

HANDLE FOR A CARTON BOX

This invention relates to a carton having a handle.

According to the present invention there is provided a carton having a base, side panels hingedly connected to the base, first and second top panels hingedly connected to respective side panels, the first top panel having at each of its lengthwise ends an end panel hingedly connected to the first top panel which end panels in use are folded downwardly and secured with respect to end closure flaps hingedly connected to the side panels or the base, a part of said first top panel defining by means of cuts a lengthwise extending strap handle which extends at both ends into the end panels, the second panel overlapping the first top panel and being adhered to the first top panel on the part of the first top panel between the hinge with the side panel and the strap handle and providing access means for enabling access to the strap handle.

Preferably the strap handle is reinforced. In one arrangement the reinforcement comprises a plastic strip extending at least the length of the handle and bonded thereto. In another arrangement the reinforcement comprises a lengthwise extending free edge strip hingedly connected to said strap handle which edge strip is in use folded under the strap handle and adhered thereto. Both forms of reinforcement could also be combined. Preferably the free edge strip extends the length of the first top panel and the end panels.

Another feature is that said access means comprises a central grip portion which is adhered to the strap handle, said grip portion having laterally projecting flaps hingedly connected thereto whereby in use the flaps are pushed inwardly of the pack and are folded under the strap handle when the handle is gripped. Ideally said flaps are defined by arcuate cuts in said second top panel.

In addition there may be provided a pair of cover strips which are formed in the second top panel and are oppositely

disposed on either side of the grip portion and extend in the lengthwise direction of the second top panel. Conveniently each strip is constituted by a pair of lengthwise cuts extending towards the lengthwise ends of the second top panel, but stopping short of the ends.

A further preferred feature is that lines of weakening are provided in the second top panel such that in use the grip portion separates from the remainder of the second top panel to leave an opening and said lengthwise cuts extend from said opening.

The second top panel may also be provided with end panels at its lengthwise ends which end panels are adhesively secured to the end panels of the first top panel. Further end panels are preferably provided at the lengthwise ends of the base panel and the end closure flaps are hingedly connected to the side walls. In use the end closure flaps are adhesively secured to the end panels so as to form a fully enclosed carton.

Embodiments of the invention will now be described in more detail. The description makes reference to the accompanying drawings in which:

Figure 1 shows a blank for making a carton according to the present invention,

Figure 2 is a plan view of the figure 1 arrangement in an assembled form,

Figure 3 is a section on line III-III of the figure 2 arrangement with a handle extended,

Figure 4 shows a blank for making a different carton according to the present invention,

Figure 5 is a plan view of the figure 4 arrangement in an assembled form,

Figure 6 is a section on line VI-VI of figure 5,

Figure 7 shows a further blank for making a different carton according to the present invention,

Figure 8 is a plan view of the figure 7 blank assembled,

Figure 9 shows a blank for making another carton according to the present invention,

Figure 10 is a plan view of the figure 9 blank assembled,

5 Figure 11 shows a blank for making a still further carton according to the present invention, and

Figure 12 shows a blank for making another carton according to the present invention.

10 In figures 1 to 3 there is shown a blank 10 which when constructed forms a carton 11 for a plurality of cans 12. In this embodiment twelve cans are shown, but the blank could be easily adapted for any number of cans, bottles or other articles.

15 The blank 10 has a base 13, side panels 14 hingedly connected thereto and first and second top panels 15, 16 hingedly connected to respective opposite side panels 14. The hinge connections could be by simple fold lines, partially cut fold lines or other suitable means. The base 13 has end panels 17 which in use are folded up and the top panels 15, 16 have end panels 18 which are folded down. Hingedly connected to the side panels 14
20 are end closure flaps 19 which are folded inwardly and are adhesively secured to the end panels 17, 18 so as to fully enclose the ends of the carton 11.

