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(54) **QUICK-POUR CAN**

(57)

ABSTRACT

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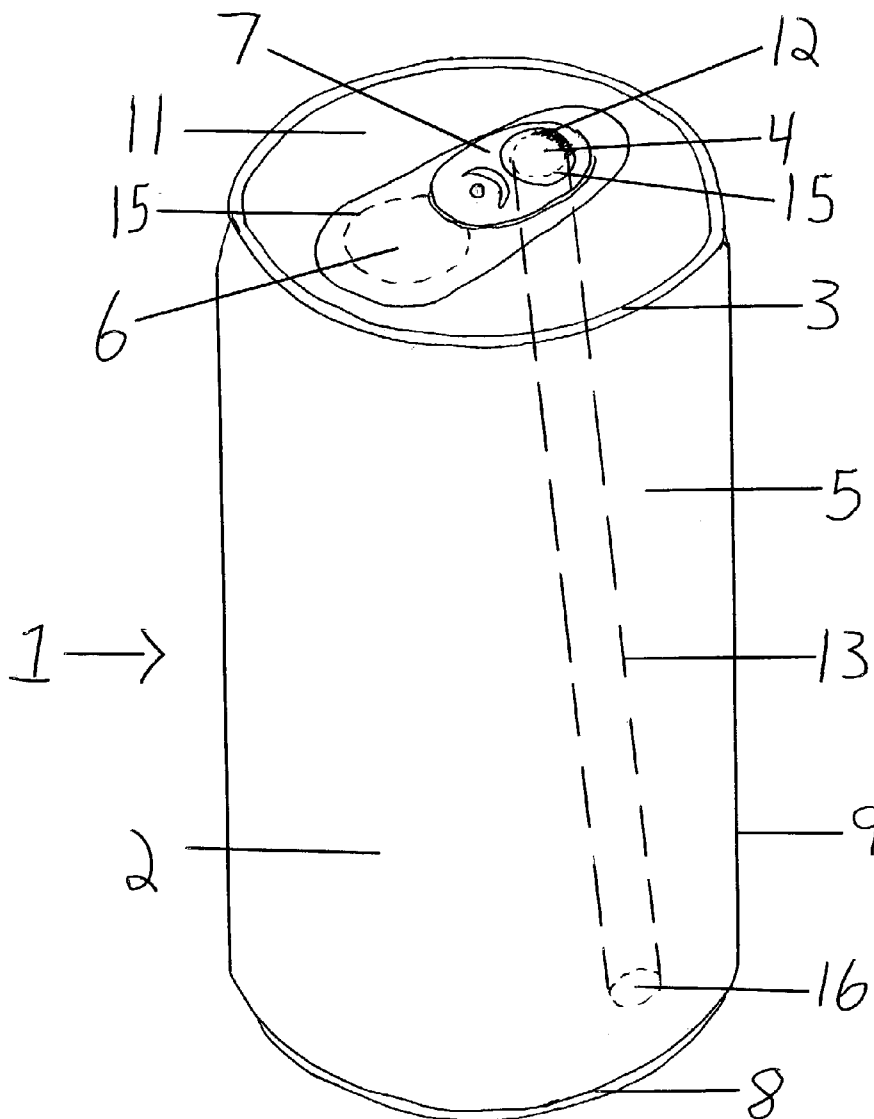
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A dual aperture beverage can (1) consisting of a venting scored section (4) and a pouring scored section (6) on the container top (11). The container (2) is comprised of a container sidewall (9), a container top (11), and a container bottom (8). A tab (7) is employed to open both the venting scored section (4) and the pouring scored section (6), such that their respective apertures are revealed. The pouring aperture (10) is of the traditional style common in the beverage can industry, while the venting aperture (14) leads to a hollow venting tube (13). The hollow venting tube (13) leads to near the bottom of the container. In this manner, that air can enter the venting aperture (14) and displace the liquid from the bottom of the can while the fluid flows quickly and evenly out the pouring aperture (10).



