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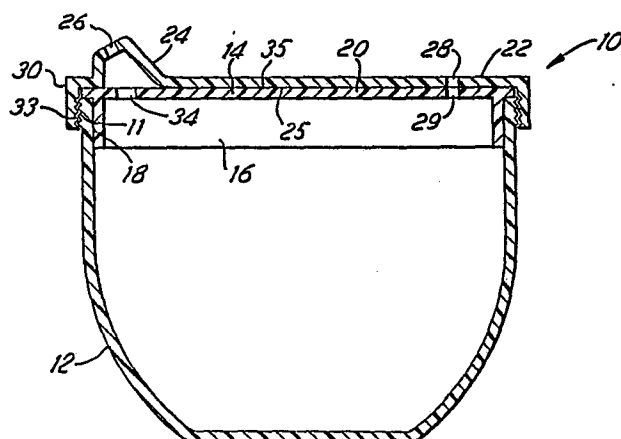
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**Drinking vessel.**

A drinking vessel (10) comprising a liquid container (12), e.g. an infant's or child's drinking cup, having a removable closure member (22) provided with a drinking spout or mouthpiece (24). The removable closure member (22) is positionable on the mouth (20) of the container, e.g. is selectively rotatable between two positions, such as in use selectively (i) to permit or (ii) to seal off flow of the container's liquid contents through the mouthpiece or spout. Conveniently the vessel (10) comprises an apertured member (14) disposed between the closure member (22) and the container's mouth (20), the aperture (34) of said apertured member (14) being substantially in effective registry with the closure member's spout (24) in the position for function (i) but in the position for function (ii) being out of such registry, the two said members (14, 22) being then in substantially sealing surfacial contact with one another.



DRINKING VESSEL

This invention relates to drinking vessels, particularly (but not exclusively) to drinking vessels for infants.

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Numerous drinking vessels for infants are already on the market. To minimise and/or reduce the incidence of spillages occurring, UK Patent Publication No.2110072 proposes an infant's drinking cup that is "self-righting". However, even such a construction is unlikely to be wholly satisfactory where, as is often the case, portability of the drinking vessel with its liquid contents is necessary.

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Accordingly, the present invention in one aspect provides a drinking vessel comprising: a liquid container (e.g. an infant's or child's drinking cup) having a removable closure member (e.g. a lid) provided with a drinking spout or mouthpiece, the closure member being positionable on the mouth of the container such as in use selectively to seal off or to permit flow of the container's liquid contents through the mouthpiece or spout.

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Preferably the closure member is selectively rotatable between a first position in which it permits liquid within the container to be withdrawn therefrom via the spout and a second position in which it prevents egress of said liquid through said spout.

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Preferably the vessel comprises an apertured member disposed between the closure member and the container's mouth, the aperture of said apertured member being substantially in effective registry with the closure member's spout in said first position but in said second position being out of such registry, the two said members being then in substantially sealing surfacial contact with one another.

It will be appreciated that when in said substantial registry the said spout communicates with the vessel interior via the aperture in said apertured member whereby liquid within the vessel can be withdrawn therefrom, but that when out of said registry the vessel's liquid contents are wholly retained therein against spillage.

Preferably the apertured member is a push-fit within the mouth of the vessel.

In one preferred arrangement the closure member overlies the apertured member and is screw-threaded to the vessel's exterior.

Alternatively, the apertured member is provided with an upstanding wall and the closure member is disposed within this wall and is screw-threaded thereto.

In either case, the screw-threaded attachment may be by means of a single turn thread (or equivalent single continuous rib or groove in a plane oblique to the axis) enabling the closure member to be snap-fitted axially onto the container or the apertured member.

By way of non-limiting example, embodiments of this invention will now be described with reference to the accompanying drawings of which:

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Figure 1 is a schematic vertical section through an infant's drinking cup according to a first embodiment of this invention,

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Figure 2 is a similar view to that of Fig.1 but of a second embodiment of the invention,

Figure 3 is a part-sectioned exploded view of a third embodiment of the invention,

Figure 4 is plan view taken on the line IV-IV of Fig.3,

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Figure 5 is an underneath plan view taken on the line V-V of Fig.3,

Figure 6 is a cross-sectional view taken along the line VI-VI of Fig.3, and

Figure 7 is an exploded view of a fourth embodiment of this invention.

