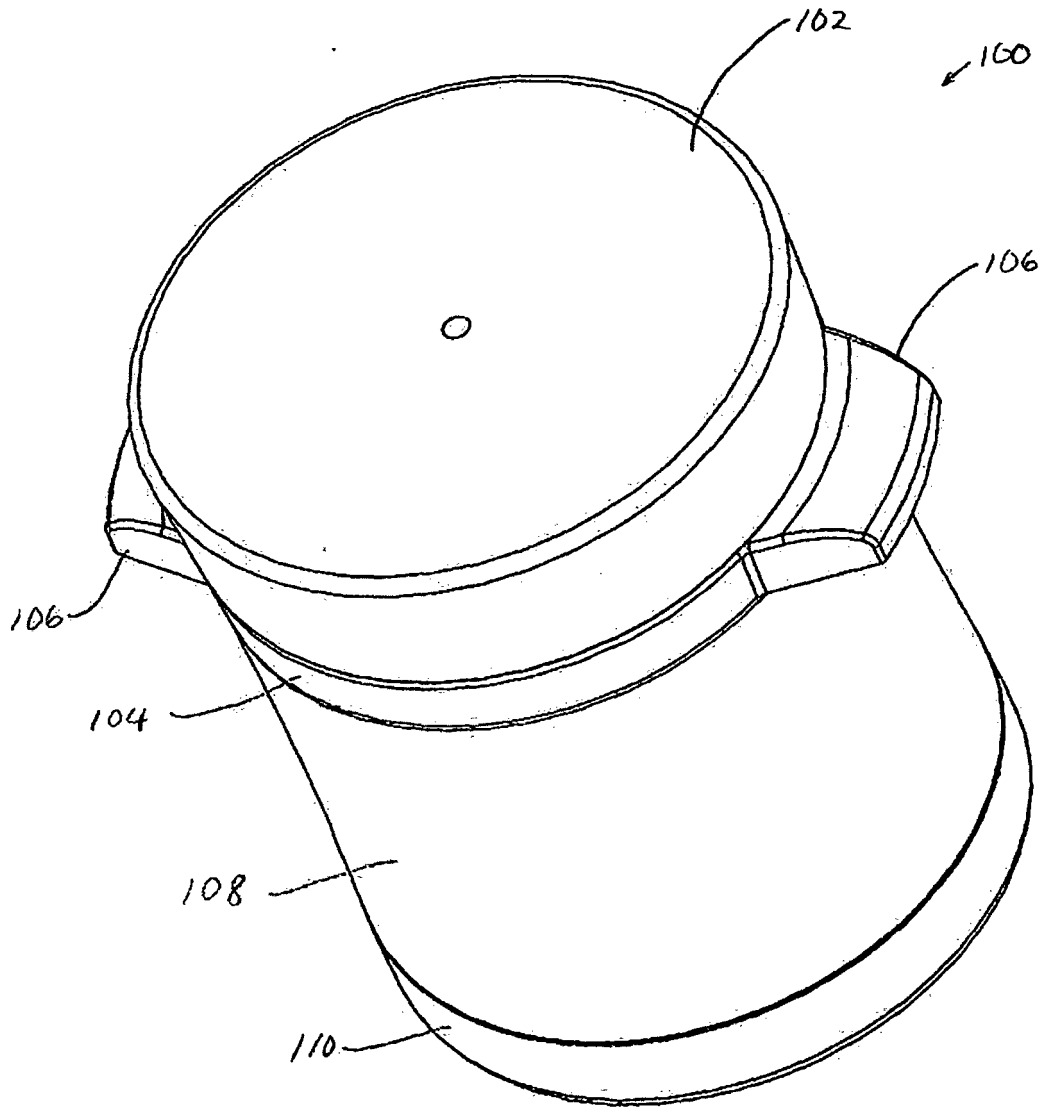


Figure 7

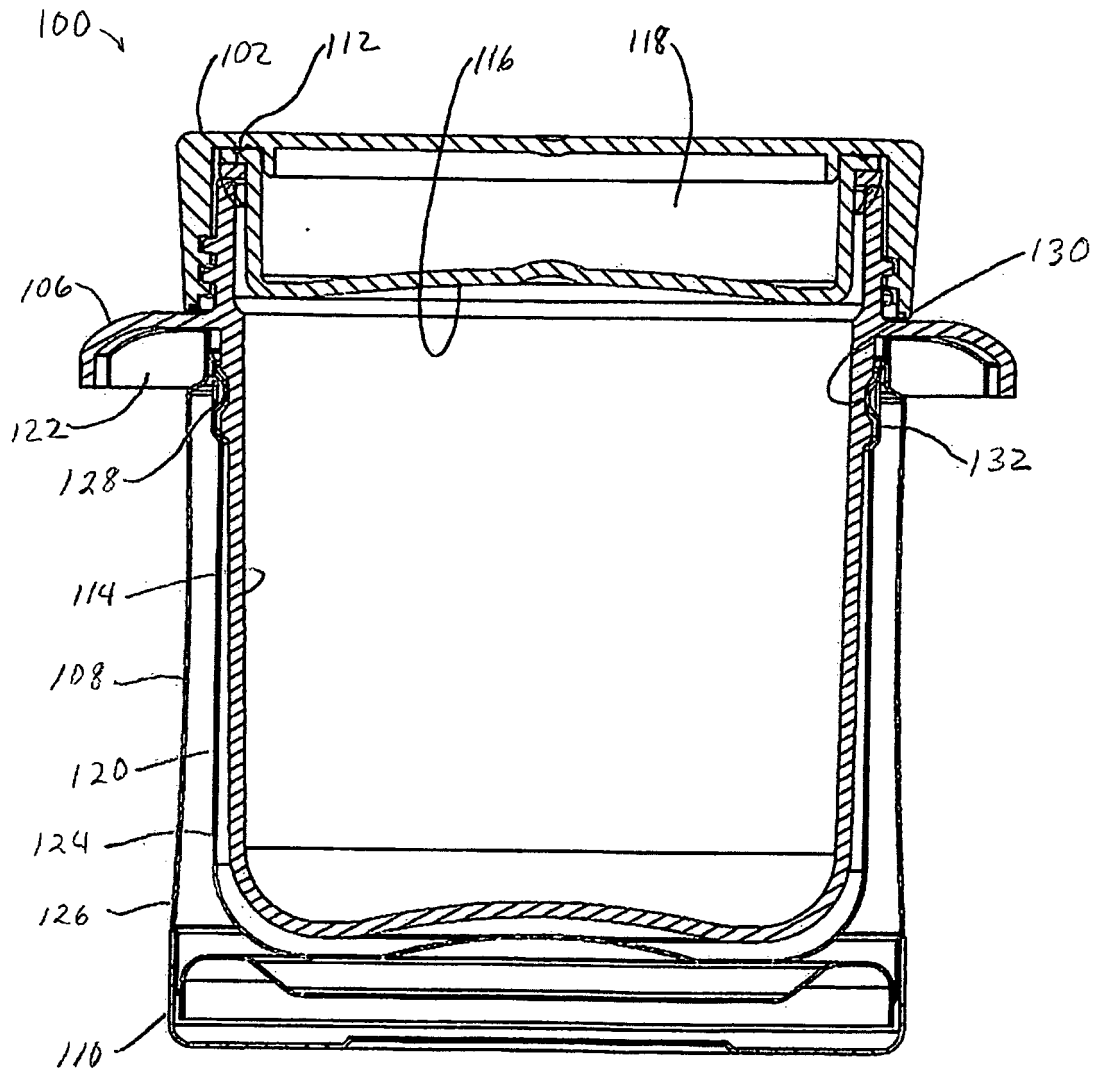


