United States Patent [19]

Borin

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[54] **CARAFE WITH SELF-SEALING SPOUT**

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[52] **U.S. Cl.**..... **222/494,** 222/517, 220/59

[51] **Int. Cl.**..... **B65d 5/72**

[58] **Field of Search** 222/491, 494, 465, 467, 222/468, 512, 517, 531, 532, 537, 562, 565, 570, 545; 220/315, 59, 60; 292/256.6, 19, 259

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Primary Examiner—Robert B. Reeves
Assistant Examiner—Joseph J. Rolla
Attorney, Agent, or Firm—Harris, Kern, Wallen & Tinsley

[57] **ABSTRACT**

A receptacle for storing and dispensing liquids comprising a disposable plastic cup and a disposable plastic lid releasably secured over a top of the cup. A flat flexible and resilient flap extends forward from the lid to engage an upper edge of and normally seal a spout extending from the cup. The flap is adapted to automatically lift from the spout as the cup is tipped and liquid presses thereagainst for dispensing from the receptacle through the spout.

13 Claims, 19 Drawing Figures

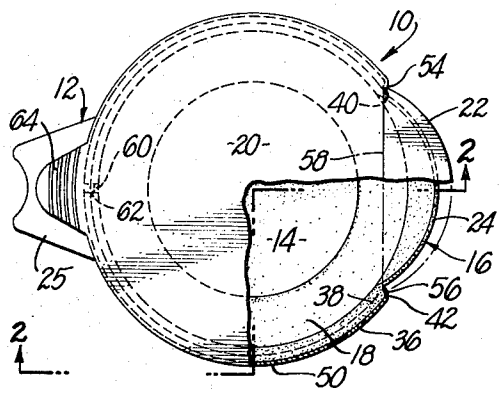


FIG. 2.

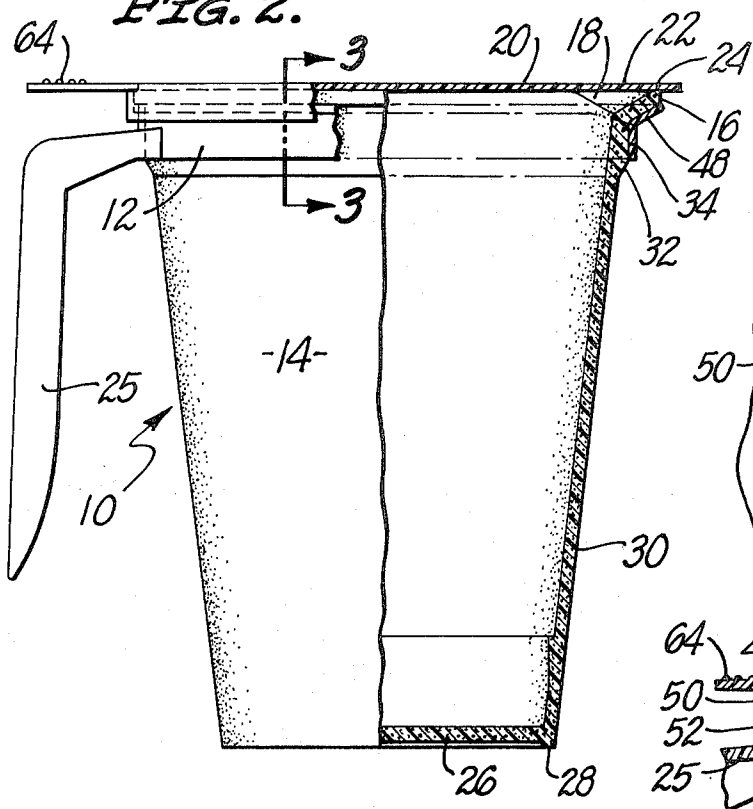


FIG. 3.

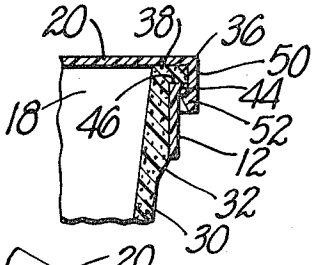


FIG. 4.

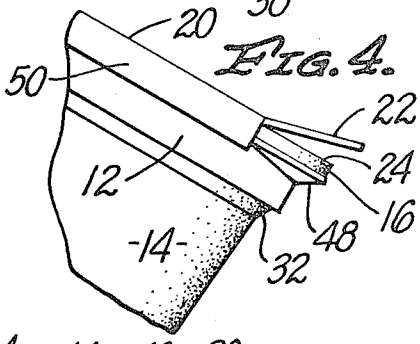


FIG. 6.

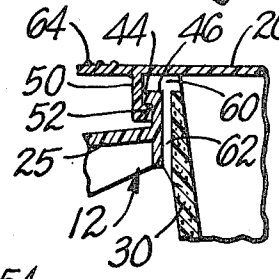
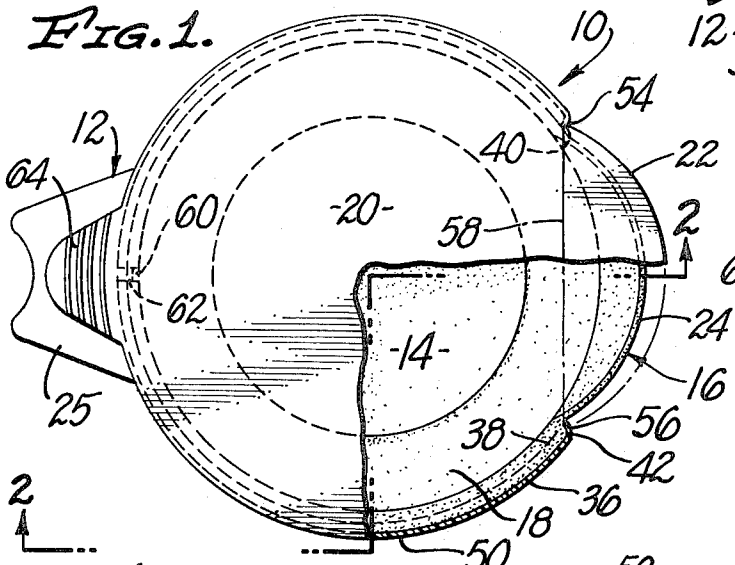


FIG. 1.



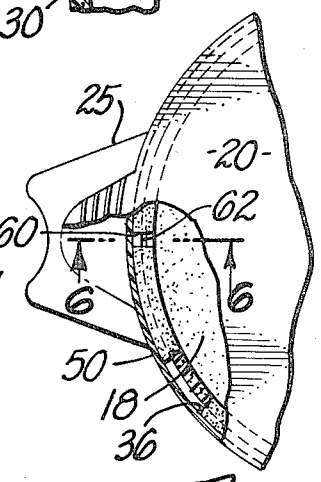


FIG. 5.

