BOTTLE ASSEMBLY WITH CAP STORAGE MEANS

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ABSTRACT

A bottle assembly having an enclosed storage volume for a potable liquid material and an opening for removing the liquid material from the bottle with closure means located on the opening. Between the closure means for the opening and the opening of the bottle there is provided a first set of co-operating elements of re-moveable attachment. A second set of co-operating elements of re-moveable attachment means is then provided between the closure means and a storage portion on the bottle for storing the closure means when liquid is being removed through the opening.

A method of removing a potable bottle cap and storing it on said bottle while in use is also disclosed.
BOTTLE ASSEMBLY WITH CAP STORAGE MEANS

FIELD OF THE INVENTION

This invention has to do with a bottle and cap assembly and is especially concerned with small potable water and other beverage containers that have a closure means or cap that can be replaced or is desired on the bottle opening after initial use, to retain the liquid in the bottle.

BACKGROUND OF THE INVENTION

Capped potable water and other beverage containers are used or transported by people during their daily activities. The containers or bottles are usually in the liquid volume range capable of human consumption and facilitate ease of transportation by the individual person. Such containers or bottles, for instance, may be in the oz to oz range but other volumes are contemplated. Typically the person using such a bottle may not consume or even desire to consume the entire contents of the potable liquid in the bottle or container at one time. The typical practice is to carry the liquid container with the person and to use or consume limited contents at spaced intervals of time. When consuming the contents over spaced time intervals it is desirable to re-cap or re-close the container so that the contents cannot spill or otherwise empty in an unwanted manner. In order to re-cap the container it is desirable to store the original closure means someplace until it is desired to re-use the same closure means. For most capped containers the removal of the cap from the bottle breaks the original seal between the cap and the bottle and the caps are then loose. Caps usually have a threaded connection with the upper neck portion of the bottle and once removed they are free of any connection with the container. In order to store the cap, a person may put the cap in their pocket, carry the cap in their hand, or lay the cap down on a convenient and known location. Other bottles have a tethered connection between the neck of the bottle and the cap such that when the cap is unscrewed or removed from the opening it still remains attached and kind of hangs to one side of the opening until its re-use is desired.

BRIEF SUMMARY OF THE INVENTION

It is an object of the present invention to provide a cap storage capability to beverage containers.

It is an object of the present invention to provide a safe and protected cap storage area on a beverage container.

It is an object of the present invention to provide a convenient cap storage means on a beverage container.

It is an object of the present invention to provide a captive storage means on a potable bottle container when in use for drinking purposes.

It is an object of the present invention to provide a safe, clean and protective closure storage means on a bottle container when in use for drinking purposes.

It is an object of the present invention to provide a secure, convenient and easily releasable storage attachment means for a closure cap on a bottle container when in use for drinking purposes.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a front view of one configuration of a beverage container according to the present invention.

FIG. 2 is a side view of the beverage container of FIG. 1 according to the present invention.

FIG. 3 is a top view of the beverage container shown in FIGS. 1 and 2 according to the present invention.

FIG. 3A is a front view of the neck portion of the beverage container according to the present invention.

FIG. 3B is a cross sectional side view of a cap 18 used with the present invention.

FIG. 4 is a front view of a second configuration of a beverage container according to the present invention.

FIG. 5 is a side view of the beverage container shown in FIG. 4 according to the present invention.

FIG. 6 is a top view of a beverage container shown in FIGS. 4 and 5 according to the present invention.

FIG. 6A is a front view of the neck portion of the beverage container as shown in FIGS. 4 and 5 according to the present invention.

FIG. 7 is a front view of a third configuration of the beverage container according to the present invention.

FIG. 7A is a front view of the neck portion of the beverage container as shown in FIG. 7 according to the present invention.

FIG. 8 is a side view of a third configuration of the beverage container shown in FIG. 7 according to the present invention.

FIG. 9 is a top view of a third configuration of the beverage container shown in FIGS. 7 and 8 according to the present invention.

FIG. 10 is a front view of a fourth configuration of the beverage container according to the present invention.

FIG. 11 is a side view of a fourth configuration of the beverage container shown in FIG. 10 according to the present invention.

FIG. 12 is a top view of a fourth configuration of the beverage container shown in FIGS. 10 and 11 according to the present invention.

FIG. 13 is a front view of a fifth configuration of the beverage container according to the present invention.

FIG. 14 is a side view of a fifth configuration of the beverage container shown in FIG. 13 according to the present invention.

FIG. 15 is a top view of a fifth configuration of the beverage container shown in FIGS. 13 and 14 according to the present invention.

