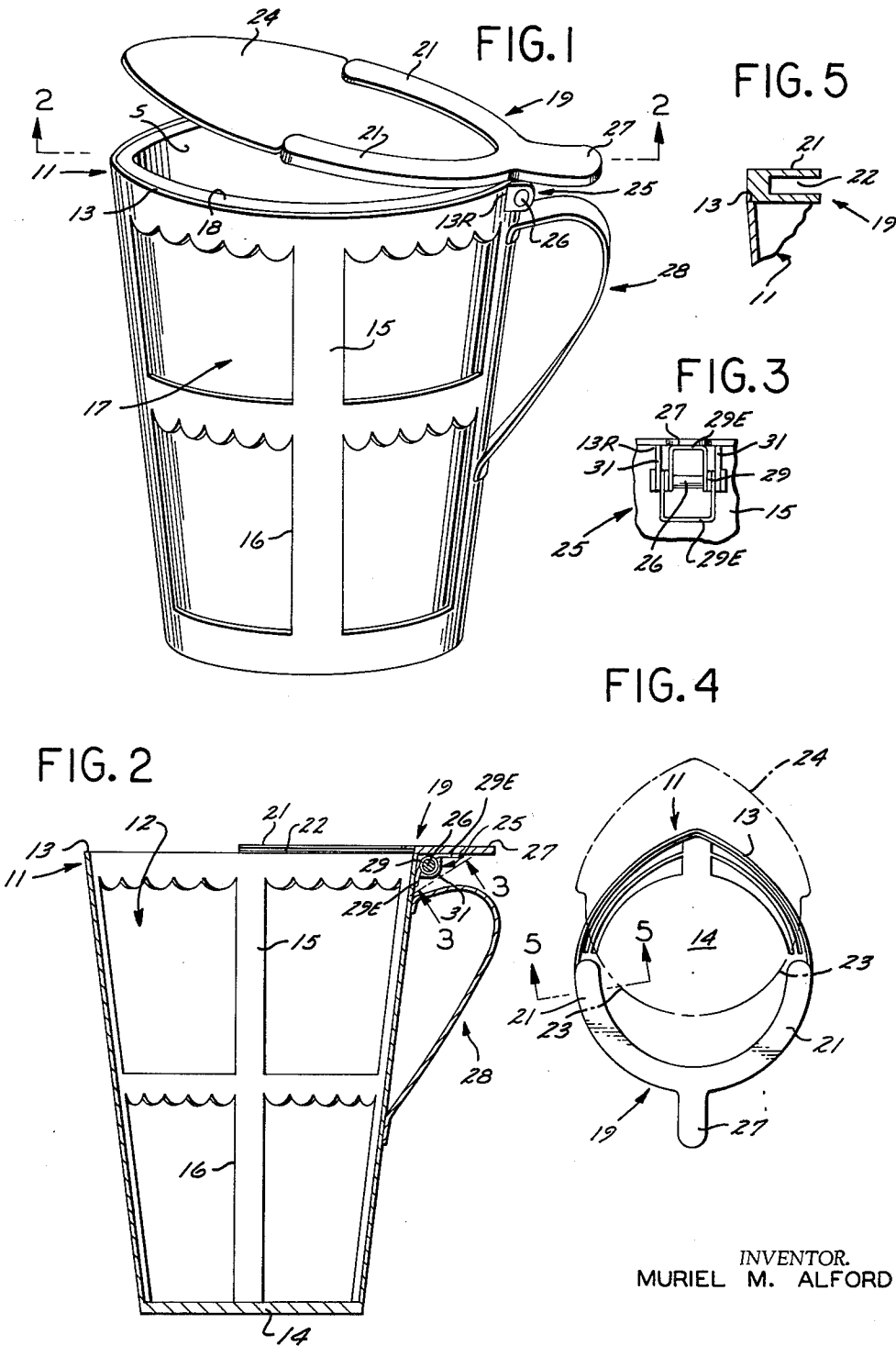


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CONTROLLABLY OPENABLE AND CLOSABLE HOLDER FOR
A DISPOSABLE LIQUID CONTAINER
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**CONTROLLABLY OPENABLE AND CLOSABLE
HOLDER FOR A DISPOSABLE LIQUID
CONTAINER**

