A MODULAR DRINKING VESSEL AND METHOD OF CONSTRUCTION OF SUCH A VESSEL.

A drinking vessel (62) adapted to hold a plurality of fluids having a base (82) and a curved rear wall (72), a plurality of containers (64, 66, 68, 70) stacked in a staggered configuration and each container attached to the sides of the rear wall to define a gap (74) between the rear wall and each of the containers, there also being a gap between the front of each container and the one immediately below it to enable the pouring of fluid into the lower container, while the gap between the containers and the rear wall allows for the pouring of the fluid from the containers along the rear wall when the vessel is tilted to the rear.

Published:  
— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.
A modular drinking vessel and method of construction of such a vessel

The present invention relates to a drinking vessel and in particular to a drinking vessel having individual chambers adapted to hold fluid.

BACKGROUND OF THE INVENTION

Drinking vessels are typically constructed to provide a chamber for holding of a fluid and where by tipping the vessel to a users mouth, the fluid is caused to flow and be drunk.

Typically different liquids are mixed in the one vessel to be drunk at the same time. However at times there may be a need to have a vessel where different liquids are not mixed, as may be the case in medical vessels and novelty drinks. We deal with each in turn.

In relation to medical vessels, when dispensing a medicine to a user it may be desirable, due to the unpleasant taste of the medicine, to immediately follow it with a “chaser” or a fluid that has a much more pleasant taste and that “washes out” the medicine. This is especially so when the medicine is being administered to children.

In relation to novelty drinks, in recent years there has been a marked increase in the popularity of drinks, especially alcoholic drinks, which are poured in a number of layers. The layers, typically of varying colour, have varying densities with the highest density layer at the bottom of the glass and the lowest density layer at the top of the glass. Drinks of this type, known as “Shooters”, have become increasingly popular whether in bars, restaurants, or private homes.

Shooters are generally poured by carefully pouring a quantity of the liquid onto the back of a suitable spoon which is placed within a glass closely adjacent the bottom or adjacent the surface of the previous layer with the liquid running from the spoon onto the side of the glass so that it can enter the glass without disturbing the previously poured layer. This technique is one of careful practice and unless carried out by careful and experienced people, the layers may easily mix, especially when the densities of adjacent layers are relatively close.

In a commercial establishment pouring shooters is very time and labour consuming even with experienced staff. In a private home environment, whilst the speed of pouring shooters is not as critical, it is still vital that a shooter be poured in a structured layered type arrangement, and those inexperienced in the task will easily mix the layers.
Furthermore, when pouring shooters one needs to know the relative densities of the various drinks. Otherwise, drinks poured in an incorrect order, especially where there are multiple drinks in the one shooter will tend to mix.

Other difficulties with making shooters according to the current method are that the pourer may pour unequal amounts of drinks into the shooter glass.

It is therefore an object of the present invention to provide for a drinking vessel that overcomes at least some of the aforementioned problems, or provides the public with a useful alternative.

It is a further object of the present invention to provide a glass that is relatively easy to make and where any unsightly seams around the outside of the vessel are minimised.

SUMMARY OF THE INVENTION

Therefore in one form of the invention there is proposed a drinking vessel including at least two chambers each chamber adapted to hold fluid independent of the other.

Preferably, said chambers are arranged in a generally upright type arrangement.

Preferably, said vessel includes a shell defining said first chamber and an internal wall extending within said shell and sealingly connected to at least part of said shell to thereby define said second chamber.

In a further form of the invention, there is proposed a drinking vessel adapted to separately hold at least two fluids, said vessel including:

an outer shell having a base and a plurality of generally upright walls extending from said base to define the first chamber; and

a curved sheet placed within said chamber said sheet including a front and a back section extending upwardly from a lower apex and further including sides adapted to sealingly engage said outer shell upright walls to thereby define said second chamber, the dimensions of said curved sheet being such to provide for fluid access to said first chamber.

Preferably, said curved sheet is adapted to engage correspondingly shaped grooves in said outer shell upright walls.

Preferably, said upright walls include at least two opposite and parallel walls, said curved sheet engaging said opposite and parallel walls.
In preference, there is a gap between the outer shell upright walls and the front of said curved sheet to enable fluid to be poured into said first chamber, and a gap between said back of said curved sheet and the upright walls of said vessel to allow for fluid to pour out of said first chamber.

