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(54) **SEGREGATED CONTAINER PACKAGING FOR LIQUIDS**

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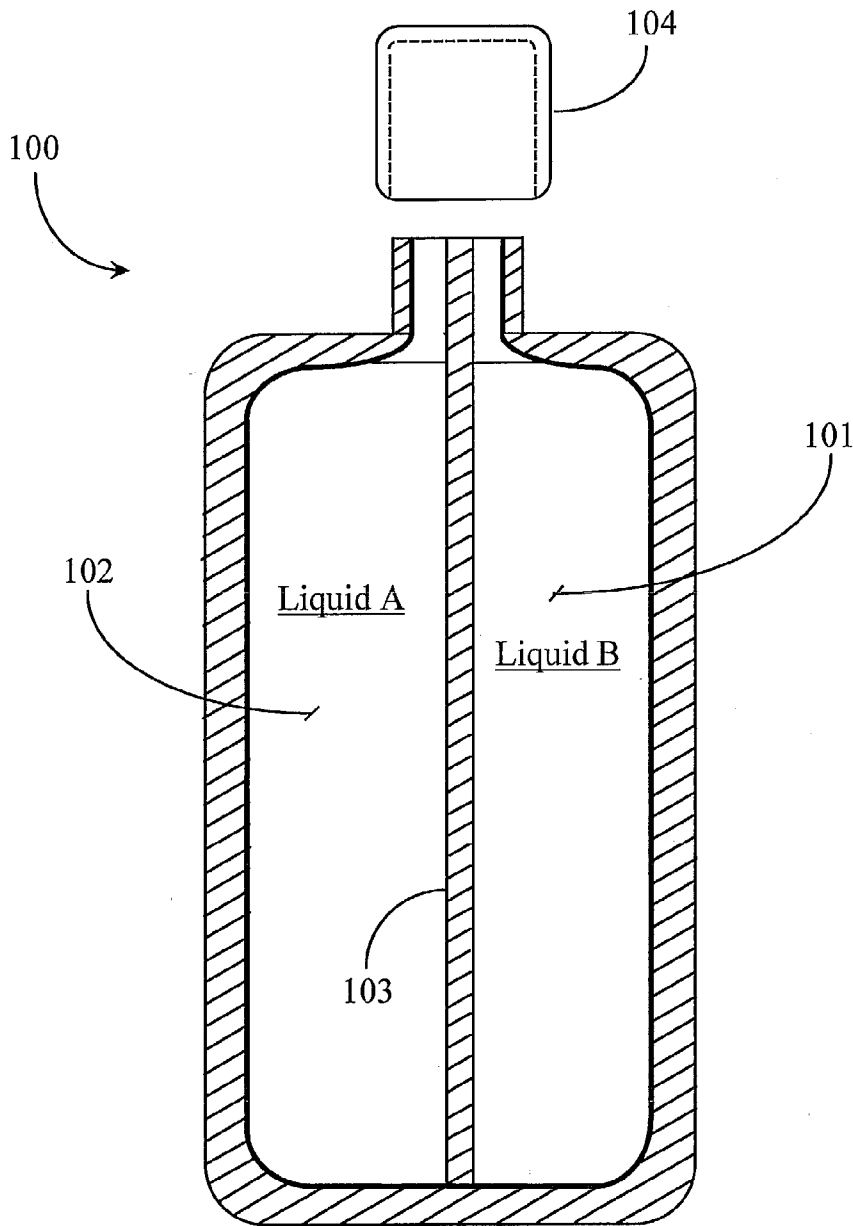
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(57) **ABSTRACT**

A vessel includes an enclosing body, a physical barrier dividing the enclosing body into at least two compartments, and side-by-side openings from the compartments such that material from each compartment may be expelled in a single stream.