25 The first end panel 15 incorporates a parallel cut 20 which defines with the free edge a strap handle 21. The first top panel 15 is folded across the top of the carton and the second top panel 16 is folded over and is adhesively secured to the first top panel 15. The cut 20 is located such that the strap handle 21 is located generally centrally between the two side panels 14. Also, the cut 20 extends into the end panels 18 which are hingedly connected to the first
30 top panel 15, but care should be taken when gluing the end closure flaps 19 that the ends of the strap handle 21 in the end panels 18 are not glued. A cut out 38 is also provided alongside the handle 21 in a generally central location.

5 The second top panel 16 is provided with two sets of three cuts 27 which define flaps or cover strips 28. These cover strips 28 are located above the handle 21. The central portion 29 between the strips is adhesively secured to the strap handle 21 below and the portion of the second top panel 16 is adhesively secured to the first top panel 15 between the cut 19 and the side panel 14. Hingedly connected to the central portion 29 by folds 30 are laterally projecting flaps 31 defined by arcuate cuts 32. Retaining tabs keep the cover strips 28 and flaps 31 in the plane of the second top panel 16 prior to the handle being used. When assembled the end closure flaps engage the end panels 17, 18 with care being taken not to glue the ends of the strap handle 21 where the ends extend into the end panels 18.

15 Once loaded and secured shut the carton 11 fully encloses the cans 12. To carry the carton 11 the handle can be used. The laterally projecting flaps 31 are pushed inwards thereby breaking any retaining tabs, one flap passing through the cut out 38. The fingers of the user can then grasp the strap handle 21. Lifting the carton 11 causes the handle to arc out of the general plane of the top panel, the ends of the handle taking up the contours of the upper end cans of the package. This improves the handling characteristics durability and resistance to tearing of the carton. The handle 21 is also comfortable by virtue of the flaps 31 which fold around and under the handle 21.

25 It is also possible to incorporate reinforcement of the handle by securing a polyester strip to the strap handle. Such a strip extends the length of the handle and is secured using a suitable adhesive.

30 Further reinforcement may be necessary depending on the weight of the load in the carton and the strength of the paperboard being used. Such an arrangement is shown in figures 4 to 6. Many features are common to the arrangement shown in figures 1 to 3 and so have been given like reference numerals.

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In figure 4 it will be seen in the blank 24 that at the free edge of the handle 21 is a fold line 25 which extends right through the end panels 18 to define a free edge strip 26. This strip 26 is of a similar width as the strap handle 21 and is folded under the handle 21 and adhesively secured thereto. A cut out 38 is again provided adjacent the cut 20 generally halfway along the handle 21. Again a polyester reinforcing strip could also be included, sandwiched between the handle 21 and the strip 26.

The handle 21, 26 in this arrangement is particularly strong so as to cope with heavy loads whilst remaining flush with the top of the carton 11 when not in use. The lack of projection above the top panel assists in the stacking and palletising of the cartons.

Figures 7 and 8 show a further embodiment and again, like numerals have been given to like features. This embodiment is similar in many ways to that shown in figures 4 - 6 except that some of the paperboard 35 of cut out 38 remains hingedly connected to the handle 21 and is folded under the handle 21 when the carton is being carried. In addition the flap 31 which in figures 4 - 6 overlays the cut out 38 has been omitted. Finger holes 36 are also provided to assist the user in grasping the handle.

Figures 9 and 10 shows a still further embodiment and again, like reference numerals have been given to like features. Again, this embodiment is similar to that shown in figures 4 - 6 except the central portion 29 and the flaps 31 of the second top panel 16 have been omitted whilst a flap 37 is hingedly connected to the handle 21. In use, the handle 21 is highly visible through the opening in the second top panel 16 and the flap 37 can be folded under the strap handle 21, 26 for added comfort.

5 The blank 10 in figure 11 is similar in many respects to that shown in figure 4 in that the central portion 29 is secured to the strap handle 21 below and has flaps 31 which fold around and under the handle. Extending from the inner flap 31 of the figure 11 blank are lines of weakening 40 which can be opened so as to gain access to the contents of the carton. Obviously the access panel 41 so created can be made of any shape or size.

