

May 25, 1965

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3,185,341

ATTACHMENT FOR DRINKING CANNED BEVERAGES

Filed May 14, 1962

2 Sheets-Sheet 1

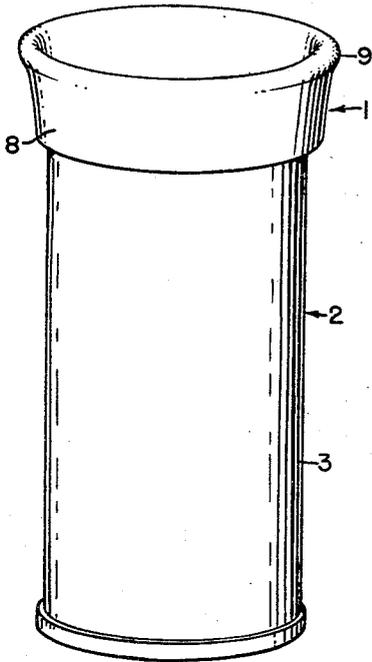


FIG. 1

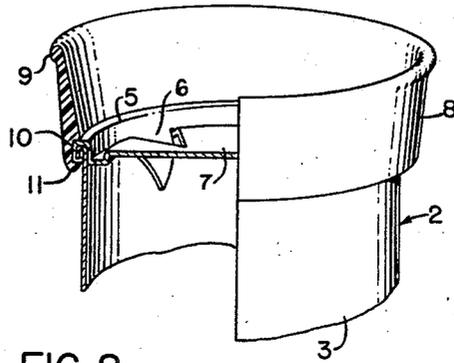


FIG. 2

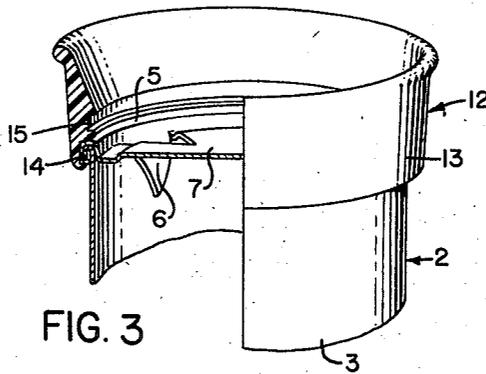


FIG. 3

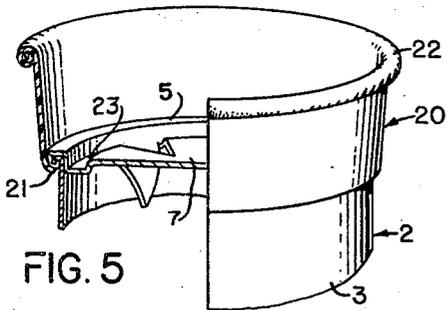


FIG. 5

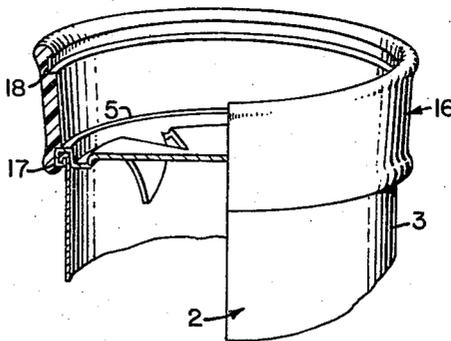