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The infant's drinking cup 10 of Fig 1 comprises a generally cylindrical, substantially rigid container 12 moulded of plastics material, and provided with a pair of diametrically opposite handles (not shown). A disk-like, somewhat more flexible member 14, moulded of plastics material, has a diameter approximating to the outer diameter of the container 12 and is integrally provided with a depending cylindrical wall 16 of lesser diameter but which is a close fit with the inside cylindrical surface 18 of container 12 at the container's mouth 20. A main closure member 22, of similar rigidity to container 12, is moulded of plastics material to provide an integral spout-like mouthpiece or drinking "tube" 24. The mouthpiece 24 has one or more conduits 26 therein for the passage therethrough of liquid withdrawn from the container. The closure member 22 is provided with a vent hole or orifice 28 at a location diametrically opposite the mouthpiece 24. The closure member 22 is provided at its periphery with a depending cylindrical wall 30 that is internally screw-threaded at 33 for threaded connection with external threads 11 provided on the container 12.

The member 14 is provided with an aperture 34 at a radial location substantially the same as the base of the mouthpiece 24 or, if the latter is solid, the radial location of the lower ends of the conduits 26. Preferably

the aperture 34 is of at least the diameter of an adult's  
finger whereby removal of the member 14 is facilitated when  
the container 12 is to be filled. The arrangement is such  
that in one position of the closure member 22 relative to  
5 the member 14, the aperture 34 communicates with the  
conduits 26 (such that liquid within the container 12 can be  
withdrawn therefrom via aperture 34 and the mouthpiece), and  
such that in another position of the closure member 22  
relative to the member 14, the aperture 34 is sealed by the  
10 closure member 22 (the latter's planar underside surface 25  
being in tight surfacial abutment of the upper planar  
surface 35 of the member 14 due to the relative flexibility  
of the latter). It will be appreciated that such sealing  
action between the surfaces 25,35 is enhanced by appropriate  
15 use of the screw-threaded fastening 11,33 between the  
container 12 and the closure member 22 whereby the latter  
two items are axially drawn together to effect sealing and  
are axially moved apart to permit egress of the contained  
liquid via the mouthpiece.

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Optionally, detent means (not shown) may be provided to  
retain the members 14 and 22 in each of said relative  
positions (a) to prevent accidental sealing off of liquid  
flow when drinking by the infant is desired and (b) to  
25 prevent accidental spillage of the beverage when the sealed  
container is being carried about, e.g. by the infant's  
parent.

Desirably, the member 14 may be provided with a radially extending "tag" that is to be fitted within a recess therefor provided in the upper edge of the cup so as to fix the position of the aperture 34 with respect to the container 12 and thus ensure that the aperture 34 is out of alignment with the mouthpiece 24 (or the latter's conduits 26) when the closure member 22 is screwed down.

In the modification shown in Fig. 2, the member 14 is also provided with an internally screw-threaded upstanding wall 36 and the closure member 22 is provided with a co-operating, externally screw-threaded periphery 38 in place of the depending wall 30 internally screw-threaded at 33.

The infant's drinking cup 110 of Figs 3-6 comprises a generally cylindrical, substantially rigid container 112 moulded of plastics material (e.g. acrylic), and provided with a pair of diametrically opposite handles 113. A disk-like, somewhat more flexible member 114, moulded of plastics material (e.g. acrylic), has a diameter approximating to the outer diameter of the container 112 and is integrally provided with a depending cylindrical wall 116 of lesser diameter but which is a close fit with the inside cylindrical surface 118 of container 112 at the container's mouth 120. A main closure member 122, of similar rigidity to container 112, is moulded of plastics material (e.g. acrylic) to provide an integral spout-like mouthpiece or

drinking "tube" 124. The mouthpiece 124 has one or more  
conduits 126 therein for the passage therethrough of liquid  
withdrawn from the container. The closure member 122 is  
provided with a vent hole or orifice 128 at a location  
5 diametrically opposite the mouthpiece 124. The closure  
member 122 is provided at its periphery with a depending  
cylindrical wall 130 that is internally screw-threaded at  
133 for threaded connection with external threads 111  
provided on the container 112.