In preference, an upper edge of the front of the curved sheet is flush with the upper edge of said outer shell.

Preferably, said curved sheet is welded or fused to said outer shell upright walls.

Preferably, said vessel includes a second curved sheet positioned within said vessel above said first curved sheet to thereby define a third chamber, said sheet being of a shape and dimension to allow for the pouring of fluid into the second chamber between a front of the second curved sheet and for the pouring of the fluid out of said first and second chambers.

In a yet further form of the invention, there is proposed a drinking vessel adapted to separately hold a plurality of fluids said vessel including:

- a base and a rear semi-circular wall extending upwardly from said base; and
- a plurality of containers stacked in a generally rearwardly upright configuration and of a shape and configuration so that each container is attached to the sides of said semi-circular wall to define a gap between the rear of each container and the rear wall, whereby there is provided a gap between the front of each container and the one immediately below to enable for the pouring of fluid into the container below, whilst the gap between the containers and the rear wall allow for the pouring of liquid when the vessel is tilted alongside the rear wall.

In a still further form of the invention, there is proposed a drinking vessel having a plurality of independent chambers for holding a fluid and being of a modular construction including:

- a first module having a base, a front wall and a rear circular wall extending upwardly from said base to thereby define the first chamber; and
- a second module adapted to sealingly engage said base rear circular wall and including a rear wall, front wall, a base extending partially across said second module and an internal wall, said front wall, base and internal wall defining a second chamber extending partially into said first module, said internal wall further defining an aperture between said
internal wall and said rear wall to enable fluid to flow form said first chamber and through said second module.

Preferably, said vessel further having a third module of a shape and configuration as per the second module to enable for fluid to be poured from said first chamber and second chamber.

In preference, the modules are stacked together in a snap-type lock arrangement.

In a yet further form of the invention, there is proposed a drinking vessel having at least two fluid carrying chambers, said vessel including:

a base and upright walls extending from said base to define a first chamber; and

an internal wall extending partially and angularly upwardly across said walls to separate the vessel into a lower and an upper chamber, said internal wall defining a gap between the end of said internal wall and said vessel upright walls.

Preferably, said upright walls of said vessel are of an inverted frustoconical shape.

In preference, said internal wall is of a curved configuration.

Advantageously, at least one chamber includes measurement indicia to indicate to a pourer an amount of liquid that has been poured into each chamber.

Advantageously, each chamber is of a circular type arrangement, said chambers however may possess other appropriate shapes whether symmetrical or not.

Advantageously, the lowermost chamber includes a weighted base to assist in keeping the centre of gravity of the chambers as low as possible.

BRIEF DESCRIPTION OF THE DRAWINGS

The accompanying drawings, which are incorporated in and constitute a part of this specification, illustrate several implementations of the invention and, together with the description, serve to explain the advantages and principles of the invention. In the drawings,

Figure 1 is a perspective view of a three-chamber drinking vessel according to a first embodiment of the present invention;

Figure 2 is an exploded perspective view of the drinking vessel of Figure 1 illustrating the formation of the separate chambers;
Figure 3 is the vessel as in Figure 2, with one of the chambers already in place within the vessel;

Figure 4 is a top view of the drinking vessel of Figures 1 to 3;

Figure 5 is a cross-sectional view of the drinking vessel along line A-A' of Figure 4;

Figure 6 is a rear perspective view of the vessel of Figure 1, embodying the present invention;

Figure 7 is an exploded perspective view of a two-chamber drinking vessel according to a second embodiment of the present invention;

Figure 8 is the vessel of Figure 7, with the vessel in the assembled state; and

Figure 9 is a cross-sectional side view of the vessel of Figures 7 and 8;

Figure 10 is a perspective view of a fixed-chamber drinking vessel according to a third embodiment of the present invention;

Figure 11 is a cross-sectional view of the drinking vessel of Figure 10;

Figure 12 is a perspective view illustrating the drinking vessel of Figure 10 being formed by two mirrored halves

Figure 13 is a cross-sectional view of a fourth embodiment of a drinking vessel embodying the present invention and illustrating how drinks are poured;

