The invention is directed to a cap for a beverage can. The cap is of a size to contain ice therein. The cap is in the shape of a cylindrical container as a compartment or a reservoir. A bottom of the compartment has several circular recesses or grooves therein which have different diameters from each other so that different grooves will snap-fit onto differently sized rims on top of beverage cans. Each of the grooves is sealed to prevent leakage between the rim of a can and the groove of the compartment. A different embodiment of a cap may have a bottom wall just above the grooves with an aperture therein so that narrow ice sticks may be placed directly in the can through the ice compartment. This cap may also be constructed of one or more parts. There is a lower part having the grooves therein and there is an upper lid or cover having a resealable drinking spout thereon.
BEVERAGE CAN CAP WITH AN ICE COMPARTMENT

CROSS REFERENCE TO RELATED APPLICATION

STATEMENT REGARDING FED SPONSORED R & D

REFERENCE TO MICROFICHE APPENDIX

BACKGROUND OF THE INVENTION

This invention relates to a cap snap-on cover or cap for beverage cans. Unlike most snap-on caps of the past, this cap incorporates an ice compartment containing an ice reservoir therein. A resealable screw cap or a snap-off cap for temporarily sealing the content is required of this invention. It is the intention of this invention to make it more enjoyable, more convenient for millions of busy people on the go that want to drink their favorite beverage directly from the original stay-on tab can. Incidentally, over 130 billion cans are sold in the USA each year. That is about 365 cans per year for each person in the USA. It is estimated that the majority of these beverages are drunk directly from the can. Of the attributes most lacking in the stay-on-tab can is a resealability and a practical method for cooling the contents outside of pre-cooling the cans in refrigerators and/or ice chests.

Several ways that this invention makes drinking the soda more enjoyable would include:

1) reclosing the container to keep the beverage from spilling and going flat;

2) cooling the beverage by having the drink flow over ice in a reservoir as one fills up and drinks from a can cap, and

3) the ability for adding their favorite mixer or flavor to the compartment to have a mixed drink in the original can and ice cap.

This invention shows how conventional ice cubes or new ice sticks can cool as one drinks. Most of the time when a soda is taken from the refrigerator or from a cooler box, the soda is not being consumed all of it at one time. Thereby, the cold soda in the can will rapidly warm up rendering the fluid less palatable. The same applies to a can of soda that has not been cooled yet while it is desirable to drink the fluid from the can in a cooled state. The only current solution to alleviate the above noted problem would be to pour the content of the can into a glass or a container having ice cubes therein which then would cool the fluid in the container.

U.S. Pat. No. 5,389,586 teaches the use of a beverage dispensing mug which is capable of receiving a conventional can of soda wherein including ice cubes, whereby the contents of the can may be maintained in a chilled condition and may be consumed without having to empty the content into another container.

U.S. Pat. No. 5,996,832 shows a can cover which is designed to maintain the hygiene of the top of the can intact.

U.S. Pat. No. 6,035,659 shows a large conical funnel type cooler attachment affixed to a beverage can into which funnel a cooling substance such as ice cubes are loosely heaped into the funnel. It is called a “Sanitary Beverage Cooler” and it is designed for portable situations. But since it has no cover or drinking spout, it seems likely that spills may frequently occur and because outside air impacts on the open fluid, it will be subject to contamination that is: dirt, dust, germs, and etc. which may enter into the fluid.

U.S. Des. Pat. No. 345,682 discloses a soft drink can attachment that appears to consist of a lower half of a container that apparently can be attached to a top of the container. The upper half is hinged at one side which can be closed over the lower. There appears to be a non-reattachable drinking spout on top of the upper half. It appears that a cooling medium can be placed into the lower half prior to closing the top half to thereby drink cooled beverage. This patent does not teach any sealing arrangements so that the fluid cannot leak through various contact points when one is drinking from the can or the top cover spout. Nor does the spout have any reclosing provisions for containing the fluid’s effervescence nor prevent any fluids from leaking or spilling.