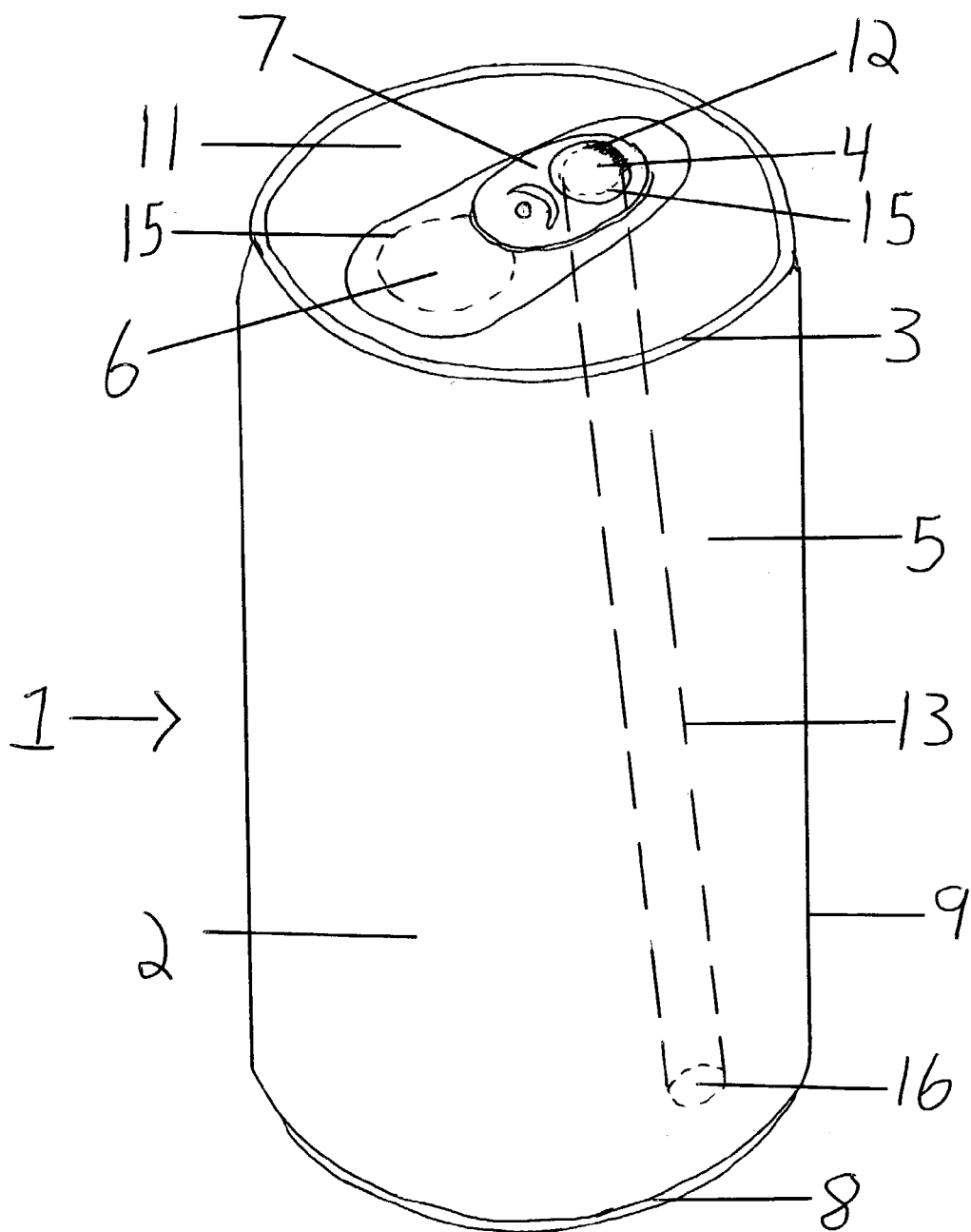


FIG 1

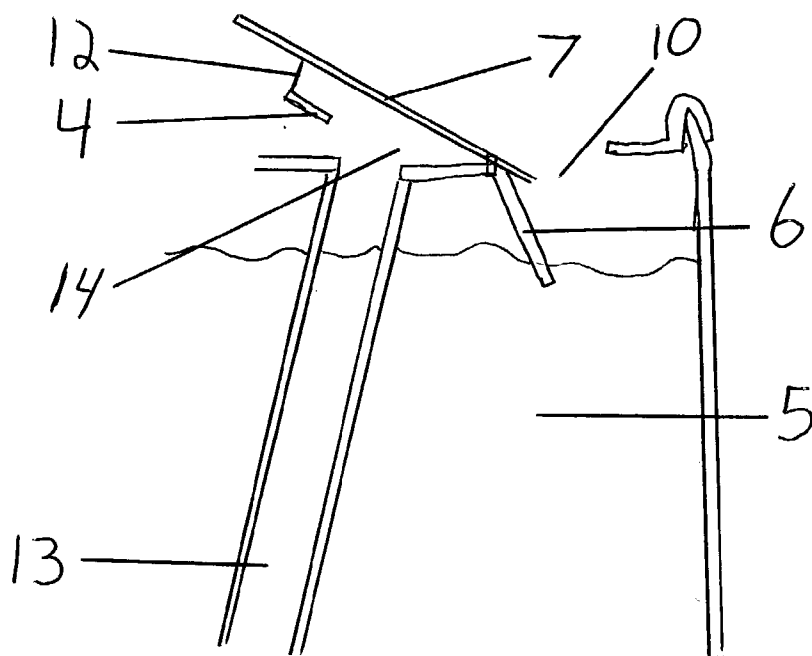


FIG 2

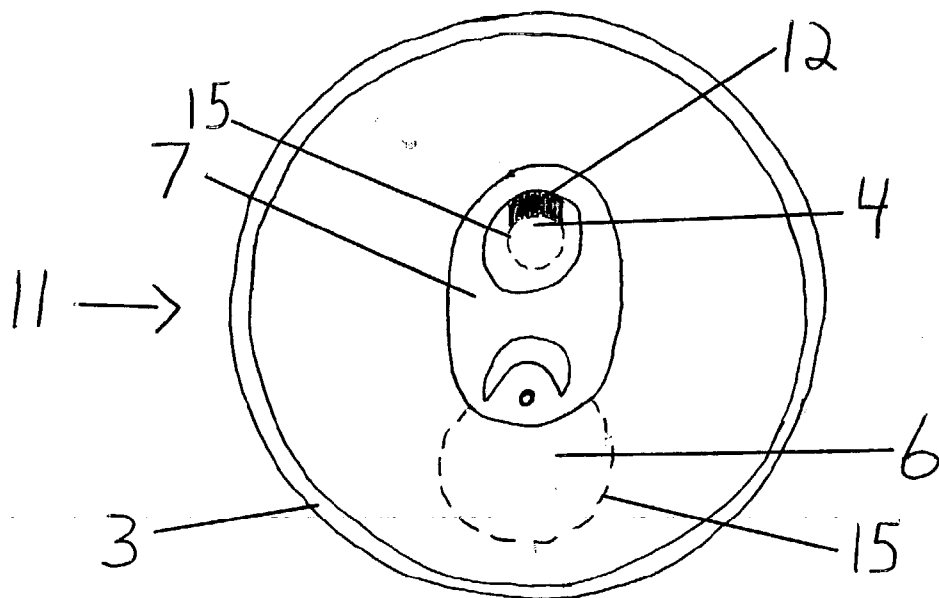