Figure 8

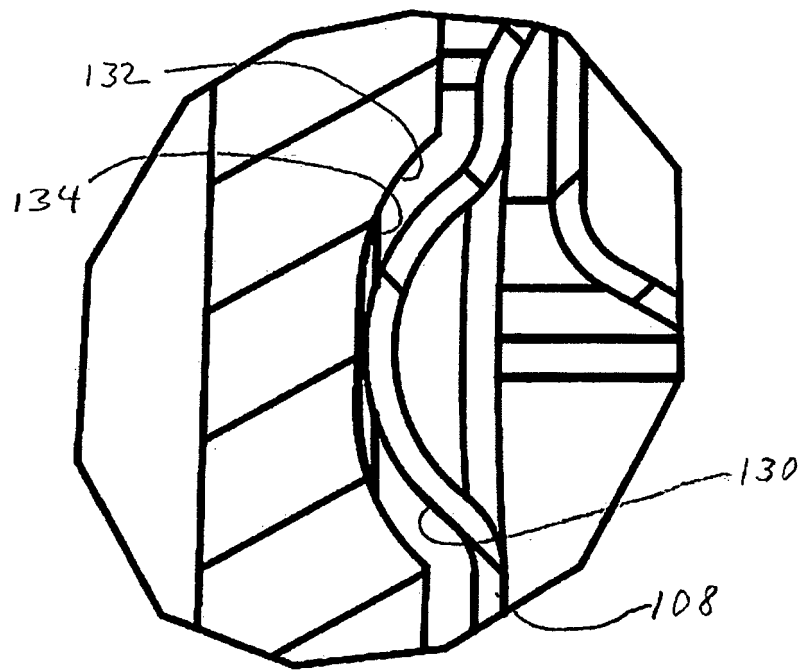


