US 20040195240A1

(19) **United States**

(12) **Patent Application Publication** (10) **Pub. No.: US 2004/0195240 A1**

Brandon (43) **Pub. Date: Oct. 7, 2004**

(54) **RAISED BEVERAGE CAN TOP WITH HOLDING CLIP AND SPACER**

(76) Inventor: **Darrell Holmes Brandon**, Templeton, CA (US)

Correspondence Address:
DARRELL HOLMES BRANDON
993-D LAS TABLAS RD.
TEMPLETON, CA 93465 (US)

(21) Appl. No.: **10/058,155**

(22) Filed: **Jan. 29, 2002**

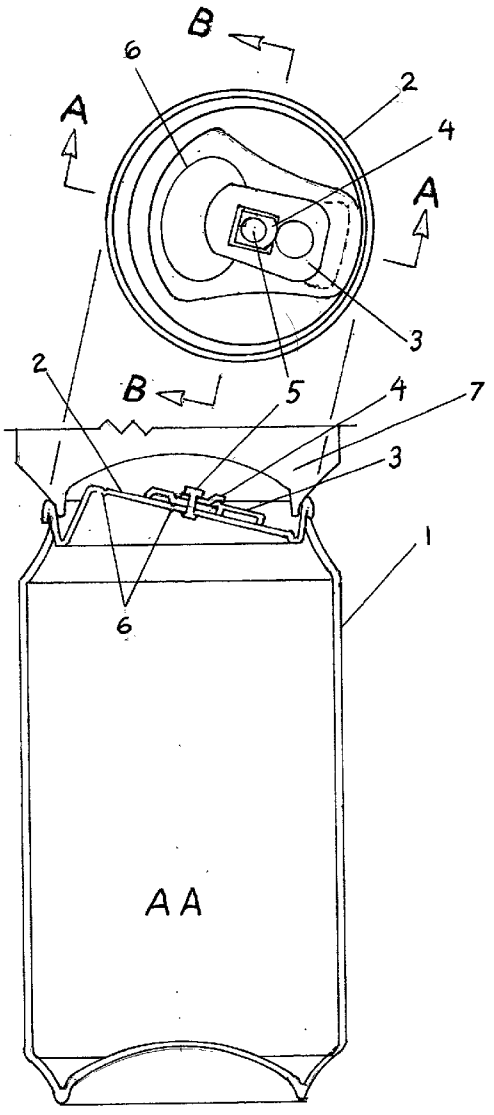
Publication Classification

(51) **Int. Cl.**[7] **B65D 17/34**

(52) **U.S. Cl.** **220/269**; 220/906

(57) **ABSTRACT**

An invention that raises the tops of beverage cans at an angle that makes the drinking process easier, cleaner, more practical and safer (as in the case of drinking a soft drink while driving an automobile) in which one end of the can top that contains the scored oval opening is raised above the rim top of the can in a slanting wedge or circular shape that slants down to the opposite side allowing the can to be raised to a higher degree angle where it does not come in contact with the nose of the person drinking and reduces the angle the head is tipped backward as the drink is being consumed. Also the new top is raised in just the right amount so that it will fit into the concave bottom of an existing can without making contact, thus allowing for the stacking of cans on top of cans in six pack units. For twelve pack or larger packs, the invention includes spacers that allow for stacking packages on top of packages. The invention also includes the addition of a small clip that holds the tab down when snapped back into it's original position by the thumb or finger.