FIG 3

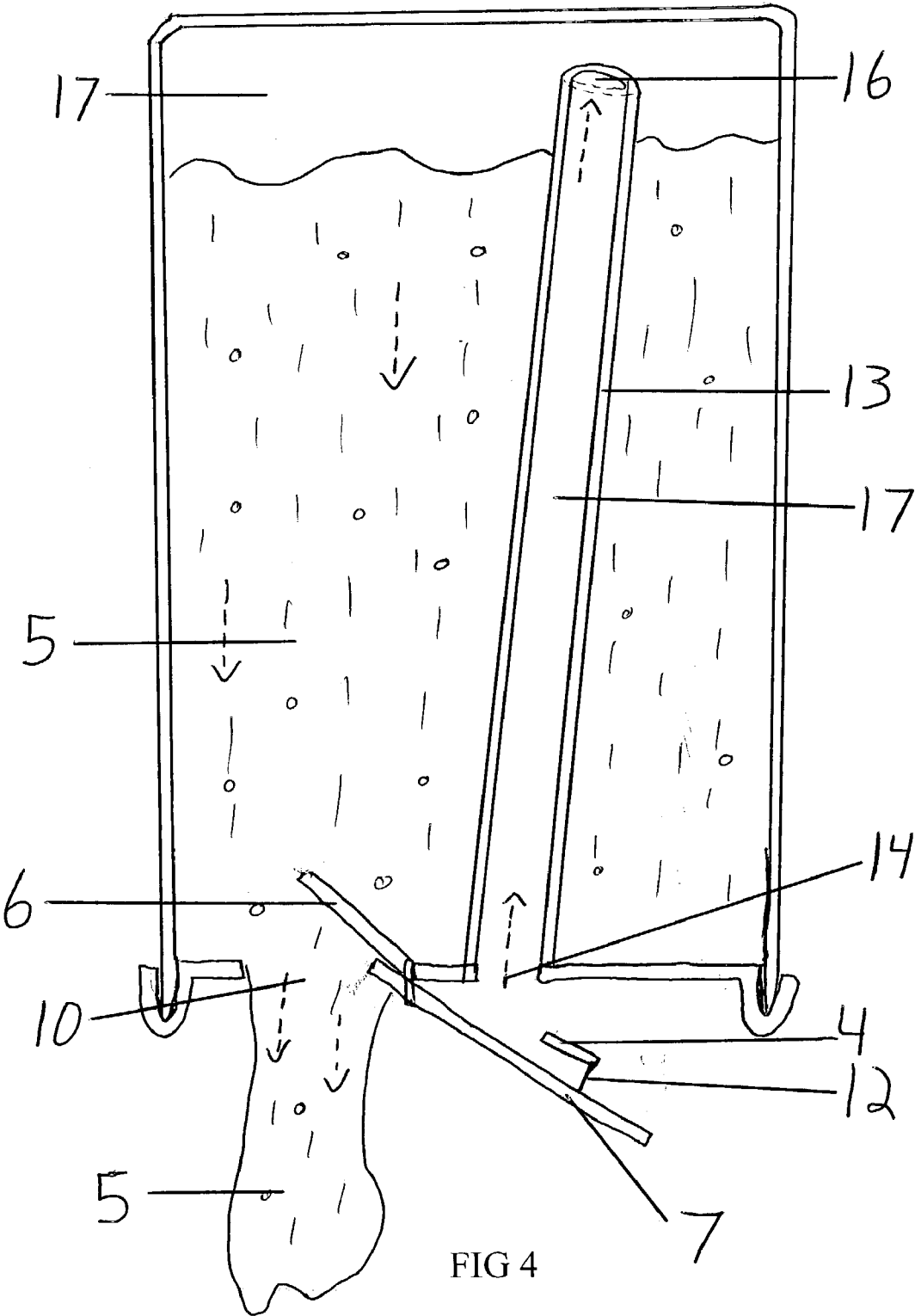


FIG 4

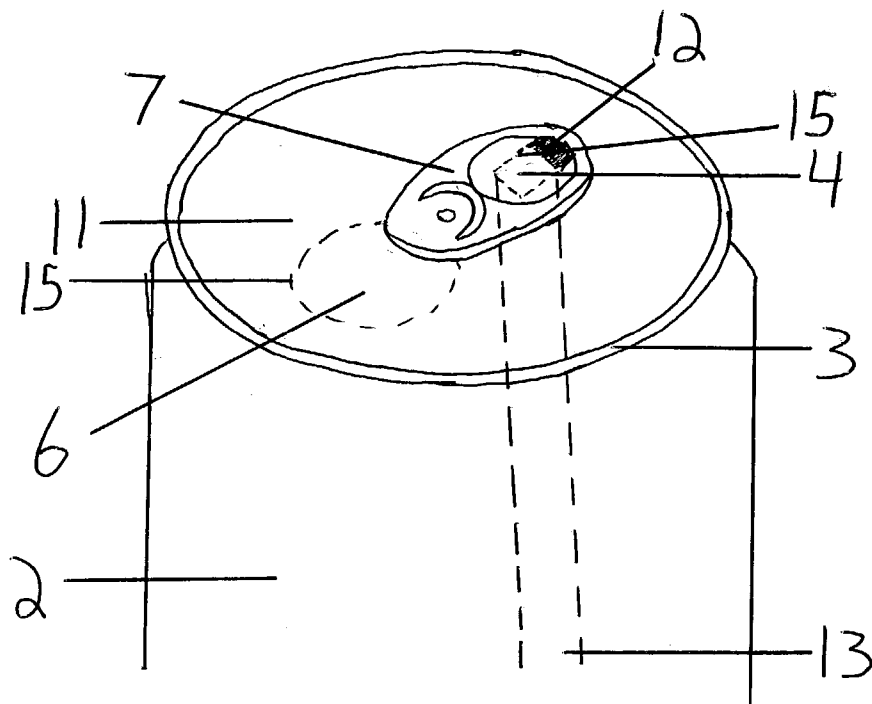


FIG 5

