

[54] **REMOVABLE HANDLE FOR BEVERAGE CONTAINING CANS AND METHOD OF MOUNTING SAME**

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[58] Field of Search **16/114; 220/47, 51**

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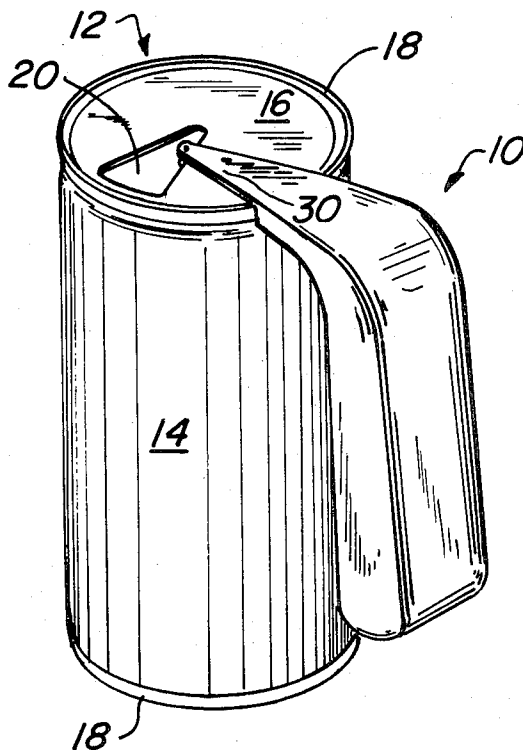