FIG. 4

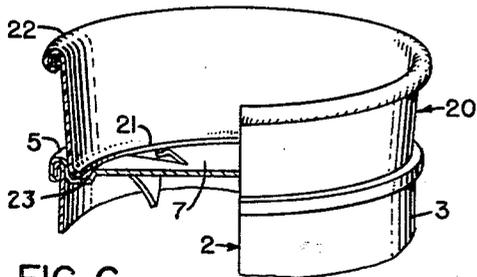


FIG. 6

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2 Sheets-Sheet 2

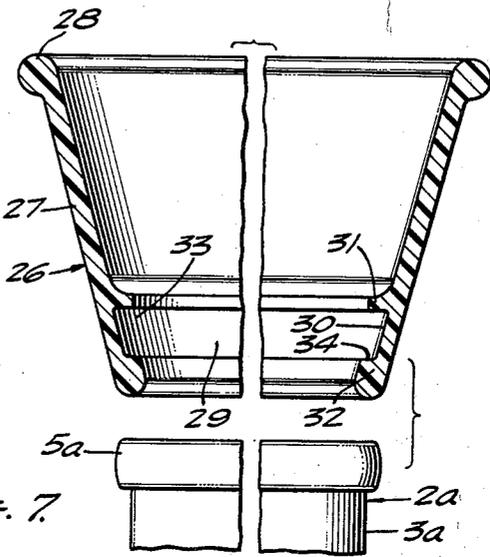
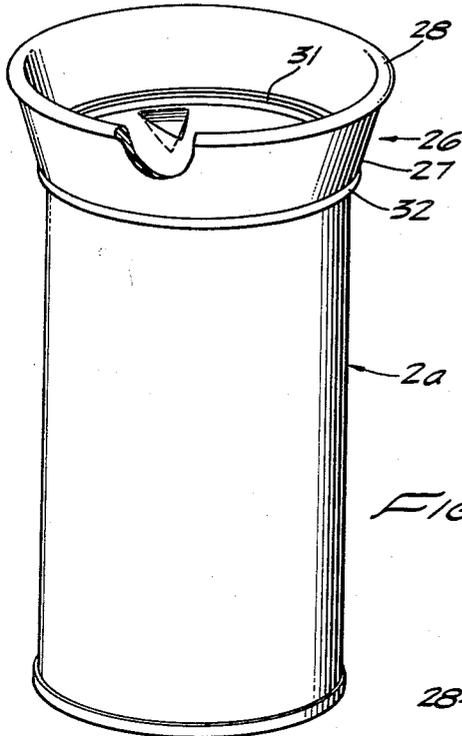


FIG. 7.

FIG. 8.

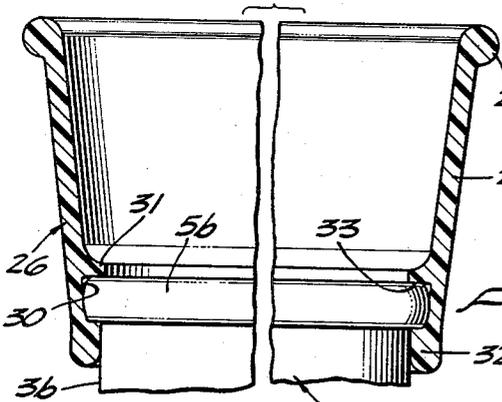


FIG. 11.

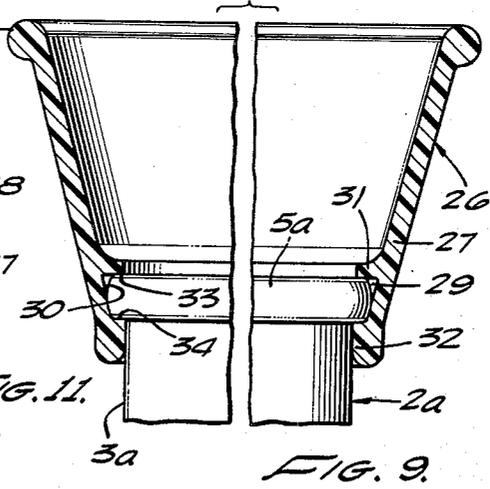


FIG. 9.

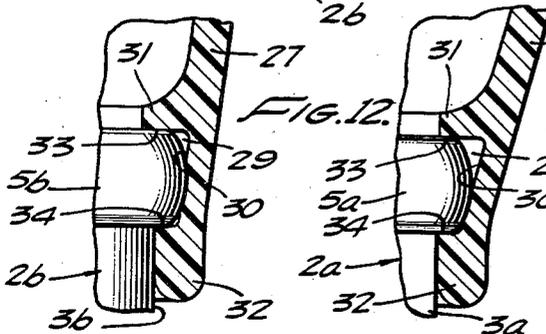


FIG. 12.