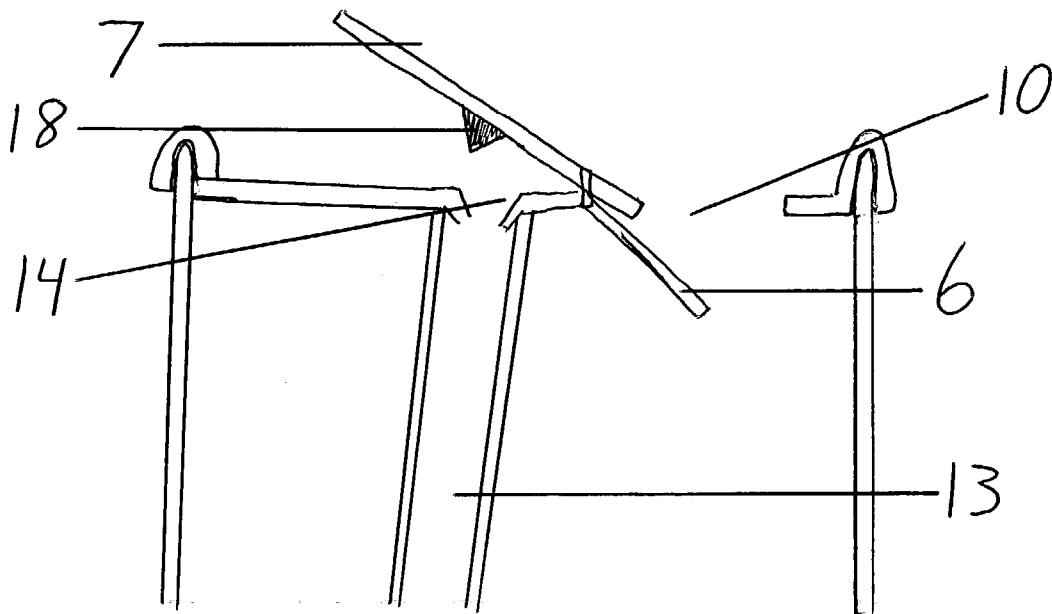


FIG 6

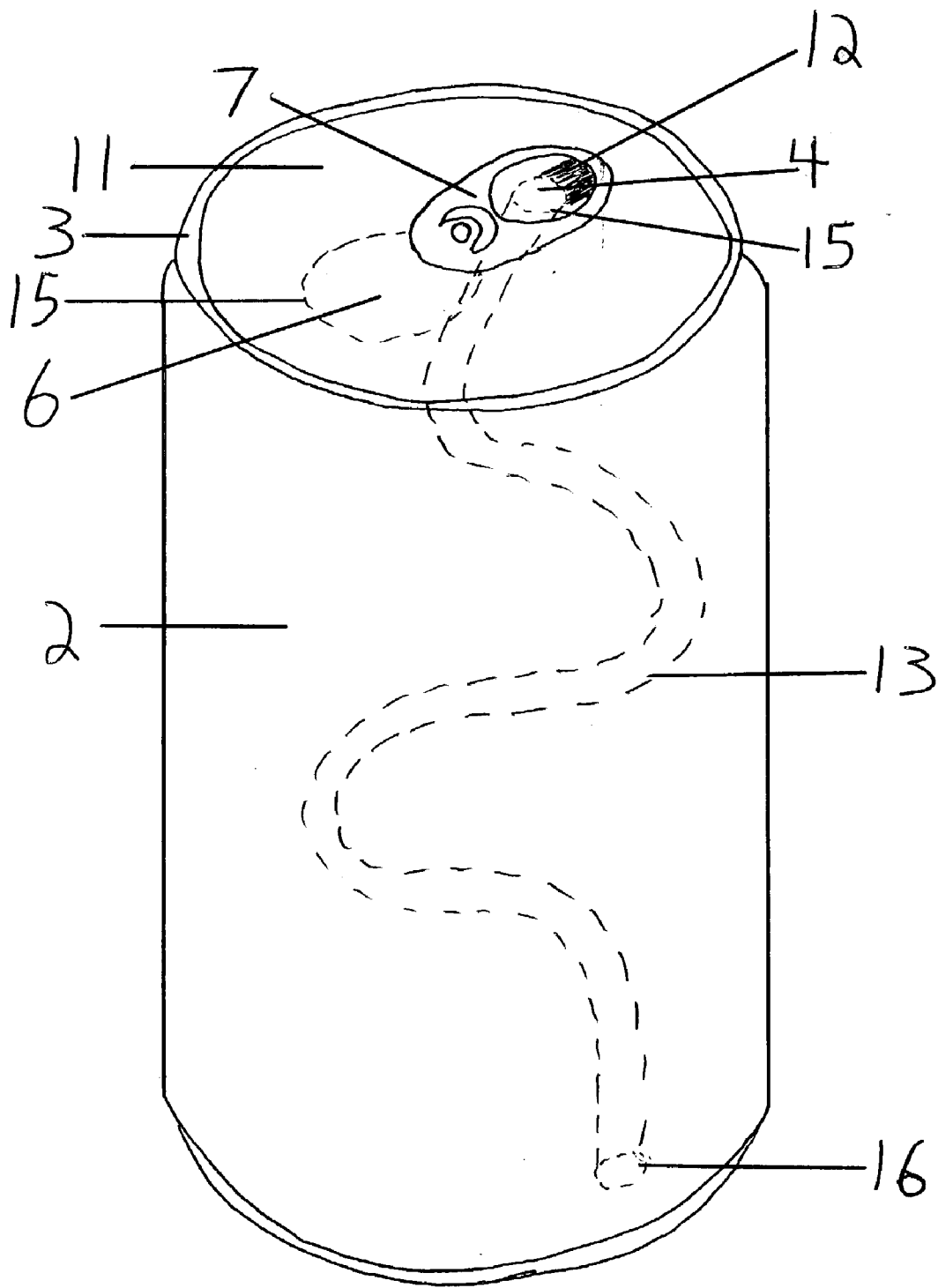


FIG 7

QUICK-POUR CAN

BACKGROUND

[0001] 1. Field of Invention

[0002] This invention relates to beverage cans, specifically to the manually-operated mechanism that allows for the flow of fluids.