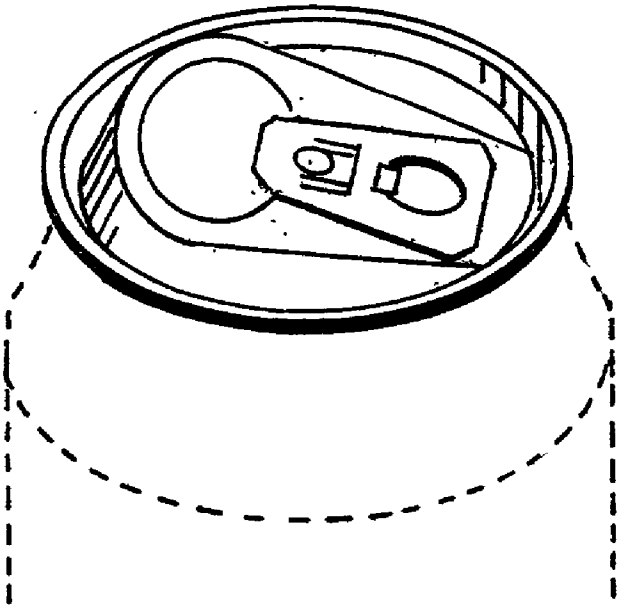


Fig. 1

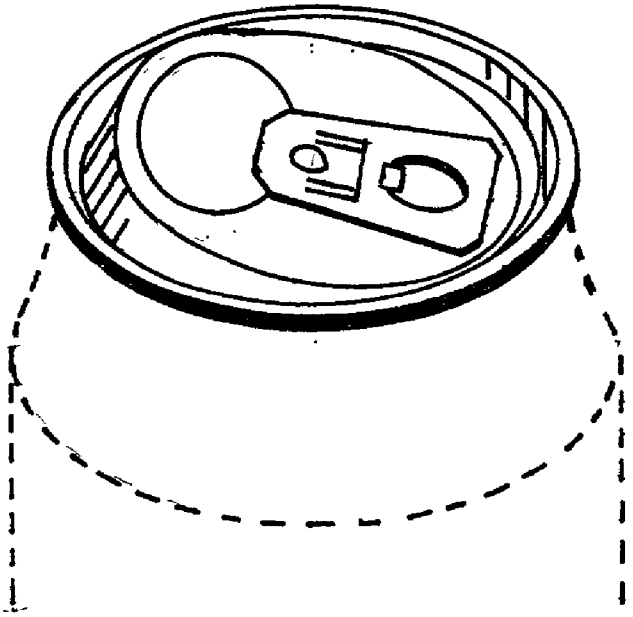
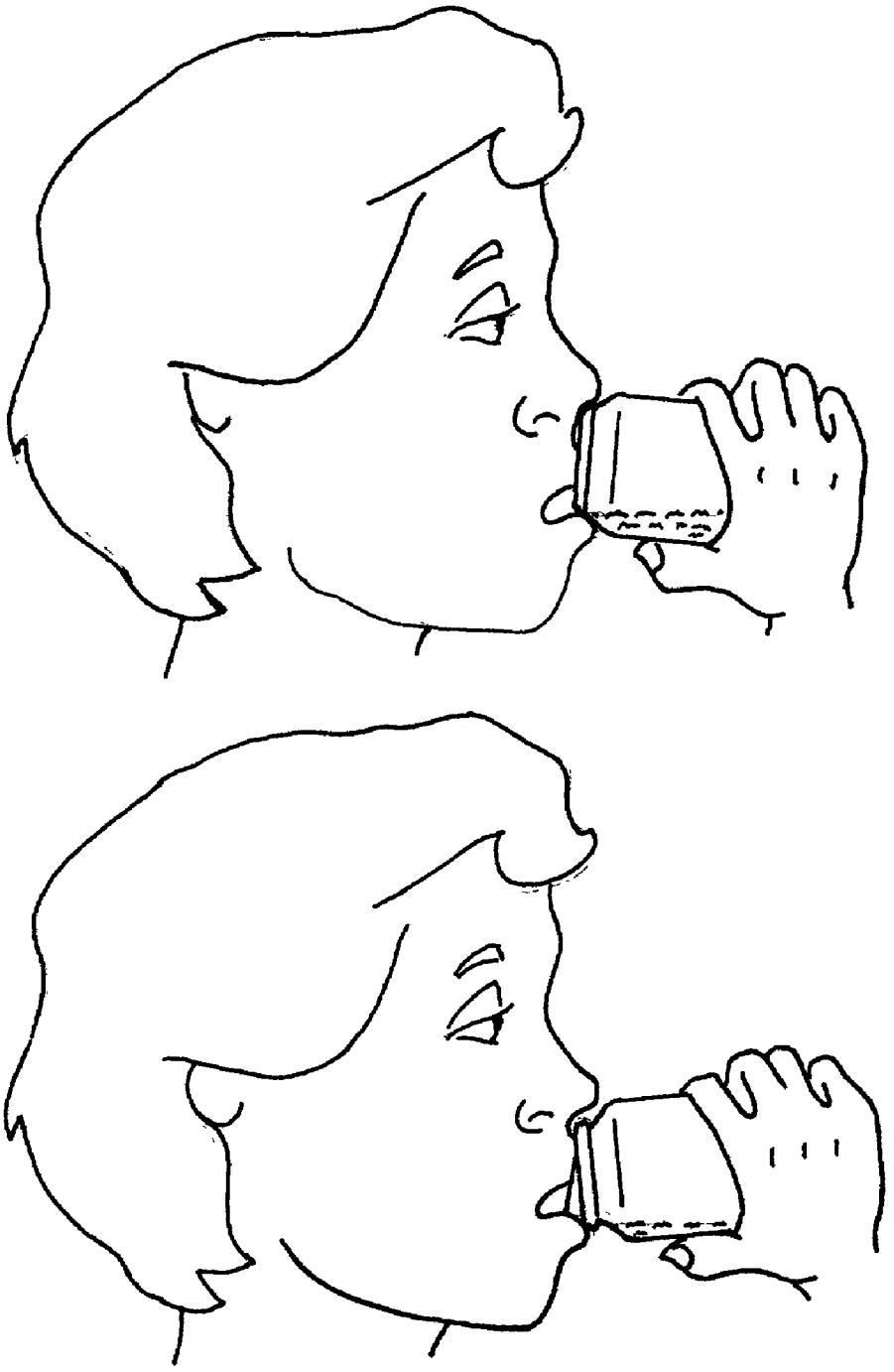