FIG. 10.

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ATTACHMENT FOR DRINKING CANNED BEVERAGES

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 Filed May 14, 1962, Ser. No. 197,220
 8 Claims. (Cl. 220-90.6)

This application is a continuation-in-part of my co-pending application, Serial No. 35,705, filed June 13, 1960, for Attachment for Drinking Canned Beverages, now abandoned.

This invention pertains to an accessory which is secured to the top of a can to provide means for drinking the beverage contained within the can.

Today an increasing number of beverages are packaged in cans in a volume constituting a normal serving. This includes not only the familiar beer and ale cans, but also includes soft drinks of all types, weight reducing formulas, and many different kinds of juices. Normally these cans are the ordinary flat top type adapted to be opened by a punch type opener. Frequently, the beverage cannot be transferred to a tumbler or other receptacle for consumption. In other words, quite often canned beverages are drunk directly from the can,

However, drinking directly from the can is an unsatisfactory type of arrangement. In the first place, it is obvious that the edge of the can is not sanitary. Washing the top of the can to assure cleanliness may either be impossible or at best is quite inconvenient. Also, it is unpleasant to drink from the edge of a can due to the nature of the can with its metal composition and printed exterior, as well as the sharp opening punched through it which can be injurious. Furthermore, a can is difficult to drink from, with the triangular opening obtained when the lid is punched open being the wrong size and shape, plus the fact that the liquid is immediately adjacent the top, often resulting in spilling of the liquid.

According to the provisions of this invention, a rim, preferably of plastic material, is secured to the top edge of the can providing a clean and easily managed surface to drink from, as from a cup or tumbler. This device may include an internal circumferential groove for attaching the rim to the top bead of the can. In some instances a duality of grooves is included to enable use of the device with cans of different sizes. The rim may be made either as a reusable item or may be expendable. In one embodiment, the groove configuration and divergent nature of the device at the area of the groove gives an improved seal and assures that the unit will not be separated from the can inadvertently.

Therefore, it is an object of this invention to provide a low cost, readily applied drinking attachment for a can.

Another object of this invention is to provide an attachment making drinking from a can easier, sanitary and more pleasant.

A further object of this invention is to provide an attachment for drinking from cans of different sizes.

Yet another object of this invention is to provide an attachment for drinking from a can which firmly attaches to the can with a leak-proof seal.

These and other objects will become apparent from the following detailed description taken in connection with the accompanying drawing in which:

FIG. 1 is a perspective view of the device of this invention secured to the top of a can,

FIG. 2 is an enlarged fragmentary perspective view partially in section showing the internal construction of the device of this invention, and the means by which it attaches to the can,

FIG. 3 is a view similar to FIG. 2 but illustrating a

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modified arrangement in which grooves of different diameters may be used,

FIG. 4 is a view similar to FIGS. 2 and 3 illustrating a device having a duality of attaching grooves which grooves are located at opposite ends of the device,

FIG. 5 is an additional view similar to the previously described view showing an expendable type item that attaches to the exterior of the can,

FIG. 6 is a view similar to FIG. 5 showing the use of the expendable attachment as secured to the inner periphery of the bead of the can.

FIG. 7 is a perspective view of a different form of the invention as applied to a can,

FIG. 8 is an enlarged fragmentary axial sectional view of the device of FIG. 7 separated from the can,

FIG. 9 is a view similar to FIG. 8 with the device of the invention installed on the can,

FIG. 10 is a further enlarged fragmentary view showing the manner in which a triple seal is formed around the bead of the can,

FIG. 11 is a view similar to FIG. 9 with the device associated with a larger can, and

FIG. 12 is a view similar to FIG. 10 illustrating the triple seal for the larger can of FIG. 11.

With reference to the drawing, there may be seen in FIGS. 1 and 2 the drinking attachment 1 of this invention as applied to an ordinary beverage can 2. The latter includes a cylindrical side wall 3 and outwardly projecting bottom and top beads 4 and 5. An ordinary punch type opener will provide a triangularly shaped aperture 6 through the top wall 7 immediately adjacent bead 5 prior to the attachment of device 1 to the can.