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The member 114 is provided with an aperture 134 at a radial  
location substantially the same as the base of the  
mouthpiece 124 for substantially effective "registry" with  
the lower ends of the conduits 126. Preferably the aperture  
15 134 is of at least the diameter of an adult's finger whereby  
removal of the member 114 is facilitated when the container  
112 is to be filled. The member 114 is also provided with a  
vent hole 129 for registry with the vent hole 128 of closure  
member 122. The arrangement is such that in one position of  
20 the closure member 122 relative to the member 114, the vent  
holes 128, 129 are in registry and the aperture 134  
communicates with the conduits 126 (such that liquid within  
the container 112 can be withdrawn therefrom via aperture  
134 and the mouthpiece), and such that in another position  
25 of the closure member 122 relative to the member 114, the  
vent hole 129 and the aperture 134 are sealed by the closure  
member 122 (the latter's planar underside surface 125 being  
in tight surfacial abutment of the upper planar surface 135

of the member 114 due to the relative flexibility of the latter). It will be appreciated that such sealing action between the surfaces 125,135 is enhanced by appropriate use of the screw-threaded fastening 111,133 between the container 112 and the closure member 122 whereby the latter two items are axially drawn together to effect sealing and are axially moved apart to permit egress of the contained liquid via the mouthpiece.

The member 114 is provided with a radially extending "tag" 115 that is fitted within a recess 117 therefor provided in the upper edge 120 of the cup 112 so as to fix the position of the aperture 134 with respect to the container 112 and thus ensure that the aperture 134 is out of alignment with the mouthpiece 114 (or the latter's conduits 126) when the closure member 122 is screwed down.

As shown in Figs 3-6, detent means 150 are provided to retain the members 114 and 122 in one of said relative positions to prevent accidental sealing off of liquid flow when drinking by the infant is desired. The detent means comprise a pair of closely adjacent, outwardly directed ribs or "pips" 152 on the top outer surface of the container or cup 112, and also an inwardly and downwardly directed lug 154 on the interior of the lid or closure member 122. The disposition of these elements 152,154 is such that the lug 154 can snap past one of the ribs 152 and rest captive in the space 153 between them upon an appropriate turning force

5 applied by an adult, but is highly resistant to such operation by a child. Furthermore, the disposition of the elements 152, 154 is such that they interengage (with the lug 154 "captive" in the narrow space 153 between the two ribs 152) when the closure member 122 is in said one position relative to the member 114, i.e. when the aperture 134 communicates with the conduits 126 such that liquid within the container 112 can be withdrawn therefrom via aperture 134 and the mouthpiece.

10 Optionally such detent means can also be provided (at an angularly spaced position) to prevent accidental spillage of the beverage when the sealed container is being carried about, e.g. by the infant's parent. This can, for example, be perhaps achieved by providing a further pair of said closely adjacent ribs or "pips" such as 152 at 90 degrees to the ribs or "pips" 152 of the detent means 150.

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20 In the embodiment of Fig 7, the cup 210 has its container 212 of somewhat kidney-shaped cross-section at least adjacent the container's mouth, i.e. the container has a substantially cylindrical wall but provided with an indent at least adjacent the top of the container's wall. In one example the container can be molded with a cross-section in the form of a "fat" crescent (e.g. by providing an  
25 elliptical indent or "cut-out" in the otherwise circular perimeter). In another example, the indent can be of part-annular shape. The cylindrical wall portion of

container 212 should in any event extend about its vertical axis for at least 185°, preferably for approximately 300°, and the indent should extend from, say, 5° to 175° - preferably 60° - about this axis.