Figure 14 is a cross-sectional view of a fifth embodiment of a drinking vessel embodying the present invention;

Figure 15 is a perspective exploded view of a snap-fit type drinking vessel according to a sixth embodiment of the present invention;

Figure 16 is a side cross-sectional view of the drinking vessel of Figure 15;

Figure 17 is a partial cross-sectional view of an attachment means between two chambers of the vessel of Figure 15;

Figure 18 is a partial cross-sectional view of an alternate attachment means between two chambers of the vessel of Figure 15;
Figure 19 is a partial perceptive view of a yet further alternate attachment means between two chambers of the vessel of Figure 15;

Figure 20 is a top cross-sectional view of the drinking vessel of Figure 15;

Figure 21 is a perspective view of a medicinal drinking vessel according to a seventh embodiment of the present invention;

Figure 22 is a side cross-sectional view of the drinking vessel of Figure 21;

Figure 23 is a perspective view of an alternative medicinal drinking vessel according to an eighth embodiment of the present invention;

Figure 24 is a side cross-sectional view of the drinking vessel of Figure 22; and

Figure 25 is a side cross-sectional view of the washing process of an alternate medicinal drinking vessel according to a ninth embodiment of the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

The following detailed description of the invention refers to the accompanying drawings. Although the description includes exemplary embodiments, other embodiments are possible, and changes may be made to the embodiments described without departing from the spirit and scope of the invention. Wherever possible, the same reference numbers will be used throughout the drawings and the following description to refer to the same and like parts.

Referring to the Figures there are shown nine examples of a drinking vessel, Figures 1-9 illustrating two variations of the drinking vessel according to a first embodiment of the present invention, Figures 10-14 illustrating a second embodiment having a fixed-chamber drinking vessel, Figures 15-20 illustrating a third embodiment having a snap-fit type drinking vessel and Figures 21-25 illustrating a fourth embodiment of the present invention when applied to a medical drinking vessel.

The first embodiment of the present invention is illustrated in Figures 1 to 9, with Figures 1 to 6 illustrating a three chamber drinking vessel whilst Figures 7 to 9 illustrating a two-chamber drinking vessel. The three-chamber vessel 10 includes a shell 12 having a front 14, back 16 and two opposite and generally parallel and opposite sides 18a and 18b. The shell is typically made of a liquid impervious and inert material that is commonly used to manufacture drinking glasses and be re-usable such as plastic or glass.
Extending in the lower part of the shell 12 between the two sides 18a and 18b is a first curved sheet 20 having opposite and parallel sides 22a and 22b, a front end 24 and rear end 26, the front and rear ends curving upwardly, with the front end curving upwardly at a greater angle than the rear. Sides 22a and 22b are adapted to engage correspondingly shaped notches or grooves 28a and 28b correspondingly located on the inside of the shell sides 18a and 18b. The width of the sheet 20 is chosen to fit snugly within the shell 12, so that when sheet 20 is inserted into the shell notches 28a and 28b, sides 22a and 22b engage the notches in a tight seal allowing the sheet to contain liquid. The seal will be discussed in more details further on.

The shell sides 18a and 18b, at least where they are engaged by the first curved sheet 20, are relatively straight as are the sides 22a and 22b of the curved sheet. However it is to be understood that they may equally possess other shapes, provided that the side shape of the sheet matches the inside shape of the shell.

A second curved sheet 30 having a front end 32, back end 34 and opposite and generally parallel sides 36a and 36b is also adapted to engage the shell notches 38a and 38b in its side walls 18a and 18b. The curvature of the second sheet 30 may be the same or different than that of the first sheet 20. The other principles of construction are however the same, in that when the sheet 30 has been inserted into the shell 12 its sides form a tight liquid seal.

Those skilled in the art will therefore appreciate that the curved sheets together with the shell side walls define two chambers 40 and 42, the chambers able to hold liquid, typically spirits when used for a shooter glass.