Fig. 2

PRIOR ART



NEW ART

Fig. 3

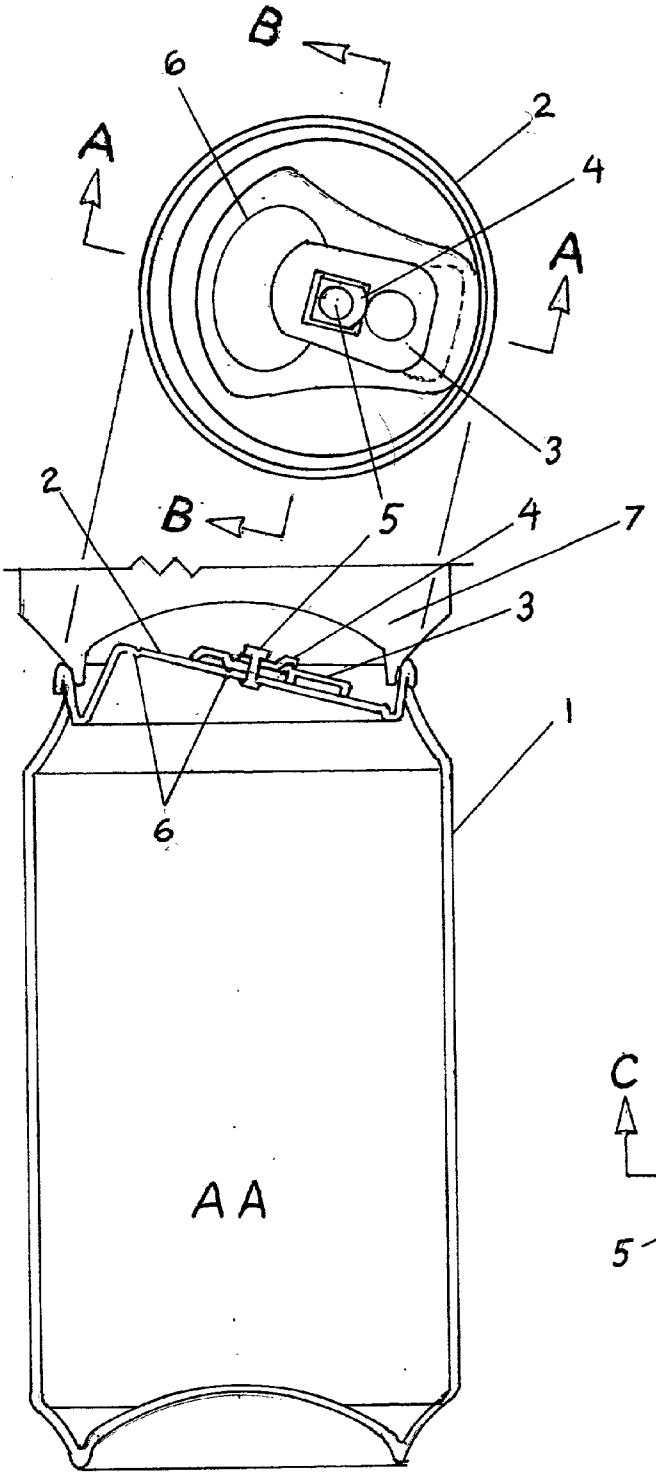
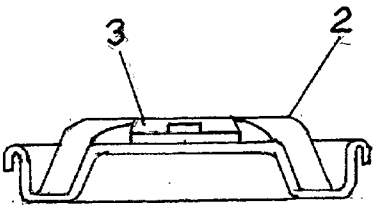