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The infant's drinking cup 210 has a closure member 222 which, in contrast, extends fully through 360°. It is provided with a spout or mouthpiece 224 having holes 226 therethrough. The closure member 222 can be push fit or be snap fit or be screw fit connectable on to the mouth of container 212. Detent means 250 are provided between the overlapping vertical walls of the closure member 222 and the top of container 212

(i) to retain members 212 and 222 in a position where spout 224 is in registry with the interior of container 212 to permit egress of the container's liquid contents through the spout 224, or

(ii) to retain members 212 and 222 in a position where spout 224 is wholly within the indent in the container (and is thus out of registry with the interior of container 212) with the underside of the closure member's horizontal wall 225 in sealing contact with the upper edge 235 of the container's vertical walls thereby to prevent egress and spillage of the container's liquid contents, or

(iii) to retain members 212 and 222 selectively in either one of these two positions.

CLAIMS

1. A drinking vessel (10;110;210) comprising: a liquid container (12;112;212) having a removable closure member (22;122;222) provided with a drinking spout or mouthpiece (24;124;224), characterised in that the removable closure member (22;122;222) is positionable on the mouth (20;120;235) of the container (12;112;212) such as in use selectively (i) to permit or (ii) to seal off flow of the container's liquid contents through the mouthpiece or spout (24;124;224).

2. A drinking vessel according to Claim 1, characterised in that the closure member (22;122;222) is selectively rotatable between a first position in which it permits liquid within the container (12;112;212) to be withdrawn therefrom via the spout (24;124;224) and a second position in which it prevents egress of said liquid through said spout(24;124;224).

3. A drinking vessel according to Claim 2, characterised in that the vessel (10;110) comprises an apertured member (14;114) disposed between the closure member (22;122) and the container's mouth (20;120), the aperture (34;134) of said apertured member (14;140) being substantially in effective registry with the closure member's spout (24;124) in said first position but in said second position being out

of such registry, the two said members (14,22;114,122) being then in substantially sealing surfacial contact with one another.

4. A drinking vessel according to Claim 3, characterised in that the apertured member (14;114) is a push-fit within the mouth (20;120) of the vessel.

5. A drinking vessel according to Claim 3 or Claim 4, characterised in that the closure member (22;122) overlies the apertured member (14;114) and is screw-threaded (33;133) to the vessel's exterior (11;111).

6. A drinking vessel according to Claim 3 or Claim 4, characterised in that the apertured member (14) is provided with an upstanding wall (36) and the closure member (22) is disposed within this wall (36) and is screw-threaded (38) thereto.

7. A drinking vessel according to Claim 5 or Claim 6, characterised in that the screw-threaded attachment (11,33; 36,38;111,133) is by means of a single turn thread (or equivalent single continuous rib or groove in a plane oblique to the axis) enabling the closure member to be snap-fitted axially onto the container or the apertured member.

8. A drinking vessel according to any one of Claims 3 to 7, characterised in that the closure member (22;122) and the apertured member (14;114) are each provided with a vent hole (28,29;128,129), the two vent holes (28,29;128,129) being remote from respectively the said spout (24;124) and the said aperture (34;134) and arranged to be in register with one another when said spout (24;124) and aperture (34;134) are in effective registry with one another.

9. A drinking vessel according to any preceding Claim, wherein the removable closure member (22;122;222) constitutes a lid for the vessel (10;110;210).