[0003] 2. Description of Prior Art

[0004] Previously, beverage cans have employed a simple single opening aperture to allow for the fluids therein to be poured. Although the design of such a pouring mechanism has changed, the problems inherent in a single opening persist. In any single opening container, for fluid to exit, air must enter and displace the fluid; this causes a slow and uneven stream of liquid that undulates as it pours. Besides the mere aesthetic issues that this creates, there are many functional problems that result from an uneven flow of fluids. The liquid pours out of the container slowly, making it nearly impossible to quickly imbibe the fluids directly from the can. In some situations, it is desirable to be able to quickly drink the contents of a can; however, this feat is extremely difficult because of the slow, uneven flow and the problems that result from it. As well, an undulating flow makes it very difficult to pour the contents of the can into a small opening or container without spilling.

[0005] Another problem in many prior art cans is the inability to pour the entire contents of the can, leaving a few last drops once consumption of the beverage is complete. Besides being wasteful, these unconsumed remnants can be a nuisance when a person partakes in recycling the cans. In aggregate, saving the sum of all this waste would enhance efficiency.

[0006] Prior art has to this point been unable to solve the problem of excess foam or "head". Much of this foam is caused by the uneven pour of fluids from a single-opening beverage container into a glass. This foam makes it difficult to quickly consume the beverage directly from the can. When poured into a glass, the foam forces persons to wait until it has settled before drinking the beverage. Although "widemouth" cans have attempted to solve this problem and others, they still have only one opening and therefore are subject to the same problems.

[0007] I am aware of several prior patents that attempt to address the issue mentioned. U.S. Pat. No. 6,015,060 and U.S. Pat. No. 5,782,373 offer dual aperture beverage containers; however, the venting aperture in these inventions is simply a second mouth placed near the bottom of the can. Although this solves the problem of an uneven pour, it creates many new and undesirable consequences. For instance, once the second aperture is opened, the person consuming the beverage is forced to immediately pour or drink the entire contents of the can. Further, this design requires a person to open two separate apertures, the second one being in an awkward position, which can easily lead to spillage. U.S. Pat. No. 6,112,932 is for a beverage can with a flow enhancing sidewall. Although this may provide a better flow when the can is tilted at small angles with respect to the horizontal, it is still a single aperture beverage container and requires air and liquid to compete for the same space when the can is inverted vertically. Therefore, this invention does not solve the problems previously stated.

[0008] There remains an unmet need for a beverage can that allows for a quick and even flow of the fluids therein, thus reducing foam, spillage, and pouring time. As well, there remains an unmet need for a beverage can that can reduce the amount of leftover fluids.

OBJECTS AND ADVANTAGES

[0009] Accordingly several objects and advantages of the present invention are:

[0010] (a) to provide a can which allows for improved drinkability without substantially changing the dimensions, stackability, or manufacturing costs;

[0011] (b) to provide a can which pours smoothly, eliminating the chugging or undulating motion

[0012] (c) to provide a can that allows for persons to more quickly drink the fluid directly from the can;

[0013] (d) to provide a can which reduces the amount of residual leftover fluid commonly associated with current cans, thus allowing for more fluid per container to be consumed

[0014] (e) to provide a can which can be poured more quickly and accurately, reducing spillage while doing so.

[0015] (f) to provide a can which eliminates much of the excess foam that is common when carbonated beverages are poured into glasses.

[0016] Further objects and advantages of my invention will become apparent from a consideration of the drawings and ensuing discussion.

DRAWING FIGURES

[0017] The advantages of my invention over prior art and its novel features will become more apparent through a consideration of the following detailed drawings and descriptions wherein:

[0018] FIG. 1 shows a front perspective view of the preferred embodiment of a dual aperture beverage container.

[0019] FIG. 2 shows a vertical cross-sectional view of the container, the dual apertures, and the venting mechanism.

[0020] FIG. 3 shows a top perspective of a dual aperture beverage can.

[0021] FIG. 4 shows a vertical cross-sectional view of the preferred embodiment in use.

[0022] FIG. 5 shows a perspective view of an alternative embodiment.

[0023] FIG. 6 shows a cross-sectional view of another alternative embodiment.

[0024] FIG. 7 shows a perspective view of a further alternative embodiment.

REFERENCE NUMERALS IN DRAWINGS

[0025] 1 dual aperture beverage container

[0026] 2 container

[0027] 3 container rim

- [0028] 4 venting scored section
- [0029] 5 liquid
- [0030] 6 pouring scored section
- [0031] 7 tab
- [0032] 8 container bottom
- [0033] 9 container sidewall
- [0034] 10 pouring aperture
- [0035] 11 container top
- [0036] 12 connecting metal
- [0037] 13 hollow venting tube
- [0038] 14 venting aperture
- [0039] 15 scoring
- [0040] 16 venting tube bottom
- [0041] 17 air
- [0042] 18 spike

SUMMARY

[0043] My invention is a beverage can which aims to eliminate the problems associated with prior art. The present invention seeks to provide a beverage can that can be consumed more quickly and easily in private, social, festive, and business occasions through the unique dual aperture that allows air to displace the fluid therein from the bottom of the container. Further, the invention aims to be employed as easily as the traditional prior art by allowing the current single-aperture opening mechanism to also open the new venting aperture. This reduces confusion associated with new products and maintains the size, stackability, and other important physical features associated with current beverage containers. The invention achieves these goals through the preferred embodiment and many various alternative embodiments.

