US 20090218357A1

(19) **United States**

(12) **Patent Application Publication**

**BYRD et al.**

(10) **Pub. No.: US 2009/0218357 A1**

(43) **Pub. Date: Sep. 3, 2009**

(54) **INSULATED MULTI COMPARTMENT MULTI LID FLUID STORAGE DEVICE**

(76) Inventors: **Linda BYRD**, Chireno, TX (US); **James BYRD**, Chireno, TX (US); **Miriam CHEEVER**, Nacogdoches, TX (US)

Correspondence Address:
**KAMMER BROWNING PLLC**
**7700 BROADWAY, SUITE 202**
**SAN ANTONIO, TX 78209 (US)**

(21) Appl. No.: **12/432,682**

(22) Filed: **Apr. 29, 2009**

**Related U.S. Application Data**

(63) Continuation-in-part of application No. 11/326,113, filed on Jan. 4, 2006.

(60) Provisional application No. 60/647,257, filed on Jan. 26, 2005, now abandoned.

**Publication Classification**

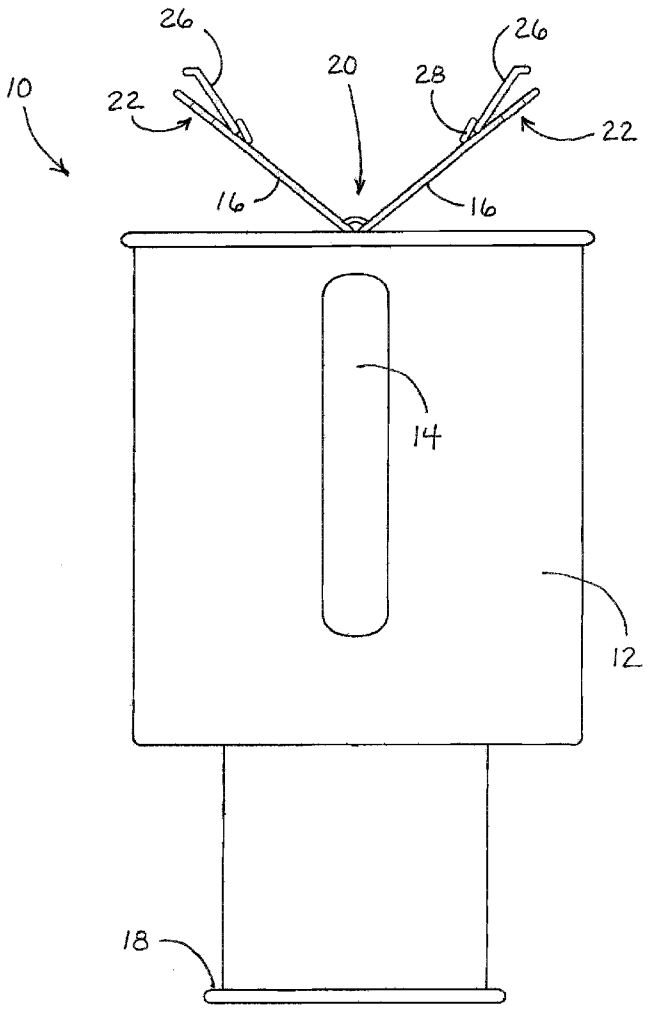
(51) **Int. Cl.**

| | |
|---|---|
| ***B65D 81/38*** | (2006.01) |
| ***B65D 8/04*** | (2006.01) |
| ***B65D 25/04*** | (2006.01) |
| ***B65D 43/16*** | (2006.01) |
| ***B65D 25/28*** | (2006.01) |

(52) **U.S. Cl.** ..... **220/592.2**; 220/669; 220/553; 220/810; 220/752

(57) **ABSTRACT**

An insulated multi compartment multi lid fluid storage device capable of multiple configurations to provide for different ratios of stored fluids. The device allows for individual fluids to be stored separately from one another. In addition, the device has a tapered bottom and is largely characterized by textured surfaces. More specifically, the contours of the devices lend themselves to fitting within vehicle cup holders and the like. Finally, the device is comprised of thermo-insulating material so that stored fluids can maintain a near constant temperature for relatively long periods of time.