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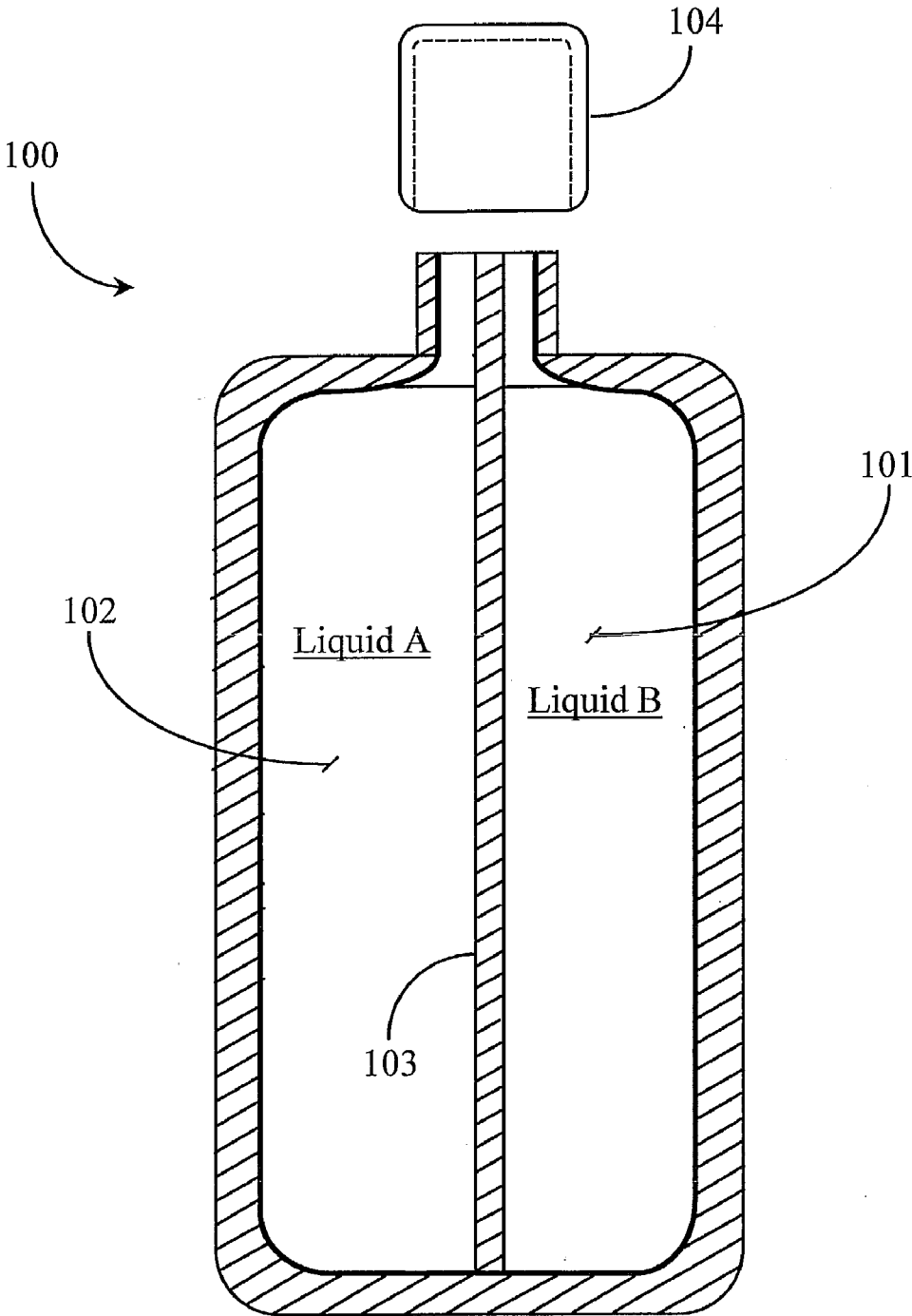


