RETURNABLE CAN CARRIER

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ABSTRACT

A container carrier of flexible resilient material includes an array of loops for surrounding and holding full cans. Slots are provided in the carrier for receiving levers of pop top cans therein and for holding emptied containers by the pop top levers held in the slots.
RETURNABLE CAN CARRIER

CROSS-REFERENCE TO RELATED APPLICATIONS


FIELD OF THE INVENTION

[0002] The present invention relates to plastic carriers having an array of loops for engaging and holding individual containers, such as aluminum cans containing beverages.

BACKGROUND OF THE INVENTION

[0003] Container carriers are used frequently to unitize a plurality of containers into conveniently saleable quantities. Plastic carriers have achieved wide acceptance for their performance, lightweight, low cost and versatility in being adaptable for containers of different sizes and shapes. The general design for plastic carriers includes apertures in a stretchable plastic. The apertures are sized and shaped to stretch around the periphery of the containers to be held. Automated machinery is available for attaching stretchable plastic carriers to containers quickly and efficiently. Typically, the carrier includes some type of hand grasp or handle, which may be at the side of the container, or may rise above the containers.

[0004] Carriers of this type are known in many different styles and shapes. Some are single ply, and others multi-ply, at least in portions thereof. Carriers of this type have been used widely and have achieved great acceptance.

[0005] The need for and desirability of recycling containers is ever increasing. Many communities have enacted strict recycling laws. To encourage recycling of containers, it is known to require payment of a deposit on the container when the product is purchased. Upon returning the empty containers, the container deposit is refunded to the individual returning the containers.

[0006] It has been known to crush aluminum cans to reduce the space required for storing and transporting them for recycling. Many crushed cans can be contained in a relatively small bag or box. Since payment from recyclers to those returning the cans typically has been based on weight, crushing the cans before returning has been an acceptable and widespread practice.

[0007] It is now known in some jurisdictions to provide relatively expensive deposits on aluminum containers to encourage the return thereof. Since the deposit is calculated on a per can basis, it is necessary to count the containers to calculate the refund. While counting crushed cans is possible, the task is somewhat time consuming, difficult and can be messy in that small amounts of the beverage may remain in the container and spill from the crushed can which often is ruptured along the side or bottom when crushed. So-called “reverse vending” machines are gaining popularity. The empty can is placed in the machine, and payment is dispensed from the machine based on count received. The machines work best if the cans being deposited are relatively intact.

[0008] Therefore, it is desirable to provide a means for returning cans intact for deposit into the machine, and for carrying the cans conveniently.

SUMMARY OF THE INVENTION

[0009] The present invention meets these objectives by providing a plastic carrier of the stretchable type with additional slots for securing the empty cans. The carrier can then be used to return the cans in the same quantity and package as originally purchased. Further advantageously, the carrier itself can be recycled at the location at which the cans are received.

[0010] In one aspect thereof, the present invention provides a container carrier with an array of interconnected loops for holding unopened containers. The array includes material forming a margin around the loops; and slots in the margin are configured for attachment to open containers.

[0011] In another aspect thereof, the present invention provides a container carrier for pop top cans having a rupturable opening and a lever integral with the can for opening the can upon elevating the lever relative to the can. The carrier has an array of interconnected loops for encircling individual cans. The array includes material forming a margin around each loop; and slots in the margin are configured to encircle a lever of an opened can.

[0012] In a further aspect thereof, the present invention provides a package of opened pop top containers having bendable levers associated therewith for opening the container. The package includes a carrier of substantially sheet-like material forming an array of loops for surrounding containers, and at least one empty container having a lever inserted through a slot defined in a margin of the material.

[0013] An advantage of the present invention is providing a carrier that can be used for returning empty cans for recycling in addition to carrying the full cans from the retailer.

[0014] Another advantage of the present invention is providing a more sanitary way for handling empty beverage containers for recycling.

[0015] Other features and advantages of the invention will become apparent to those skilled in the art upon review of the following detailed description, claims and drawings in which like numerals are used to designate like features.