The skilled addressee will also appreciate that the curvature of the sheets 20 and 30 and location of the notches in the shell are chosen to ensure that the gap 44 between the front of the shell 14 and the front end 24 of curved sheet 20 is sufficient to enable drinks to be poured into bottom of shell 12. Similarly, the gap 46 between the front end 24 of the first curved sheet 20, and the front end 32 of the second curved sheet 30, is also wide enough for the pouring of drinks into chamber 40. The third chamber 42 is simply filled by pouring directly into the second curved sheet 30.

Shell 12 includes a base 48 of non-uniform thickness, thicker at its rear to lower the centre of gravity of the drinking vessel to reduce the risk of the vessel tipping over when drinks have been poured into the glass 10.

Those skilled in the art will also now appreciate that a gap between the rear wall 16 of the shell 12 and the rear ends 26 and 34 of the first and second curved sheets respectively is
wide enough to allow for the flow of liquid from the chambers 40 and 42 when the vessel is tipped backwards for drinking.

The skilled addressee will also appreciate that a chamber may be made to hold a typical amount of drink, such as the standard 15 or 30 ml and that indicia (not shown) may be used on the side of the glass to indicate to the user the amount of liquid held within each chamber.

Referring now to Figures 7 to 9, there is shown a drinking vessel 50 still according to the fist embodiment but having only one curved sheet 52 in shell 54, the sides 56a and 56b of the sheet 52 engaging notches 58a (not seen) and 58b on the inside of the shell 54. The essential configuration and way of operation of the vessel 50 is otherwise the same as for the three-chamber vessel 10 or even vessels having more than three chambers that are not illustrated. Such a configuration may be particularly useful in the case where the vessel is used to dispense medicine and where the liquid held within the bottom chamber is meant to chase or wash out that contained within the upper or higher chamber. For that reason, although not shown, it is to be understood that the bottom chamber may be deep indeed so that the amount of liquid able to be held in the bottom is significantly higher than that held in the upper chamber defined by sheet 52.

The upper edge 60 of the shells 12 and 54 are contoured to ensure that the front ends of the curved sheets do not protrude beyond the shell.

It should now be appreciated by those skilled in the art that the configuration of the vessels as described above provides significant advantages and is particularly adapt when one is manufacturing such a vessel. Typically, the process of manufacture includes forming the shell with the necessary notches. The curved sheets are manufactured separately and inserted into the shell where they are held snugly within the notches. Well-known processes such as laser heat welding or ultrasonic welding are then applied to the side of the curved sheets to fuse the sheets with the shell forming an impervious fluid seal. It is of significant advantage to be able to make the shell and the curved sheets separately and then join them together in the one vessel. Otherwise, it required complex die operation and the fusing together of vessel halves to be able to form a drinking vessel. In addition, the joints between the curved sheets and the shells occurs on the insides of the shell where it is less likely to be observable by the user, providing a vessel with a smooth and attractive outside appearance.

A vessel according to a second embodiment of the present invention is illustrated in Figures 10-12 and includes a vessel or glass 62 having a plurality of separate fixed liquid holding chambers arranged in an upward and rearward stacked configuration.
Referring specifically to Figures 10 and 11 four chambers 64, 66, 68 and 70 are arranged in a vertical and rearward manner, with chamber 64 being the lowermost chamber and 70 the upper most chamber. Each of the chambers is of a generally circular horizontal cross-sectional shape and has a front wall 64a, 66a, 68a and 70a, a rear wall 64b, 66b, 68b, and 70b, and a base 64c, 66c, 68c and 70c respectively. The rear wall of each chamber is spaced apart from a semi-hemispherical back wall 72 that joins at its side with each of the front and rear walls to define each of the chambers. This construction then defines a conduit or flow-through channel 74 that allows, as the glass is tilted in direction 76, any liquid in each of the containers to flow into the channel 74 and out over the rim 78 of the back wall 72 where it is then drunk.

To ensure that the same amount of flow is achieved from each chamber when the glass is tilted for drinking, the throat 64d, 66d, 68d, and 70d of each chamber is of the same dimension, top wall 80 used to define throat 70d.

As with the first embodiment, the bottom 82 of the vessel 62 may be of significant thickness and weight so that the glass, when the chambers are filled with liquid, is relatively stable and does not fall over.

The vessel of Figures 10 and 11 also includes a bottom reservoir 84 defined by the rear wall 64b and the base 82. This reservoir 84 may assist in collecting any liquid escaping from the chambers if they are accidentally overfilled.