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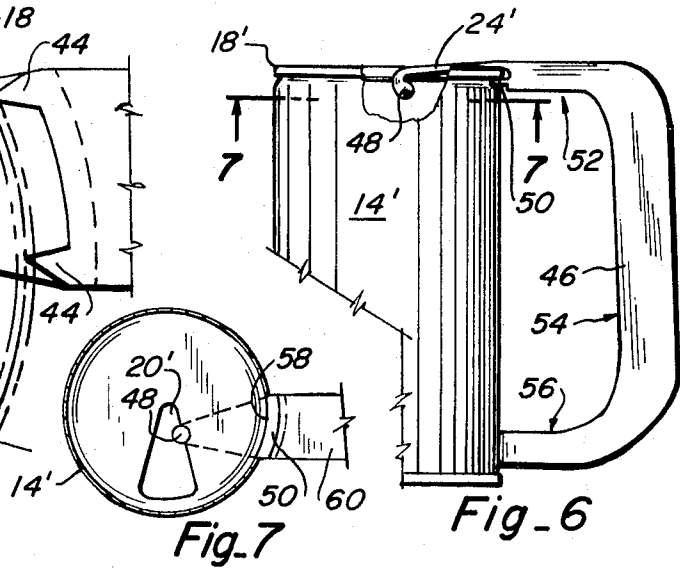
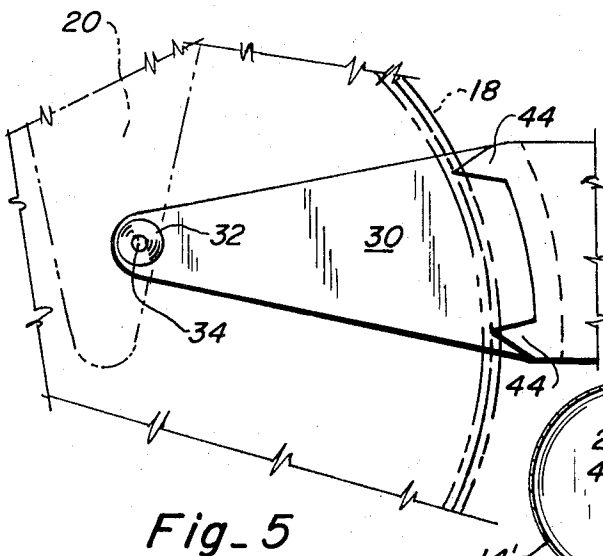
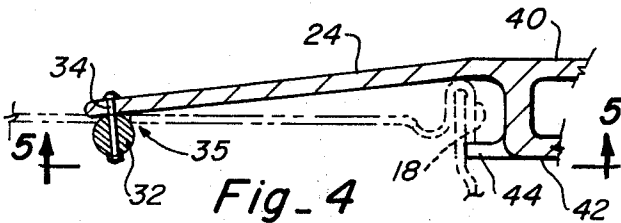
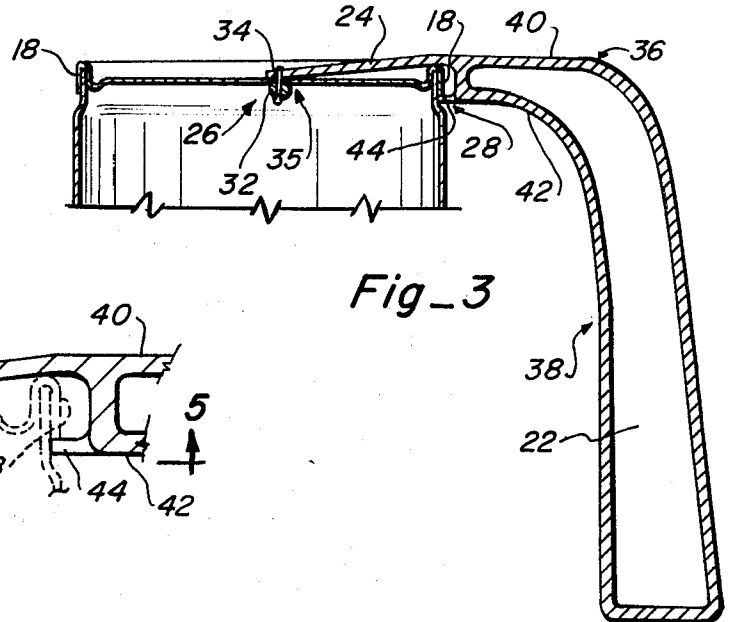
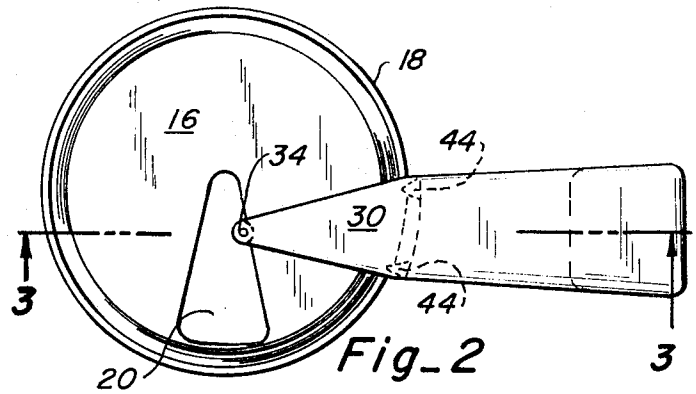
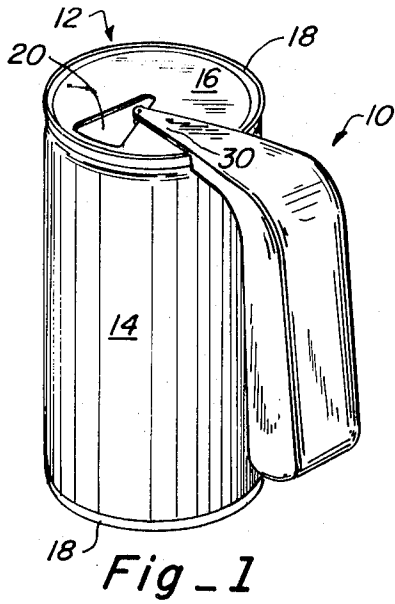
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[57] **ABSTRACT**