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Generally speaking, the present invention relates to the liquid container art and, more particularly, pertains to a pitcher or pouring type container which may contain water or any other desired liquid of a beverage type and which comprises a disposable inner container portion and, in one preferred form, a disposable cover member for same, adapted to be removably carried by non-disposable container-receiver means and/or cover-receiver means which are made of a material capable of being readily sterilized without damage thereto. In other words, the disposable container insert and cover portions can be frequently disposed of and replaced by substantially sterile disposable container and/or cover insert portions, thus making it necessary to clean only the non-disposable container-receiver and/or cover-receiver portions of the combination apparatus. Even this does not have to be done too often, since the only portions of the combination container or pitcher which come into contact with the liquid adapted to be contained therein are various parts of the disposable and replaceable inner container insert member and cover insert member therefor.

Thus it can be seen that the present invention provides an arrangement which can readily be maintained in a clean and substantially sterile condition without requiring that a complete integral pitcher be washed and thoroughly sterilized before reuse as is the conventional prior art practice in hospital usage of such liquid containers and pitchers for bedside use by patients. Such conventional prior art pitchers normally have to be thoroughly washed and cleaned and then sterilized under heat and pressure in an autoclave before being reused by hospital patients. Since this process takes some time, this normally requires that the number of such hospital liquid containers or pitchers be substantially double that which would be required when the apparatus of the present invention is used since, whenever a conventional prior art hospital pitcher is removed for such processing, a fresh one which has just been so processed is normally used to replace same for patient use.

However, with the novel apparatus of the present invention, it would merely be necessary to remove a soiled disposable inner container and cover member and to throw them away and replace same with a fresh sterile inner container and cover. This is possible since the receiver means of the novel apparatus of the present invention do not tend to become contaminated readily since they do not touch any of the contents of the container at any time.

Furthermore, there would be a considerable savings effected because such disposable inner containers and covers can be manufactured and supplied at less cost than the cost of the above-described prior art processing technique for cleaning and sterilizing prior art integral containers and pitchers. Indeed, all that is required of the permanent non-disposable portions of the novel apparatus of the present invention is regular daily washing with a detergent, rinsing and drying, which is vastly simpler and cheaper than the above-mentioned prior art procedure requiring sterilization of prior art pitchers by autoclaving or the like.

Furthermore, the novel apparatus of the present invention lends itself very well to patient identification by merely marking or writing same on the disposable cover, and also lends itself well to the provision of appropriate in-

structions in a similar fashion by marking the cover with any desired instructions, such as the kind of water or other liquid is to be supplied to the patient. These are merely indicative of various possibilities provided by reason of the fact that the disposable container and/or cover are of a nature such as to allow the convenient writing on them of any desired instructions, identification material, or other data.

Furthermore, it should be noted that the arrangement is of a very superior non-tipping nature by reason of the fact that the base of the non-disposable container-receiver portion of the apparatus is effectively weighted so as to minimize any likelihood of tipping of the complete apparatus when in use.

With the above points in mind, it is an object of the present invention to provide a novel controllably openable and closable holder for a disposable liquid container, both in combination with such a container, and per se or individually.

It is a further object of the present invention to provide a novel controllably openable and closable holder for a disposable liquid container and a holder for a disposable cover for said container, provided with thumb operable means for controllably operating the apparatus in a manner such as to open or close said disposable cover with respect to said disposable container, as desired.

It is a further object of the present invention to provide novel apparatus of the character referred to above, which is so arranged that only the disposable container and/or disposable cover come into contact with liquid adapted to be carried thereby, thus eliminating any necessity for sterilization of the holding portion of the apparatus.