The exact shape and configuration of the drinking vessel may very well depend on the manufacturing process used to make the drinking vessel. One manufacturing method may include pre-fabricating two mirrored halves of the glass that is then glass welded together. Two such halves 62a and 62b are illustrated in Figure 12. However, other equally well suitable methods may very well be used.

Illustrated in Figures 13 and 14 are further embodiments of a drinking vessel embodying the present invention. Figure 13 illustrates a vessel where the front walls 64a, 66a, 68a, and 70a are of an outwardly curved shape. This assists in easier pouring of liquid 86 from bottle 88 into each of the chambers and may be visually appealing. The chambers illustrated in this Figure are already filled with appropriate beverages. Those skilled in the art will immediately appreciate the aesthetic nature of the drinking vessel once the chambers are filled with liquids of different colours and/or textures.

The bottom reservoir 84 that was illustrated in Figures 10 and 11 has been dispensed with, the bottom chamber 64 extending along the whole base 82. This is also found in the embodiment of Figure 14, where the top wall 80 defining a throat for the upper most chamber
has also been dispensed with where the top wall 82b curves upwardly and inwardly in contrast to the other front walls of the chambers.

Those skilled in the art will appreciate the many advantages offered by this embodiment including the fact that for the same user it may not be necessary to wash the drinking vessel after each use. In contrast, in existing glasses once the shooter is drunk, the drinks do mix and it is necessary to wash the glass after each use.

A vessel according to yet another embodiment of the present invention is illustrated in Figures 15 and 16 includes a vessel or glass 90 having a plurality of separate and stackable chambers including a top chamber 92, intermediate or middle chamber(s) 94, and a bottom chamber 96. Typically the top and the bottom chambers 92 and 96 respectively are of different configuration to the middle chamber(s). It is however to be understood that the configuration may in fact be the same. The configuration of the chambers will be discussed later.

Each chamber includes a bottom half 98 and a top half 100, the footprint of the top half 100 extending beyond the footprint of the bottom half 98 so that the bottom of one chamber nestles in the top of the one below. The wall of the top half 100 extends over the bottom half to define a cavity 102. Along the upper edge of the top half 100 is a flange 104 so shaped to engage the cavity 102 of the chamber above. The cavity 102 includes projections 106 disposed around the circumference of the cavity and adapted to engage grooves 108 disposed appropriately on flange 104. The top chamber 92 does not include an upper flange 104 since no chamber will be stacked on top of it. Similarly the bottom chamber 96 does not include a cavity 102 since it will not be stacked on top of any other chamber.

Each chamber includes a central wall 110 dividing the chamber into a drink holding chamber 112 and open back 114. Those skilled in the art will appreciate that as the assembled container 90 is tilted backwards, fluid within the chambers flows out through the open backs 114 allowing the user to drink the contents of each chamber 112.

The outer wall 116 of each chamber slopes generally outwardly and upwardly. However, the outer wall 118 of the top container 92 may slope upwardly and inwardly to aesthetic purposes.

Once again, the bottom 120 of the bottom chamber 96 may be of significant thickness and weight so that the container or glass, when the chambers are filled with liquid, is relatively stable and does not fall over.

Illustrated in Figures 17-19 are alternate ways of how the separate chambers may be joined or clipped together. Thus, as shown in Figure 17, the join may be a tight interference
fit 122, in Figure 18 a groove/projection clip 124 and in Figure 19 a triangular shape 126 engages a correspondingly shaped cavity 128, the shape 126 and cavity 128 disposed symmetrically around the perimeter of each chamber. Figure 20 illustrates a top cross-sectional view of a chamber of the vessel in Figure 15.

As described earlier the present invention may also have medical applications in that it may be used for the dispensing of medicines where a chaser is to provide after the liquid medicine is first drunk. A vessel or glass according to such an embodiment is illustrated in Figures 21 and 22 where the glass 130 can hold either solid medicinal tablets such as pain relief tablets (not shown) or liquid medicine such as cough syrup (not shown). The glass 130 includes a circular base plate 132 providing support for a inverted frustoconical shell 134 where the lower portion of the shell is of a smaller diameter to the upper portion. Inside shell 134 is a dividing wall 136 extending angularly inwardly from approximately the mid-section of the inner surface of shell 134 towards the upper edge of the shell 134.