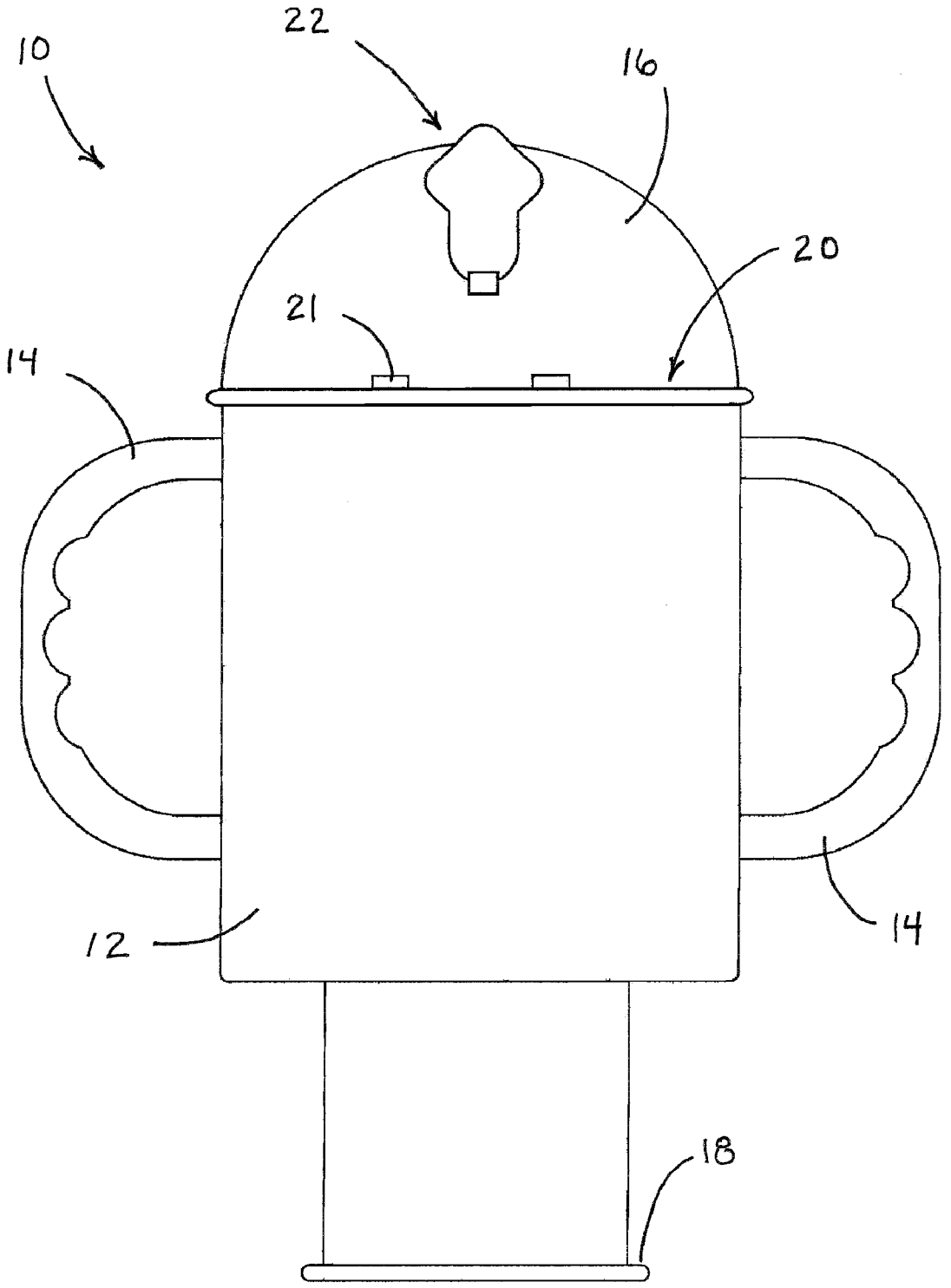



FIG. 1

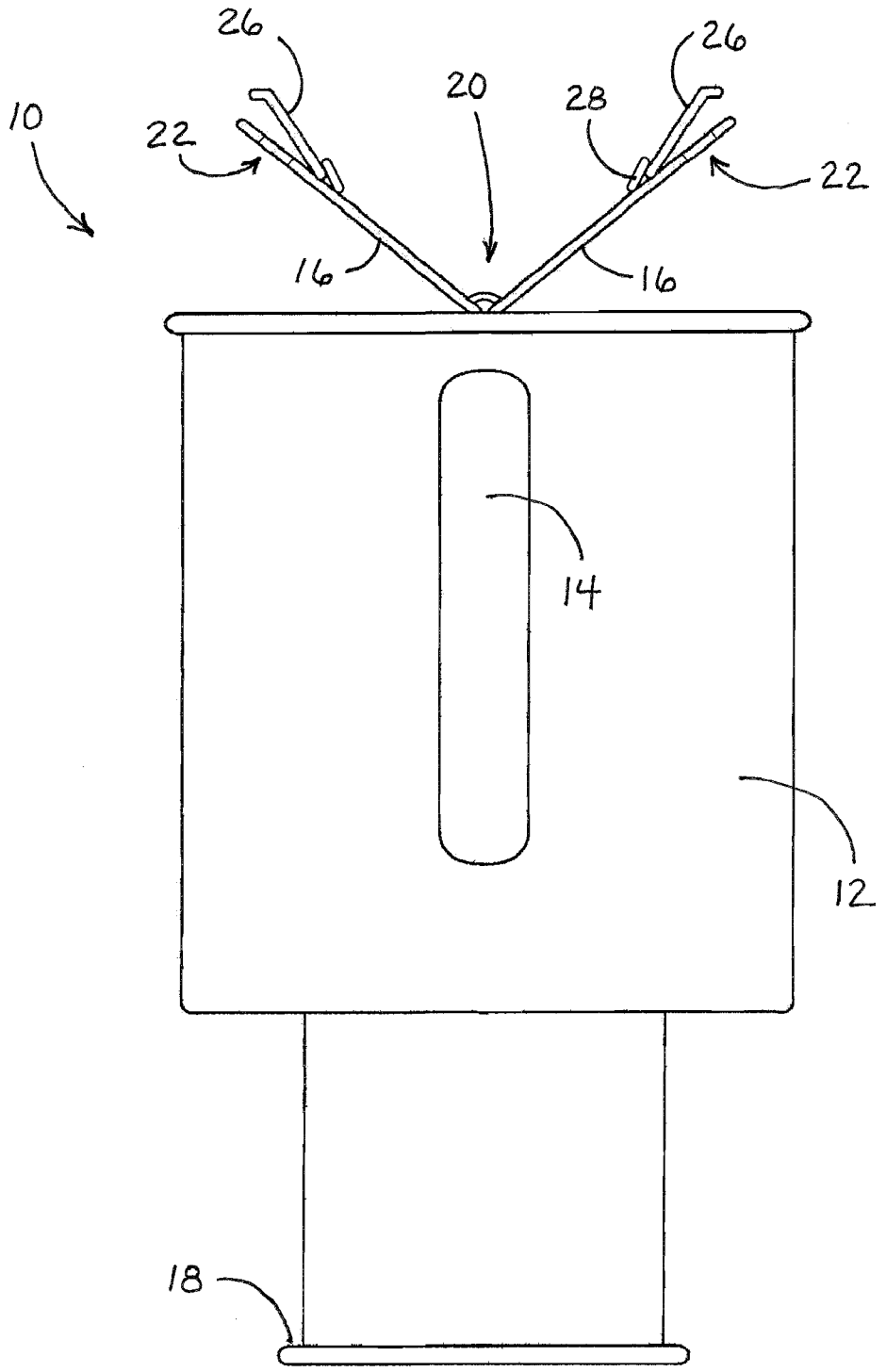



FIG. 2

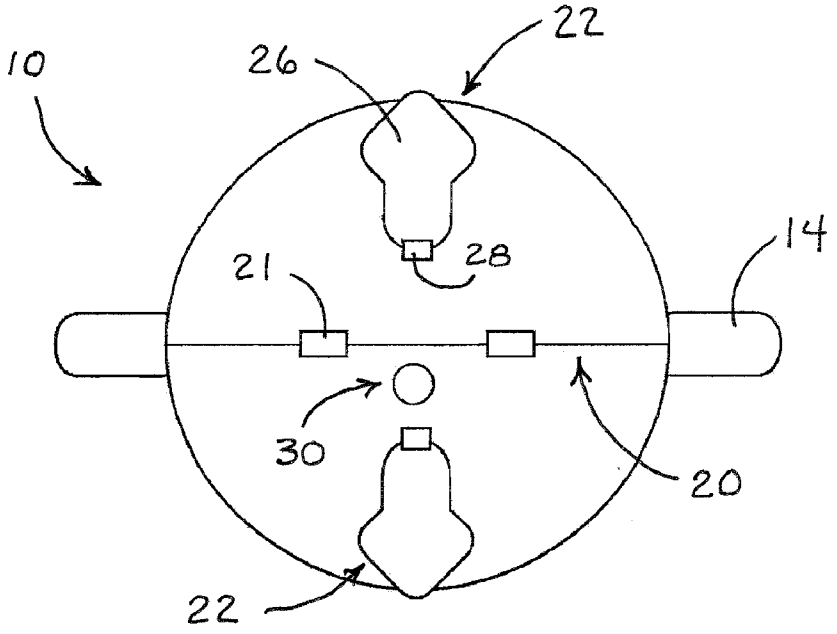



FIG. 3

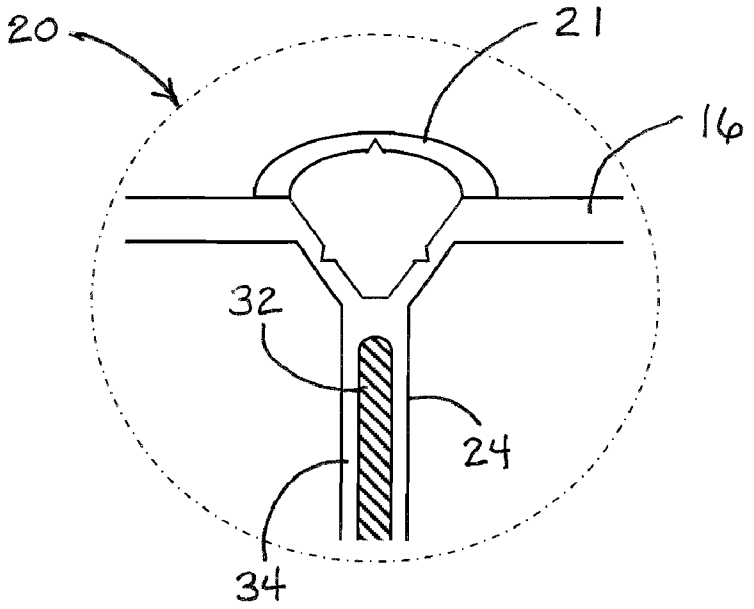



FIG. 5

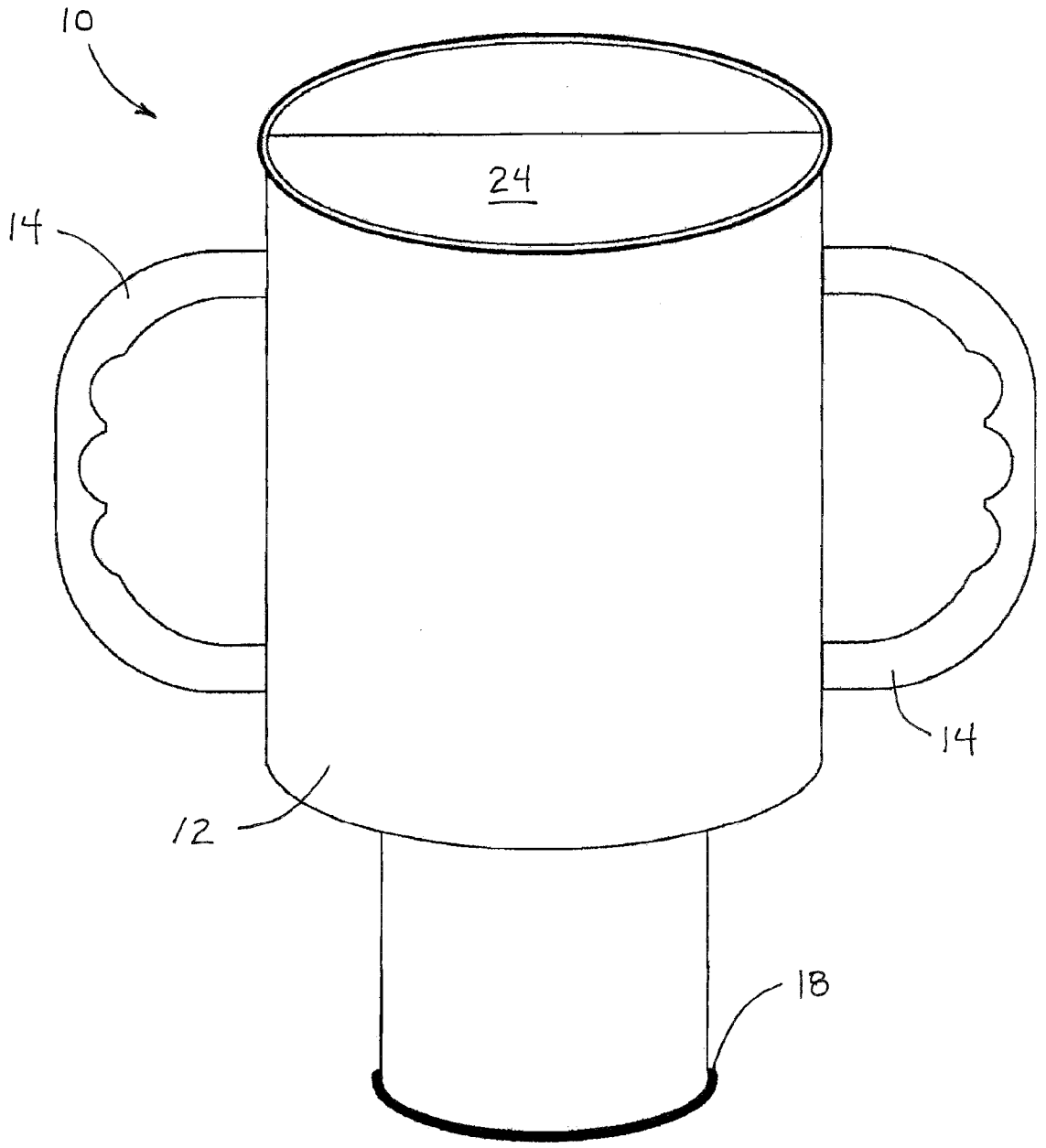



FIG. 4

# INSULATED MULTI COMPARTMENT MULTI LID FLUID STORAGE DEVICE

## CROSS REFERENCES TO RELATED APPLICATIONS

**[0001]** This application claims benefit under 35 U.S.C. §120 as a Continuation-in-Part of U.S. patent application Ser. No.: 11/326,113; filed Jan. 4, 2006, which in turn claims benefit under 35 U.S.C. §119(e) of U.S. Provisional Patent Application Ser. No.: 60/647,257; filed Jan. 25, 2005, the full disclosures of which are incorporated herein by reference.