The device 1 of this invention, which may be constructed of plastic, is generally frustoconical in form having an outwardly flaring annular wall 8 preferably tapering in thickness toward the upper and larger diameter end. The frustoconical shape allows the devices to be nested compactly for storage and to be more readily drunk from. To facilitate pouring from the member 1 and to make drinking from it accomplished more easily and pleasantly, a rounded rim portion 9 projects outwardly from the upper end of wall 8. The bead 9 also stiffens the device.

At the lower portion of wall 8, where the cross section of the device is greatest, there is provided a circumferential groove 10. As illustrated in FIGS. 1 and 2, this groove is adapted to receive the upper bead 5 of the can in providing an attachment for the device 1 to the can 2. When secured to the can in this manner, an easily used circumferential lip is provided around the top of the can enabling one to drink from the can without difficulty and without contacting any portion of the can. In other words, drinking from the attachment 1 is much the same as drinking from an ordinary tumbler, yet the beverage may be consumed directly from the can in this manner. The effect is that of drinking from an ordinary open vessel. For ready identification of a person's drink, as well as for an attractive appearance, the devices may be supplied in a variety of colors.

The lower portion of the member 1 and the groove 10 are dimensioned slightly smaller than the corresponding portions of the can which they engage so that the device will snap onto the bead 5 and provide a firm leak proof attachment for the member 1. It is preferred to select a plastic having sufficient elasticity so that the member 1 may be forced onto the bead without difficulty, yet will be held in place securely. Also, the lower edge 11 of wall 8 preferably is rounded, as illustrated, to include away from the axis and facilitate the fitting of this member over the outer edge of bead 5. It is a simple matter, therefore, to install the attachment 1 on the top of the can.

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The previously described embodiment of this invention must be provided in sizes which will accommodate the standard sized cans with which it is to be associated. The arrangement of FIG. 3, however, will be usable with cans of two different sizes. Thus, the lower portion of wall 13 of the device 12 of FIG. 3 includes a relatively large groove 14 around the lower portion of the inner circumference, and a smaller groove 15 immediately above it. When used with a relatively large can as shown in FIG. 3, the bottom groove will be secured to the upper bead 5 of the can. However, if a can of lesser diameter is encountered, the device may be attached through the medium of groove 15 to the top bead of the smaller can. Thus, the device of FIG. 3 has a wider applicability and does not restrict it to a single can size. It is apparent also that additional and different sized grooves may be included rather than the two as shown, although in the usual instance, two circumferential grooves will prove adequate.

A slightly different arrangement for accommodating various sizes of cans is illustrated in FIG. 4. Here, the annular member 16 includes a groove 17 at one end of the device and a larger groove 18 at the other end. The device as shown is secured to the can by the groove 17, while for a larger can the unit would be inverted and the other groove 18 would be fitted onto the bead of the can. With this arrangement, there is no reduction in the overall length of the annular member when the smaller groove is used, as with the previously described embodiment. However, the construction of FIG. 3 avoids the provision of a groove at the rim of the device where the lips are placed during drinking.

FIG. 5 shows a design which also may be constructed of plastic but which preferably is expendable in nature. While the previously described arrangements also may be made disposable, they normally have a somewhat heavier construction than that of the device of FIG. 5 and hence will be reused. Less elasticity is necessary for the material of the unit of FIG. 5.

As shown in FIG. 5, the collar 20 includes an inwardly projecting bottom lip 21 while the upper edge is rolled outwardly to form a rounded rim 22. In use of this embodiment of the invention, the lip 21 is engaged along the wall of the can beneath the bottom edge of the bead, securing the device to the can in this manner. The inner diameter of the lip 21 should be correlated to the size of the can so that it will firmly grip the can to hold the device in place. Of course, the bead on the can will prevent the displacement of this member 20 outwardly away from the can as it is being used.