Fig. 1

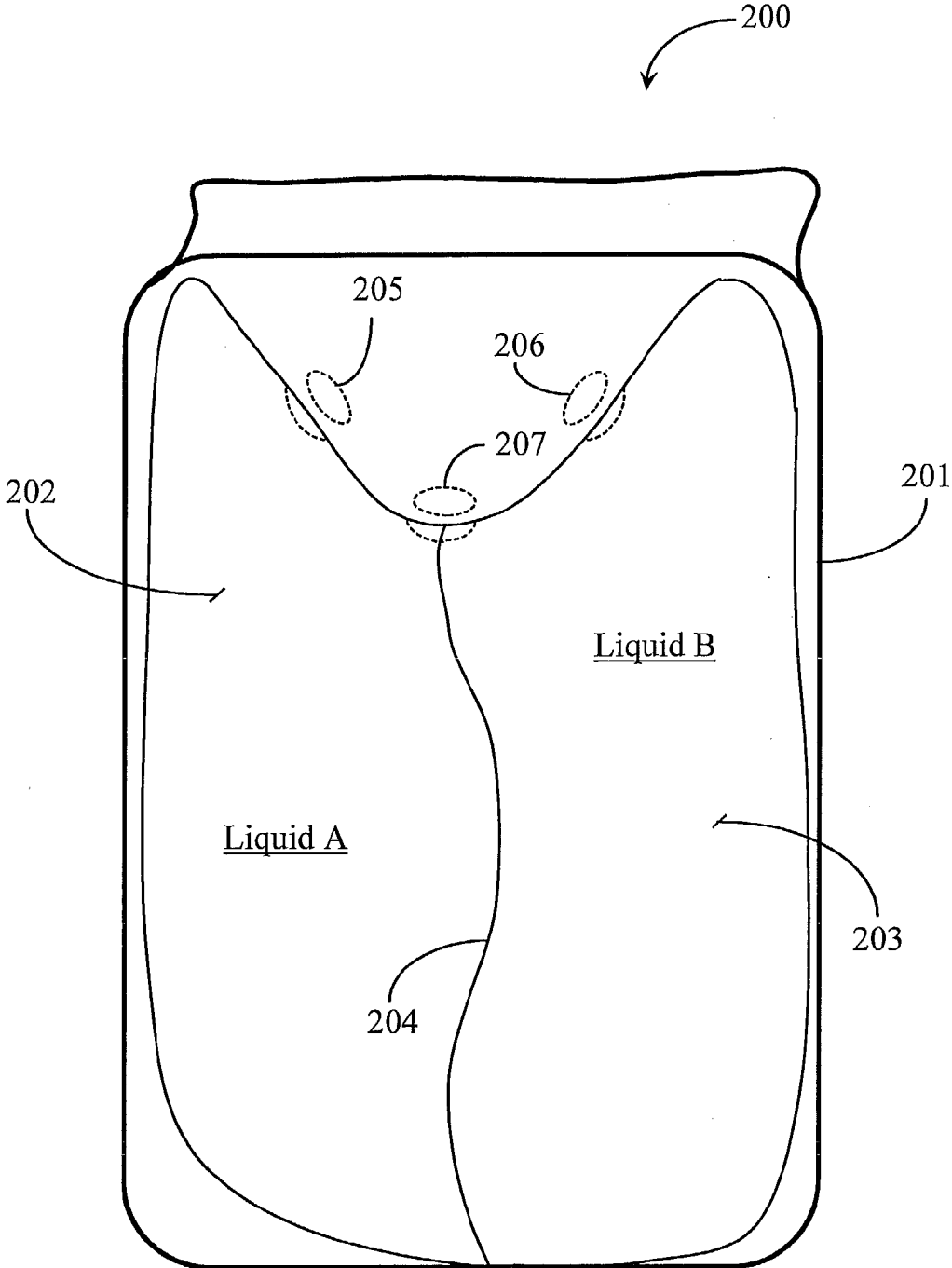


Fig. 2

SEGREGATED CONTAINER PACKAGING FOR LIQUIDS

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] NA

BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention

[0003] The present invention is in the field of packaging and pertains particularly to manufacture of containers for liquid commodities like soft drinks, juices and the like.

[0004] 2. Discussion of the State of the Art

[0005] In the art of container manufacturing, liquids are bottled, boxed, or otherwise contained in a consumer package that can be opened by the consumer to dispense said liquid commodity for consumption. More obvious examples include canned and bottled waters, soft drinks, juices, and like products that may be consumed directly from the package. Less obvious examples include boxed juices that include foil or other seamable materials to form pouches that contain the liquid. In the case of pouches, often a straw is inserted into a pre-existing perforation in the pouch to gain access to the liquid inside the pouch.

[0006] It has occurred to the inventor that many consumers enjoy mixing certain liquids for consumption, for example, a "suicide drink" where more than one soft drink is poured into a same glass or cup for immediate consumption. This practice is common at public soda fountains. Some presentations may be containers containing liquids or substances wherein those containers are strapped or otherwise held together, for example, to enable shaking or pouring out of two separate substances like salt and pepper, or vinegar and oil. Likewise, some separate substances are simply premixed and packaged in a single container.

[0007] What is clearly needed in the art is a package that holds two or more substances such as liquids separate from one another, but enables immediate consumption of the liquids mixed, for example, from the same container. Packaging such as this would provide market opportunities for companies to reach consumers who routinely mix certain liquids or other substances, and would also provide apparatus for a home user to experiment with different mixtures and to pour and consume mixed beverages.

SUMMARY OF THE INVENTION

[0008] In one embodiment of the present invention a vessel is provided comprising an enclosing body, a physical barrier dividing the enclosing body into at least two compartments, and side-by-side openings from the compartments through a wall of the container, such that the container may be tipped, causing material from each compartment to be simultaneously expelled from the container in a single stream.