## BACKGROUND OF THE INVENTION

**[0002]** 1. Field of the Invention

**[0003]** The present invention generally relates to an insulated multi compartment multi lid fluid storage device. More specifically, the present invention relates to an insulated multi compartment fluid storage device wherein a single fluid container, having multiple compartments and multiple lids, keeps fluids contained therein separate from one another and helps maintain fluid temperature. The device may be configured in several ways to produce different compartment arrangements.

**[0004]** 2. Description of the Related Art

**[0005]** The use of insulating fluid storage devices is known in the art. More specifically, insulating fluid storage devices heretofore devised and utilized are known to consist basically of familiar, expected and obvious structural configurations, notwithstanding the myriad of designs encompassed by the crowded prior art which have been developed for the fulfillment of different objectives and requirements. While these devices may fulfill their respective, particularly claimed objectives and requirements, the aforementioned devices do not disclose an insulating multi compartment fluid storage device such as Applicant's invention.

**[0006]** People the world over consume mixed drinks or for any number of reasons, desire to travel with more than one beverage at the same time. Sometimes such drinks are a mixture of alcoholic and non-alcoholic beverages, carbonated and non-carbonated beverages, or numerous other combinations of fluids. Sometimes the combination of such fluids may produce an unsavory flavor if they are mixed with one another for an extended period of time. Usually, the flavor of these mixed drinks is optimized by consuming the beverage immediately after mixing its constituents. As a result, the component fluids are typically kept in separate containers until mixing.

**[0007]** For example, when a beverage such as a wine spritzer is mixed, the wine and carbonated beverage are mixed only immediately before consumption. Such is the result as the wine and carbonated beverage have an adverse effect on one another when they are combined for an extended period of time. When prematurely mixed, the wine often acquires a bitter taste, while the carbonated beverage become "flat." The same general effects are observed as an alcoholic beverage such as rum is mixed with cola or fruit juice.