If the device 20 is utilized in connection with a larger can, it may fit within the inner edge of the bead, as shown in FIG. 6. Here it is the outer surface of the bottom edge portion of the collar 20 that engages the bead, extending downwardly to engage can end 7 in the circumferential recess 23 normally found in the end wall of a can. In this manner the member 20 is held by a frictional force to the top of the can. This type of arrangement is particularly easy to apply, although it has a less retentive force than the other embodiments described.

A particularly desirable embodiment of this invention may be seen by reference to FIGS. 7 through 12. According to this construction a single adapter may be used for all standard sized cans. Nevertheless, the configuration given the unit assures that a positive seal is made at the rim of each can, and that the device cannot become inadvertently dislodged.

The drinking attachment 26 has a frustoconical shape somewhat similar to the previously described version of the invention. This includes an upwardly flaring side wall 27 which may be of constant thickness through most of its length and terminates in a bead 28 at the upper end. Preferably the included angle of divergence of the wall 27 is in the neighborhood of 30°. The lower end of the

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unit 26 includes a groove 29 that is to receive the bead of the can.

As illustrated, the outer wall portion 30 at the location of groove 29 is slightly thinner than the remainder of wall 27 above. However, wall 30 is also frustoconical and flares outwardly as does the wall 27 beyond the groove. A lip 31 extends inwardly at the upper side of the groove 29, while a second lip 32 is at the lower end. The latter element results from a thickening of the side wall 27 at the bottom end of the attachment 26.

As the lips are formed for this version of the invention, they include substantially radially extending surfaces 33 and 34. Thus, as the groove is constructed it includes radial end walls 33 and 34, and an outwardly flaring side wall 30 having the same outward divergence as the overall contour of the unit 26.

This construction has several important advantages, permitting the use of the device of the invention with cans of different sizes. An inherent difficulty in prior drinking attachments for cans has resulted from the distention of the units to place them in association with the bead of the can. The stretching at the lower end of the conventional unit has caused the bottom end immediately below the bead to flare outwardly. Hence, the lower ends of previous devices have been caused to curve in the wrong direction and to extend away from the can. This has resulted in a loss of sealing contact with the periphery of the can and permitted such collars to be dislodged readily. This cannot occur with the arrangement of this invention because of the continued convergence of the unit even at the location below the groove for the bead.

As seen in FIGS. 9 and 10, the device 26 is shown associated with a can 2a of the smallest standard diameter. Of course the unit 26 is fitted over the bead 5a of the can simply by stretching the lower portion of the collar at the location of the groove 29. This causes the bottom lip portion 32 to fit below the head 5a while the top lip 31 extends above it. The result is a triple seal at the location of the bead of the can, precluding all possibility of leakage or inadvertent removal of the collar from the can.

As best seen in FIG. 10, the bottom portion of the inner wall 30 of the groove 29 contacts the outer periphery of the bead 5a forming a seal at that point. In addition, the bottom radial wall 34 of the groove engages the lower edge of the bead 5a resulting in a second seal. A third seal is present from the contact between the upper surface 33 of the groove and the upper end of the bead. Of course the walls 33 and 34 are spaced appropriately so that a slight compression against the opposite ends of the beads is present. Hence the configuration of the groove, in which the walls are flatter than the exterior of the bead, results in three lines of sealing contact between the attachment 26 and the bead of the can.

The side wall 3a of the can presses outwardly against surface 35 of the collar causing it to lie along the wall 3a parallel with the axis of the can. There can be no seal at this point in view of the seam that runs axially of any commercial can. The fact that the lower portion 32 of the collar 26 continues the inward convergence is important, however, in assuring that the above-described sealing contacts are maintained. This permits the bottom portion of the collar to be forced outwardly by the can without causing it to flare beyond the side wall 3a and actually diverge in the opposite direction. The latter phenomenon takes place in the absence of the convergence at the lip 32.