DETAILED DESCRIPTION OF THE DRAWINGS

What is shown in FIG. 1 is a front view of bottle 10 for completely enclosing a potable liquid such as water or soda. The bottle 10 has a neck portion 12 that terminates in an opening 14. The opening 14 has threads 16 thereon for cooperating with a cap assembly 18 shown in FIG. 3B. The cap 18 can be stored in a depression 20 that has sloping walls 22 and 24 that are sized and tapered inwardly so as to captivatively hold the cap 18 in the depression 20 of the bottle 10. The walls 22 and 24 taper inwardly and terminate in a bottom wall 25 that is part of the bottle 10. The juncture of the walls 22 and 24 with the bottom portion 25 is sized so as to form an interference fit with the perimeter of cap 18 so as to releasably and captively hold cap 18 in its storage position.

What is shown in FIG. 2 is a side view of the bottle assembly 10 shown in FIG. 1 having the cap 18 located in the depression 20. The cap 18 has internal threads so as to threadedly cooperate with the threads 16 on the end 13 of the bottle 10. The cap 18 is shown having its uppermost portion extend-
ing upwardly from the bottle surface around the neck area 12 so it may be grasped by hand and removed by the user.

[0030] What is shown in FIG. 3 is a top view of the assembly shown in FIG. 1 and FIG. 2 with the cap 18 shown as fitting into the depression 20 on the bottle 10 assembly. The depression 20 has tapering sidewalls 22 and 24 terminating in a bottom wall 25. The juncture of the bottom wall 25 with the sidewalls 22 and 24 are sized so as to have interference with the cap sidewalls 19 and 21. The interference fit will be chosen so as to releasably hold the cap 18 in the depression 20. The cap 18 has an uppermost portion 15 that extends above the surface of the bottle 50 as to be easily grasped. (Shown in FIG. 2)

[0031] What is shown in FIG. 3A is the bottle assembly of the bottle 10 having its upper neck portion 12 with the cap 18 threadedly engaged with the threads 16 on the neck 12. The depression 20 is shown with the tapering sidewalls 22 and 24 that terminate in at bottom wall 25 of the depression 20. The walls 22, 24 and 25 form a part of the walls of the bottle 10 so as to enclose the fluid and yet allow the cap 18 to fit into depression 20 so as to be stored therein when no in use.

[0032] What is shown in FIG. 3B is a cross sectional view of the cap assembly 18 through 3-3 in FIG. 3 has sidewalls 19 and 21 with the sidewalls 19 and 21 sometimes having strations thereon for a person to easily grasp with their hand. The strations are shown in FIGS. 1 and 2 on the sidewalls 19 and 21 of the cap assembly 18. The cap 18 has internal threads 17 so as to cooperate with threads 16 on opening 14.

[0033] What is shown in FIG. 4 is an alternate cap has and bottle assembly 10 according to the present invention. The bottle is shown at 30 and has an upper portion 32, with a neck 34 and threads 36 located thereon. The cap 38 is shown located in its storage position on the bottle 30 with the cap 38 affixed to up standing stud 33 that is formed on the bottle assembly 30. Stud 33 has threads 40 formed on the outside surface. Cap 38 is made so as to threadedly engage either the threads 36 on the upper neck 34 of the bottle 30 or on the threads 40 located on stud 33 of the bottle assembly 30.

[0034] What is shown in FIG. 5 is the bottle 30 having the threads 36 in the upper portion 32 of the bottle 30. An up standing stud assembly 33 is formed on the bottle 30 having threads 40 thereon. The cap 38 may then be removably attached to the stud 33 or the upper threads 36 of the bottle opening as shown in FIG. 5.

[0035] What is shown in FIG. 6 is a top view of the bottle assembly 30 with the cap 38 disengaged from the threads 40 on the up standing stud 33 provided on the bottle 30.

[0036] What is shown in FIG. 6A is the bottle 30 having the cap 38 threadedly connected to threads 36 on the upper neck portion 34 of bottle 30.

[0037] What is shown in FIG. 7 is a bottle assembly 40 having an upper portion 42 with a fluid outlet 44 having threads 46 on its outer diameter. A cap 48 is shown which has internal threads for cooperating with threads 44 on the fluid outlet 46. An indentation 50 in the bottle assembly 40 provides for a storage area for the cap 48. Shown in FIG. 8 are sidewalls 49 and 51, which provide interference fit with the perimeter of cap 48 so as to capively hold the cap 48 in indentation 50. Sidewalls 52 and 54 maybe also be provided with notches 53 and 55 that are formed similarly to the perimeter of the cap and allow the cap to be snapped in to and out of place as desired. Pushing the cap 18 towards the bottom of bottle places the cap in interference fit with either sidewalls 52 and 54 or notch 53 and 55 to hold the cap in place when bottle 18 is in use. Pushing the cap 18 towards the opening 44 releases the cap from its interference fit and allows it to be replaced on the bottle.

[0038] What is shown in FIG. 7A is the bottle 42 with indentation 50 having bottle cap 48 threadedly engaged with threads 46 on the neck portion 42.