Wall 136 thus divides the vessel 130 into a first chamber 138 in which an amount of tablets or quantity of liquid is placed and a second chamber 140 designed to contain a washer such as water (not shown). Indicia 142 are located on the outer surface of shell 134 above the lowest point of the sleeve to indicate the amount of liquid being poured. The vessel 130 is held so that it is brought to the lips to be drunk on the opposite side of the chamber 138.

Yet a further embodiment of the present invention is illustrated in Figures 23(a), (b) and (c) where there is once again provided a dividing wall 152, but where the vessel 146 is brought to the mouth of a user on the side where there is located a medicine containing chamber 154. Furthermore, the dividing wall 152 is of a curved configuration whose shape and configuration is such so that when the vessel is tilted, any liquid within the larger bottom chamber 150 is caused to flow only when a significant portion of the liquid held within the upper smaller chamber has already been poured out of the vessel. Figures 23(a) to (c) illustrate the progressive drinking of the liquid in the two chambers. Thus in Figure 23(a) there is shown a first liquid in chamber 154 on the upper side of the vessel 154 and a second chamber 150 defined by outer wall 148. As the glass is tilted (Figure 23(b)), the configuration of the first chamber is such that the liquid 156 in the chamber 154 pours over the edge 158 of the glass 146. Further tilting of the glass, as shown in Figure 23(c) results in the liquid 160 initially held within chamber 150 to pour over the edge 162 of the wall 152 only when a substantial amount of liquid 156 has already poured out of the glass 146.

The manufacturing processes for the aforementioned medicinal vessels can be the same as the processes mentioned earlier in the previous embodiments, all of which form a liquid tight seal to prevent the mixing of liquids.
It is to be understood that further variations to the configuration presented herein may very well be made without departing from the scope of the invention. Some of the variations may include the following:

- The chambers may be stacked generally vertically;
- The chambers may be vertically separated;
- The number of chambers may vary from as few, the maximum number possible limited only by physical constraints;
- The drinking vessel may contain parallel columns of chambers;
- The chambers may be staggered both upwardly and circularly around a longitudinal axis;
- The chambers may include decorative features;
- The chambers may reduce in size in an upward direction or the throats of the chambers may be of a different size. This may be used where liquids having very different viscosities are used and where to achieve the same flux, the more viscous liquids would require a larger throat to ensure that the chambers drained at the same rate;
- One may wish to configure the throat size in such a way that the volume flow from each chamber was deliberately different so that the drinks in the different chambers were consumed in a pre-determined manner;
- The vessel may be made of suitable materials of varying colours and the smooth outside surface of the vessel can be used for placement of logos and other printed material;
- Individual drinking vessels may include indicia for separate drinks so that the pourer knows what drinks to pour into each chamber or to enable the pourer to accurately dispense an amount of liquid, already mentioned with regards to medicinal vessels;
- The drinking vessel may include one very large container housing a drink commonly known as a “chaser”;
- The drinking vessel may equally well be used for non-alcoholic beverages for kid drinks such as fruit cups;

The exact shape and configuration of each chamber may very well depend on the manufacturing process used to make the drinking vessel. Those skilled in the art will appreciate the many advantages offered by the present invention including the fact that one
can construct glasses or drinking containers having a selectable number of chambers. Since each vessel holds liquid separately, the pourer may relatively quickly and with ease fill each chamber with liquids of different colours and/or textures without having regard to the density of the liquid. This enables significantly more drinks to be constructed in a plethora of layered arrangements for the visual and drinking enjoyment of the user. It solves the problem of time when drinks are being poured in a busy commercial environment, and it solves the problem of skill when used in the private home.

Further advantages and improvements may very well be made to the present invention without deviating from its scope. Although the invention has been shown and described in what is conceived to be the most practical and preferred embodiment, it is recognized that departures may be made therefrom within the scope and spirit of the invention, which is not to be limited to the details disclosed herein but is to be accorded the full scope of the claims so as to embrace any and all equivalent devices and apparatus.