**[0008]** Because of the adverse effects associated with the extended mixing of certain components of common mixed drinks, these components are often stored separately until immediately prior to consumption. In the art, no known device exists that is capable of keeping such constituents in a compact discrete unit wherein the mixed drink components can be effectively mixed immediately upon consumption. The present invention, however, provides such a device. More specifically, the present invention allows mixed drink components to be stored together in compact, discrete unit fashion, while insulating the separate drink components contained therein within separate, individual compartments.

**[0009]** Problems relating to consuming more than one beverage is often exaggerated where the consumer wishes to carry separate beverages during travel. For example, one may wish to bring separate beverages on a trip, or simply to and from work. All too often, one would be forced to bring along a separate container for each individual beverage.

**[0010]** Problems are further met where one or more of the fluids is most desirably consumed at a relatively high or a relatively low temperature. The most obvious circumstances where problems may arise is where a consumer wishes to drink hot chocolate or coffee with particular additives, or some cold beverage with additives. Currently, the consumer is forced to travel with separate containers simply to have available the desired mixture. In view of these problems, a need exists for a device that can keep fluids in proximity with one another, while remaining separate, and where the fluids may be consumed at the same time.

## SUMMARY OF THE INVENTION

**[0011]** The general purpose of the present invention, which will be described subsequently in greater detail, is to provide an insulated multi compartment multi lid fluid storage device which has many of the advantages of such devices known in the art and many novel features that result in a new insulated multi compartment fluid storage device which is not anticipated, rendered obvious, suggested, or even implied by any of the known devices, either alone or in any combination thereof.

**[0012]** In satisfaction of the above, the present invention provides an insulated multi compartment multi lid fluid storage device, which by way of a novel combination of component parts, provides benefits that simply are not possible with known devices. Applicant's invention provides a device that saves time and money, and increases efficiency with respect to raw materials, production costs, and transportation and storage space. After all, use of the present invention alleviates the need to carry separate containers for every individual beverage to be consumed, and the present invention can help avoid the need to reheat or cool the beverages. Instead, one may carry a single container having one or more beverages to be consumed throughout the day.

**[0013]** The present invention is thought to be most beneficial in the context of keeping fluid ingredients separate from one another while being carried in a single container and helping those fluids maintain a near constant temperature. As a result, the attributes of each beverage are preserved for extended periods of time. As mentioned, particular forms are envisioned where the device has a multiple storage compartment configuration. Other forms of Applicant's invention are envisioned of being capable of maintaining particular ratios of its constituent fluid components with respect to one another.

**[0014]** In its most preferred form, the present invention is comprised of a generally cylindrical container, having a generally flat top and bottom. Along its top, the device includes a lid having components fixed about a hinge point about a bisecting line along the lid. This hinge point is defined along the top surface, preferably where an insulated dividing wall, demarcating individual compartments, meets the top surface.

The lid components may be actuated between open and closed positions. The lid further contains one or more recesses or apertures to allow one to drink or "sip" from a device compartment. These recesses or apertures may themselves be covered by smaller hinged lid components.

**[0015]** Contained within the form defined by the cylindrical shell and the top and bottom surfaces lies one or more insulated dividers. These dividers extend between the top surface and bottom surface and between the points along the cylindrical shell so as to form a complete seal along their respective edges. The alignment with respect to the lid components is particularly important. That is, in the case where two fluids are separately contained, a divider joins the top surface at the lid hinge point to ensure the individual fluids are kept separate from one another. Likewise, if three or more compartments are formed by configuration of the dividers, the top surface may be configured to have corresponding hinge points so that each beverage may be separately consumed.

**[0016]** Applicant's invention further presents distinct benefits in that it is particularly conducive to being taken along during travel. That is, particularly useful embodiments are envisioned where the device is contoured to conveniently fit within vehicle cup holders and the like. More specifically, the preferred form of the present device has a textured base, tapered so as to fit within the narrow confines of a cup holder. The device also has adjoining handles, also textured, to ensure ease of handling. This, of course, is easily seen to be helpful when one is consuming a beverage while walking, working, or driving.

**[0017]** While the attributes of Applicant's invention may appear to be subtle at first glance, the device truly is novel. For instance, use of Applicant's invention eliminates the need for the transportation of multiple fluid containers simply for the option of carrying those beverages at a single time. In addition, the present invention helps reduce the need to rely on other devices to reheat or cool stored beverages. Finally, unlike any devices known in the art, Applicant's invention allows for singular, discrete storage and transport of fluids that should not be mixed until they are consumed or applied in some other fashion.