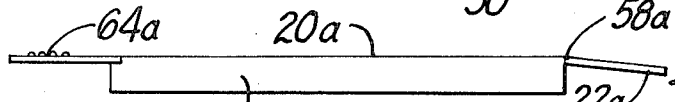


FIG. 7.

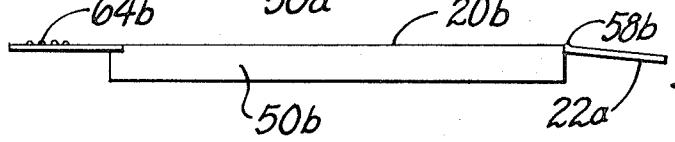


FIG. 8.

FIG. 9.

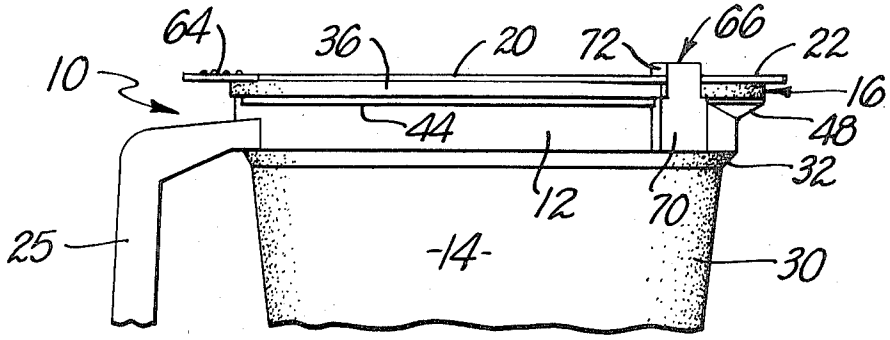


FIG. 10.

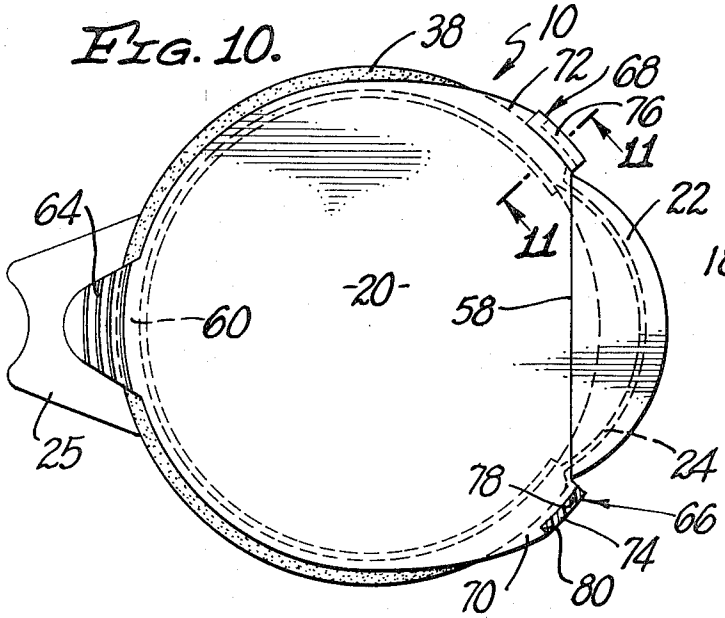


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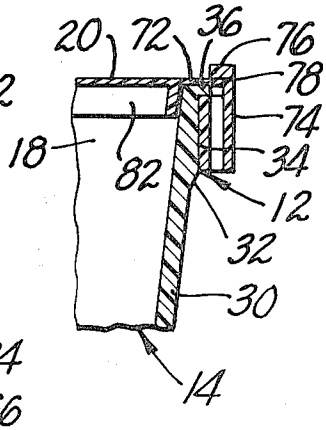


FIG. 12.

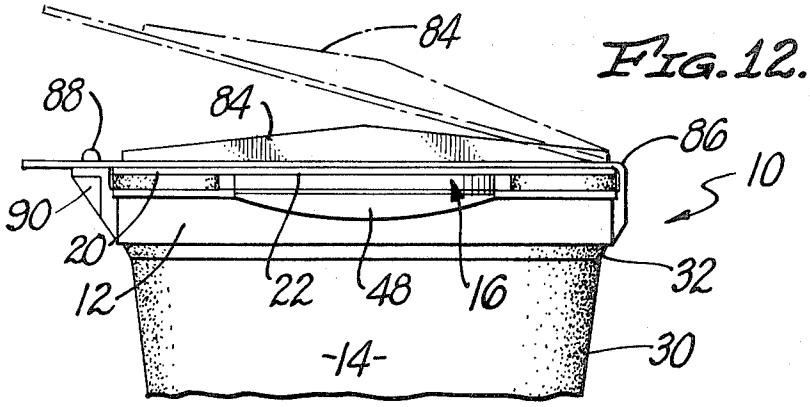


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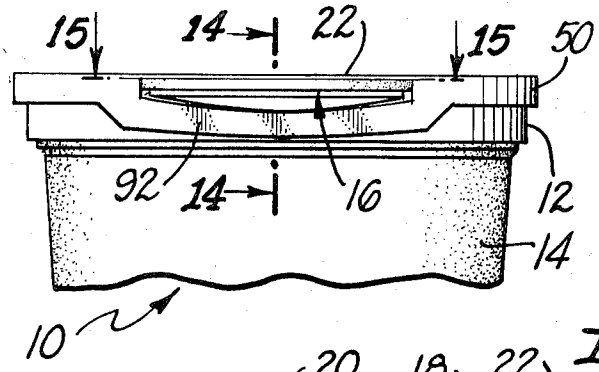


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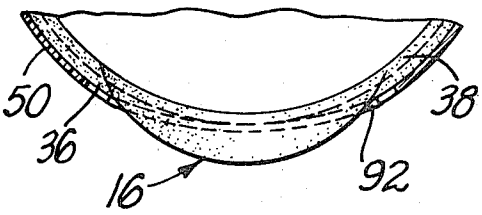


FIG. 14.