It is a further object of the present invention to provide a novel apparatus of the character referred to above embodying any or all of the features referred to herein, generically and/or specifically, and either individually or in combination and which is of relatively simple, inexpensive, easy-to-use construction capable of mass manufacture at relatively low cost whereby to be conducive to widespread use thereof.

Further objects are implicit in the detailed description which follows hereinafter (which is to be considered as exemplary of, but not specifically limiting, the present invention) and said objects will be apparent to persons skilled in the art after a careful study of the detailed description which follows hereinafter.

For the purpose of clarifying the nature of the present invention, one exemplary embodiment of the invention is illustrated in the hereinbelow-described figures of the accompanying single drawing sheet and is described in detail hereinafter.

FIG. 1 is a reduced-size perspective view of one exemplary embodiment of the present invention, with a disposable container means received and held thereby and with a disposable cover member also received and held thereby. This view shows the apparatus in a partially open relationship whereby to partially open the disposable cover member with respect to the open top of the disposable container member.

FIG. 2 is a side view, partly in section and partly in elevation, taken in the direction of the arrows 2-2 of FIG. 1, but shows only the holder means of the present invention with the disposable container member and the disposable cover member therefor removed from said holder means.

FIG. 3 is a fragmentary elevational view taken in the direction of the arrows 3-3 of FIG. 2 and clearly illustrates the biasing torsion spring means which normally biases the cover-receiver means toward the closed relationship shown in FIG. 2.

FIG. 4 is a reduced-size top plan view of FIG. 2. However, this view also illustrates the mounting insertion of

the disposable cover member relative to the cover-receiver means by the phantom line showing of said disposable cover member in a pre-mounting position.

FIG. 5 is an enlarged fragmentary view, taken in the direction of the arrows 5—5 of FIG. 4 and illustrates the detail of the inwardly open recess carried by the cover-receiver means along the inner edge thereof for receiving and engaging the edge of the disposable cover member shown in phantom in FIG. 4 in the process of being inserted into such engagement and shown in solid lines in FIG. 1 after such engagement.

Generally speaking, the invention comprises a container-receiver means defining a receiving recess therein adapted to receive, engage and support a disposable liquid container.

In certain preferred forms of the invention, the container-receiver means is also provided with cover-receiver means cooperable to receive, engage and hold a disposable cover member in a manner cooperable for closing and covering an open portion of said disposable container.

In the exemplary form of the invention illustrated, the above-mentioned container-receiver means is generally designated by the reference numeral 11 and is of substantially frusto-conical shape, and the receiving recess defined therein, which is generally designated by the reference numeral 12, is therefore also of substantially frusto-conical shape.

In the exemplary version illustrated, the container-receiver means 11 has an open top or top edge as indicated at 13, an effectively closed bottom as indicated at 14, and a multi-apertured side wall portion or means 15 defining a plurality of lateral apertures 16 from the exterior to the interior thereof whereby to effectively lighten the entire container-receiver means 11 and also to allow the escape of air outwardly through said multiple apertures 16 when a generally similarly, substantially frusto-conically, shaped disposable container, such as indicated at 17, is inserted downwardly through the open top 13 of the container-receiver means 11 so as to be snugly received within the receiving recess 12 in a manner such that the bottom 14 and side wall portions 15 of the container-receiver means 11 receive, engage and support the corresponding bottom and side portions of said upwardly open substantially frusto-conical disposable container 17.

Incidentally, at this point it should be noted that one preferred form of disposable container 17 may comprise a substantially frusto-conical shaped cup-like member having an open top or top edge 18 and made of molded polystyrene foam material having an effectively sealed liquid-impervious inner surface skin portion such as the inner surface portion shown at S in FIG. 1. This particular kind of container 17 is highly advantageous since such a polystyrene foam cup or container is of extremely light weight and can be manufactured at very low cost, thus making it possible to use a fresh, clean, and sterile container whenever desired by merely throwing away the old container 17 and replacing it with a fresh one from a suitable dispenser or other source of supply of such containers 17.