Figure 9

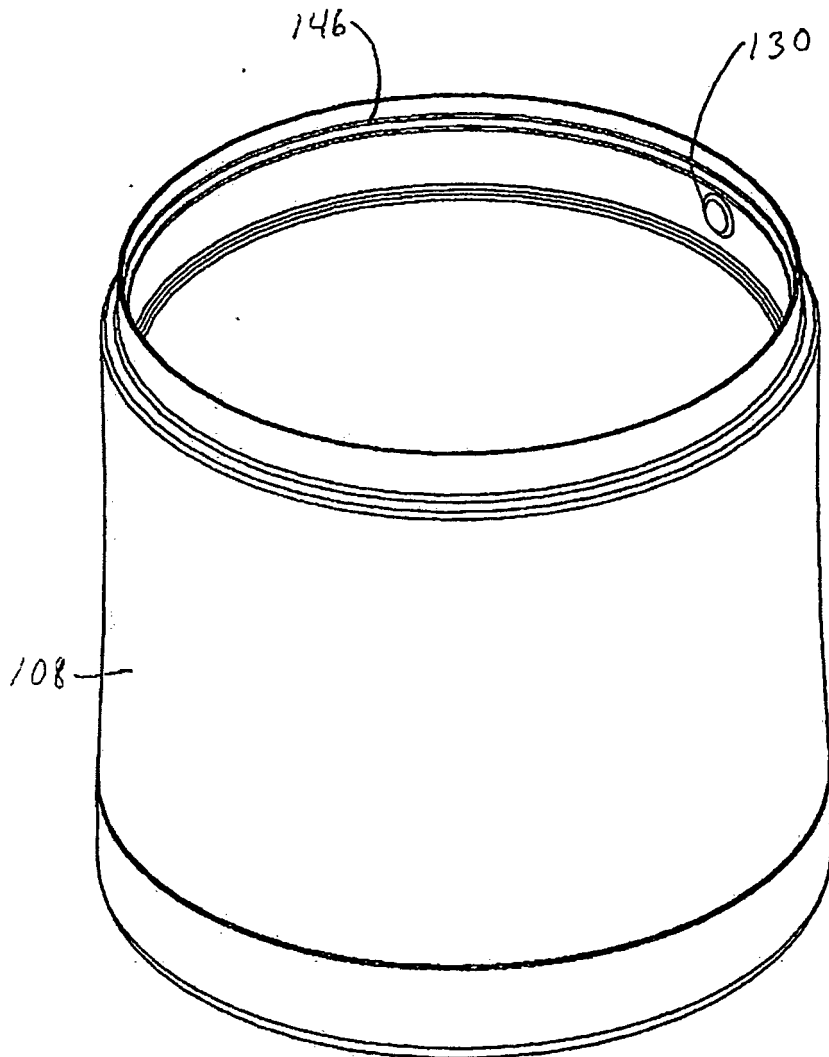


Figure 10