Fig. 4



BB

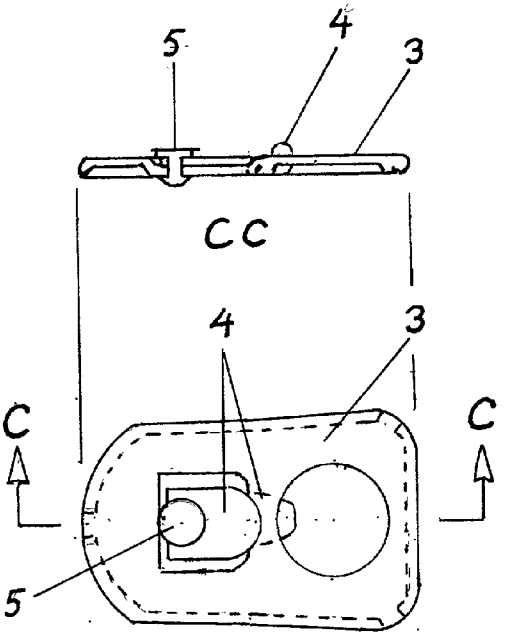


Fig. 5

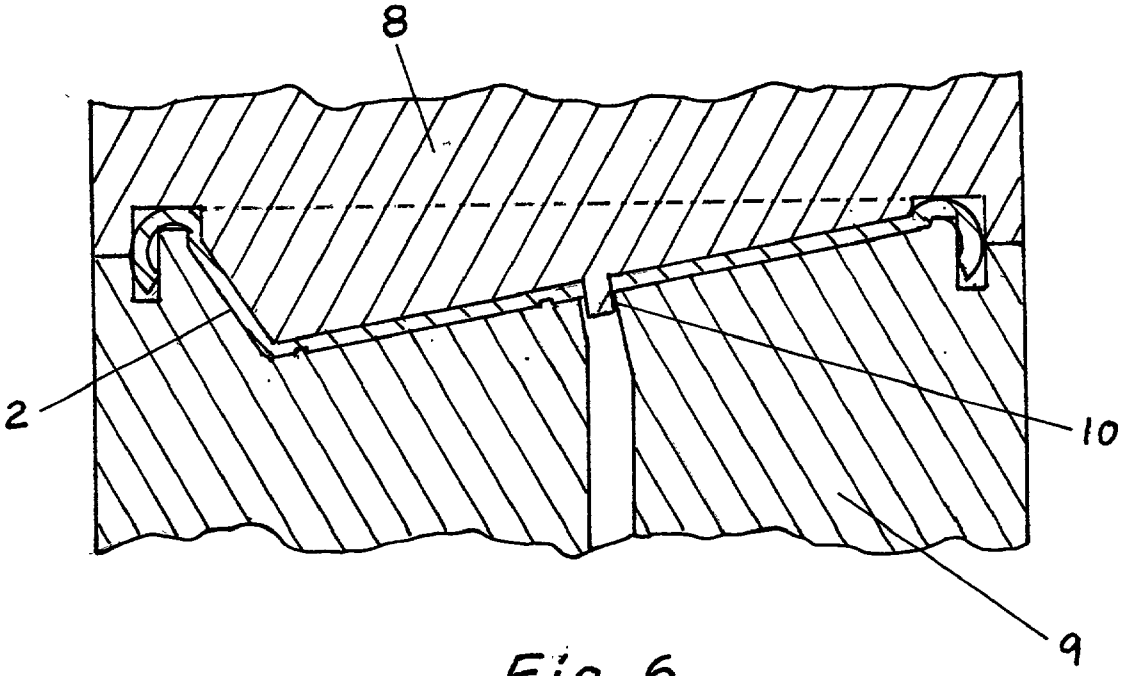


Fig. 6

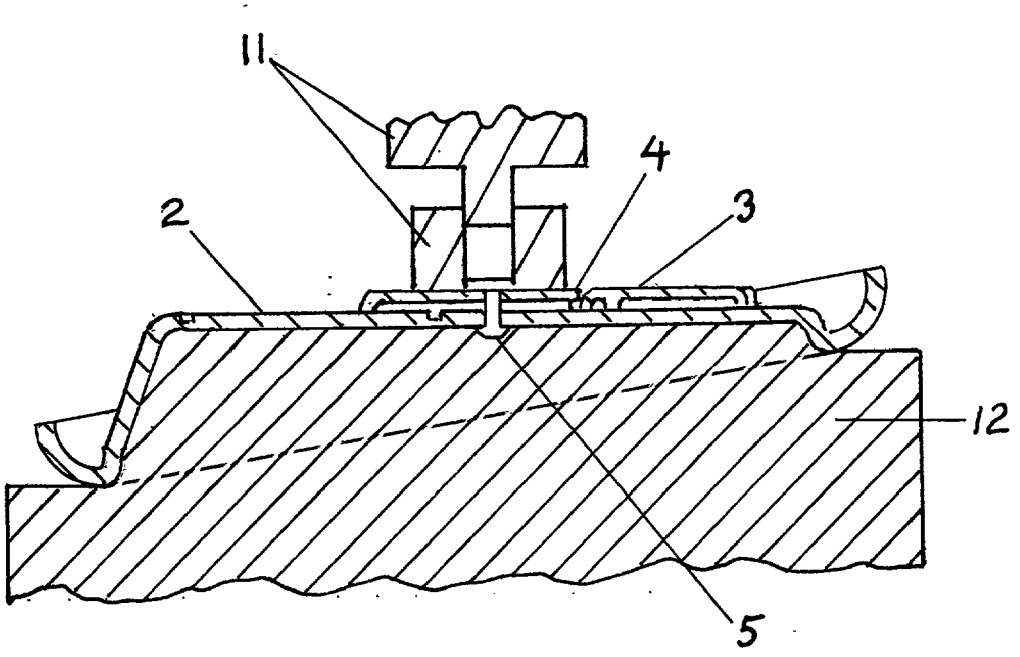