The exemplary form of the invention illustrated, includes a cover-receiver means of the type generally referred to above and taking one specific exemplary form thereof, as indicated generally at 19, wherein it comprises a substantially semicircular member 21 having an annular outwardly extending inwardly open recess 22 extending around the inner edge thereof and effectively comprising means for engaging corresponding edge portions 23 of a disposable cover member 24 whereby to firmly mount same in a controllably openable and closable relationship with respect to the open top or open top edge 18 of the disposable container 17 and also with respect to the open top edge 13 of the container-receiver means 11.

The above-mentioned controllably openable and closable mounting of the cover-receiver means 19 is provided, in the exemplary form of the invention illustrated, by pivotal mounting means, generally designated at 25, and effectively connecting one edge of said cover-receiver means 19 with respect to a corresponding rear top edge portion 13R of the container-receiver means 11 for pivotal movement around a substantially horizontal axis coincident with a horizontal pivot pin 26. The cover-receiver means 19 is provided with an actuating projection means or portion 27 which normally extends laterally therefrom beyond the horizontal axis of rotation 26 of the pivotal mounting means 25 for convenient digital actuation by the thumb (or any other digital member) of the hand of a person holding the entire device by the handle means, indicated generally at 28, which is carried by and fastened to the side wall 15 below the pivotal mounting means 25. This makes it possible for a person to lift the entire device, whether empty or whether containing the disposable inner container 17 and any desired quantity of liquid therein, and to then merely operate the projection 27 by the thumb of the same hand for the purpose of opening the cover-receiver means 19 and the disposable polystyrene foam cover member 24 as indicated in a partially opened relationship in FIG. 1.

However, it should be understood that the opening operation may be contained to any desired degree and it should further be understood that the cover-receiver means 19 and the disposable cover member 24 will be automatically returned to closed relationship across the open top 18 of the inner disposable container 17 and across the open top 13 of the container-receiver means 11 when the thumb pressure is removed from the actuating projection 27. This is caused by biasing torsion spring means 29 carried by the horizontal pivot pin 26 between the mounting ears 31 and having opposite ends 29E pressing respectively against the underside of the actuating projection 27 and against the side wall portion 15 of the container-receiver means 11 as is best shown in FIG. 3. This causes the biasing torsion spring means 29 to normally bias the cover-receiver means 19 toward closed relationship with respect to the container-receiver means 11 whereby to cause the disposable cover member 24 carried by said cover-receiver means 19 to effectively close the open top 18 of the disposable container 17 carried within the container-receiver means 11.

It should be noted that, in the example illustrated, the disposable container means 17 is adapted to merely be received, engaged, and supported within the recess 12 by contact with the underlying and outwardly adjacent portions of the bottom 14 and side wall 15, respectively, of the container-receiver means 11, while the disposable cover member 24 is adapted to be resiliently frictionally received within the semi-annular recess 22 of the semi-circularly shaped member 21 of the cover-receiver means 19 whereby to provide for positive retention of the disposable cover member 24 with respect thereto. However, the type of engagement of the disposable container member 17 with respect to the container-receiver means 11 and/or the type of engagement of the disposable cover member 24 with respect to the cover-receiver means 19 may be modified substantially within the broad spirit and scope of the present invention.

Also, it should be noted that, while the liquid-impervious molded polystyrene foam type of disposable container 17 and disposable cover member 24 comprise highly desirable versions thereof, the invention is not specifically limited thereto, but may employ various other types of inexpensive, sterile liquid-impervious container and/or cover members. For example, heavily waxed paper or the like may be used in lieu of the molded polystyrene foam material, or various other functionally equivalent materials may be employed in lieu thereof.