A removable handle for beverage containing cans having a slotted drinking opening in one end includes a connecting arm adapted to be tensioned between the slotted opening and an edge of the can to positively but removably connect the handle to the can and a grip which is continuous with the connecting arm and adapted to extend in spaced parallel relationship along one side of the can. The method of mounting the handle upon the can includes the steps of inserting a first retention means into the slotted opening in the can, engaging a second retention with the side of the can and rotating the handle relative to the can until the can is wedged or compressed between the retention means.

12 Claims, 7 Drawing Figures





REMOVABLE HANDLE FOR BEVERAGE CONTAINING CANS AND METHOD OF MOUNTING SAME

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates generally to removable handles for beverage containers and methods of mounting the handle upon the containers and more particularly to a handle and method of mounting same adapted to be removably mounted upon beverage containers having a slotted opening in one end through which the beverage is allowed to flow from the container.

2. Description of the Prior Art

Beverage containing cans traditionally were opened by removing one end of the can or punching a hole or holes in the end of the can to allow the beverage therein to freely flow from the can. More recently, beverage containing cans have been provided with a pre-formed slotted opening or openings in one end, with the opening being closed by a removable tab.

Numerous handles have been provided for removable attachment to these beverage containing cans to facilitate convenient and comfortable manipulation of the can. Examples of such handles are disclosed in U.S. Pat. No. 3,189,937 of Sciortino and U.S. Pat. No. 2,424,094 of Herr.

SUMMARY OF THE INVENTION

It is a primary object of the present invention to provide a new and improved handle and method of mounting same adapted to be removably mounted upon beverage containing cans and the like.

It is another object of the present invention to provide a new and improved handle and method of mounting same adapted to be quickly and easily mounted upon and removed from a beverage containing can having a slotted drinking opening in one end.

It is another object of the present invention to provide a new and improved handle and method of mounting same adapted to be mounted upon a beverage containing can having a slotted drinking opening in one end wherein the handle is tensioned between the slotted opening and an edge of the can to positively but removably connect the handle to the can.

These and other objects of the present invention are obtained with a simple device which has been designed to cooperate with the inherent design of conventional beverage containing cans of the type having a slotted drinking opening in one end, so that the handle can be quickly and easily mounted on or removed from the can. The simplicity of the device and the convenient but secure manner in which the device is mounted upon the can makes the device attractive both from a manufacturing and utilitarian standpoint.

The handle consists of a connecting arm adapted to extend partially across the slotted end of a beverage containing container, means for tensioning the connecting arm between the slotted opening and a peripheral rim of the can and a grip which extends in spaced relationship along one side of the container when the handle is mounted thereon. In the preferred form, the tensioning means include a depending extension from the connecting arm which is adapted to protrude into the slotted drinking opening in the container and is designed so that the edge of the container surrounding the

slotted opening is retained between the connecting arm and the depending extension. The tensioning means also include a retention lip adapted to be positioned beneath the peripheral rim conventionally provided on beverage containing drinking cans so that the retention lip will engage the can along its side wall and beneath the peripheral rim to securely mount the handle upon the can. The spacing between the retention lip and the depending extension on the connecting arm is such that the connecting arm can be placed in tension by rotating the handle about the can until the space between an edge of the opening and the peripheral rim of the can is greater than the spacing between the retention lip and the depending extension. With this arrangement, the connecting arm portion of the handle is not only placed in tension but the associated end of the can is placed in compression established a positive but removable mounting of the handle upon the can.

Other objects, advantages and capabilities of the present invention will become more apparent as the description proceeds taken in conjunction with the accompanying drawings.

IN THE DRAWINGS

FIG. 1 is a perspective view of the removable handle of the present invention mounted upon a typical beverage can,

FIG. 2 is a top plan view of the handle of FIG. 1 as it is mounted upon the beverage can,

FIG. 3 is a fragmentary vertical section taken along line 3—3 of FIG. 2,

FIG. 4 is an enlarged fragmentary vertical section taken through the handle device of the present invention illustrating its connection to the beverage can as shown in FIG. 1,

FIG. 5 is a horizontal section taken along line 5—5 of FIG. 4, a

FIG. 6 is a side elevational view of a second embodiment of the removable handle device of the present invention mounted upon a typical beverage can, and

FIG. 7 is a section taken along 7—7 of FIG. 6.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring first to FIG. 1, the removable handle device 10 of the present invention is seen mounted upon a cylindrical can 12 of the type typically used in selling beverages such as beer or soft drinks so that the beverage can be easily imbibed directly from the can. The can 12 is seen to have a cylindrical side wall 14 which is closed at opposite ends by circular end walls 16, only one of which is seen, hermetically sealed to the associated end of the cylindrical wall. The end walls 16 are sealed to the side wall 14 in such a manner that a peripheral rim 18 around each end of the can is defined. One end of the can has a generally pie-shaped or triangular slotted opening 20 therein which is conventionally sealed by a pull-tab (not shown) that is easily removable to open the can so that the beverage contained therein will readily flow through the opening 20.

The handle device 10, as best seen in FIGS. 1 through 3, includes a grip 22, a connecting arm 24, and first and second retention means, 26 and 28 respectively, which cooperate with the particular characteristics of the can to enable the handle device to be quickly, easily and securely mounted upon the can. Looking first at the connecting arm 24, it can be seen to comprise a generally

triangular shaped plate 30 of inextensible material that extends partially across the top end of the can so as to overlie a portion of the peripheral rim 18 of the can and a portion of the slotted opening 20 in the top end of the can. The apex of the triangular connecting arm, which partially overlies the slotted opening 20 in the can, has the first retention means 26 connected thereto. In the disclosed embodiment, the first retention means is a spherical ball 32 which is anchored by a rivet 34 to the connecting arm 24 to provide a rigid depending extension therefrom. As seen best in FIG. 4, the spherical retention ball defines a recess or catch 35 between the retention ball 32 and the connecting arm 24 which releasably receives an edge of the end wall 16 of the can that surrounds the slotted opening 20.