## BRIEF DESCRIPTION OF THE DRAWINGS

**[0018]** Applicant's invention may be further understood from a description of the accompanying drawings, wherein unless otherwise specified, like referenced numerals are intended to depict like components in the various views.

**[0019]** FIG. **1** is an elevational plan view of the preferred embodiment of the insulated fluid storage device of the present invention.

**[0020]** FIG. **2** is an elevational profile view of the preferred embodiment of the insulated fluid storage.

**[0021]** FIG. **3** is a top plan view of the preferred embodiment of the insulated fluid storage device of the present invention.

**[0022]** FIG. **4** is a perspective view of the preferred embodiment of the insulated fluid storage device of the present invention.

**[0023]** FIG. **5** is a detailed cross-sectional view of the lid, hinge, and divider components of the preferred embodiment of the insulated fluid storage device of the present invention.

## DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

**[0024]** With reference first to FIG. **1**, an elevational plan view of the preferred embodiment of the present invention is shown, and is generally designated by the reference number **10**. The various components of device **10** are largely comprised of some alloy, such as stainless steel, covering an insulating material as known in the art. Also, as will be discussed, portions of the device **10** are covered with some textured surface as known in the art, such as textured rubber.

**[0025]** Device **10** is characterized by outer wall **12**. Outer wall **12**, in the preferred embodiment, is generally of a cylindrical shape, having a tapered or stair-step bottom with a textured surface as known in the art. This shape is generally preferred as it is thought to reduce the likelihood of device **10** slipping out of one's hand. Also, the tapered or stair-step bottom is thought to be useful in that device **10** can more easily fit within vehicle cup holders and the like. Other useful embodiments are envisioned where outer wall **12** is of another form to accommodate specialized needs of device **10**. For example, outer wall **12** may have a flanged lower portion joining an enlarged bottom surface **18** thereby offering device **10** greater stability. One or more handle members **14** extend from outer wall **12**. Handle member **14** preferably has a textured surface and is shaped to allow one's hand to easily hold member **14**.

**[0026]** The device of the present invention is further characterized by top surface **16** and bottom surface **18**, each of which have a shape defined by the perimeter of the shape formed by outer wall **12**. In the preferred embodiment of the present invention, top surface **16** further contains at least one hinge line **20** and one aperture **22**. Hinge line **20** is defined within top surface **16** and is preferably located along the juxtaposition of dividing member **24** (see FIG. **4**) and top surface **16**.

**[0027]** As such, individual segments of top surface **16**, defined by one or more hinge lines **20**, may be actuated about a hinge line **20** between an open position and a closed position. In an open position top surface member **16** is in a substantially upright position at some angle from outer wall **12**. In the closed position, top surface **16** flatly rests against outer wall **12** to form a substantially sealed form. Hinge reinforcements **21** may be positioned along hinge line **20** to strengthen the integral hinge line through repeated openings and closings.

**[0028]** Aperture **22**, contained within top surface **16**, is configured to allow fluid to flow from the confines of device **10** so that one may drink or "sip" fluid from device **10** when device **10** is placed at an appropriate angle. The preferred embodiment is depicted as having a single hinge line **20** (thereby defining two top surface **16** segments) and two apertures **22**. However, other useful embodiments are envisioned where hinge lines **20** converge at the radial center of top surface **16** and extend radially to outer wall **12**. In such embodiments, several top surface **16** segments may be defined where each would actuate about that radial center between an open and closed position. More specifically, segments of top surface **16** would be defined by the edges where a plurality of dividing members **24** (see FIGS. **4** & **5**) extend integrally into top surface **16**. Finally, in such an embodiment each top surface **16** segment would have a corresponding aperture **22**.

**[0029]** FIG. **2** is an elevational profile view of the preferred embodiment of the insulated storage device of the present invention showing the manner in which the top surface **16** segments may be raised on hinge line **20** to open each of the multiple compartments in the device. Likewise in this view, apertures **22** are shown to comprise structures including aper-

ture lids **26** and aperture lid hinges **28**. In this view it is apparent how an entire compartment of the device of the present invention may be opened for access (such as to fill the compartment with a liquid) or the sipping aperture may be opened separately to allow the user to sip the liquid from the compartment.