Fig. 7

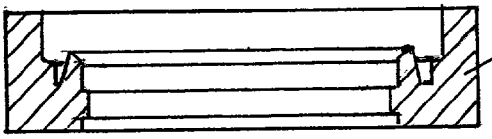


Fig 8

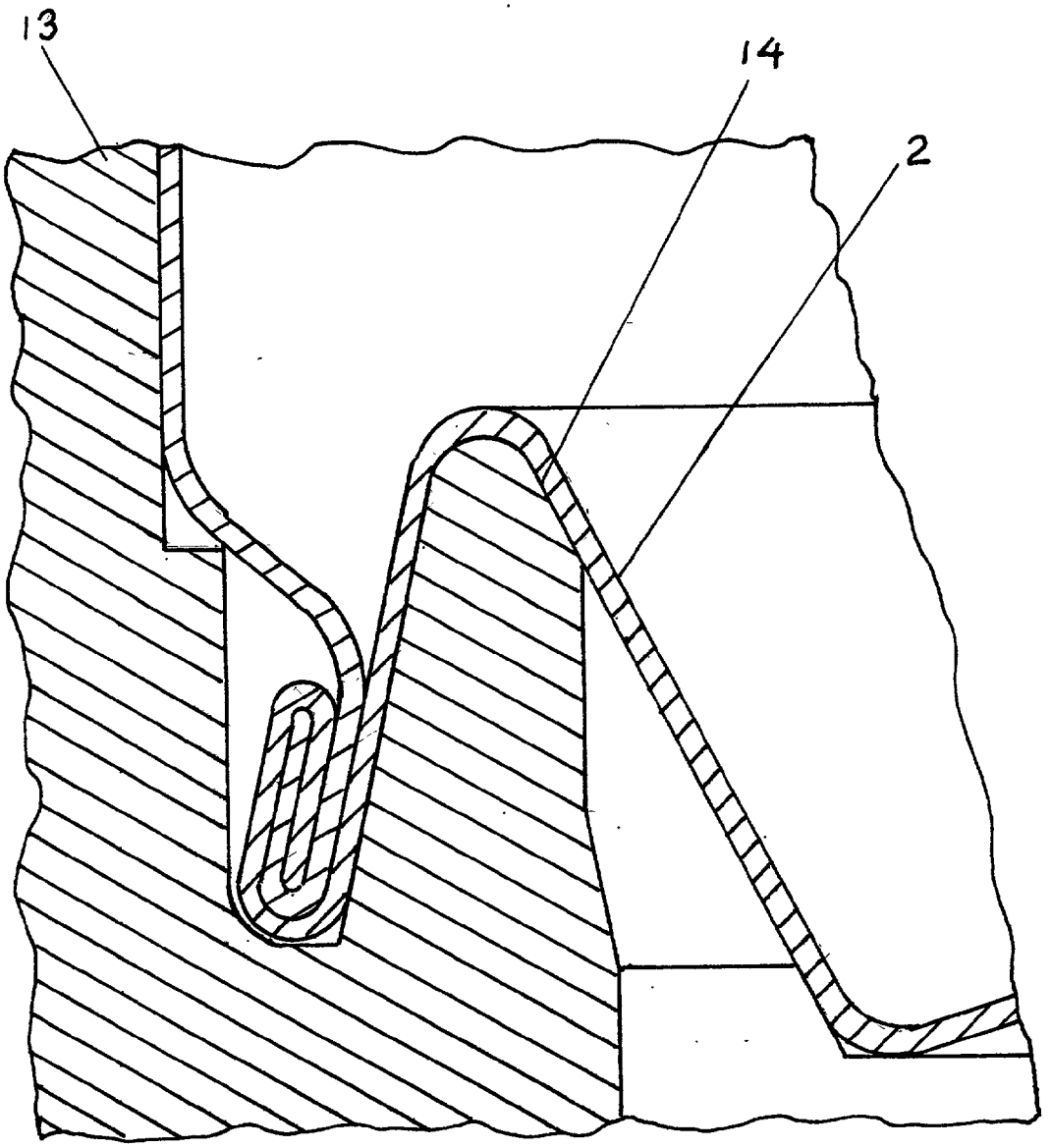
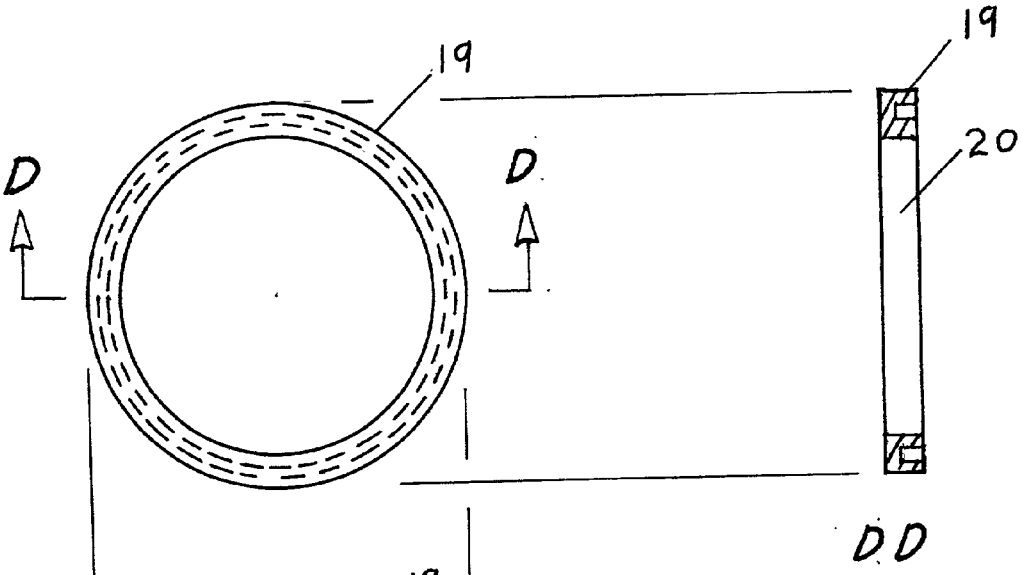