The grip portion 22 of the handle device comprises an integral horizontal extension 36 from the connecting arm 24 which extends outwardly away from the can 12 and a downward vertical extension 38 which is continuous with the horizontal extension so as to be positioned in spaced substantially parallel relationship with the cylindrical wall 14 of the can whereby the user of the device can conveniently grip the handle without contact with the can. In the disclosed form, the handle is shown as being of hollow construction since preferably the handle would be made of a rigid molded plastic but other constructions of the grip portion of the handle would also be suitable.

As best illustrated in FIGS. 3 and 4, it can be seen that the top surface 40 of the grip portion 22 of the handle is substantially co-planar with the connecting arm 24 and that the grip at its connection to the connecting arm has sufficient thickness to extend downwardly along the side of the arm 24 a distance substantially equal to the vertical extent of the peripheral rim 18 of the can. The second retention means 28 is in the form of retention lip means which are co-planar with the lower surface 42 of the horizontal extension portion 36 of the grip 22 and protrude away therefrom toward the can 12 so as to fit immediately beneath the peripheral rim 18 of the can and be tightly engaged with the cylindrical wall 14 of the can beneath the peripheral rim when the handle is appropriately positioned relative to the can. In the disclosed form, as best illustrated in FIGS. 2 and 5, the retention lip means comprise a pair of spaced prongs 44 which are also triangular in configuration and are unequally spaced from the retention ball 32 for a reason which will become more clear later.

When the handle device 10 is to be removably mounted upon a can of the type shown, the retention ball 32 is first inserted into the slotted opening 20 of the can so that the edge of the can around the slotted opening is received within the recess between the retention ball 32 and the connecting arm 24. The opposite end of the connecting arm is then rested upon the peripheral rim 18 so that the handle 10 can be rotated about the can until the prongs 44 engage the side wall 14 of the can immediately beneath the peripheral rim 18. Further rotational movement of the handle relative to the can serves to compress or wedge the can 12 between the retention ball 32 and the prongs 44 placing the connecting arm portion 24 of the handle in tension. This, of course, positively but removably secures the handle to the can so that the can can be desirably manipulated with the handle device.

It will, therefore, be apparent that the spacing between the retention ball 32 and retention lip means 28 on the handle device is necessarily less than the spacing between the edge of the slotted opening 20 and a portion of the peripheral rim 18 of the can so that the connecting arm 24 can be placed in tension to secure the handle 10 to the can 12. In the disclosed form, it will be appreciated that the spacing between the retention ball 32 and the retention lip means 28 is less than the radius of the can so that the handle when securely mounted upon the can, is disposed at approximately a 90° angle relative to the slotted opening 20. With the disclosed form of the handle, in order to assure a positive securement of the handle to the can, the retention ball 32 is not positioned at either end of the slotted opening 20 but along one side of the slotted opening and the two prongs 44 of the retention lip are unequally spaced from the retention ball so that they uniformly grip the side of the can beneath the peripheral rim 18 when the handle is desirably positioned upon the can.

An alternative embodiment of the handle device of the present invention is shown in FIG. 6 with like parts having been given like reference numerals with a prime suffix. In this embodiment, the connecting arm 24' is identical to the first described embodiment but the grip portion 46 of the handle, the ball retention means 48 and retention lip means 50 have been changed.