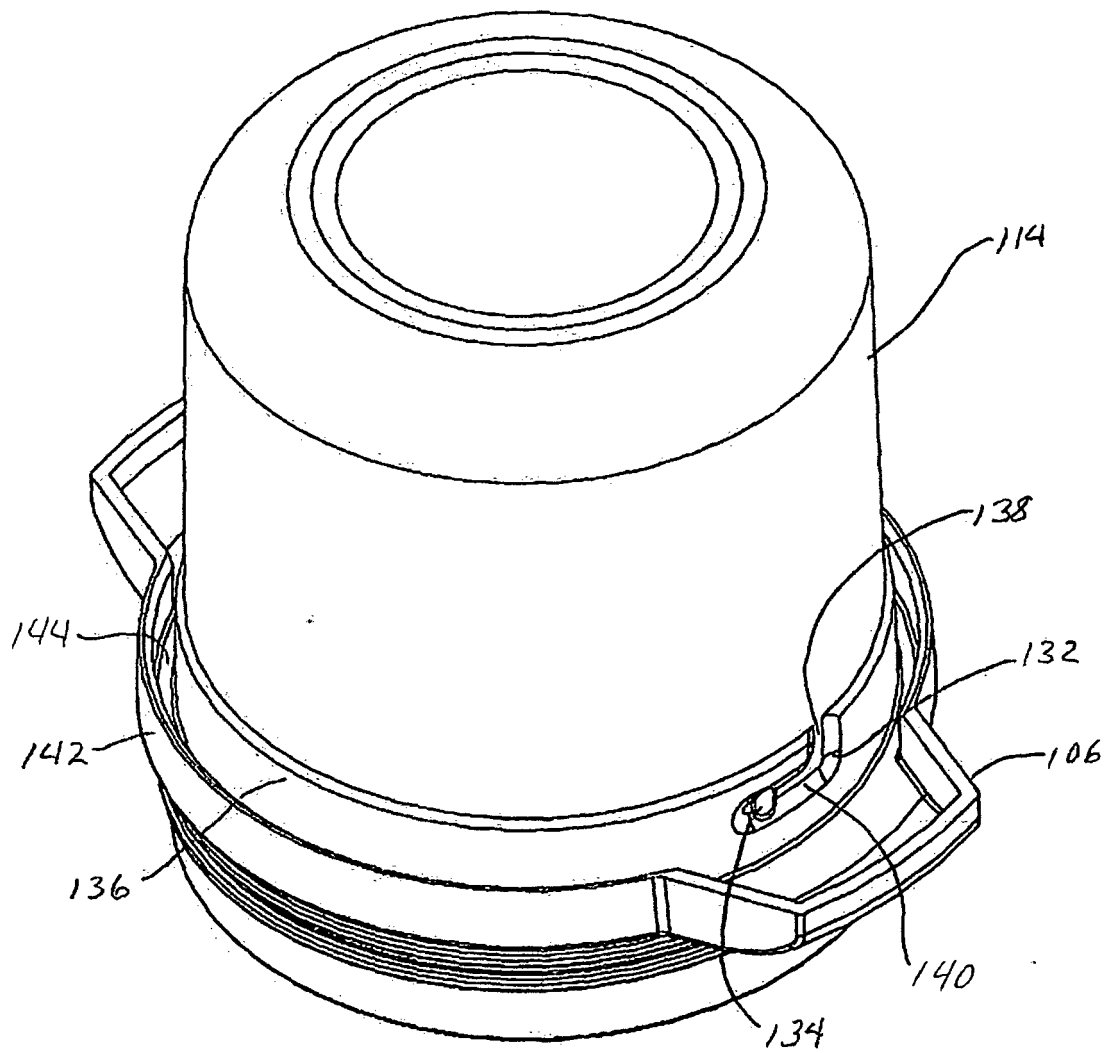


Figure 11

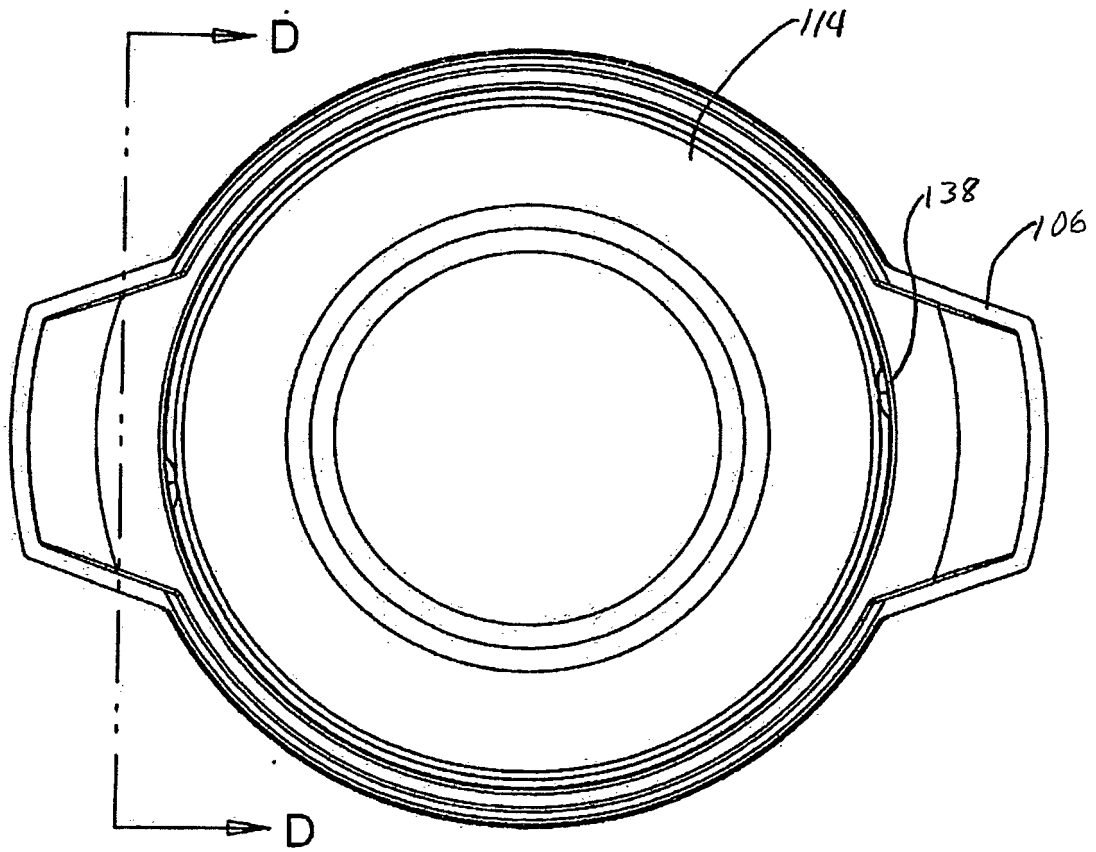