In any claims that follow and in the summary of the invention, except where the context requires otherwise due to express language or necessary implication, the word “comprising” is used in the sense of “including”, i.e. the features specified may be associated with further features in various embodiments of the invention.
CLAIMS:

1. A drinking vessel including at least two chambers each chamber adapted to hold fluid independent of the other.

2. A drinking vessel as claimed in claim 1, wherein said chambers are arranged in a generally upright type arrangement.

3. A drinking vessel as claimed in claim 1 or 2, wherein said vessel includes a shell defining said first chamber and a internal wall extending within said shell and sealingly connected to at least part of said shell to thereby define said second chamber.

4. A drinking vessel adapted to separately hold at least two fluids, said vessel including: an outer shell having a base and a plurality of generally upright walls extending from said base to define the first chamber; a curved sheet placed within said chamber said sheet including a front and a back section extending upwardly from a lower apex and further including sides adapted to sealingly engage said outer shell upright walls to thereby define said second chamber, the dimensions of said curved sheet being such to provide for fluid access to said first chamber.

5. A drinking vessel as in claim 4 wherein said curved sheet is adapted to engage correspondingly shaped grooves in said outer shell upright walls.

6. A drinking vessel as in claim 4 or 5 wherein said upright walls include at least two opposite and parallel walls, said curved sheet engaging said opposite and parallel walls.

7. A drinking vessel as in any one of claims 4 to 6 wherein there is a gap between the outer shell upright walls and the front of said curved sheet to enable fluid to be poured into said first chamber, and a gap between said back of said curved sheet and the upright walls of said vessel to allow for fluid to pour out of said first chamber.

8. A drinking vessel as in any one of claims 4 to 7 wherein an upper edge of the front of the curved sheet is flush with the upper edge of said outer shell.

9. A drinking vessel as in any on of claims 4 to 9 wherein said curved sheet is welded or fused to said outer shell upright walls.
10. A drinking vessel as in any one of claims 4 to 9 wherein said vessel includes a second
curved sheet positioned within said vessel above said first curved sheet to thereby
define a third chamber, said sheet being of a shape and dimension to allow for the
pouring of fluid into the second chamber between a front of the second curved sheet
and for the pouring of the fluid out of said first and second chambers.

11. A drinking vessel adapted to separately hold a plurality of fluids said vessel
including:
a base and a rear semi-circular wall extending upwardly from said base;
a plurality of containers stacked in a generally rearwardly upright configuration and
of a shape and configuration so that each container is attached to the sides of said
semi-circular wall to define a gap between the rear of each container and the rear
wall, whereby there is provided a gap between the front of each container and the one
immediately below to enable for the pouring of fluid into the container below, whilst
the gap between the containers and the rear wall allow for the pouring of liquid when
the vessel is tilted alongside the rear wall.

12. A drinking vessel having a plurality of independent chambers for holding a fluid and
being of a modular construction including:
a first module having a base, a front wall and a rear circular wall extending upwardly
from said base to thereby define the first chamber;
a second module adapted to sealingly engage said base rear circular wall and
including a rear wall, front wall, a base extending partially across said second module
and an internal wall, said front wall, base and internal wall defining a second chamber
extending partially into said first module, said internal wall further defining an
aperture between said internal wall and said rear wall to enable fluid to flow form
said first chamber and through said second module.

13. A drinking vessel as in claim 12 further having a third module of a shape and
configuration as per the second module to enable for fluid to be poured from said first
chamber and second chamber.

14. A drinking vessel as in claim 12 or 13 wherein the modules are stacked together in a
snap-type lock arrangement.

15. A drinking vessel having at least two fluid carrying chambers, said vessel including:
a base and upright walls extending from said base to define a first chamber;
an internal wall extending partially and angularly upwardly across said walls to
separate the vessel into a lower and an upper chamber, said internal wall defining a
gap between the end of said internal wall and said vessel upright walls.

16. A drinking vessel as in claim 15 wherein said upright walls of said vessel is of a
inverted frustoconical shape.

17. A drinking vessel as in claim 15 or 16 wherein said internal wall is of a curved
configuration.

18. A drinking vessel as claimed in any one of the preceding claims, wherein at least one
chamber includes measurement indicia to indicate to a pourer an amount of liquid that
has been poured into each chamber.