**[0030]** FIG. **3** provides a top plan view of the lid section (top surface **16**) of the device of the present invention. In this view, hinge line **20** and hinge reinforcements **21** are shown positioned on a diameter of the lid immediately above a line where dividing wall **24** extends. Also in this view, apertures **22** are shown diametrically opposed on either side of top surface **16**, each containing aperture lids **26** with aperture lid hinges **28**. On one side of top surface **16** is positioned breathing aperture **30** which is appropriate for a hot liquid, as an example, to permit replacement air flow into the compartment while the user sips the liquid through aperture **22**.

**[0031]** Referring now to FIG. **4**, dividing wall **24** is shown contained within the shape formed by the combination of outer wall **12**, top surface **16**, and bottom surface **18**. Top surface **16** has been removed in this view for clarity although it is understood that top surface **16** is integrally joined to the top edge of dividing wall **24** as shown in FIG. **5**. Dividing wall **24** is configured to extend between top surface **16** (not shown in this view) and bottom surface **18**, and between outer wall **12** to demarcate two separate compartments. Although, as mentioned, particular embodiments are envisioned where more than one dividing member **24** extends radially from a central position to form a plurality of compartments within the shape defined by outer wall **12**, dividing walls **24**, top surface **16**, and bottom surface **18**.

**[0032]** Reference is finally made to FIG. **5** for a brief description of a cross-sectional detailed structure for hinge line **20** shown generally in an exterior view in the above figures. In FIG. **5** top surface **16** is divided into two hinged segments that are integrally connected to dividing wall **24**. Dividing wall **24** is shown to be an insulated wall contained insulating material **32** and wall panels **34**. In this manner a hot liquid (for example) may be separated and insulated from a cold liquid in the multi compartment device. Also shown in FIG. **5** is the manner in which top surface **16** segments provide a thin cross-section along hinge line **20** so as to permit the easy movement or pivoting of the lid segments along the hinge line. Also show in FIG. **5** is a typical example of hinge reinforcement **21** that strengthens hinge line **20** in a manner that allows for repetitive opening and closing of the top surface segments.

**[0033]** Although the invention has been described with reference to specific embodiments, this description is not meant to be construed in a limited sense. Various modifications of the disclosed embodiments, as well as alternative embodiments of the inventions will become apparent to persons skilled in the art upon reference to the description of the invention. It is, therefore, contemplated that the appended claims will cover such modifications that fall within the scope of the invention.

We claim:

**1**. A device for keeping stored fluids separate comprising:

a cylindrical fluid container having an outer wall member, a top member, and a bottom member, said cylindrical container having an upper portion and a lower portion wherein said upper portion is centrally aligned and sealingly connected with said lower portion, said top member having a first top member segment and a second top member segment, said first and second top member segments each containing an aperture, said aperture being configured for fluid egress from said cylindrical fluid container, said first and second top member segments each having a perimeter edge sealable against at least a portion of said outer wall member;

a dividing member, said dividing member positioned within said cylindrical fluid container, said dividing member extending between and being sealingly attached to said outer wall member and said bottom member, said dividing member further being integrally formed with each of said first and second top member segments of said top member; and

a hinge means, said hinge means hingedly and sealingly extending from said first top member segment and said second top member segment to said dividing member such that each of said first and second top member segments may be independently raised to a cylindrical container open position or lowered to a cylindrical container closed position, said cylindrical container closed position being configured such that said top member substantially seals said cylindrical container.

**2**. The device of claim **1** wherein said cylindrical container upper portion has a greater diameter that said cylindrical container lower portion.

**3**. The device of claim **2** further comprising a handle member attached to said outer wall member.

**4**. The device of claim **3** wherein said outer wall member and said bottom member are substantially comprised of an insulating material.

**5**. The device of claim **3** wherein said dividing member is substantially comprised of an insulating material.

**6**. The device of claim **3** wherein said cylindrical container lower portion and said handle member have a surface that is substantially textured.

**7**. The device of claim **1** wherein said dividing member is configured such that the combination of said dividing member, said outer wall member, said bottom member, and said top member form two compartments of equal volume.

**8**. The device of claim **1** wherein said first and second top member segments each further comprise an independent hinged aperture lid for alternately covering and uncovering said apertures.

**9**. The device of claim **1** wherein said hinge means further comprises thin-walled linear segments forming hinge joints between the integrally formed dividing member and the first and second top member segments.

**10**. The device of claim **9** wherein said hinge means further comprises at least one hinge reinforcement member extending across said thin-walled linear segments.

* * * * *