Figure 12

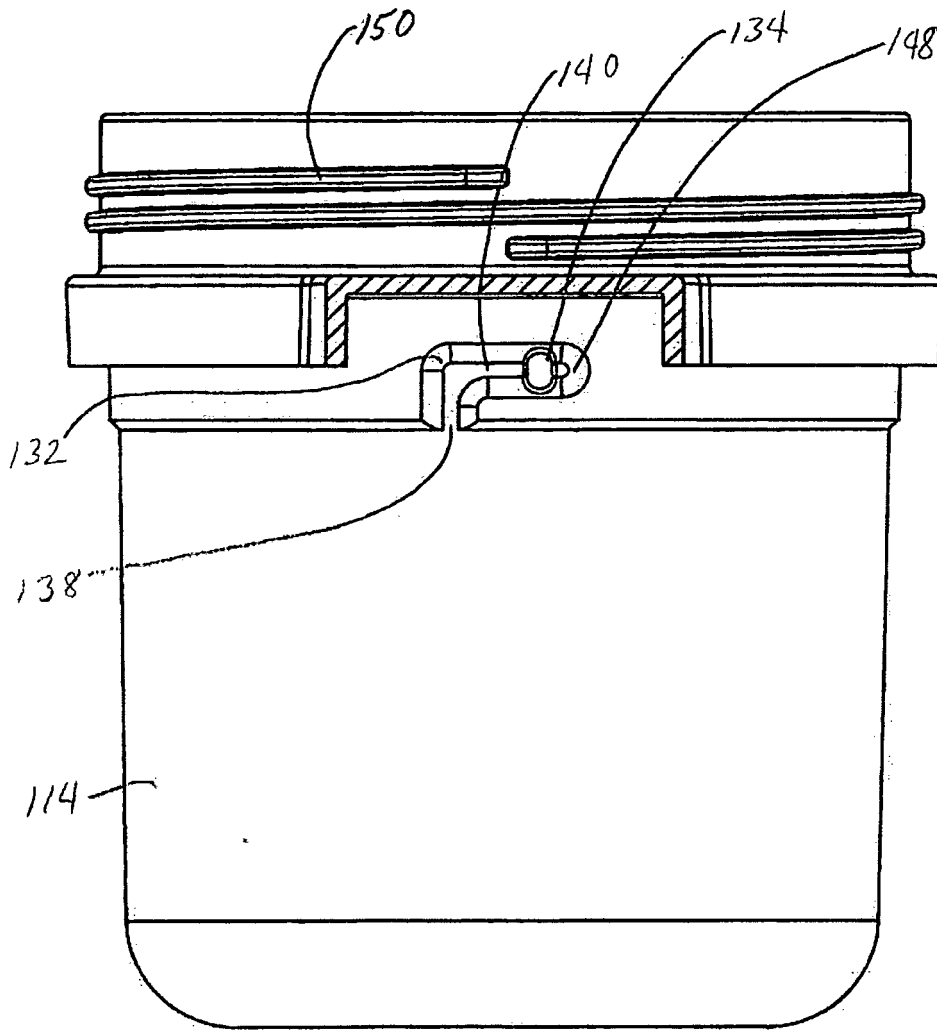


Figure 13