The bottom wall 14 of the container-receiver means

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11 is shown as being thicker than the side wall portion 15 thereof so as to effectively comprise a weighted bottom for the entire container-receiver means 11 which will have the effect of enhancing the stability of the entire device when in use so as to virtually prevent the likelihood of accidentally upsetting or knocking over the combination liquid container provided by the container-receiver means 11, the disposable container 17 carried therein, the cover-receiver means 19, the disposable cover member 24 carried thereby, and the pivotal mounting means 25 pivotally interconnecting same. However, if desired, additional weighting beyond that shown in FIG. 2 of the bottom wall 14 can be provided to any desired degree.

It should be noted that, in the preferred form of the invention, the container-receiver means 11 and the cover-receiver means 19 are preferably made of a sterilization-resistant material capable of being repeatedly sterilized without damage thereto. In one form of the invention where the sterilization referred to may comprise the application of high temperatures, said elements may be of a heat-resistant material which is usually metallic, although not specifically so limited in all forms of the invention, which is capable of being repeatedly heat-sterilized without damage thereto. In certain forms of the invention this may comprise a material such as stainless steel or the like, which provides a material capable of being repeatedly sterilized without damage and which is non-corrodible and also very attractive so as to make it possible to provide an esthetically attractive device. However, various other materials having the characteristics referred to above may be employed in lieu thereof.

While a preferred size of the container-receiver means 11 for hospital use would be such as to be suitable for receiving a disposable container 17 adapted to contain substantially 1½ pints of liquid, since this is the capacity of conventional prior art hospital water pitchers, the invention is not specifically so limited but may be made of any desired size.

Also, it should be noted that the disposable cover member 24 lends itself very well to acting as a medium upon which to place identification data or instructions pertinent to a particular patient to which the combination liquid container is assigned. For example, the nurse may write on the top surface of said disposable cover member 24 what kind of liquid is to be container within the disposable container 17, such as ice water, tap water, distilled water, or the like in the case of water, or may write the patient's name or any other instructions thereon, as desired.

It should be understood that the figures and the specific description thereof set forth in this application are for the purpose of illustrating the present invention and are not to be construed as limiting the present invention to the precise and detailed specific structure shown in the figures and specifically described hereinbefore. Rather, the real invention is intended to include substantially equivalent constructions embodying the basic teachings and inventive concept of the present invention.

I claim:

1. A controllably openable and closable holder for a disposable liquid container, comprising: container-receiver means defining a receiving recess therein adapted to receive, engage and support the exterior bottom and side surface portions of an auxiliary disposable liquid container of a similar but slightly smaller shape and having an opening thereinto, said container-receiver means being provided with manually graspable handle means and being provided with cover-receiver means cooperable to receive, engage and hold a disposable cover member in a manner cooperable for covering and closing said opening into said disposable container, and pivotal mounting means effectively connecting said cover-receiver means with respect to said container-receiver means for pivotal opening and closing movement of said cover-

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receiver means relative to said container-receiver means whereby to correspondingly mount said disposable cover member in a manner for effective pivotal opening and closing movement with respect to said opening into said disposable container.

2. A controllably openable and closable holder for a disposable liquid container, comprising: container receiver means defining a receiving recess therein adapted to receive, engage and support the exterior bottom and side surface portions of an auxiliary disposable liquid container of a similar but slightly smaller shape and having an opening thereinto, said container-receiver means being provided with manually graspable handle means and being provided with cover-receiver means cooperable to receive, engage and hold a disposable cover member in a manner cooperable for covering and closing said opening into said disposable container, and pivotal mounting means effectively connecting said cover-receiver means with respect to said container-receiver means for pivotal opening and closing movement of said cover-receiver means relative to said container-receiver means whereby to correspondingly mount said disposable cover member in a manner for effective pivotal opening and closing movement with respect to said opening into said disposable container, said pivotal mounting means being provided with biasing spring means normally biasing said cover-receiver means toward closed relationship with respect to said container-receiver means whereby to cause said disposable cover member adapted to be carried thereby to effectively close the opening into said disposable container adapted to be carried by said container-receiver means.