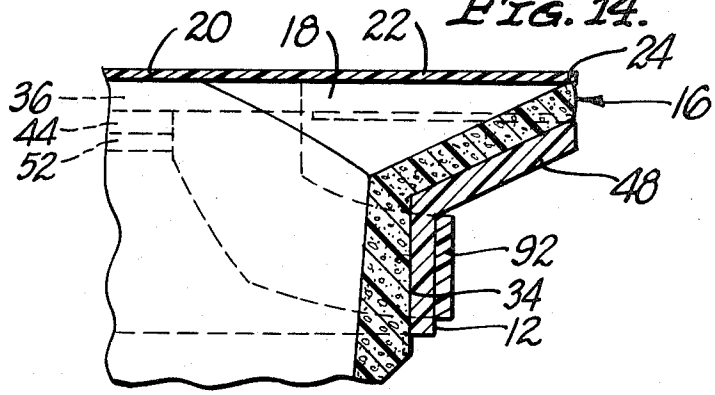


FIG. 16.

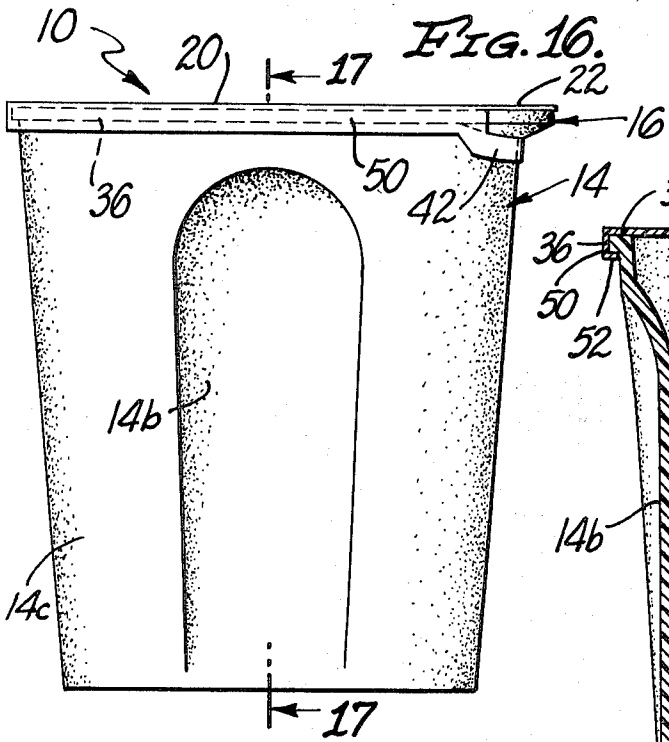


FIG. 17.

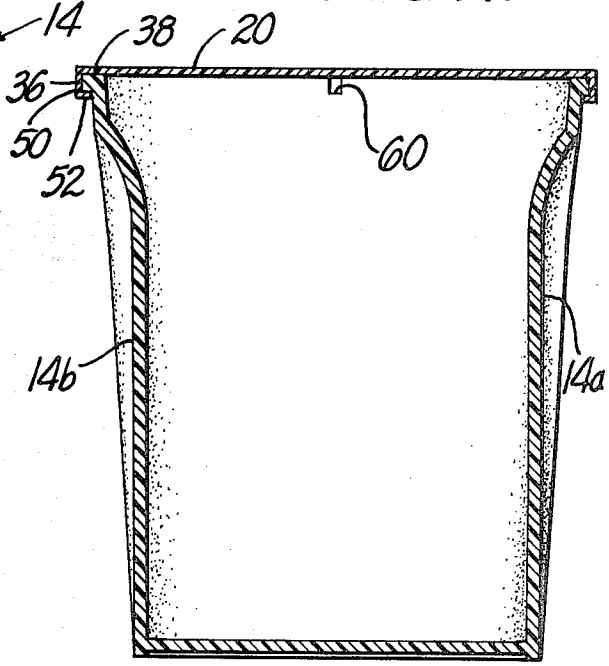


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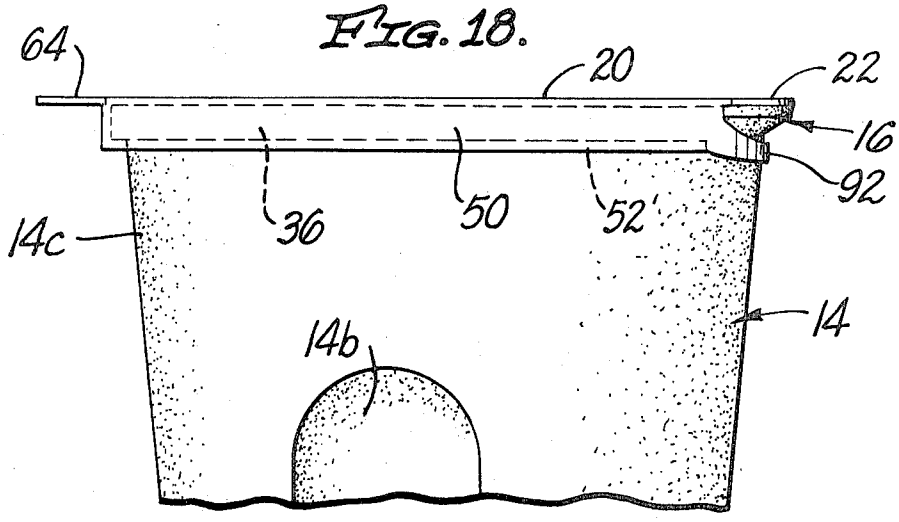
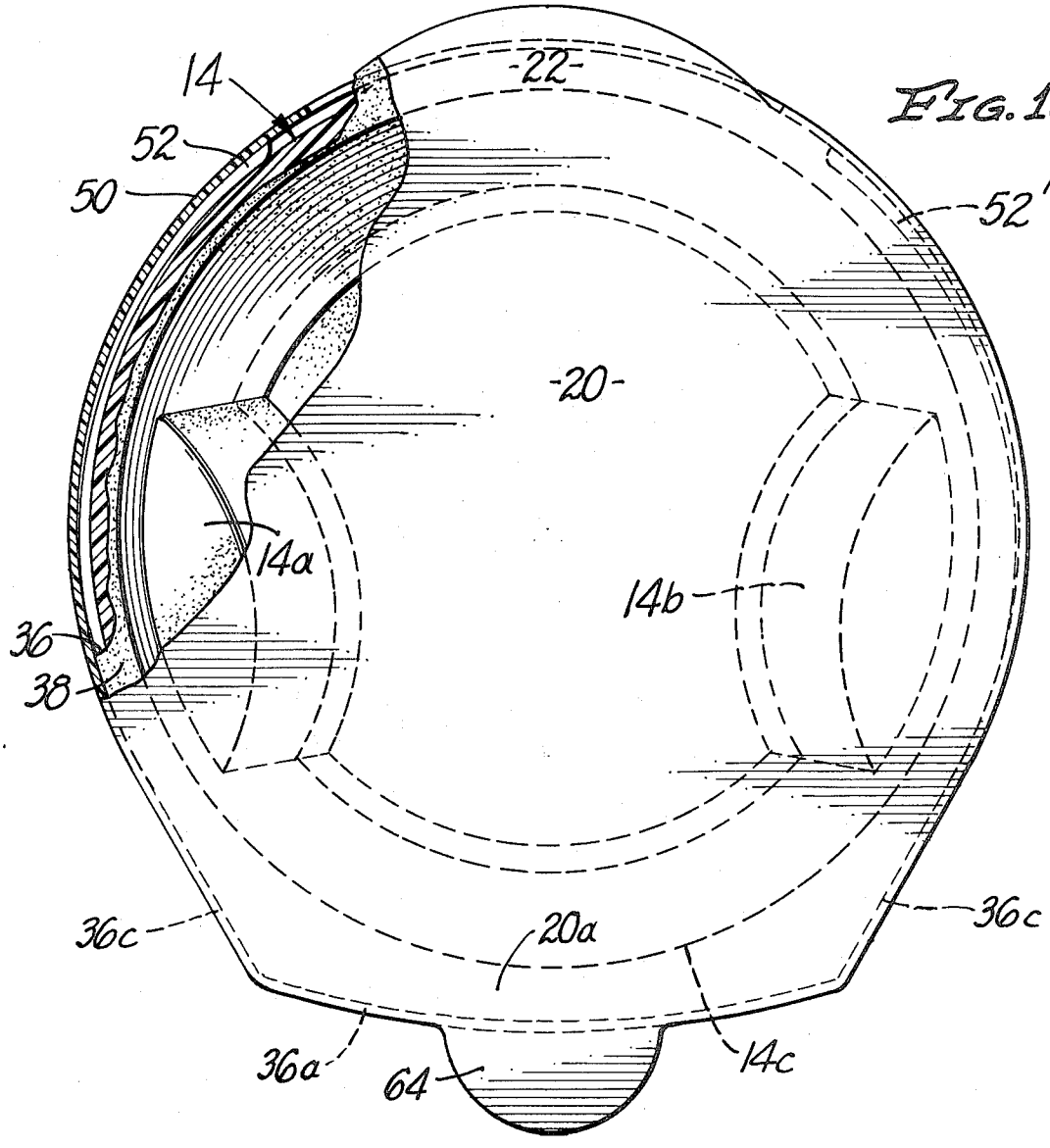