[0009] In one embodiment the enclosing body is made of plastic or glass, and in another foil or flexible plastic. The side-by-side opening may be perforations in the foil or plastic. In some embodiments the physical barrier may have a spiral profile visible from outside of the enclosing body.

[0010] In one embodiment the side-by-side openings may be perforations, and a straw may be used to extract liquid from the compartments. The compartments may have different volumes. In some cases there may be a second, more rigid,

enclosing body for containing and supporting the pouch, and cardboard is a good candidate for this material.

[0011] In another aspect of the invention a method for mixing liquids is provided, comprising steps of (a) storing two or more liquids in a single container in separate compartments for each beverage, the compartments formed by a dividing wall in the container, and (b) providing side-by-side openings from the compartments, such that liquid from each compartment may be simultaneously expelled from the container in a single stream.

[0012] In one embodiment the enclosing body is made of plastic or glass, and in another of foil or flexible plastic. In some cases side-by-side opening may be perforations in the foil or plastic.

[0013] In some embodiments the physical barrier may have a spiral profile visible from outside of the enclosing body. In some instances of the method the side-by-side openings are perforations, and a straw is used to extract liquid from the compartments. The compartments may have different volumes.

[0014] In another embodiment there may be a second, more rigid, enclosing body for containing and supporting the pouch, and the second body may be cardboard.

BRIEF DESCRIPTION OF THE DRAWING FIGURES

[0015] FIG. 1 is a plan view of a segregated container according to an embodiment of the present invention.

[0016] FIG. 2 is a cutaway view of a segregated juice box according to an embodiment of the present invention.

DETAILED DESCRIPTION

[0017] FIG. 1 is a plan view of a segregated container 100 according to an embodiment of the present invention. Container 100 may be of any suitable material including glass, plastic, or other durable material. Container 100 is, in this example, physically divided into two separate compartments. A wall 103 separates compartment 101 and compartment 102. Wall 103 may be contiguously formed inside bottle 100 during manufacture, or may be added in another manner. Further, the wall may extend to the very top of the container, as shown in FIG. 1, or it may be somewhat shorter. Compartment 102 of bottle 100 holds a liquid A and compartment 101 holds a liquid B.

[0018] Container 100 in this example has a cap 104 (shown removed) for preventing leakage and for preserving the state of materials inside. In this example compartments 101 and 102 are equal in capacity, however in other embodiments other ratios between capacities of the compartments may be used.

[0019] In a preferred embodiment, when container 100 is opened by removing cap 104, the segregated liquids A and B inside bottle 100 may mix when the container is tipped to pour into a glass or other receptacle. In a preferred embodiment, container 100 is formed with a handle or other gripping interface, such that a plane of symmetry of the handle or the interface is coplanar with wall 103. The purpose is to tip the container for pouring preferably by rotating the plane of wall 103 about an axis perpendicular to the plane of the wall. This will ensure that the opening for pouring for each of the liquids or beverages is side by side, rather than one above the other. In this way both liquids may be poured out in essentially the same amounts through the opening of the bottle. In another

embodiment the container may be marked, such as with an arrow on an upper portion, to indicate the preferred direction of pouring.

[0020] In some cases it may be desired that one liquid, for example liquid B, pours out faster than liquid A, and to accomplish this the position of wall **103** may be originally positioned to one side or the other to make one opening larger relative to the other. In one embodiment a movable flap may be used to regulate relative opening size.

[0021] In another embodiment of the present invention, wall **103** may not be a straight dividing wall but rather a spiraled dividing wall that forms one or more complete turns within bottle **100** for perhaps cosmetic appeal. Using such a design, bottle **100** may have 3 or 4 segregated liquid containers instead of only 2 containers. The ascetic appeal of such a divider wall might be realized with a transparent bottle and different color liquids contained in the bottle. There are many marketable possibilities.

[0022] FIG. 2 is a cutaway view of a segregated juice box **200** according to another embodiment of the present invention. Juice box **200** has an outer enclosure **201**, which may be cardboard. Enclosure **201** in this example surrounds a segregated juice pouch divided in this example into 2 juice compartments, **201** and **202**. A flexible internal wall **204** physically divides the pouch. Much like container **100** described above, compartment **201** contains a liquid B and compartment **202** contains a liquid A. The containers may be essentially pouches formed by seaming a larger pouch down the middle. The segregated compartments or pouches may be wholly sealed until opened by perforating the material of the pouch, which may be foil or some other puncturable material. As is described above, it may be desired that other ratios for capacities of container **201** and **202** be observed in addition to equal amounts of liquid A and liquid B contained in juice box **200**, and the relative position of the dividing wall will determine.