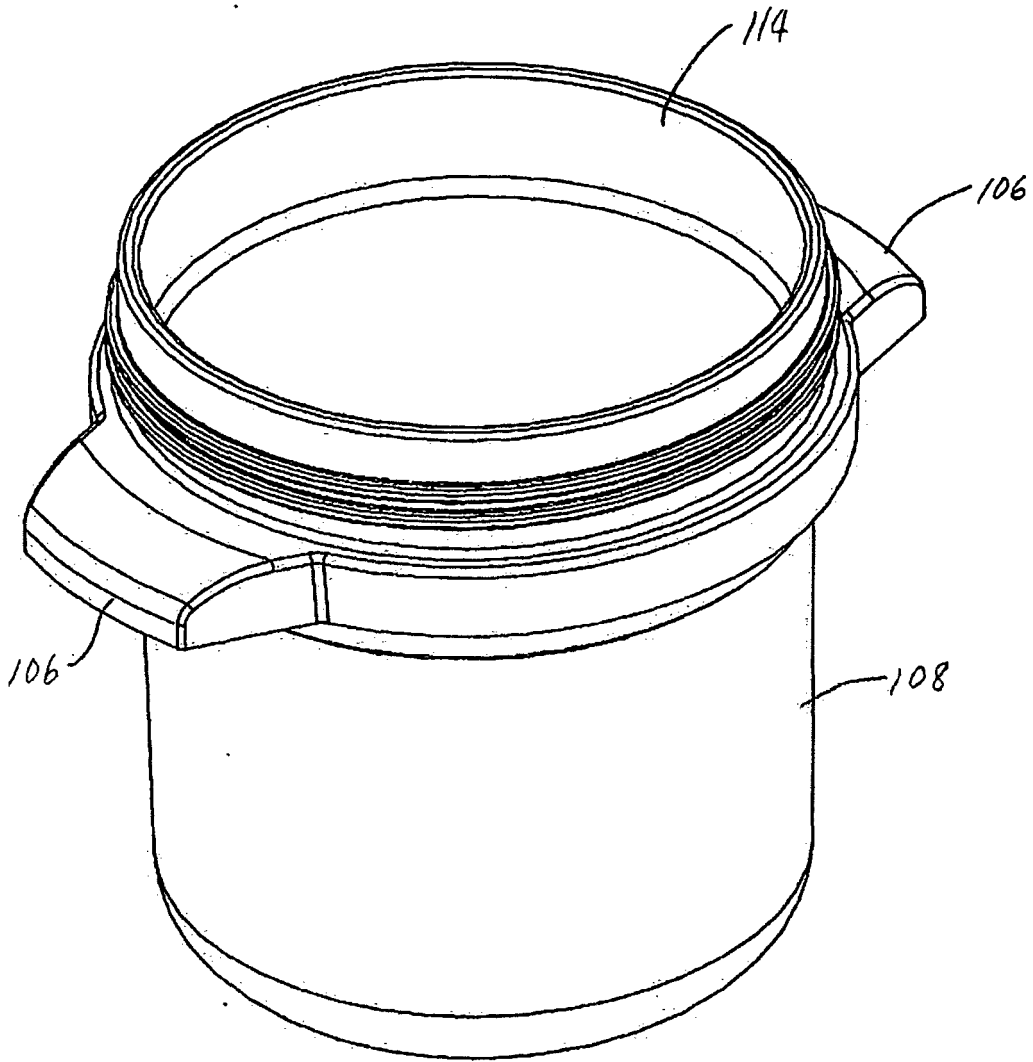
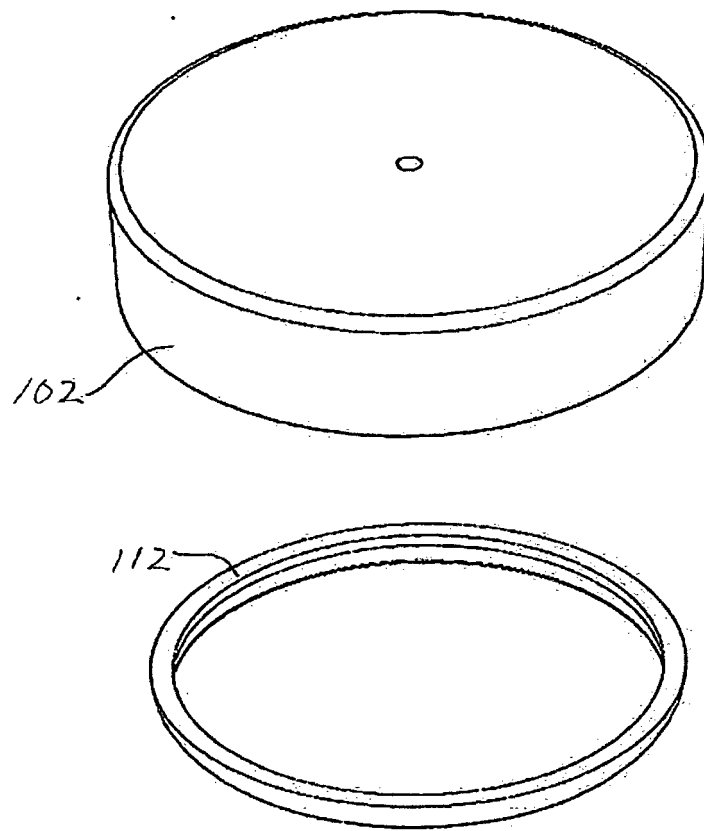