[0044] In the preferred embodiment of my invention, the invention is an improvement on the traditional beverage can with a traditional opening mechanism, a tab that opens a scored pouring aperture. In this embodiment, there is another scored section on the top of the can. This second scored section is circular and placed below the tab; however, additional embodiments can have any shaped scored section and can be placed anywhere on the can. This new scored section is attached to the tab by a small piece of connecting metal. The new venting aperture, when opened, allows air to flow from outside the can to the bottom of the can. The new opening under the tab, the venting aperture, leads to a hollow tube that is connected to the bottom of the container top, the venting tube. The venting tube extends to a small distance above the bottom of the container

[0045] There are many alternative embodiments that are suitable for the invention. The venting tube can be made of a variety of materials, as well as be made of different shapes, sizes, and directions. What is relevant is that it allows air from the outside through the venting tube to displace the fluid in the can. Further, the venting aperture can also be made in a variety of shapes, sizes or locations that allow for an effective employment of the venting tube. Further, the venting aperture need not be opened by the connecting

metal. Any effective means for opening the venting aperture so that air can flow down the venting tube and displace liquid from below would be an alternative embodiment of my invention. Many other embodiments exist, and should not be limited to those mentioned above. Further, the purpose of the abstract is to allow those skilled in the art, the United States Patent and Trademark Office, and the public in general to ascertain the essence of my invention. To this end, it is not expected to limit the scope of my invention or define it in any manner outside the claim.

DESCRIPTION OF PREFERRED EMBODIMENT

[0046] 1. Detailed Description of the Preferred Embodiment Figures

[0047] A typical embodiment of the present invention is illustrated in FIGS. 1 through 4. Referring to FIGS. 1 and 3, a dual-aperture beverage container 1 and a container top 11 are shown respectively. In the main embodiment, a container 2 consists of a container sidewall 9 that wraps around to form a hollow cylinder. The container sidewall 9 is made of metal and is effectively closed on both open ends so that it can completely seal the beverage inside. On top of the container sidewall 9 is connected the container top 11, while the bottom is sealed off with a container bottom 8. Like the container sidewall 9, the container top 11 and container bottom 8 are both made of metal. The container top 11 contains a pouring scored section 6, a tab 7, a venting scored portion 4, a container rim 3, a connecting metal 12, and a hollow venting tube 13. The container rim 3 is simply the circumference of the container top 11, securing the container top 11 to the container sidewall 9. The pouring scored section 6 is generally of a circular shape and less than an inch in diameter. The pouring scored section 6 is defined by scoring 15 that surrounds most of it except the portion under the tab 7. The scoring 15 is done in the traditional size and spacing that is custom in the beverage industry to allow for the detachment of the pouring scored section 6 when the tab 7 is pulled up. The tab 7 is attached to the container top 11 so that its attachment point is next to the pouring scored section 6, but not on it. As well, it is attached in a manner that allows part of the tab 7 to overlap the pouring scored section 6, but the majority of the tab 7 is opposite the side of the pouring scored section 6. The venting scored section 4 is also of a circular shape and is defined by scoring 15 that surrounds it entirely. The venting scored section 4 is smaller than the pouring scored section 6 such that it is approximately a centimeter or two in diameter. The venting scored section 4 is connected to the tab 7 by the connecting metal 12. The connecting metal 12 is a sheet of metal that attaches the top of the venting scored section 4 to part of the tab 7. Below the container top 11 is connected the hollow venting tube 13. The hollow venting tube 13 would be made out of the same metal as the container 2 and presumably manufactured as part of the container top 11. The hollow venting tube 13 would be just slightly wider than the venting scored section 4, and the center of the hollow venting tube 13 would also be that of the venting scored section 4. A venting tube bottom 16, the bottom of the hollow venting tube 13, would be open so that anything could enter and exit the bottom of the hollow venting tube 13 freely. As well, the hollow venting tube 13 is straight but at a slight tilt such that the venting tube bottom 16 is approximately a centimeter from the container bottom 8 at the side opposite the pouring scored section 6.