10 The embodiment shown in figure 12 is very similar in many respects to the arrangement of figure 4, and again like numerals have been given to like features. In figure 12, however, the strap handle of the first top panel incorporates a further edge strip 45 foldably connected to the strip 26. The handle thus formed by portions 21, 26 and 45 is three-ply which gives greater strength and could be used in any version of the carton. Also further strips could
15 be provided if desired to give the handle further strength.

Another feature shown in figure 12, and could also be incorporated into other embodiments, is the transverse cuts 27, with or without retaining tabs, are located at the other ends of the cover strips 28, away from the central portion 29. The cover strips 28 are
20 also adhesively attached to the strap handle 21 such that when the carton is lifted the central portion 29 and the cover strips 28 remain attached to the strap handle thereby giving the handle greater strength and comfort over a longer length.

25 Whilst the above arrangements show the handle in the top panel, it will be appreciated that the orientation of the carton could be altered depending on, for example, the articles to be carried in the carton. Simple modifications could result in the handle being located on the side of the carton when the carton is in its standard stored position. One of the side panels 14 would then
30 effectively be the top panel of the carton.

Also the precise closure of the ends of the carton is open to adaptation and could in fact be partially open. In addition a single end closure flap could be provided at each end depending on design choice. Furthermore the pack may incorporate part angled walls so as to follow better the contours of certain articles, such as bottles, being carried.

Certain panels of the carton could also incorporate means for opening the carton in order to gain access to the contents of the carton.



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Claims

1. A carton having a base, side panels hingedly connected to the base, first and second top panels hingedly connected to respective side panels, the first top panel having at each of its lengthwise ends an end panel hingedly connected to the first top panel which end panels in use are folded downwardly and secured with respect to end closure flaps hingedly connected to the side panels or the base, a part of said first top panel defining by means of cuts a lengthwise extending strap handle which extends at both ends into the end panels, the second panel overlapping the first top panel and being adhered to the first top panel on the part of the first top panel between the hinge with the side panel and the strap handle and providing access means for enabling access to the strap handle.
2. A carton as claimed in claim 1 wherein the strap handle is reinforced.
3. A carton as claimed in claim 2 wherein the reinforcement comprises a plastic strip extending at least the length of the handle and bonded thereto.
4. A carton as claimed in claim 2 or claim 3 wherein the reinforcement comprises one or more lengthwise extending edge strips hingedly connected to said strap handle which edge strip or strips are in use folded under the strap handle and adhered thereto.
5. A carton as claimed in claim 4 wherein the edge strips extend the length of the first top panel and the end panels.
6. A carton as claimed in any one of claims 1 to 5 wherein said access means comprises a central grip portion which is adhered to the strap handle, said grip portion having laterally projecting flaps hingedly connected thereto whereby in use the flaps are pushed inwardly of the pack and are folded under the strap handle when the handle is gripped.

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7. A carton as claimed in claim 6 wherein said flaps are defined by arcuate cuts in said second top panel.

5 8. A carton as claimed in claim 6 or claim 7 wherein a pair of cover strips which are formed in the second top panel and are oppositely disposed on either side of the grip portion and extend in the lengthwise direction of the second top panel.

10 9. A carton as claimed in claim 8 wherein each strip is constituted by a pair of lengthwise cuts extending towards the lengthwise ends of the second top panel, but stopping short of the ends.

15 10. A carton as claimed in claim 9 wherein lines of weakening are provided in the second top panel such that in use the grip portion separates from the remainder of the second top panel to leave an opening and said lengthwise cuts extend from said opening.

20 11. A carton as claimed in any one of claims 1 to 10 wherein The second top panel is provided with end panels at its lengthwise ends which end panels are adhesively secured to the end panels of the first top panel.

25 12. A carton as claimed in claim 11 wherein Further end panels are provided at the lengthwise ends of the base panel and the end closure flaps are hingedly connected to the side walls.

30 13. A blank for forming a carton as claimed in claims 1 to 12.

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