64
20
22
16
92
36
50
52'
14c
14
14b

FIG. 19.


14
52
50
22
52'
20
14a
14b
36
38
36c
20a
36c
36a
64
14c

CARAFE WITH SELF-SEALING SPOUT

The present invention relates to receptacles for storing and dispensing liquid and, more particularly, to a receptacle specially adapted for use by hospitals and other institutions.

In most hospitals today, there exists certain general requirements concerning liquid receptacles used by patients. For example, such receptacles must be sterile upon initial use by each different patient and should be sealable against entry of contaminants. Further, such receptacles should be insulated against heat loss and should be of a size and shape which can be easily handled even by bedridden patients.

Presently, such receptacles take the form of metal and heavy plastic carafes. Because of their relatively high cost of manufacture, such receptacles pose a significant expense to hospitals at time of purchase. Unfortunately, the cost associated with such receptacles are of a continuing nature since they require sterilization after each use by a different patient. Sterilization is a time-consuming and therefore relatively expensive procedure for hospitals.

Further, the metal and heavy plastic receptacles now in use by most hospitals have a separate cap. The cap closes the top of the receptacle when not in use and must be removed prior to pouring of liquid from the receptacle. During that time, contaminants may enter the receptacle. Also, because such caps are often seated within the top of the receptacles, their removal can be a difficult and awkward task particularly for bedridden patients. Because of the weight and size of such receptacles, the same is often true of lifting and pouring of liquids therefrom.

In view of the foregoing, it is an object of the present invention to provide a receptacle having a liquid-containing cup and lid which are so inexpensive that they may be thrown away after use and replaced at a cost less than that required to sterilize present-day receptacles for hospital use.

Another object of the present invention is to provide a receptacle of the foregoing character which is sturdy yet lightweight and easy to handle even by bedridden patients.

A further object of the present invention is to provide a receptacle which is closed at all times against entry of contaminants.

Still another object of the present invention is to provide a receptacle of the foregoing character which is closed by a lid having a flexible and resilient flap hinged thereto for normally sealing a spout of the receptacle to prevent entry of contaminants and for automatically lifting from the spout as liquid flows thereagainst to permit dispensing of liquid from the receptacle.

A still further object of the present invention is to provide a receptacle for storing and dispensing liquids comprising a disposable plastic cup, a reusable handle-carrying ring for releasably receiving the cup and a disposable plastic lid releasably secured to the ring over the top of the cup and having a flexible and resilient flap extending therefrom for normally engaging the upper edge of and sealing a spout extending from the cup and for automatically lifting from the spout as the cup is tipped and liquid presses thereagainst for dispensing from the receptacle through the spout.

Other objects and advantages of the present invention may be more clearly understood by reference to

the following detailed description when considered with the drawings, which, by way of example only, depict various receptacles including the features of the present invention.

In the drawings:

FIG. **1** is a top view of one form of receptacle of the present invention with a portion of a lid removed to expose the interior of the cup and spout of the receptacle;

FIG. **2** is a sectional side view of the receptacle of FIG. **1** taken along the line **2—2** showing the manner in which the lid seals the top of the cup and spout;

FIG. **3** is a fragmentary sectional view taken along the line **3—3** in FIG. **2,** showing the manner in which the lid snaps onto the handle-carrying ring of the receptacle;

FIG. **4** is a fragmentary side view of the front portion of the receptacle showing the automatic lifting of the lid flap from the spout as the cup is tipped to dispense liquid therefrom;

FIG. **5** is a fragmentary top view of a rear portion of a receptacle with a portion of the lid removed to expose an air vent in the cup;

FIG. **6** is a fragmentary sectional side view taken along the line **6—6** in FIG. **5,** showing the air vent;

FIGS. **7** and **8** are alternate forms of lids useful in the receptacle of the present invention;

FIG. **9** is a side view of an upper portion of an alternate form of receptacle including upright hook members extending from the ring for securing the lid to the cup;

FIG. **10** is a top view of the receptacle of FIG. **9**;

