SIDE CARRY CARTON
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ABSTRACT OF THE DISCLOSURE

The present invention relates to an end loading carton having a hand hole in the front panel and a line of weakness in the top panel spaced from the front panel and dividing said top panel into an opening panel and a reinforcing rim adjacent the front panel.

The present invention relates to a carton, more particularly to an end loading carton having a side carry, reinforced hand hole opening.

The new and faster loading equipment for end loading of cartons now being used or considered by many different brewers has led to the proposal of new cartons. However, the new cartons prepared to date have been merely adaptations of the conventional longitudinal handle structures used in the drop loading cartons and are relatively expensive.

The present invention provides a new carton structure having a reinforced hand hole and adapted for both end loading or wrap-around packaging of containers. With the present invention, the handle structure provided may be used for transporting the full containers from the store and for returning the empty containers.

Broadly the present invention comprises a rectangular sleeve having interconnected top, rear, bottom and front panels. A line of weakness in the top panel spaced from the edge of said top panel adjacent said front panel, to divide said top panel into an opening panel and a reinforcing rim, said reinforcing rim being adjacent said front panel, and a hand hole in said front panel spaced from said edge of said top panel.

Further features, objects and advantages will be evident from the following detailed description taken in conjunction with the accompanying drawings in which:

FIG. 1 is a plan view of a blank formed in accordance with the present invention.

FIG. 2 is a perspective view of an erected, filled and closed carton.

FIG. 3 is a perspective view of an emptied carton.

FIG. 4 is a section along the lines 4—4 of FIG. 3.

In FIG. 1 the heavy lines indicate lines of cut, the dash lines indicate fold lines and the dot dash lines indicate lines of weakness to facilitate separation.

As shown in FIG. 1, the blank 10 of the instant invention is composed of four panels 12, 14, 16 and 18 interconnected by fold lines 20, 22 and 24. A fold line 26 connects a glue flap 28 to one edge of panel 18. Pairs of end closure flaps 30, 32, 34 and 36 are connected to opposite ends of the panels 12, 14, 16 and 18 by fold lines 38 and 40.

The panel 12, which forms the front wall of the carton, is provided with a substantially U-shaped cut 42, the open ends of which are joined by fold line 44, which extends substantially parallel to the free edge 46 of the panel 12. A second fold line 48 extends parallel to line 44 and is spaced on the side thereof remote from the edge 46 by a distance equal to about 2 thicknesses of board. The flap 47 defined by the cut 42 and line 44 is bendable inwardly around the fold lines 44 and 48 to form a hand hole in the front wall 12 as will be described hereinbelow. Preferably, but not necessarily, the ends of the cut 42 are flared as indicated at 43 and 45 so that when the flap 47 is folded inwardly there is a larger top bearing area for given size hand hole.

Panel 18 has a removable opening panel 50 formed therein by interconnected lines of weakness 52, 54, 56, 58 and 59. In the illustrated embodiment the line 52 coincides with the fold line 24, while the lines 54, 56, 58 and 59 are spaced inwardly from and are substantially parallel to the edges of panel 18 defined by fold lines 40, 44 and 38 respectively, thereby to provide a substantially C-shaped peripheral rim 60 extending along three side edges of the panel 18. The rim 60 cooperates with other panels and flaps of the carton to form L-shaped reinforcing beams as will be described hereinbelow.

The lines of weakness 56, 58 are joined by an aligned fold line 71 and a substantially semi-circular line of cut 73, which joins the ends of line 71 and defines a flap 72. This flap 72 is bendable into the carton along the line 71 to form a gripping hole in the top panel through which the thumb may be inserted when carrying the carton. If desired, the panel 70 may be divided by lines of weakness 62 (only one shown) into two or more easily separable panels as illustrated at 64 and 66. While the panels 50, or 64 and 66 have been illustrated as completely removable, obviously they may be hingedly connected to the top panel along one edge if desired.

To form the carton, the blank 10 is first folded along line 24 so that the panel 18 and flap 28 overlie the panel 16 and glue is applied to the flap 28. Next, the panel 12 is folded over on line 20 to overlie and become secured to the glue flap 28. The carton is supplied in this knocked down condition to the packager who erects a tubular rectangular sleeve which is then filled by inserting containers from one end thereof. The end flaps 32 and 36 are first folded over and then the flaps 30 and 34 are folded onto and secured to the flaps 32 and 36 to complete the carton as shown in FIG. 2.

The illustrated carton may be opened by tearing the panels 50, 64 and 66 from the panel 18. Suitable flaps 68 and 70 are provided to form finger holes which facilitate removal of the panels 64 and 66. The thumb hole formed by bending in of the panel 72 also may be used to facilitate gripping and removal of the tear off panels.

A hand grip hole 74 is formed in the front wall 12 by folding the flap 47 into the carton. The flap 47 bends along fold lines 44 and 48 to wrap the free edge flap 28 and protect the hand from the rough edge of this flap. Preferably the fold line 44 is positioned between the top panel 18 and the bottom of the cut 42 so that when the flap 47 is folded into the carton to open the hand hole, the flap 47 engages the bottom face of the top panel 18, for example, in the manner shown in FIG. 4 where the edge of the flap 47 engages panel 18. To carry the carton, the hand is inserted through the hand hole 74 and the thumb may be pushed through the thumb hole formed by the flap 72 in the top panel 18.

It will be noted that the rim 60 formed at the periphery of the top panel 18 forms one leg of an L-shaped reinforcing beam, the other leg of which is formed by the glue flap 28 and front panel 12. (See FIG. 4.) Similarly the rim 60 cooperates with the end wall forming panels to form further L-shaped reinforcing beams. These L-shaped reinforcing beams greatly increase the strength of the carton and permit the carton full of bottles to be carried even after the carton has been opened. If desired, instead of the peripheral C-shaped rim 60, as shown in FIGS. 1 to 3, the lines 54 and 58 may be aligned with the folds 38 and 40 so that the rim 60 simply extends across the carton from one end edge to the other of the top panel. The latter structure is not as strong as the structure illustrated.
and may require widening of the rim 60 to obtain the desired rigidity. The rim 60 normally will be narrow to provide greater ingress to, or removal of contents without undue weakening of the structure.

When the carton is manufactured from corrugated board preferably, but not necessarily, the corrugations run longitudinally of the carton, i.e. parallel to fold lines 20, 22, 24 and 26.

Thus applicant has disclosed a relatively inexpensive end loading carton having a reinforced side carrying handle. Modifications may be made to the invention as disclosed without departing from the spirit of same as defined in the appended claims.

I claim:

1. A carton comprising top, rear, bottom and front interconnected panels, a glue flap hingably connected on one side edge of said top panel and secured in face-to-face relationship with said front panel to form a tubular knocked down sleeve, a line of weakness through said top panel spaced from and substantially parallel to said front panel and dividing said top panel into a reinforcing rim adjacent said front panel and an opening panel, a hand flap formed in said front panel by a substantially U-shaped slit, the ends of which are joined by a fold line spaced from and substantially parallel to said top panel, the distance between said fold line and the bottom of said U-shaped slit and the distance between said fold line and said top panel being so related that said handle flap engages the bottom surface of said top panel when said handle flap is folded into said carton, and a carrying hole formed in said top panel adjacent said line of weakness.

2. A carton as defined in claim 1 wherein said line of weakness has a pair of end sections, one spaced from and substantially parallel to each end edge of said top panel whereby said reinforcing rim is C-shaped and extends along three edges of the periphery of said top panel.

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