BRIEF DESCRIPTION OF THE DRAWINGS

[0016] FIG. 1 is a plan view of a container carrier in accordance with the present invention;

[0017] FIG. 2 is a perspective view of the carrier shown in FIG. 1, with full beverage cans held thereby; and

[0018] FIG. 3 is a fragmentary perspective view of the carrier shown in FIG. 1, with empty beverage cans held thereby.

[0019] Before the embodiments of the invention are explained in detail, it is to be understood that the invention is not limited in its application to the details of construction and the arrangements of the components set forth in the following description or illustrated in the drawings. The invention is capable of other embodiments and of being practiced or being carried out in various ways. Also, it is understood that the phraseology and terminology used herein are for the purpose of description and should not be regarded as limiting. The use herein of “including”, “comprising” and variations thereof is meant to encompass the
items listed thereafter and equivalents thereof, as well as additional items and equivalents thereof.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0020] Referring now more specifically to the drawings and to FIG. 1 in particular, a container carrier 10 in accordance with the present invention is shown. Carrier 10 is used to form a package 12 (FIG. 2) that includes a plurality of cans 14. Commonly, carrier 10 is used for beverage cans 14, but also can be used with cans 14 or containers of other types holding other fluids.

[0021] Carrier 10 includes an array of a plurality of loops 16, each of which can be stretched to receive a can therein, as known to those skilled in the art. A handle portion 18 is provided along the side of the cans, with the loops 16 receiving the cans substantially midway between the top and bottom of the cans. It should be understood that the present invention is not limited to the specific type of carrier shown. The invention can be used with carriers having top handles or no handles, carriers for more or fewer cans 14, carriers for cans of other shapes and for carriers that grasp the cans near ends of the cans.

[0022] Carrier 10 is made of a flexible, resilient material that can be stretched significantly without breaking. Low-density polyethylene is a suitable plastic from which carrier 10 can be made. In some embodiments of carrier 10, two juxtaposed webs or sheets may be used welded together and having a central handle. In other known forms of carrier, a single ply of sheet-like material is used. The present invention can be used for these as well as other carrier constructions.

[0023] A plurality of relatively narrow slots 20 is provided in carrier 10, one slot 20 for each can 14 that carrier 10 is designed to hold. Thus, for each loop 16 a corresponding slot 20 is provided. In the example shown in the drawings, six cans 14 are held by carrier 10 in six loops 16, and six slots 20 are provided. Slots 20 are provided in the margin of material that forms loops 16. In the example shown slots 20 are provided in slightly enlarged flaps 22 of the margin material forming loops 16.

[0024] Carrier 10 may further define one or several voids 24 to allow stretching of loops 16 by automated equipment for attaching carrier 10 to a group of cans 14. The size, shape, location and number of voids 24 will vary depending upon the type of carrier 10 and cans 14 being used. Such features of carrier 10 are well-known to those skilled in the art, and will not be described in greater detail herein.

[0025] Cans 14 held by carrier 10 are typical pop-top type cans having a lever or key 30 that is lifted to pivot above its fulcrum 32, to rupture an opening 34 in can 14 from which the contents of can 14 is poured. Thus, each lever 30 has a first end 36 by which it is grasped and operated, and a second end 38 forming the opening 34 by depressing a rupturable area of can 14. First end 36 and second end 38 are provided on opposite sides of fulcrum 32.

[0026] Carrier 10 is used as known to package cans 14 for distribution and sale. Automated equipment can be used to stretch each loop 16 and insert a can 14 therein. Flaps 22 will lie substantially flat against the sides of cans 14. Cans 14 are removed from carrier 10 in known fashion, by twisting or pulling each can 14 to release it from loop 16 in which it is held. In some embodiments of carrier 10, it is known to provide an outer margin portion having tabs and tear lines for releasing containers 14 held in loops 16 by tearing the carrier to open each loop 16. The present invention can be used with such carriers by providing slots 20 in inward portions of the material forming each loop 16, so that the locations of slots 20 are relatively stable even after loops 16 have been opened to release the individual containers 14 held therein.