BRIEF SUMMARY OF THE INVENTION

An object of the invention is to construct a cap or a compartment for a soda can that has 1) a one-piece compartment thereon that may be filled with ice prior to being attached to a top of a soda can, or 2) a two-piece compartment which is normally filled after it has been attached to the top of the can, whereby the beverage, when passing through any ice cubes may instantaneously be cooled or chilled so that the consumers will better enjoy a cooled and refreshing beverage. The ice cubes of this invention may be the standard half moon ice cubes or they may be the ice sticks as disclosed in co-pending U.S. patent application Ser. No. 091493,560 filed on Jan. 28, 2000. The advantage of using these ice sticks is that they may be inserted directly into a soda can top opening or through the cap’s drinking spout to pre-cool the beverage and wherein the beverage’s overflow will be contained by the reservoir or compartment.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 shows a can cap made of two parts with an ice compartment or reservoir therein with a screw-on lid thereon;

FIG. 1A shows a can cap made of two parts with an ice compartment having a snap lid thereon.

FIG. 2 illustrates a can cap wherein the one-piece ice compartment is made with a guide element therein to be in alignment with a can opening so that ice sticks can easily go directly into the opening of the can.

FIG. 3 illustrates various ways of connecting differently sized rims of cans to a bottom of an upper compartment.
FIG. 4 shows a can cap ice compartment being attached to an upper rim of a can. Several half moon ice cubes would be tucked from the bottom, and rest on a ledge before snapping cap onto a can.

FIG. 5 illustrates an extra tall, extra capacity, ice compartment having an upper lid thereon with recessed (flush fitting) flap type closures which would allow the can and the cap unit to be inverted and rest on the cap lid to pre-cool the beverage.

DETAILED DESCRIPTION OF THE INVENTION

FIG. 1 illustrates the overall combination of a beverage can C with a cylindrical ice compartment 2 attached to the top of can C. The bottom of this ice compartment may be snapped to the rim of can C as will be explained with reference to FIG. 3. The upper edge of the compartment has a removable lid 4 attached thereon. The means for removing or attaching the same is a screw thread 3 on the upper edge of the compartment 2 and a screw thread 5 on the inner on the inner edge of the lid 4. On the upper surface of lid 4 a spout 6 has been provided which has screw threads 7 to receive a screw cap 8 thereon. The interior of the compartment 2 is large enough to receive a multiple of standard half moon shaped ice cubes therein.

FIG. 1A illustrates a similar overall combination of the beverage can C with a cylindrical ice compartment 2 attached to the top of the can C. The bottom of this ice compartment 2 may be snapped onto the rim R' of can C as will be explained with reference to FIG. 3. The upper edge of the compartment 2 has a removable lid 4 attached thereon. The means for removing or attaching the same is a snap-on rim 18 on the upper edge of the compartment 2 and a rib 19 on the inner edge of the lid 4. On the upper surface of the lid 4 a spout 6 has been provided which has screw threads 7 to receive a screw cap 8 thereon. The interior of the compartment 2 is large enough to receive a multiple of the standard half moon shaped ice pieces therein.

Turning now to FIG. 2, there is shown a one piece compartment 2 which may be filled with the standard half moon ice cubes from the bottom to rest on a ledge 2b before the cap unit is snapped onto the rim R of the can C by way of the inner snap recesses or receiving grooves 12 which are located inside the skirt 10 of the compartment 2. Inside the concentric ledge 2b in the bottom of the compartment 2 is a large hole or aperture 2a to admit a pre-filling of ice cubes and also to allow the fluid inside the can C to flow to the compartment 2 to be cooled by the ice therein. Depending from the ledge 2b is a guide element 11 which depends downwardly to be able to align into the opened drinking hole in the top of can C. The guide element 11 is designed and placed in that particular location as an aid to guide long ice sticks from the top spout 6 directly into the opening in the can C. When long ice sticks are utilized, the beverage is pre-cooled while the overflow is contained in the compartment 2. For rescaling, the spout 6 on the top surface of the of the compartment 2 may be closed by screw threads 7 and interior and interior threads in cap 8.

Turning now to FIG. 3, there shown the various ways of snap fitting the rim R on top of the can C to the interior grooves on the inside of the skirt 10. To this end, FIG. 3A shows the use of sealing rings 3r through 3e which are placed into the various diameters of the various cans C that have varying top rim diameters as are found on many different soda cans, beer cans and/or tea cans. No matter what the diameter of the can at hand is, the respective diameter can will always be accommodated by any one of the snap-fit compartments.

FIG. 3B shows a different snap-fit without the use of sealing rings. In this embodiment the outer edges of the grooves 14r through 14c are rounded to aid the rim R of the can C to be guided into the respective grooves by sort of a camming surface.