10. An infant's or child's drinking cup in the form of a drinking vessel according to any preceding Claim.



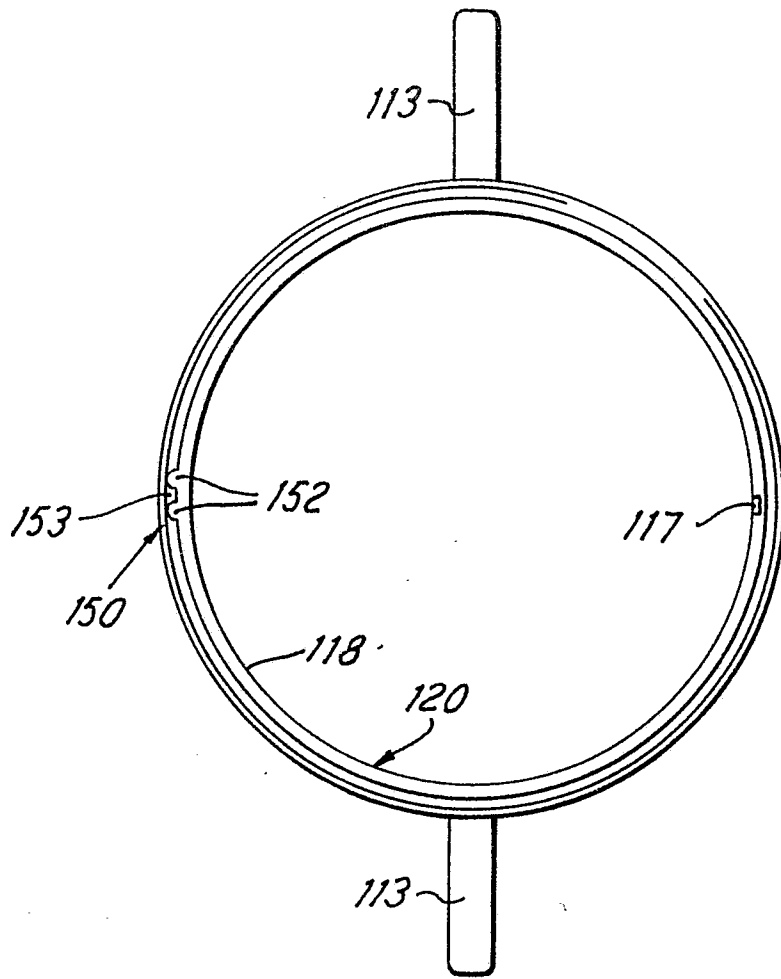


FIG. 4

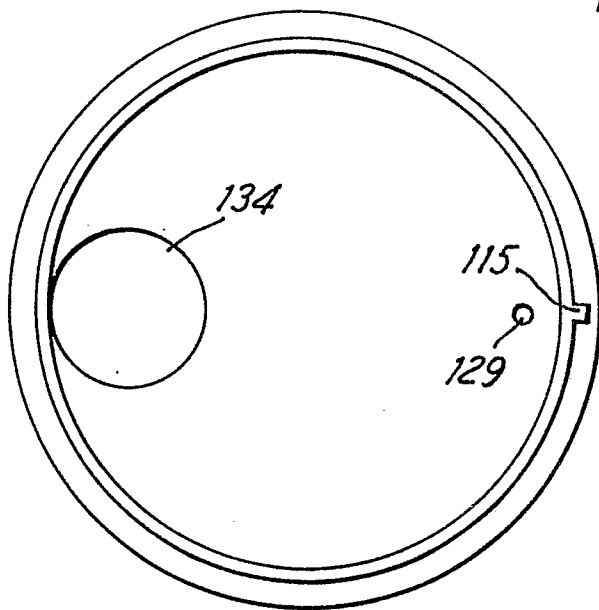


FIG. 5

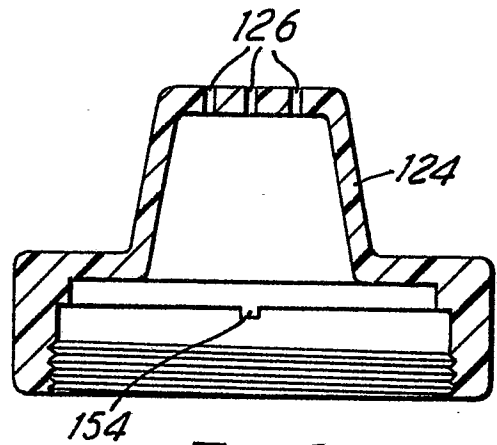


FIG. 6

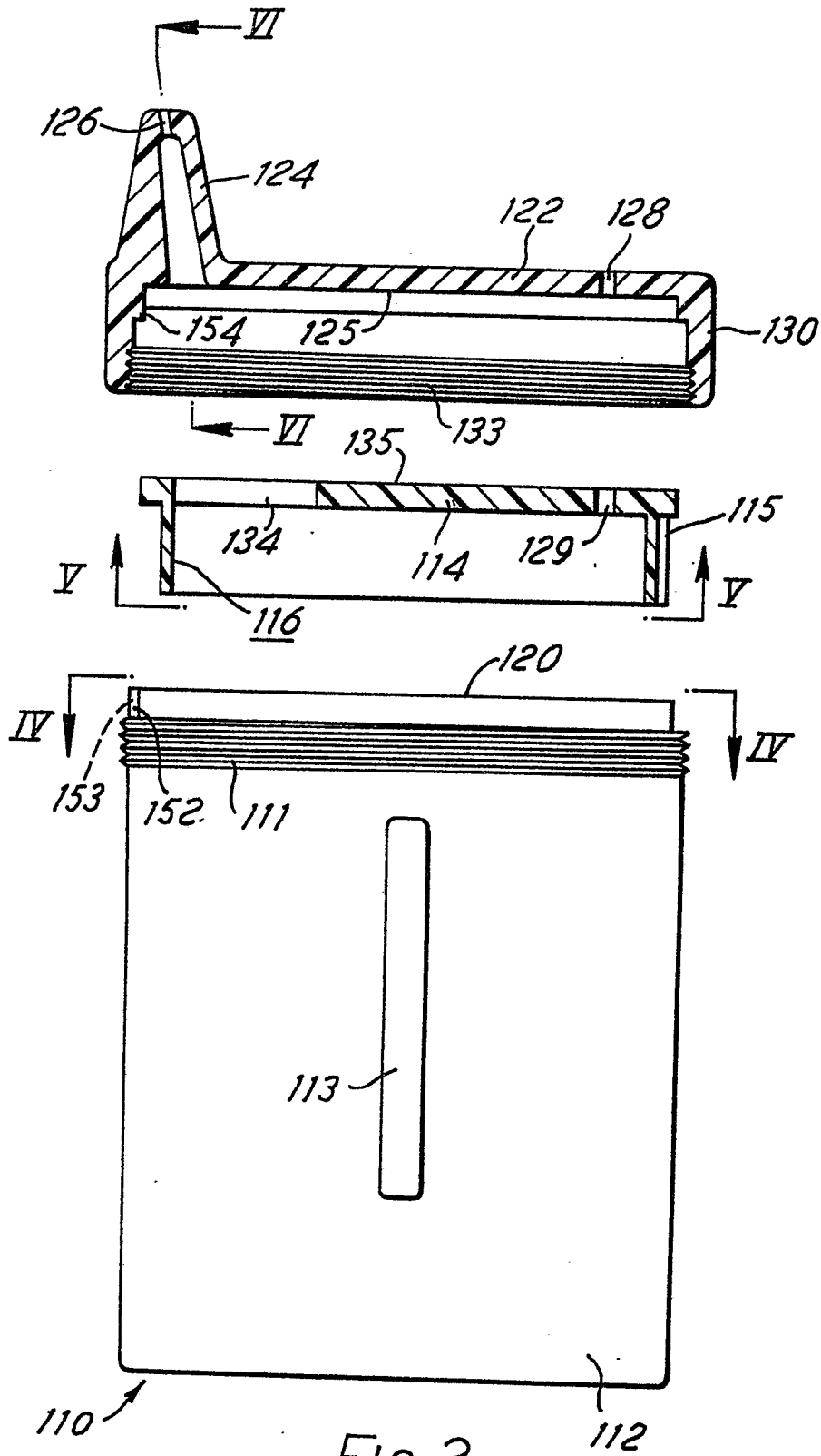


FIG. 3

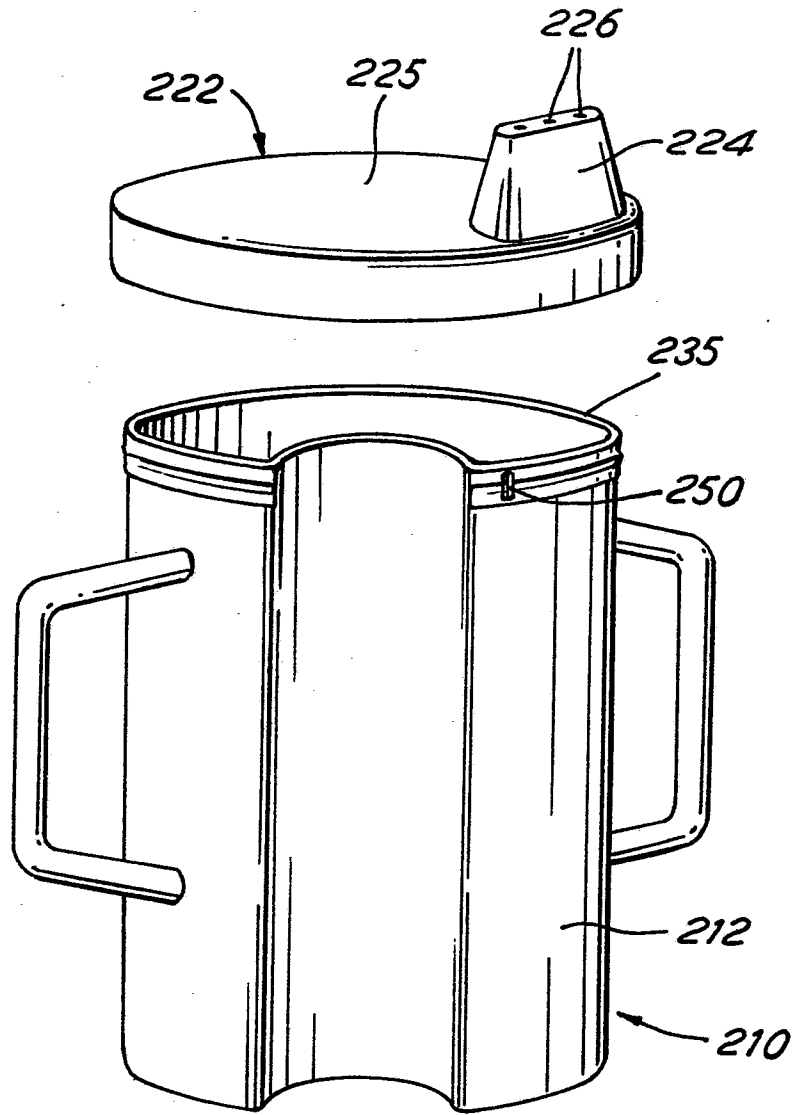


FIG. 7



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.4)
1	X,P EP-A-0 160 372 (DENT)  * Whole document *	1-5,7, 9,10	A 47 G 19/22 B 65 D 47/26
2	X US-A-3 104 039 (DIKE)  * Figures 6-12 *	1-4,7- 9	
1	X US-A-4 190 173 (MASON et al.)  * Figure 4 *	1-3,7, 9	
2	X FR-A-1 604 497 (PAYS)  * Figures A,B *	1-3,7, 9	
2	A FR-A-2 344 465 (ROBINSON & SONS LTD.) * Figure 4 *	1-3,7, 9	TECHNICAL FIELDS SEARCHED (Int. Cl.4)  A 47 G B 65 D
1	A,D GB-A-2 110 072 (KIDDIE PRODUCTS INC.)		
4	A DE-U-7 731 475 (JACOB)		
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 03-06-1986	Examiner BEUGELING G.L.H.
<p><b>CATEGORY OF CITED DOCUMENTS</b></p> <p>X : particularly relevant if taken alone  Y : particularly relevant if combined with another document of the same category  A : technological background  O : non-written disclosure  P : intermediate document</p> <p>T : theory or principle underlying the invention  E : earlier patent document, but published on, or after the filing date  D : document cited in the application  L : document cited for other reasons  &amp; : member of the same patent family, corresponding document</p>			