[0023] In one embodiment, there is no box enclosure **201** and the segregated pouch forming compartments **201** and **202** is not supported by a more rigid enclosure. A box is simply a convenient way to orientate the flexible containers so that they may be easily and reliably accessed.

[0024] In this example, there are 3 perforation locations provided to juice box **200**. These are perforation location **205**, perforation location **206** and perforation location **207**. These perforation locations are familiar access entry points for a straw to be inserted that when inserted perforates through the pouch material and into the appropriate container to access liquid in similar fashion as a single straw juice box.

[0025] In one embodiment, a user may insert a straw through location **205**, for example, perforating container **202** to access liquid A without disturbing compartment **203**. The user may insert a straw through location **206** perforating compartment **203** to access liquid B without disturbing container **202**. The user may also insert a straw through location **207**, which is strategically placed over seam **204** so that perforation at this location results in breakage of the seam and mixing of liquids A and B when drawn out through the straw.

[0026] From a marketing standpoint, juice box **200** might contain popular fruit juices in each container that also are good to drink together. For example, apple juice may be in container **202** and cranberry juice may be in container **203**. The user would have the option of just drinking one then the other, or both at the same time.

[0027] In one embodiment, the user may have a straw with a double end or “Y” shaped straw, which can be used to perforate both containers **201** and **202** simultaneously eliminating the need for perforation location **207**. One with skill in the art will recognize that mixing will be relatively even with a “Y” shaped straw formed with equal straw ends. In one embodiment, a “Y” shaped straw may be provided with juice box **200** that has unequal diameter straw ends such that one side of the straw ends draws fluid faster than the other. This effect may be desirable in some cases for users who like to mix the juice but prefer the taste of one over the other in the mix. One with skill in the art will also recognize that once seal **204** is broken and the liquids begin mixing, that leaning the straw into one or the other chamber may still provide one flavor dominant over the other, as the liquids may not be thoroughly mixed.

[0028] The methods and apparatus of the present invention may be embodied in all sorts of containers and may be applicable to a variety of liquids whether those liquids are consumable liquids or not. For example, in one application of container **100**, compartment **101** may hold gasoline and compartment **102** may hold 2-cycle engine oil. In another embodiment a container may be provided to mix the proper ration of tomato juice and vodka to make a “bloody Mary” mixed drink, and the same sort of apparatus may be used for mixing alcoholic drinks of many sorts. There are many conceivable applications that are possible without departing from the spirit and scope of the present invention. The spirit and scope of the present invention is limited only by the following claims.

What is claimed is:

1. A vessel comprising:
 - an enclosing body;
 - a physical barrier dividing the enclosing body into at least two compartments; and
 - side-by-side openings from the compartments through a wall of the container, such that the container may be tipped, causing material from each compartment to be simultaneously expelled from the container in a single stream.
2. The vessel of claim 1, wherein the enclosing body is made of plastic or glass.
3. The vessel of claim 1, wherein the enclosing body is made of foil or flexible plastic.
4. The vessel of claim 3, wherein the side-by-side opening are perforations in the foil or plastic.
5. The vessel of claim 1 wherein the physical barrier has a spiral profile visible from outside of the enclosing body.
6. The vessel of claim 1 wherein the side-by-side openings are perforations and a straw is used to extract liquid from the compartments.
7. The vessel of claim 1, wherein the compartments have different volumes.
8. The vessel of claim 3, further comprising a second, more rigid, enclosing body for containing and supporting the pouch.
9. The vessel of claim 8, wherein the second enclosing body is cardboard.
10. A method for mixing liquids, comprising steps of:
 - storing two or more liquids in a single container in separate compartments for each beverage, the compartments formed by a dividing wall in the container;

providing side-by-side openings from the compartments, such that liquid from each compartment may be simultaneously expelled from the container in a single stream.

11. The method of claim **10**, wherein the enclosing body is made of plastic or glass.

12. The method of claim **10**, wherein the enclosing body is made of foil or flexible plastic.

13. The method of claim **12**, wherein the side-by-side opening are perforations in the foil or plastic.

14. The method of claim **10** wherein the physical barrier has a spiral profile visible from outside of the enclosing body.

15. The method of claim **10** wherein the side by side openings are perforations and a straw is used to extract liquid from the compartments.

16. The method of claim **10**, wherein the compartments have different volumes.

17. The method of claim **12**, further comprising a second, more rigid, enclosing body for containing and supporting the pouch.

18. The method of claim **17**, wherein the second enclosing body is cardboard.

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