Fig. 9



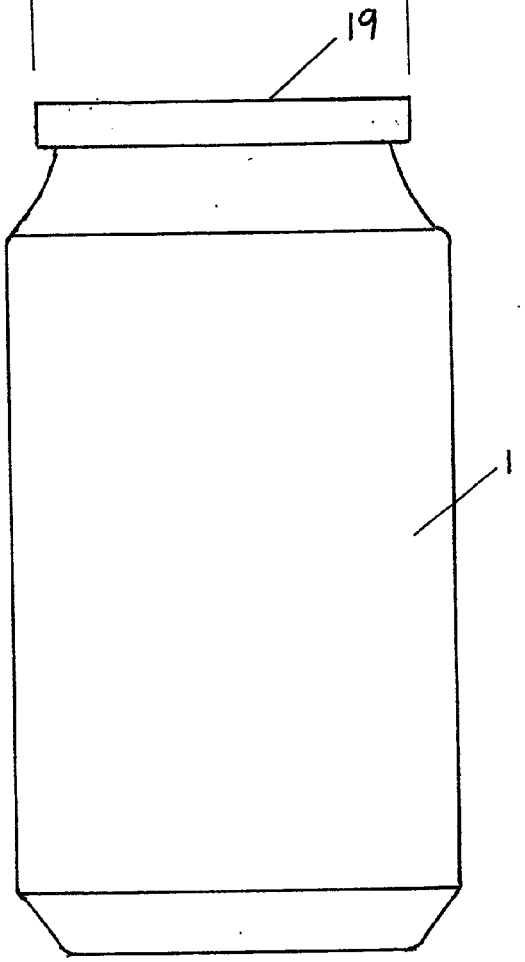


Fig. 10

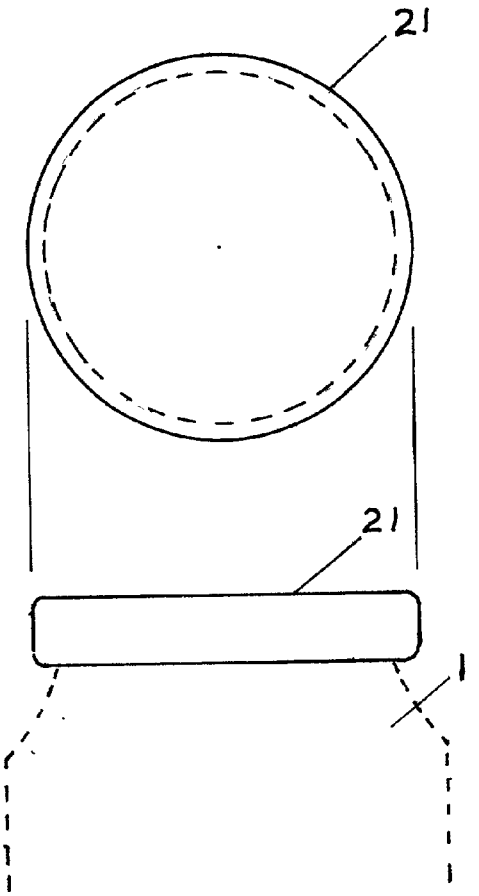


Fig. 11

RAISED BEVERAGE CAN TOP WITH HOLDING CLIP AND SPACER

Cross reference to related patents

[0001]

U.S. Patent Documents				
U.S. Pat. No. 6,112,932	Holden	Sep. 5, 2000	Flow enhancing sidewall	B65D 1/16
U.S. Pat. No. 5,947,324	Palinchak	Sep. 7, 1999	Bottle like adapter for can	B65D 25/20
U.S. Pat. No. 5,975,327	Frank	Nov. 2, 1999	Covering tab for beverage can.	B65D 17/20
U.S. Pat. No. 4,720,022	Gomes	Jan. 19, 1998	Beverage can opening and sealing tab.	B65D 17/34
U.S. Pat. No. 5,823,384	Sartori'	Oct. 20, 1998	Drinking insert for beverage	B65D 25/48
U.S. Pat. No. 4,804,105	Zysset	Feb. 14, 1989	Method for fabricating burr-free pull tabs and articles.	B65D 17/34
U.S. Pat. No. 4,834,258	Root	May 30, 1989	Can closure.	B65D 17/34
U.S. Pat. No. 4,524,879	Fundom, Kirk	Jun. 25, 1985	Can end pour spout and pull tab construction.	B65D 17/36
U.S. Pat. No. 4,537,326	Morehead	Aug. 27, 1985	Protector for drink opening	B65D 17/32
U.S. Pat. No. 4,399,925	Fundom	Aug. 23, 1983	Pouring spout steel end.	B65D 17/34
U.S. Pat. No. 4,299,161	Collins	Nov. 10, 1981	Ring and snap-on ring for preventing buckle of beer cans.	A23 1.3/04
U.S. Pat. No. 5,871,118	Franzese	Feb. 16, 1979	Ergonomic reusable top.	B65D 25/48
U.S. Pat. No. 4,094,435	Kennedy	Jun. 13, 1978	Pull tab beverage can opener.	B65D 17/32
U.S. Pat. No. 3,738,526	Zundel, Palarini Nickel Krabochvil	Jun. 12, 1973	Container with tear ring & tab	B65D 17/20
U.S. Pat. No. 3,462,042	Stolle	Aug. 19, 1969	Tear top can with tear strip.	B65D 17/20
U.S. Pat. No. 3,446,389	Funk	May 27, 1969	Easy-opening can end & tab.	B65D 17/20