FIG. **11** is a fragmentary sectional view taken along the line **11—11** in FIG. **10,** showing the manner in which the hook members engage the top of the lid to secure the lid to the cup;

FIG. **12** is a front view of the upper portion of another embodiment of the present invention including a strap hinged to the ring and extending over and securing the lid to the cup;

FIG. **13** is a front view of the upper portion of still another embodiment of the invention including a strap extending from the lid under the spout supporting portion of the ring to assist in securing the lid to the ring;

FIG. **14** is an enlarged sectional side view of a front portion of the receptacle taken along the line **14—14** in FIG. **13**;

FIG. **15** is a fragmentary top view taken along the line **15—15** in FIG. **13**;

FIG. **16** is a side view of another form of the present invention including a disposable cup and lid, the lid having a strap extending under a spout of the cup to assist in securing the lid to the cup;

FIG. **17** is a sectional front view of the receptacle of FIG. **16** taken along the line **17—17**;

FIG. **18** is a sideview of an upper portion of a preferred form of the present invention including a hand-holdable disposable plastic cup and a lid having a strap extending under a spout of the cup to assist in securing the lid to the cup; and

FIG. **19** is an enlarged top view (turned 90°) of the receptacle of FIG. **18** with portions broken away to expose the connection of the lid to the cup.

Generally speaking the receptacle of the present invention is represented by the numeral **10** and comprises a cup **14** having a spout **16.** The top **18** of the cup

is sealed by a lid **20** while the spout is normally covered by a flat, flexible, and resilient flap **22** extending from a front of a lid. In this regard, the flap **22** normally rests on an upper edge **24** of the spout to seal the spout and automatically lifts therefrom as liquid in the cup presses thereagainst as during tipping of the cup to dispense liquid from the receptacle through the spout.

Preferably, the cup **14**, and the lid **20** and the flap **22**, comprise single-piece molded plastic articles. The cup is formed of a lightweight plastic material having good heat insulation characteristics such as Sytrofoam while the lid **20** and flap **22** are of a flexible and resilient thin-wall construction. Because of their construction, the cup and lid may be rapidly and inexpensively mass-produced. In fact, their cost is so low that it is more economical for the lid and cup to be disposed of after use than sterilized for reuse.

In the embodiment of the invention shown in FIGS. **16** and **17**, the cup **14** is characterized by diametrically opposite inward depressions **14***a* and **14***b* equally spaced from the spout **16.** The depressions extend upwardly from a bottom of the cup to adjacent the top **18** and combine with a curved rear portion **14***c* of the cup to define a handle means. The handle means is shaped and dimensioned such that it may be readily grasped in one hand even by a bedridden patient thereby enabling the patient to easily pick up the cup **14** and pour liquid therefrom. In this regard, the depressions **14***a* and **14***b* and the rear portion **14***c* are dimensioned such that in grasping the handle means, the patient's thumb fits into one of the depressions while his fingers on the same hand fit into the other depression.

In the embodiments of the invention shown in FIGS. **1–15**, the receptacle includes a handle-carrying ring **12** for securely supporting and lifting the cup **14** during the dispensing of liquids. In this regard, a handle **25** extends from the ring and is designed for easy gripping, thereby rendering the receptacle easy to lift and hold even by bedridden hospital patients. Preferably, the handle-carrying ring **12** is reusable and is formed of a sturdy plastic material.

More particularly, and referring to the embodiment illustrated in FIGS. **1** through **6**, the cup **14**, in addition to the open top **18**, includes a closed bottom **26** having an annular foot or base **28.** The base is adapted to rest firmly on a flat table top, tray, or the like and to support the cup in an upright position with its sidewall **30** extending upwardly and outwardly from the bottom at an angle of about 7° from the vertical. Such angulation of the sidewall **30** permits a plurality of like cups to be compactly stacked with the bottom of all but the lowermost cup nesting securely within a top portion of an immediately adjacent cup.

Adjacent the open top **18**, the sidewall **30** of the cup **14** includes an outward step **32** to a vertical annular sidewall portion **34** terminating in a lip **36.** The lip **36** includes the flat upper edge **38** of the cup **14** and extends between points adjacent opposite sides of the spout **16.** With regard to the latter, the spout **16** is preferably located in an arcuate forward edge region of the cup **14.** In that region, an upper portion of the annular sidewall **34** flares outwardly at an angle of about 30° to the horizontal. Further, as most clearly illustrated in FIG. **1**, the upper edge **24** of the spout **16** follows a curve having a radius less than the radius of the top **18** of the cup to intersect the upper edge **38** at points slightly forward of opposite inwardly curved ends **40** and **42** of the lip **36.** Thus formed, the spout includes an upwardly facing open end and a substantially straight upper edge preferably continuous with the upper edge of the cup **14.**

As illustrated most clearly in FIGS. **2** and **3**, the annular sidewall portion **34** of the cup **14** is adapted to tightly receive the handle-carrying ring **12** such that the cup may be lifted, tipped, and otherwise maneuvered by gripping the handle **25.** In this regard, the ring **12** is an annular thin-walled member having an inner diameter substantially equal to the outer diameter of the annular sidewall portion **34.** A lip **44** extends outwardly from the ring **12** and includes an upper edge **46** thereof. The lip **44** closely follows the contour and curve of the lip **36** of the cup **14**, including the inwardly curved ends **40** and **42.** Thus, the upper edge of the lip **44** is adapted to engage and press upwardly on the lower surface of the lip **36.** Further, between the ends of the lip **44**, an upper arcuate portion **48** of the ring flares outwardly at an angle of about 30° to follow the curve and contour of the lower surface of the spout **16.** Thus, the ring **12** provides full support for and transmits uniform upwardly forces from the handle **25** to the cup **14** and spout **16** during lifting and pouring of liquids. In this regard, the handle **25** extends outwardly from the ring **12** in a region opposite the arcuate region **48** and bends downwardly along side an upper portion of the cup for easy hand gripping.

As previously indicated, the open top **18** of the cup **14** and spout **16** are covered by the lid **20** and flap **22.** The lid and flap are designed to prevent entry of contaminants both while liquid is stored in and during dispensing of liquids from the cup **14.** To accomplish this, the lid **20** and flap **22** have an outer contour following generally the shape of the top of the cup **14** and spout **16.** In addition, cooperative means are included on the lid and the cup for releasably securing the lid over the open top of the cup and the flap is constructed to normally seal the spout and to automatically rise from and lower thereto during and following the dispensing of liquid from the cup.