3. A controllably openable and closable holder for a disposable liquid container, comprising: container-receiver means defining a receiving recess therein adapted to receive, engage and support the exterior bottom and side surface portions of an auxiliary disposable liquid container of a similar but slightly smaller shape and having an opening thereinto, said container-receiver means being provided with manually graspable handle means and being provided with cover-receiver means cooperable to receive, engage and hold a disposable cover member in a manner cooperable for covering and closing said opening into said disposable container, and pivotal mounting means effectively connecting said cover-receiver means with respect to said container-receiver means for pivotal opening and closing movement of said cover-receiver means relative to said container-receiver means whereby to correspondingly mount said disposable cover member in a manner for effective pivotal opening and closing movement with respect to said opening into said disposable container, said pivotal mounting means being provided with biasing spring means normally biasing said cover-receiver means toward closed relationship with respect to said container-receiver means whereby to cause said disposable cover member adapted to be carried thereby to effectively close the opening into said disposable container adapted to be carried by said container-receiver means, said cover-receiver means being provided with an actuating projection means extending laterally therefrom beyond the axis of rotation of said pivotal mounting means for convenient digital actuation by a digital member of the hand of a person grasping said handle means and manually supporting said container-receiver means and said cover-receiver means thereby.

4. A controllably openable and closable holder for a disposable liquid container, comprising: container-receiver means defining a receiving recess therein adapted to receive, engage and support the exterior bottom and side surface portions of an auxiliary disposable liquid container of a similar but slightly smaller shape and having an opening thereinto, said container-receiver means being provided with manually graspable handle means and being provided with cover-receiver means cooperable to receive, engage and hold a disposable cover member in

a manner cooperable for covering and closing said opening into said disposable container, said cover-receiver means comprising an arcuate engaging member having along an inner edge thereof a curved outwardly extending inwardly open recess effectively comprising means for engaging the edge of said disposable cover member by substantially peripherally and frictionally receiving at least a portion of same therein and firmly holding same in mounted relationship with respect to said cover-receiver means.

5. A controllably openable and closable holder for a disposable liquid container, comprising: container-receiver means defining a receiving recess therein adapted to receive, engage and support the exterior bottom and side surface portions of an auxiliary disposable liquid container of a similar but slightly smaller shape and having an opening thereinto, said container-receiver means being provided with manually graspable handle means and being provided with cover-receiver means cooperable to receive, engage and hold a disposable cover member in a manner cooperable for covering and closing said opening into said disposable container, said container-receiver means and said cover-receiver means being made of sterilization-resistant material capable of being sterilized without damage thereto.

6. A controllably openable and closable holder for a disposable liquid container, comprising: container-receiver means defining a receiving recess therein adapted to receive, engage and support the exterior bottom and side surface portions of an auxiliary disposable liquid container of a similar but slightly smaller shape and having an opening thereinto, said container-receiver means being provided with manually graspable handle means and being provided with cover-receiver means cooperable to receive, engage and hold a disposable cover member in a manner cooperable for covering and closing said opening into said disposable container, said container-receiver means and said cover-receiver means being made of heat-resistant metallic material capable of being heat-sterilized without damage thereto.

7. A controllable openable and closable holder for a disposable liquid container, comprising: container-receiver means having an open top, an effectively closed bottom, to a multi-apertured side wall portion therebetween defining a downwardly extending upwardly open substantially frusto conical receiving recess therein adapted to downwardly receive through the open top thereof and to engage and support the corresponding bottom and side wall portions of an auxiliary disposable liquid container of a similar but slightly smaller substantially frusto conical shape and having a top opening thereto, said side wall portion of said container-receiver means being provided with manually graspable handle means at one side thereof and extending laterally outwardly therefrom and being provided at the same side of the open top thereof as that from which said handle means extends laterally with cover-receiver means cooperable to receive, engage and hold a curved peripheral edge portion of a disposable cover member in a manner cooperable for covering and closing said top opening into said disposable container; and pivotal mounting means effectively connecting one edge of said cover-receiver means with respect to a corresponding top edge portion of said container-receiver means for pivotal movement around a substantially horizontal axis, said mounting means being provided with biasing torsion spring means normally biasing said cover-receiver means toward closed relationship with respect to said container-receiver means whereby to cause said disposable cover member adapted to be carried thereby to effectively close the top opening into said disposable container adapted to be carried by said container-receiver means, said cover-receiver means being provided with an actuating projection means extending laterally therefrom beyond the horizontal axis of rotation of said pivotal mounting means for convenient digital actuation by the thumb of the hand of a person grasping said handle means and manually supporting said