DESCRIPTION

Background Of The Invention

[0002] There have been a few improvements relating to the beverage can over the years. Some of the most recent ones apply only to the can top, like pull rings or tabs, scored tops and designs for recycling. One of the latest can top designs for soft drinks and beer cans consists of a scored top opening and tab that opens the can by lifting the tab by the thumb with a leverage action that snaps the scored part of the top downward into the can leaving an opening for drinking. The tab remains attached so that it can be recycled along with the empty can. The cans are made of both steel and aluminum but mostly aluminum. The object of improvements in design of can tops have been for ease of opening, eliminate burrs left after stamping, designs that don't interfere with stacking and package for shipping, appearance and recycling.

BRIEF SUMMARY OF THE INVENTION

[0003] This invention is an improvement of metal can tops for beverage containers that contain soft drinks beer or other beverages. The primary purpose of this invention is to improve the drinking process of beverage cans by raising the can top allowing the can in the drinking process to be tipped to a higher degree angle in relation to the head without the top of the can hitting the nose of the person drinking. This makes the drinking process more practical, particularly when the liquid reaches lower levels in the can. It also includes a small retaining clip that holds the tab down after opening and spacers to be attached to the tops of cans for stacking.

[0004] The top is formed by raising it above the outer rim at the end where the scored drinking opening is on beverage cans. The raised top tappers down at an angle in a wedge or rounded shape to the current top level at the other side of the can top. It does not change any other dimensions of the can. When the person positions the can against the mouth the horizontal angle of the can is raised and the opening is slightly closer to the center of the can top allowing the can to be tipped upward at a greater angle in relation to the head. As the opening in the can top is raised from it's flat surface on one side slanting down to the top level on the other side, the upper rim seam that normally hits the end of the nose now falls below the nose in a more practical and comfortable position. By raising the top it becomes easier to wipe the top clean before touching the mouth. The new top is designed in height and angle so that the top will fit into the concave base of existing cans if they are stacked one on top of the other in six packs, for shipping or display. For packaging and stacking cans in cartons of twelve packs or larger, another part of the invention is the inclusion of a rim spacer or rim cover placed on top of the cans so that the weight distribution is on the rim of the underneath cans and not on raised can tops.

BRIEF DESCRIPTION OF THE DRAWINGS

[0005] **FIG. 1**. Shows a perspective view of the wedge shaped raised can top to be attached to the can body.

[0006] **FIG. 2**. Shows a perspective view of an alternate circular shaped raised can top to be attached to the can body.

[0007] **FIG. 3**. Shows the basic concept of the invention. In both the prior art illustration and the new art illustration the head of the person drinking is in the same horizontal position. The can in the Prior Art position is more horizontal and presses against the nose, however the can in the New Art position slants upward, misses the nose and lowers the level of the liquid creating a more practical and comfortable drinking posture.

[0008] **FIG. 4**. Shows a cross section view AA, of the raised can top, the attached tab, clip and rivet assembled together to the can body. Section AA also shows how the

raised can tops fit into the concave bottoms of other cans when they are stacked on top of each other. Section BB shows a cross section of the can top with the tab.

[0009] **FIG. 5**, Shows an enlarged view of the opening tab with two versions of retainer clips and the tab's cross section view CC.

[0010] **FIG. 6**. Is a cross section of a suggested tool and die combination that forms the can top, punches the hole for the rivet, forms the outer rim and scores the top for the top opening.

[0011] **FIG. 7**. Is a cross section of a suggested tool or die that attaches the tab, the new clip and the rivet to the can top.

[0012] **FIG. 8**. Shows a cross section of a suggested tool that is open in the center and mates the can top with the can bottom. This operation is performed after the cans are filled at a distributer location not by the can and can top manufacturing plant.

[0013] **FIG. 9**. Is an enlarged cross section of the tool and a cross section of the raised can top.

[0014] **FIG. 10**. Shows a spacer and can in side view with the spacer attached and above it the plan view of just the spacer showing that the center part is open. To the right is cross section DD of the spacer.

[0015] **FIG. 11**. Shows the side view of a different spacer with a closed top and above it a top view showing that it's center is closed.

[0016] These two different plastic, heavy card board or some other strong material can spacers when attached to the new can tops would allow packages of twelve packs or larger, to be stacked on top of each other in grocery stores and other outlets. Spacers could also be attached together to form one large over all spacer. The closed top spacer would also keep the can top more sanitary and can be put back on to retain or preserve some of the beverage. The tops and bottoms of the packages could also be scored, embossed, or have cut out holes so they could be stacked on top of each other with out spacers.

DETAILED DESCRIPTION OF THE INVENTION

[0017] **FIG. 1**. Shows a perspective view of the raised can top in a tapered configuration.