19. A drinking vessel as claimed in any one of the preceding claims, wherein each
chamber is of a circular type arrangement, said chambers however may possess other
appropriate shapes whether symmetrical or not.

20. A drinking vessel as claimed in any one of the preceding claims, wherein the
lowermost chamber includes a weighted base to assist in keeping the centre of gravity
of the chambers as low as possible.
Fig 12
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER

Int. Cl.‡: A61J 7/00, G01F 19/00, A47J 43/27

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Electronic search as below

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

NONE

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

DWPI (A61J 7/00, G01F 19/00, A47G 19/27, A47J 43/27, B65D 85/72, B65 1/25, B65D 25/35, drink, medic, beverage, fluid, cocktail, shooter, shot, alcohol, vessel, cup, glass, mug, chamber, partition, divi, insert, internal, compartment, dispenser, pour, meter, measure, portion)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category*</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>US 4955503 A (PROPES) 11 September 1990 See figures 1 and 2.</td>
<td>1 to 3</td>
</tr>
<tr>
<td>X</td>
<td>US 5405030 A (FRAZIER) 11 April 1995 See figure 2 and column 3 lines 48 to 60.</td>
<td>1 to 3</td>
</tr>
<tr>
<td>X</td>
<td>US 5758540 A (DAVILA et al.) 2 June 1998 See figure 1.</td>
<td>1 to 3</td>
</tr>
</tbody>
</table>

[X] Further documents are listed in the continuation of Box C [X] See patent family annex

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"Y" document published prior to the international filing date and not in conflict with the application but cited for its technical content

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"&" document member of the same patent family

Date of the actual completion of the international search: 31 March 2003
Date of mailing of the international search report: 14 APR 2003

Name and mailing address of the ISA/AU

AUSTRALIAN PATENT OFFICE
PO BOX 200, WODEN ACT 2606, AUSTRALIA
E-mail address: pct@ipaaustralia.gov.au
Facsimile No. (02) 6285 3929

Authorized officer

PETER T. WEST
Telephone No: (02) 6283 2108

Form PCT/ISA/210 (second sheet) (July 1998)
<table>
<thead>
<tr>
<th>Category*</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>US 1275467 A (POULALION) 13 August 1918 See figures 1 and 3.</td>
<td></td>
</tr>
</tbody>
</table>
INTERNATIONAL SEARCH REPORT

Box I Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos:
   
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos:
   
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☐ Claims Nos:
   
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a)

Box II Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

See supplemental sheet.

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest.

☐ No protest accompanied the payment of additional search fees.
The international application does not comply with the requirements of unity of invention because it does not relate to one invention or to a group of inventions so linked as to form a single general inventive concept. In coming to this conclusion the International Searching Authority has found that there are different inventions as follows:

1. Claims 4 to 10 are directed to a drinking vessel having a outer shell defining a first chamber and a curved sheet within the first chamber including front and back sections extending upwardly from an lower apex, the sides of the sheet sealingly engaging the outer shell wall to define a second chamber while allowing fluid access to the first chamber. It is considered that a curved sheet including front and back sections extending upwardly from an lower apex to define a second chamber comprises a first “special technical feature”.

2. Claims 11 to 14 are directed to a drinking vessel having a base and a curved rear wall and a plurality of containers stacked in a staggered configuration and each container attached to the sides of the rear wall to define a gap between the rear wall and each of the containers. It is considered that the stacked configuration of containers with each container defining a gap between itself and the rear wall comprises a second “special technical feature”.

Since the above mentioned groups of claims do not share any of the technical features identified, a “technical relationship” between the inventions, as defined in PCT rule 13.2 does not exist. Accordingly the international application does not relate to one invention or to a single inventive concept, a priori.
This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>US 4955503</td>
<td>NONE</td>
</tr>
<tr>
<td>US 5405030</td>
<td>NONE</td>
</tr>
<tr>
<td>US 5758540</td>
<td>NONE</td>
</tr>
<tr>
<td>US 1275467</td>
<td>NONE</td>
</tr>
</tbody>
</table>

END OF ANNEX