As to the cooperative means, in the embodiment shown in FIGS. **1** through **8**, a flange **50** extends downwardly from an outer edge of the lid **20** and includes an inwardly extending bead **52** at a lower end thereof. The inner diameter of the flange **50** is substantially equal to the outer diameter of the lip **36** and the height of the flange **50** is just sufficient to allow the bead **52** to snap and lock under the lip **44** and bear against an outer surface of the ring. In this manner, the flange and bead releasably lock the lid over the top of the cup. In addition, opposite ends **54** and **56** of the flange **50** bend inwardly to grip the curved ends of the lips **36** and **44** (such as **40** and **42**) to insure a fluid-tight seal between the cup and lid at opposite ends of a connecting region **58** between the flap **22** and the lid.

Preferably, the connecting region **58** is a substantially straight line or connecting strip between the lid and flap and in the embodiment of FIGS. **1–6**, extends between junctions of the upper edge **38** of the cup and the upper edge **24** of the spout. By junctions is meant the general area between the point where the curved outside of the edge **24** joins the curve outside of the upper edge **38** and the inwardly curved ends **40** and **42** of the lip **36.**

In addition to being the connecting region between the lid **20** and flap **22**, **58** also represents a hinge means

therebetween, that is, the line or strip along which the flap **22** swings in raising and lowering from and to the upper edge **24** of the spout **16.** When the lid and flap are formed of a single piece of normally flat plastic, the line or strip is only noticeable when the flap is raised from the spout. However, in the embodiment of FIGS. **1–6,** there is a molded bend at the connection of the flap and lid and the line is detectable both when the flap lies on the spout and is raised therefrom.

With regard to the structure of the flap **22** illustrated in FIGS. **1–6,** during molding, the flap is formed at a downward angle of about 5° from the top of the lid. Because of this, the flap moves up and down independent of the lid about the hinge line **58.** Also, when the flap is mounted with the lid on top of the cup **14,** the flap in engaging the upper edge **24** of the spout is urged upwardly from its normal position. This means that the flap continuously exerts a downward force toward the upper edge **24.** When the flap **22** is on the upper edge **24,** the force produces a fluidtight seal between the flap and edge to prevent entry of contaminants. As the flap **22** is raised from the upper edge **24** in response to liquid pressing upon the bottom of the flap, as during tipping of the cup **14** in the direction of the spout **16,** the flap continues to exert the downward force and effectively floats on the top of the stream of liquid dispensed from the spout. Because the flap rides on the liquid stream, it prevents entry of contaminants into the cup during the dispensing of liquid therefrom. Then, as the cup is returned to its upright position, the flap **22** automatically lowers to the upper edge **24** in response to the downward force to again seal the spout **16.** Thus, the lid and flap continuously prevent contaminants from entering the cup and together with the cooperative means provide means for releasably sealing the cup and spout.

So complete is the fluidtight seal between the flap and the spout and between the lid and the cup that a vent to atmosphere is required for efficient pouring of liquid from the cup. The vent is illustrated most clearly in FIGS. **5** and **6** and comprises connecting slots **60** and **62.** The slot **60** lies in the upper edge **38** of the cup **14** while the slot **62** extends downwardly in the outside of the vertical sidewall portion **34.** Such an arrangement permits air at atmospheric pressure to displace liquid as it is poured from the cup **14** through the spout **16** during operation of the receptacle **10.**

As illustrated in FIGS. **1** and **2,** the lid **20** carries a tab **64** extending over a top of the handle **25.** The tab is designed to assist in connecting and disconnecting the lid and flap to and from the top of the cup. In this regard, after inserting the cup into the ring **12,** the user of the receptacle **10** fits the lid **20** over the top of the cup and while pulling on the tab **64** snaps the flange **50** downward over the outer edge of the lips **36** and **44** with the inwardly curved ends **54** and **55** sealed against the curved ends **40** and **42** of the lip **36.** In this position, the lid and flap securely seal the open top of the cup **14** and spout **16.** Then, when it is desired either to remove the lid or to raise a rear portion thereof to insert liquid or ice or both, the user of the receptacle pulls rearwardly and upwardly on the tab **64** to unsnap a rear portion of the flange **50** and expose the interior of the cup **14.** The desired materials then may be deposited into the cup and the cup resealed by lowering the rear portion of the lid and resnapping the flange **50** over the rear portions of the lips **36** and **44.**

Alternate forms of lids for use in the embodiment shown in FIGS. **1** through **6** are depicted in FIGS. **7** and **8.** Portions of the lids corresponding to those illustrated in FIGS. **1** through **6** bear like reference numerals in FIGS. **7** and **8** with an accompanying *a* and *b,* respectively. The principal difference between the lids of FIGS. **7** and **8** and those depicted in FIGS. **1** through **6** in the form of the hinge means **58.** In FIG. **7,** the hinge means **58***a* comprises a groove in the top of the lid **20***a.* In FIG. **8,** the hinge means **58***b* comprises a bead along the top of the lid **20***b.* Such hinge means provide a definite separation between the lid and flap and enable the flap to move up and down independent of the lid to open and close the spout. In both cases, the flaps **22***a* and **22***b* are formed during molding to bend downwardly at about a 5° angle from the horizontal top of the associated lid. Thus, the flaps function in conjunction with the lids in the same manner as described in connection with FIGS. **1** through **6.**

An alternate form of the receptacle **10** is depicted in FIGS. **9, 10,** and **11.** But for the cooperative means on the lid and ring for releasably holding the lid on the cup, the receptacle **10** is the same as the cup previously described in connection with FIGS. **1** through **6.** Accordingly, corresponding components and elements in the receptacle shown in FIGS. **9** through **11** bear the same reference numerals as previously employed in describing the embodiment of FIGS. **1** through **6** and a detailed description thereof will not be repeated.

In the embodiment of FIGS. **9–11,** the cooperative means comprises a pair of inwardly facing hook means **66** and **68** and a pair of ears **70** and **72** extending outwardly from the lid **20** to mate with the hook means **66** and **68,** respectively. The hook means are located immediately adjacent opposite ends of the lip **44** and each includes a vertical arm **74** projecting outwardly and upwardly from the ring **12** to a finger **76** extending inwardly from the arm to define a hook. The ears **70** and **72** fit tightly under the fingers **76** with straight edges **78** and steps **80** butting against the inner faces and rear edges of the vertical arms **70** to hold the lid **20** down on the top of the cup **14.**

To assist the cooperative means, annular flange **82** extends from the bottom of the lid **20** and is dimensioned to fit tightly within the open top **18** of the cup **14.** Thus, to mount the lid **20** on the cup **14** in FIGS. **9–11,** one simply slides the lid forward to fit the ears **70** and **72** securely in the hook means **66** and **68** and then presses down on the lid to seat the flange **82** in the top of the cup.