[0018] **FIG. 2**. Shows a perspective view of the can top in a circular configuration.

[0019] **FIG. 3**. Prior Art, Shows the can contacting the nose and the can tipped at a lower degree angle.

[0020] **FIG. 3**. New Art, Shows how the top rim of the raised can top clears the nose and the can is raised to a higher degree of angle with the head remaining at the same level and the can contains much less beverage. Most automobiles today have beverage can holders. In newer cars they are designed into the cars interior, so millions of people can consume soft drinks while driving. Automobiles also have head rests that keep the head from tipping back to far as safety devices. As the contents of soft drink beverage cans that are consumed in automobiles gets less and less, the head is tipped back farther and farther until it hits the head rest, in order to get all the beverage out of the can the body has to move away from the seat to allow the head to tip far enough back to empty the can. For a second or two it takes the drivers eyes off the road and the drivers body is not in a good safety position. The New Art can, corrects this hazard.

[0021] **FIG. 4**. Shows a cross section side view AA of an existing can **1**, the raised can top **2**, the tab **3**, retaining clip **4**, rivet **5**, the scored marks for the can opening **6** and the raised concave bottom area of an existing can **7**, showing that the raised top fits within the bottom of a can stacked on top. The top plan view shows the can top **2**, the tab **3**, retaining clip **4**, rivet **5** and the scored area **6**. Section BB of the can top plan view shows a cross section of the raised top **2**, and tab **3**. There is a small radius on all edges.

[0022] **FIG. 5**. Shows the enlarged top view of tab **3**, retaining clip **4**, (in two different configurations) that holds the tab down after opening when it is snapped back into it's original position by the thumb or finger and rivet **5** that assembles the three parts together when attached to the can. The cross section CC of tab **3** shows the retaining clip **4** and rivet **5**.

[0023] The raised can top can also be designed to be only raised to the level of the top rim of the can, then there would not be any need for spacers for packaging and stacking. It could also be raised higher than the ones illustrated, that might make it a bit easer to drink out of, but then the cans would have to have larger spacers and six packs could not be stacked one on top of another without spacers. I believe the best solution for all practical purposes are the ones illustrated.

[0024] **FIG. 6**. Shows a cross section **8** and **9** of a typical tool and die arrangement for forming the raised portion of the can tops, the punching of the rivet hole **10** and a cross section of the raised can top **2**.

[0025] **FIG. 7**. Shows a cross section **11** and **12** of a tool and die, to attach the tab **3**, retaining clip **4** and rivet **5** to the raised can top **2**. The present system of attaching the tab and the rivet to the can top evolves two assembly types of conveyers that move in the same plane (level) at 90 degrees to each other. The raised top invention would mean that one of the conveyers would have to be raised or lowered on a new angled plane to allow for the raised tool and die configuration shown in **FIG. 7**.

[0026] **FIG. 8** and **9** do not apply to the manufacturing of the can tops but to the assembly process of the can top to the can body at beverage distributor locations. The beverage is processed into the can body, the air is displaced from the cans by an injection of CO^2 or liquid nitrogen and the tops are mechanically sealed to the cans.

[0027] **FIG. 8**. Shows a ring type tool design in cross section **13** with a center opening, to allow for the raised top.

[0028] **FIG. 9**. Shows an enlarged cross section of the tool **13** and a cross section part of the can top **2** in it's position in the tool. The only revision to the tool that might be required, would be to the surface plane **14**, to allow for the angle and clearance of the raised new can top configuration.

[0029] **FIG. 10**. Is the invention of a plastic (or strong other material) spacer shown in two configurations. One type **19**, is shown in side view and above it the top view. Cross section view DD of spacer **19** shows that it is a ring

type that snaps on to the rim of the can with an open center **20** and the top of the spacer would be at a level or slightly higher level than the top of the raised can top.

[**0030**] **FIG. 11**. The other example **21** is shown in side view and above it the top view, showing that it clears the rim of the can top as a closed top cover and spacer that would also clear the new raised can top.

[**0031**] The spacers can be attached together to form one large spacer if termed more practical. The purpose of adding spacers to the invention is to allow for the stacking of cartons of **12** packs, or larger, in shipping and display purposes at the various stores and outlets.

1 The invention raises the tops of beverage containers, like soda or beer cans above the level of the circular top rim starting at one edge of the top tapering down in a wedge or circular shape to the other edge at the existing top level, with only minor revisions if any, to the existing top design consisting of a scored opening, existing tab or rivet. This raises the level of the can to a higher degree angle than existing cans and allows the top of the can to come under the nose in a more comfortable position and does not require the head to be tipped back as far as existing cans do when in the drinking process.

2. The invention includes a small clip addition that allows the opening tab to be snapped back down into it's original position by the thumb or finger so as to be out of the way in the drinking process. This part of the invention does not mean that by eliminating, it, would make the main invention invalid in any way.

3. The invention includes the design of plastic (or other strong material) spacers that allows for twelve packs of beverage cans (or larger) to be properly stacked for shipping and stacking cartons on top of cartons in stores and other outlets without damage to the new raised can tops.

* * * * *