Figure 14



**Figure 15**

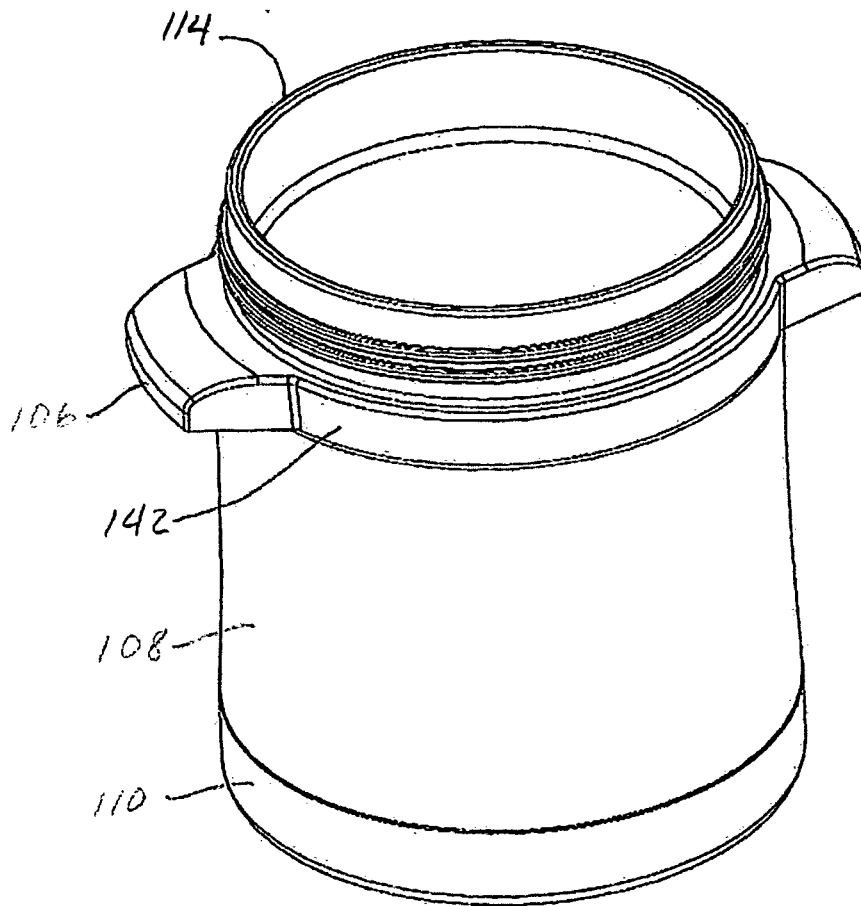


Figure 16

**REFERENCES CITED IN THE DESCRIPTION**

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