Still another form of the receptacle **10** is depicted in FIG. **12.** The embodiment of FIG. **12** resembles that just described in connection with FIGS. **9–11** except for the cooperative means which includes a strap or locking bar **84.** The strap **84** is hinged at **86** to one edge of the ring **12** for raising and lowering above the top of the lid **20.** An opposite end of the strip **84** includes an opening for receiving a button **88** extending from a bracket **90** secured to a side of the ring opposite the hinge **86.** Thus, to secure the lid **20** to the top of the cup **14** in the embodiment of FIG. **12,** the lid is moved over the top of the cup and pressed downward to seat the flange **82** within the top of the cup. Then, the strap **84** is swung over and downward onto the top of the lid until the button **88** is seated in the opening in the strap to lock the strip in place.

Another form of the receptacle **10** is depicted in FIGS. **13, 14** and **15.** But for the cooperative means for releasably holding the lid on the cup, the receptacle is substantially the same as previously described in connection with FIGS. **1** through **6.** Accordingly, corresponding components and elements of the receptacle shown in FIGS. **13** through **15** bear the same reference numbers as previously employed in describing the embodiment of FIGS. **1** through **6,** and a detailed description thereof will not be repeated.

With regard to the cup **14** illsutrated in FIGS. **13** through **15,** it is the same as the cup shown in FIG. **1** and **2** except that the lip **36** extends and blends into the spout **16** rather than terminating in curved ends **40** and **42.** Likewise, the flange **50** of the lid **20** rather than terminating in curved ends **54** and **56** continues on the same radius of curvature to adjacent opposite ends of the upper arcuate portion of **48** of the ring, that is the spout supporting portion of the ring. There, the flange **50** steps downwardly to define a curved strap **92** bearing tightly on the outside of the ring **12** and extending under the arcuate portion **48.** In this regard, the curve of the strap **92** is substantially the same as the curvature of the flange **50.**

Thus, in assembling the receptacle **10** illustrated in FIGS. **13 – 15,** the cup **14** is first inserted into the ring **12.** The user of the receptacle then introduces the spout **12** and arcuate region **48** of the ring **12** between the flat **22** and strap **92.** Then, while pulling back on the tab **64** (not shown in FIGS. **13 – 15**), the user snaps the flange **50** with its bead **52** downward over the outer edge of the lips **36** and **44** on the cup and ring to seal the open top of the cup **14** and the spout **16.** In this regard, the strap **92** acts to firmly anchor the lid **20** to the top of the cup **14** at the ends of the spout **16** to insure against water leakage from the ends of the spout.

Still another form of the receptacle **10** is depicted in FIGS. **16** and **17.** But for the previously described depressions **14***a* and **14***b*, the cup **14** included in the receptacle **10** of FIGS. **16** and **17** is the same as described in connection with FIGS. **13** through **15.** As previously stated, the depressions **14***a* and **14***b* combine with the curved rear portion **14***c* of the cup to define a handle means for the receptacle. Thus, the receptacle illustrated in FIGS. **16** and **17** does not utilize the handle carrying ring **12** illustrated in the other embodiments of the invention.

The lid **20** and flap **22** of the receptacle **10** shown in FIGS. **16** and **17** are as illustrated in FIGS. **13– 15** as is the cooperative means for securing the lid to the cup. That is, the cooperative means includes the flange **50** extending down from an outer edge of the lid **20** and having a bead **52** extending inwardly from the lower edge of the flange between junctions of the strap **92** and the main portion of the flange. In the embodiment of FIGS. **16** and **17,** the height of the flange **50** is just sufficient to allow the bead **52** to snap and lock under the lip **36** of the cup and to bear against an outer surface of the cup. Further, a strap **92** is dimensioned such that an upper edge thereof bears on a lower surface of the spout **16,** while an inner surface thereof bears tightly against the side wall of the cup under the spout. Thus, to assemble the receptacle **10** illustrated in FIGS. **16** and **17,** the user simply inserts the spout **16** between the strap **92** and the flap **22.** He then pulls rearwardly and then downwardly on the lid **20** to allow the flange **50** to fit over the outer edge of the lip **36** and the bead **52** to snap thereunder. This creates an airtight seal for the lip and flap to the cup as previously described.

A preferred form of the receptacle **10** is depicted in FIGS. **18** and **19.** As illustrated, the receptacle resembles that described in connection with FIGS. **16** and **17** in that the cup **14** includes side depressions **14***a* and **14***b* which combine with the curved rear portion **14***c* of the cup to define a handle means for the receptacle. Further, the cooperative means includes the flanges **50,** the lip **36,** and the strap **92** which extends from forward ends of the flange under the spout **16** to assist in releasably securing the lid to the cup. However, important differences reside in the shape of the lip **36** opposite the spout **16** and in the configuration of the bead **52** for snapping under the lip **36.**

In particular, the lip **36** includes an arcuate extension **36***a* diametrically opposite the spout **16.** The radius of curvature of the extension **36***a* is greater than the radius curvature of the cup and lip **36** to define generally triangular ear-shaped corner portions on opposite sides of a vertical plane bisecting the spout and cup. In this regard, the arcuate extension terminates at edges **36***c* tangential to the lip **36** and extending at about a 30° angle to the vertical bisecting plane.

Thus shaped, the extension **36***a* combines with the spout **16** to define a preferred means for accurately locating the lid **20** on top of the cup **14.** In this respect, the lid **20** includes an extension **20***a* matching the extension **36***a* and the flange **50** extends between opposite ends of the strap **92** downwardly from an outer marginal edge of the lid to tightly engage the outer surface of the lip **36** and extension **36***a*. More particularly, to properly locate the lid on the cup, one inserts the spout **16** between the strap **92** and the flap **22** and pulls rearwardly and then downwardly on the tab **64.** This causes the flange **50** adjacent the strap **92** to fit over the outer edge of the lip **36** on opposite sides of the spout and the bead **52** to snap thereunder. As the lid is drawn rearwardly and downwardly, the corners defined by the extension **20***a* mate with and fit over the like corners defined by the extension **36***a* to properly locate the lid on the cup with the flange **50** tightly engaging the entire outer edge of the lip **36** between opposite ends of the spout **16.**

It is important to note in the embodiment shown in FIGS. **18** and **19** that the bead **52** does not extend along the entire length of the inner surface of the flange **50.** Rather, there are two beads **52** and **52'** starting at junctions of the flange **50** and the strap **92.** From the junctions, the beads become progressively narrower until they terminate at points midway between the ends of the strap **92** and the sides of the extension **20***a*. Thus, in the embodiment of FIGS. **18** and **19,** the beads **52** and **52'** snap under the lip **36** only in the forward regions of the cup **14.** This creates a fluidtight seal at a forward portion of the receptacle which prevents undesired liquid leakage from the receptacle during pouring operations. Yet, at the rear portion of the receptacle, air is able to leak between the flange **50** and the outside of the lip **36** and extension **36***a* to displace the liquid being poured from the receptacle. Therefore, in the preferred embodiment of the receptacle no specially designed air vent is required.