container-receiver means and said cover-receiver means thereby, said cover-receiver means comprising a curved engaging member having along an inner edge thereof a curved outwardly extending inwardly open recess effectively comprising frictional engaging means for frictionally receiving and engaging a corresponding curved edge portion of said disposable cover member and firmly holding same in mounted relationship with respect to said cover-receiver means and normally positioned over said top opening of said container adapted to be received within said container-receiver means.

8. A device as defined in claim 7, wherein said container-receiver means and said cover-receiver means are made of sterilization-resistant material capable of being sterilized without damage thereto.

9. A device as defined in claim 7, wherein said container-receiver means and said cover-receiver means are made of heat-resistant metallic material capable of being heat-sterilized without damage thereto.

10. A controllably openable and closable holder for a disposable liquid container, comprising: container-receiver means defining a receiving recess therein adapted to receive, engage and support the exterior bottom and side surface portions of an auxiliary disposable liquid container of a similar but slightly smaller shape and having an opening thereinto, said container-receiver means being provided with manually graspable handle means and being provided with cover-receiver means cooperable to frictionally receive, engage and hold a disposable cover member in a manner cooperable for covering and closing said opening into said disposable container.

11. A controllably openable and closable holder for a disposable liquid container, comprising: container-receiver means having an open top, an effectively closed bottom, and a multi-apertured side wall portion therebetween defining a downwardly extending upwardly open substantially frusto conical receiving recess therein; a disposable liquid container having a top opening thereinto and being of a frusto conical shape substantially similar to, but slightly smaller than, the shape of said frusto conical receiving recess, said container being received and mounted within said frusto conical receiving recess with bottom and side wall portions of said container being engaged and supported by corresponding parts of said bottom and said multi-apertured side wall portion of said container-receiver means and with said top opening of said container being positioned concentrically inside of said open top of said container-receiver means; a disposable cover member for said top opening of said container having a curved peripheral edge portion for engagement purposes; said side wall portion of said container-receiver means being provided with manually graspable handle means at one side thereof and extending laterally outwardly therefrom and being provided at the same side of the open top thereof as that from which said handle means extends laterally, with cover-receiver means; said container-receiver means and said cover-receiver means being made of heat-resistant metallic material capable of being heat-sterilized without damage thereto, and pivotal mounting means effectively connecting one edge of said cover-receiver means with respect to a corresponding top edge portion of said container-receiver means for pivotal movement around a substantially horizontal axis, said pivotal mounting means being provided with biasing torsion spring means normally biasing said cover-receiver means toward closed relationship with respect to said container-receiver means whereby to cause said disposable cover member carried thereby to effectively close the top opening into said disposable container carried by said container-receiver means, said cover-receiver means being provided with an actuating projection means extending laterally therefrom beyond the horizontal axis of rotation of said pivotal mounting means for convenient digital actuation of the thumb of the hand

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of a person grasping said handle means and manually supporting said container-receiver means and said cover-receiver means thereby, said cover-receiver means comprising a curved engaging member having along an inner edge thereof a curved outward extending inwardly open recess effectively comprising frictional engaging means frictionally receiving and engaging said corresponding curved peripheral edge portion of said disposable cover member and firmly holding same in mounted relationship with respect to said cover-receiver means and normally positioned over said top opening of said container received within said container-receiver means.

12. A device as defined in claim 11, wherein said disposable cover member closing said top opening into said

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container, and said container, are formed of molded polystyrene foam material, each having a sealed liquid-impervious inner surface skin portion.

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