FIG. 3C illustrates the edges 15r through 15c as narrow ledges which by their sizes or their dimensions will give under the pressure of the can rim R trying to enter the respective groove.

Experiments have shown that either one of the above described embodiments will work well to hold the can rim within its respective groove and hold it there in a leak proof manner.

FIG. 4 shows a single cylindrical compartment or container 16 that is snap fitted onto a rim R of a can C by way of grooves inside the skirt 10 of the compartment 16 as was explained with reference to FIG. 3. The can C shows the well known aperture or opening A which was opened by displacing the tab (not shown) from the top of the can C. For rescaling the beverage within the can, the upper surface of the compartment 16 again shows the spout 6 having screw threads 7 thereon for receiving the screw cap 8 thereon the spout of this embodiment is designed to be somewhat larger to be able to receive the larger standard half moon shaped ice pieces there through. Of course, any other known ice pieces can be received there through also.

FIG. 5 illustrates still another embodiment of the inventive concept. In this embodiment the extra large capacity cylindrical compartment 17 is snap fitted to an upper rim R of can C. The opening at the upper end of the compartment is closed by a lid 19 which is snap fitted to the upper snap fitted to the upper snap fit edge 18 of the compartment 17. The lid 19 can be removed from the compartment 17 by a pull-up tab 20. The lid 19 has a small snap fit cover which when closed, hides and seals an opening 21 for the use of a drinking straw. A similar snap cover 23 normally hides a similar opening 6 as shown in FIG. 2 for the insertion of ice sticks directly into the can. It should be noted that the snap covers 22 and 23, when closed, fit flush with the top surface of lid 19 so that when the compartment 17 is filled with ice, the can and ice-filled compartment combination can be inverted to rest up-side-down on the lid to pre-cool the beverage before drinking. This way a flat and stable surface is obtained.

What I claim is:

1. A beverage can and top combination comprising said beverage can having a top rim and said top being a cylindrical compartment, means for snap-fitting said compartment onto said rim of said can, exterior screw threads are located at an upper edge of said compartment, a lid having interior screw threads mating said exterior screw threads when said lid is screwed onto said compartment, a spout is located at an upper surface of said lid and a screw cap is
fastened onto said spout to reseal a carbonated beverage in said compartment, to keep it from spilling and to prevent it from going flat.

2. The beverage can and top combination of claim 1, wherein said cylindrical compartment has a flared bottom, said flared bottom having three differently sized grooves therein to accommodate differently sized rims of cans therein.

3. The beverage can and top combination of claim 2 wherein each of said recesses has a scaling ring therein.

4. The beverage can and top combination of claim 2, wherein each of said recesses has a rounded entrance into said recesses.

5. The beverage can and top combination of claim 2, wherein each of said recesses has a lip at an entrance into each of said recesses.

6. The beverage can and top combination of claim 1, wherein said lid is snap-fitted onto said compartment.

7. The beverage can and top combination of claim 2, wherein said snap-fit lid has a lift-off tab thereon.

8. The beverage can and top combination of claim 2, wherein there is at least one opening in said lid and a snap fit cover for closing said opening.

9. A beverage can and top combination comprising said beverage can having a top rim and said top being a cylindrical compartment, means for snap-fitting said compartment onto said rim of said can, said compartment having exterior concentric ribs located at an upper edge, a lid having interior concentric ribs located at an interior of a depending edge, said exterior ribs and said interior ribs mate with each other when said lid is snap-fitted onto said compartment, a spout is located on an upper surface of said lid and a screw cap is fastened onto said spout to seal or reseal the beverage located within said can and top combination.

10. A beverage can and top combination comprising said beverage can having a top rim and said top being a cylindrical compartment having an opening at its top, means for snap-fitting said compartment onto said rim of said can, a lid is placed on top of said opening of said compartment, means for snap-fitting said lid to said top opening of said compartment, said lid having at least two openings on a top surface thereof, one of said openings having an opening for passing a drinking straw there through, a hinged cover in the form of a flap to cover said opening flush with said lid to be able to invert said can and top combination to be able to pre-cool said beverage therein.

11. A beverage can and top combination comprising said beverage can having a top rim and said top being a cylindrical compartment and being a single unit, means for snap-fitting said compartment onto said rim of said can, said compartment having on a top surface thereof a spout, a screw cap for closing said spout, said compartment having an interior bottom ledge having an interior bottom ledge, said bottom ledge having an opening therein for passing ice pieces there through into an opening of said can.

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