Further, the absence of the bead **52** at the rear of the receptacle makes for easier attaching and partial removal and removal of the lid **20** from the cup **14.** For example, when it is desired to refill the receptacle or to

add ice thereto, one simply lifts upward on the tab **64** raising the rear of the lid from the top of the cup. To reseal the top of the cup, the tab and lid are simply lowered. No undesired strain is placed on the marginal edges of the lip **36** during such operations as would be caused by a bead unsnapping and resnapping under the lip. This is particularly important when the cup is formed of a foam-like plastic material such as Styrofoam which would tend to break upon repeated snapping and unsnapping of such a bead under the lip **36.**

Further, the absence of the bead **52** in the rear region of the lid makes for easier complete removal of the lid from the cup. In this regard, the lifting on the tab **64** raises the rear portion of the lid and starts the release of the beads **52** and **52'** from the under the lip **36.** Because of the tapered nature of the beads, the release progresses in a smooth manner to exert a minimum strain on the forward portion of the lip **36** during removal of the lid from the cup.

While particular forms of receptacles have been described in some detail herein, changes and modifications may be made therein without departing from the spirit of the invention. It is therefore intended that the invention be limited in scope only by the terms of the following claims.

I claim:

1. A receptacle for storing and dispensing liquids, comprising:

a cup having a vertically extending sidewall, an open top and a spout extending outwardly from said sidewall adjacent said open top and including an upwardly facing open end having a substantially straight upper edge; and

closure means including

a single piece of plastic material defining a flat lid for covering said open top of said cup and flat flexible and resilient flap means continuous with and extending outwardly and forwardly from a front of said lid along a line between junctions of said upper edge of said spout and said cup for bearing on said upper edge to seal said spout and for lifting from said upper edge as liquid presses thereagainst with a tipping of said cup to permit dispensing of liquid through said spout, and

cooperative means on said lid and cup for releasably holding said lid on said cup.

2. The receptacle of claim **1** wherein said flap normally bends downward from said lid along said line to bear on said upper edge of and seal said spout.

3. The receptacle of claim **2** wherein said closure means includes hinge means along said connecting line between said flap and said lid for enabling said flap to move up and down independent of said lid to open and close said spout.

4. The receptacle of **1** wherein:

said cup includes flange means on opposite sides of said spout and extending outwardly from said cup adjacent said open top; and

said receptacle further includes

handle means on said cup for hand-lifting said receptacle to dispense liquids therefrom through said spout, said handle means comprising a ring for releasably receiving said cup and bearing upwardly against said flange with a handle extending from said ring opposite said spout, a forward portion of said ring opposite said handle being shaped at its upper edge to receive said spout, and

a pair of inwardly facing hook means projecting upward from said ring immediately adjacent opposite ends of said forward portion for tightly receiving outer marginal edge portions of said lid and holding said lid on said cup.

5. The receptacle of claim **4** wherein said outer marginal portions of said lid follow an inner contour of said hooks means and said lid includes a downwardly projecting flange for bearing against an inner surface of said cup adjacent said open top.

6. The receptacle of claim **1** wherein:

said cup includes flange means on opposite sides of said spout and extending outwardly from said cup adjacent said open top;

said receptacle further includes handle means on said cup for hand-lifting said receptacle to dispense liquid therefrom through said spout, said handle means comprising a ring for releasably receiving said cup and bearing upwardly against said flange means with a handle extending from said ring opposite said spout; and

said cooperative means comprises a strap hinged at one end to said ring and extending over a top of said lid for releasable connection to said ring.

7. The receptacle of claim **1** further comprising:

handle means for hand-lifting said cup including a ring for releasably receiving said cup with a handle extending from said ring opposite said spout;

lip means projecting outwardly from said receptacle and including a first lip on and projecting from said cup with a lower edge bearing on an upper edge of said ring and a second lip on and projecting from said ring below said first lip; and

flange means in said cooperative means and extending downwardly from a lower surface of said lid to snap over said lip means and under said second lip to secure together said lid, cup and ring.

8. The receptacle of claim **7** wherein said flange means commences just forward of said line connecting said flap to said lid, curves inwardly over forward ends of said lip means, and closely follows the contour of said lip means rearwardly toward said handle to create a fluid-tight seal for said lid on said cup.

9. The receptacle of claim **7** wherein said cooperative means further comprises a strap extending from said flange means on opposite side of said spout and following an outer surface of said ring under said spout to assist in releasably securing said lip to said cup.

10. A receptacle for storing and dispensing liquids, comprising:

a cup having a vertically extending sidewall, an open top and a spout extending outwardly from said sidewall adjacent said open top and including an upwardly facing open end having a substantially straight upper edge; and

closure means including

a flat lid for covering said open top of said cup,

flat flexible and resilient flap means continuous with and extending outwardly from said lid for bearing on said upper edge to seal said spout and for lifting from said upper edge as liquid presses thereagainst with a tipping of said cup to permit dispensing of liquid through said spout, and

cooperative means on said lid and cup for releasably holding said lid on said cup including

a lip projecting outwardly from and including an upper edge of said cup and extending between opposite ends of said spout.

flange means extending downwardly from a lower surface of said lid to snap over said lip, and

strap means extending downwardly from said lid at opposite sides of said spout and under said spout to assist in securing said lid to said cup.

11. The receptacle of claim **10** wherein said flange means extends between opposite ends of said strap means and follows the contour of an outer surface of said lip and wherein said receptacle further includes beads on said flange means for snapping under said lip to releasably secure said lid to said cup, said beads commencing adjacent said opposite ends of said strap means and being of a narrowing width terminating along opposite sides of said lid.

12. The receptacle of claim **11** wherein said lip includes an extension opposite said spout and wherein said lid includes a like extension, said extension mating with each other when said lid is in a proper position on said cup to seal said open top thereof.

13. The receptacle of claim **12** wherein said extension on said lip is an arcuate extension diametrically opposite said spout and having a radius of curvature greater than that of said cup to define a smooth outer edge surface against which said flange means may bear.

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