The grip portion 46 is generally U-shaped to cooperate with the cylindrical side 14' of the can in defining a closed area in which the user can hold the device. The grip portion 46 of the device, therefore, has an upper horizontal extension portion 52, a vertical portion 54 extending in parallel spaced relationship with the side of the can, and a lower horizontal extension portion 56 which abuts against the can near the lower end of the can. The ball retention means 48 is again a spherical ball but is made integral with the connecting arm rather than being riveted thereto. The retention lip means 50 consists of a continuous lip spaced below the connecting arm 24' adjacent the grip portion 46 so as to be movable into gripping engagement with the side 14' of the can immediately beneath the peripheral rim 18' when the ball retention means 50 is positioned in the slots 20' in the can. The lip 50 has an arcuate engagement edge 58 with its radius of curvature identical to that of the can. The arcuate edge 52, however, is positioned at an angle relative to the longitudinal axis 60 of the connecting arm 24' so that its center of curvature will be along the longitudinal axis of the can when the ball retention means 48 is positioned along a side edge of the slotted opening 20'. Upon rotation of the handle relative to the can to secure same to the can, it will be noted that a portion of the peripheral rim 18' is wedged or compressed between the lip means 50 and the vertically spaced apart portion of the connecting arm 24' in contact with the upper part of the peripheral rim 18' thereby further securing the handle to the can as a result of said wedging action. Consequently, accidental rotation of the handle relative to the can is eliminated or substantially eliminated. It will also be understood that the same additional securement is obtained in connection with the embodiment of the handle shown in FIGS. 2-5. This allows the handle to be firmly mounted upon the can with the handle disposed substantially perpendicularly to the longitudinal axis of the slotted opening as desired.

Although the present invention has been described with a certain degree of particularity, it is understood that the present disclosure has been made by way of example and that changes in details of structure may be made without departing from the spirit thereof.

What is claimed is:

1. A removable handle for beverage containing cans which has a slotted opening in one end, said handle comprising:

a grip portion adapted to extend along a side of the can, and

a connecting arm portion connected to the grip portion and extending across at least a portion of said one end of the can, said connecting arm portion having spaced retention means thereon, one of said retention means being adapted to extend into said slotted opening in the one end of the can and be releasably retained in the slot by a side edge of said opening and the other of said retention means being adapted to be compressively engaged with a side of the can effecting a tension in the connecting arm to securely attach the handle to the can.

2. The handle of claim 1 wherein said can has a peripheral rim around said one end and wherein said other of said retention means is adapted to fit beneath said rim.

3. The handle of claim 2 wherein said one of said retention means defines a protrusion from said connecting arm, said protrusion having means for defining a recess in which an edge of the can around said slotted opening can be removably received.

4. The handle of claim 3 wherein said protrusion is in the form of a spherical ball.

5. The handle of claim 2 wherein said other of said retention means comprises lip means adapted to engage a side of the can.

6. The handle of claim 4 wherein said other of said retention means comprises a pair of laterally spaced lips adapted to engage a side of the can.

7. The handle of claim 1 wherein said grip portion extends along the side of the can in spaced substantially parallel relation with the side of the can.

8. The handle of claim 5 wherein said lip means and connecting arm straddle the peripheral rim of the can when the handle is mounted on the can.

9. The handle of claim 2 wherein said connecting arm is generally triangular in shape with said one of said retention means being positioned in one corner of the triangular arm and with the other of said retention means comprising a protruding lip beneath the remaining cor-

ners of the triangular arm, said lips, each cooperating with the arm in straddling the peripheral rim of the can to establish a positive attachment system whereby the handle can be removably attached to the can.

10. A removable handle for cylindrical beverage containing cans which have a slotted drinking opening in one end and a peripheral rim around said one end comprising:

a connecting arm adapted to extend partially across said one end of the can, said connecting arm adapted to overlie a portion of said peripheral rim at one end and overlie at least a portion of said slotted opening at its other end, said arm having a depending spherical retention ball at said other end adapted to be inserted into said slotted opening to retain a side edge of the opening between said connecting arm and the retention ball,

a grip portion defining a substantially perpendicular extension from said one end of the connecting arm and adapted to extend in parallel spaced relationship with the cylindrical wall of a can, and

a retention lip on said handle adapted to extend beneath the peripheral rim of the can to retain the rim between said lip and the connecting arm, said retention lip and retention ball being spaced apart a distance less than the radius of the can so that the handle can be positioned relative to the can such that the connecting arm is placed in tension and the said one end of the can placed in compression thereby positively and removably securing the handle to the can.

11. A method of mounting a removable handle on a generally cylindrical can having a slotted opening in one end wherein the handle has a connecting arm with spaced first and second retention means thereon and a grip portion adapted to extend along the side of the can comprising the steps of inserting the first retention means in the slotted opening so that it is releasably retained therein, rotating the handle about the longitudinal axis of the can until the second retention means engages the side of the can, and further rotating the handle about the longitudinal axis of the can to wedge the can between the retention means so that the handle is positively and releasably connected to the can.

12. A method as defined in claim 11 including the step of compressing a portion of the wall of the can between the connecting arm and the second retention means of said handle to eliminate substantially accidental rotation of the handle relative to the can.

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