The unit as applied to larger cans may be seen by reference to FIGS. 11 and 12. Again the triple seal is present around the lip 5b of the larger can 2b. It can be seen that the wall 30 engages the bead 5b at a slightly higher point. Also, the lower surface 33 of the lip 31 tends to move further inwardly across the top of the bead 5b. This occurs because the bottom portion of the unit 26 must be stretched a greater amount in fitting

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around the side wall 3b and the bead 5b. This greater outward movement of the lower portion of the unit 26 tends to reduce the divergence of the wall 27. Nevertheless, in view of the fact that the lower portion 32 and the wall 30 include the convergence, acting as an extension of the wall 27, the triple sealing effect will be realized as before. Thus, the lower portion of the unit 26 will not be caused to flare outwardly to the point where it will lose sealing engagement or become dislodged readily from bead 5b of the can.

The unit 26 preferably is made of plastic and of the type having the necessary elasticity to permit installation over the different sized cans, as illustrated. Low density polyethylene is suitable for this purpose, yet is a low cost material. It can be appropriately colored as desired and will form an attractive appearance when on the can.

As mentioned above, the radial walls 33 and 34 of the groove 29 are spaced apart an appropriate distance so that the bead of the can is pinched in between. This distance is proportioned so that a sealing engagement is provided even where the bead may have an unusually short axial length.

The foregoing detailed description is to be clearly understood as given by way of illustration and example only, the spirit and scope of this invention being limited solely by the appended claims.

I claim:

1. A device for drinking from a can having a bead comprising an annular member of elastic plastic material having an internal circumferential groove adjacent and spaced inwardly of one end thereof, said groove being adapted to fit over the bead of a can, and having radial end walls adapted to engage the opposite ends of said bead, said annular member being convergent from said groove toward said one end, and divergent from said groove toward the opposite end of said annular member.

2. A device as recited in claim 1 in which said groove includes a substantially frustoconical circumferential wall divergent from the direction of said one end of said annular member toward said opposite end thereof.

3. A device as recited in claim 2 in which said elastic plastic material is a low density polyethylene.

4. A device of drinking from a can having a bead at one end portion thereof, said device comprising an annular member of elastic plastic material, said member diverging outwardly from one end toward the opposite end, said member having a circumferential groove in the inner surface thereof adjacent and spaced inwardly of said one end, said groove having flat radially extending end walls and a circumferential wall diverging outwardly toward said opposite end.

5. A device for drinking from a can having an outwardly projecting bead at one end thereof, said device comprising an annular member of elastic plastic material,

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said annular member diverging outwardly from one end thereof to the opposite end thereof, said annular member having a circumferential groove adjacent said one end, said groove being defined by a thickened lip portion between said groove and said end, said lip portion presenting a radial end wall for said groove, a second lip projecting inwardly on the opposite side of said groove presenting a second radial end wall, said groove further having an outwardly divergent circumferential wall substantially parallel to said annular member at locations thereon remote from said groove.

6. A device as recited in claim 5 in which said annular member is of generally frustoconical shape with the include angle of divergence being substantially 30°.

7. In combination with a can having a circumferential side wall and a bead of curved configuration at one end thereof, a device for drinking comprising an annular member of elastic material,

said annular member having an internal annular groove adjacent and spaced inwardly of one end thereof,

said groove receiving said bead and having radial end walls engaging and bearing inwardly against opposite ends of said bead, said groove having a divergent circumferential wall engaging and bearing inward against a circumferential portion of said bead,

said annular member between said groove and said one end engaging and bearing inwardly against said side wall,

said annular member diverging toward the opposite end of said annular member beyond said groove on the opposite end thereof.

8. A device as recited in claim 7 in which said groove is of different cross section configuration from the cross sectional configuration of said bead, said surfaces of said groove engaging said bead being relatively flatter than the corresponding bead surfaces.

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UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 3,185,341

May 25, 1965

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It is hereby certified that error appears in the above numbered patent requiring correction and that the said Letters Patent should read as corrected below.

Column 5, line 47, for "of" read -- for --; line 55, after "having" insert -- substantially --; column 6, lines 17 and 18, for "include" read -- included --.

Signed and sealed this 12th day of October 1965.

(SEAL)

Attest:

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