[0027] After a can 14 has been emptied, it can be re-attached to carrier 10 via one of the slots 20. First end 36 of lever 30 is inserted into slot 20 and slid therethrough until the material adjacent slot 20 encounters fulcrum 32. Slot 20 can be stretched to slide over second end 38, then surrounding fulcrum 32. As illustrated in the fragmentary view of FIG. 3, lever 30 is disposed on one side of carrier 10, with the bulk of can 14 disposed on the opposite side of carrier 14. Empty cans 14 are held securely by carrier 10, suspended therefrom by each lever 34. Handle 18 or one or another of the empty loops 16 can be used as a handle for carrying the package of empty cans. The empty cans are held securely, yet are removed easily for deposit into a reverse vending machine or the like. Cans 14 are held upright, reducing accidental spillage of any beverage or other fluid remaining in the open cans 14.

[0028] Repackaging carrier 10 with empty cans 14 also facilitates recycling of carrier 10. After cans 14 have been removed at the recycling facility, carriers 10 also can be collected separately.

[0029] The present invention provides an easy and convenient device for carrying empty cans for the purpose of returning and recycling the cans to receive a return of the deposit therefrom. The cans along with the carrier can be properly recycled.

[0030] Variations and modifications of the foregoing are within the scope of the present invention. It is understood that the invention disclosed and defined herein extends to all alternative combinations of two or more of the individual features mentioned or evident from the text and/or drawings. All of these different combinations constitute various alternative aspects of the present invention. The embodiments described herein explain the best modes known for practicing the invention and will enable others skilled in the art to utilize the invention. The claims are to be construed to include alternative embodiments to the extent permitted by the prior art.

[0031] Various features of the invention are set forth in the following claims.

What is claimed is:

1. A container carrier comprising:
   an array of interconnected loops for holding unopened containers, said array including material forming a margin around the loops; and
   slots in said margin configured for attachment to open containers.

2. The carrier of claim 1, said margin including one said slot for each said loop.

3. The carrier of claim 1, said slots being adapted for encircling a lever of a pop-top can.
4. The carrier of claim 3, said margin including one said slot for reach said loop.

5. The carrier of claim 4, said array being made of stretchable resilient material.

6. The carrier of claim 5, said material being low-density polyethylene.

7. The carrier of claim 1, including flaps in said margin, and said slots being defined in said flaps.

8. The carrier of claim 1, including a flap formed in a margin portion of each said loop, and said slots being defined in said flaps.

9. A container carrier for pop top cans having a rupturable opening and a lever integral with the can for opening the can upon elevating the lever relative to the can, said carrier comprising:

- an array of interconnected loops for encircling individual cans, said array including material forming a margin around each said loop; and

- slots in said margin each configured to encircle a lever of an opened can.

10. The carrier of claim 9, including one said slot for each said loop.

11. The container carrier of claim 10, each said slot configured to receive a first end of a lever of a can, and to be pulled over a second, opposite end of the lever received therein.

12. The container carrier of claim 9, said material being low-density polyethylene.

13. The container carrier of claim 9, including flaps in said array and said loops formed in said flaps.

14. The container carrier of claim 9, including a flap formed in said margin of each said loop, and one said slot defined in each said flap.

15. A package of opened pop top containers having bendable levers associated therewith for opening the container, said package including:

- a carrier of substantially sheet-like material forming an array of loops for surrounding containers, said loops having margin of said material;

- a plurality of slots in said margin; and

- at least one empty container having a lever inserted through one of said slots, said slot configured to grasp said lever and hold said empty container.

16. The package of claim 15, said lever having first and second ends and said at least one container having a fulcrum connecting said lever and said at least container between said ends, said slot surrounding said fulcrum with said lever on an opposite side of said material from said container.

17. The package of claim 15, said material being low-density polyethylene.

18. The package of claim 15, including a flap of said material in each said loop, and a said slot defined in each said flap.

19. The package of claim 18, including a plurality of said containers each secured in a different said slot.

20. The package of claim 15, including a plurality of said containers each secured in a different said slot.

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