[0039] What is shown in FIG. 8 is a front view of the bottle assembly shown in FIG. 7 and has the cap 48 shown in the indentation storage position 50. The storage position 50 has sidewalls 49 and 51 that taper towards each other as they extend toward to bottom of the bottle and allow the cap to be pushed down so that it is captively held on the bottle assembly 40. Clearance portion 58 is formed in the lower portion of the indentation 50 so as to provide finger access to the cap 48 so that it may be pushed up and released from being captively held on the bottle 40.

[0040] What is shown in FIG. 9 shows a top view of the bottle assembly according to FIG. 7 with the cap 48 being held captive in the indentation 50.

[0041] What is shown in FIG. 10 is an alternate embodiment of the invention of the bottle assembly according to the present invention. The bottle assembly 60 is shown therein having neck portion 62 along with a cap 64 shown threadedly engaged the upper neck 66 of the bottle 60. The cap 64 is shown having a storage position 68 formed in the bottle 60 so that the cap 64 may fit downwardly and inwardly of the storage position 68. The storage position 68 has surrounding perimeter walls 70 that taper inwardly so that as the cap 64 is pushed inwardly into the storage position 68 the lower walls provide an interference fit so as to hold the cap 64 in the storage position 68 in perimeter wall 70.

[0042] What is shown in FIG. 11 is a side view of the bottle assembly 60 shown in FIG. 10 showing the storage position 68 on either side of the bottle and having the upper neck portion 63 having threads 65 so as to engage the cap 64.

[0043] What is shown in FIG. 12 shows the top portion of the bottle assembly 60 according to FIG. 10 showing the storage spaces 68 on either side of the bottle assembly 60 having the fluid outlet portion 70 with threads 65 formed thereon.

[0044] What is shown in FIGS. 13, 14 and 15 are another bottle assembly 90 according to the present invention having an upper neck portion 92 with a fluid outlet 94 having threads 96 formed thereon. An elongated indentation 98 is shown formed in the cylindrical surface of the bottle 90 and extends downwardly from the neck portion 92 towards the bottom 95 of the bottle 90. The elongated indentation 98 has narrowing walls 100 and 101, which are narrower than the other wall portions shown at 102. The narrowing of the walls 101 and 102 are sized so as to form an interference fit with the perimeter of the cap 110 so as to hold it releasably captive on the bottle 90. The neck 92 of bottle 90 has threads shown at 96 for threadedly engaging the inside threads of cap 110 (which is also described by FIG. 3B of the previous figures). The bottle cap is shown at 110 and the bottle cap 110 may then be slid down the indentation at 98 and held captive by the narrower walls at 100 and 101. The narrow walls at 100 and 101 will hold the cap 110 until it is desired to be placed up on the threaded portion 96 of the fluid outlet 94.

[0045] What is shown in FIG. 14 is a side view of the bottle 90 shown in FIG. 13 showing a side view of the elongated storage portions 98 showing the cap 110 captively held therein.
What is shown in FIG. 15 is a top view of the bottle 90 showing the cap 110 in two positions having the fluid outlet 94 shown open so as to dispense fluid.

1. A bottle assembly which comprises:
   a. A bottle having an enclosed volume for storing a liquid material and an opening for removing the liquid material from said enclosed volume;
   b. Removable closure means for said opening;
   c. A first set of co-operating elements of removable attachment between said closure means and said opening;
   d. A second set of co-operating elements of removable attachment means between closure means and said bottle for storing said closure means on said bottle when liquid is desired to be removed through said opening.

2. The bottle assembly according to claim 1 in which said second set of co-operating elements of removable attachment between said closure means and said opening comprise an upstanding threaded means portion on said bottle and a cap means having internal threads for co-operation with said neck portion threads.

3. The bottle assembly according to claim 2 in which said second set of co-operating elements comprises a longitudinally extending indentation on the outer side of said bottle and having two side portions spaced so as to form an interference fit with the width of said cap so that said sides hold the cap firmly on said bottle.

4. The bottle according to claim 2 in which said second set of co-operating element comprises:
   a. A cylindrical indentation in the outside of said bottle that extends inwardly of said bottle at least a portion of the height of the cap and a portion of the walls of the cylindrical indentation form an interference fit with the outer walls of said cap to hold said cap firm on said bottle.

5. The bottle according to claim 2 in which said second set of co-operating elements comprises a threaded stump portion formed on the outside of said bottle and a cap means with internal threads for co-operation with said stump means.

6. The method of dispensing potable fluids which comprises:
   a. Enclosing the potable fluids in an enclosed container with a removable cap on a fluid opening.
   b. Removing said cap from said outlet and removably fastening said cap to a storage position on said container.
   c. Drinking said potable fluid from said container.
   d. Removing said cap from its storage position on said bottle.
   e. Replacing said cap on the fluid outlet of said bottle.