[0048] Referring to FIG. 2, there is shown a cross-sectional view of the invention after it has been opened. When the tab 7 is toggled and pulled up on by the end furthest from the pouring scored section 6, the pouring scored section 6 is detached from the container top 11 where the scoring is 15 so that it is pushed down into the container 2. At the same time the pouring scored section 6 is pushed down, the venting scored section 4 is completely detached from the container top 11 along the scoring 15. The venting scored section 4 is detached by the force from the connecting metal 12 pulling up on it; however, the connecting metal 12 is, in turn, being pulled up on because the tab 7 is being pulled. A pouring aperture 10 is revealed when the pouring scored section 6 is pushed down, and a venting aperture 14 is revealed when the venting scored section 4 is detached from the container top 11. The venting aperture 14 leads to the hollow venting tube 13 such that the only possible entries and exits for the hollow venting tube 13 are the venting aperture 14 and the venting tube bottom 16.

[0049] 2. Operation of the Preferred Embodiment

[0050] FIG. 4, illustrates the present invention in use. The container 2 is opened by pulling up on the tab 7 from the end furthest the pouring scored section 6, consequently pushing the pouring scored section 6 down and simultaneously detaching the venting scored section 4 completely from the container top 11. In this drawing, the container 2 has been opened and is inverted, such that a fluid 5 streams out through the pouring aperture 10 while air 17 enters the venting aperture 14 and displaces said fluid 5 from the bottom of the container 2. The fluid 5 is at a level below the venting tube bottom 16 so that it can only exit the can through the pouring aperture 10. As well, the exiting fluid 5 causes a pressure change in the container 2 that causes the air 17 to flow into the venting aperture 14 and through the hollow venting tube 13. In doing this, the fluid 5 is allowed to flow quickly and freely out of the container 2, eliminating the uneven undulating motion that is common with prior art cans.

DESCRIPTION AND OPERATION OF ALTERNATIVE EMBODIMENTS

[0051] There are a great many possible embodiments for this invention, and those mentioned should not be seen as limiting the scope of the invention. The scope of the invention should be determined not by the embodiments illustrated but by the appended claims; however, some alternative embodiments are briefly discussed below.

[0052] FIGS. 5 through 7 illustrate some possible embodiments. In FIG. 5, the only difference with regards to the preferred embodiment is that the venting scored section 4 is of a square shape. Changing the shape of the venting scored section 4, and consequently the venting aperture 14, has no effect on the functional utility of the invention. Consequently, the venting scored section 4 can be of any shape or location on the container top 11, assuming it makes effective use of the hollow venting tube 13. As well, the venting scored section can be many sizes; however, some of the effectiveness is lost if venting apertures 14 are too small or too big. An appropriate size would be about 1 to 2 centimeters in diameter.

[0053] FIG. 6 shows another possible embodiment where the venting aperture 14 is opened in an entirely different

manner. In this drawing, there is a spike 18 attached to the bottom of the tab 7. The venting aperture 14 no longer has scoring 15 around it, but rather is made of a more flimsy metal, such that the tab 7, and consequently the spike 18, can be pushed down to impale the material covering the venting aperture 14. It is in this manner that the venting aperture 14 would be opened, while the pouring aperture 10 and the hollow venting tube 13 would work and act as in the preferred embodiment. Likewise, there could be any number of means by which the venting aperture 14 can be opened other than by using the connecting metal 12.

[0054] FIG. 7 shows another alternative embodiment whereby everything is the same as the preferred embodiment except the shape and direction of the hollow venting tube 13. In this drawing, the hollow venting tube 13 has many curves rather than being straight. This alteration would not affect the functional utility of the invention. Other alternative embodiments could have different shape, size, direction, or material for the hollow venting tube 13.

[0055] Other possible embodiments consist of changing the shape, size, direction, or material of components. The pouring scored section 6 could also be changed, as could the mechanism opening the pouring aperture 10 or venting aperture 14.

I claim:

1. A beverage container comprising:
 - (a) a cylindrical container sidewall;
 - (b) a container bottom;
 - (c) a container top, said container top further comprising a means for opening a venting aperture and a pouring aperture;
 - (d) a hollow venting tube connected to the underside of said container top underneath said venting aperture, whereby said venting tube allows air to displace a fluid from the bottom of said container.
2. The beverage container set forth in claim 1, wherein said container is composed of aluminum.
3. The beverage container set forth in claim 1, wherein a single tab is employed to open said pouring aperture and said venting aperture.
4. The beverage container set forth in claim 1, wherein a tab is attached to a venting scored section by a connecting metal. This is done in such a manner that when said tab is toggled up, said venting scored section is detached from the container top, revealing said venting aperture.
5. A means for air to displace liquid from the bottom of a container comprising:
 - (a) a sidewall;
 - (b) a container bottom;
 - (c) a container top, where said top further comprises a means for opening a pouring aperture and a venting aperture;
 - (d) a hollow venting tube connected to the bottom of said container top underneath said venting aperture such that air or liquid can only enter or exit said hollow venting tube through the bottom of said hollow venting tube or through said venting aperture.

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