MULTI-PRODUCT CARTON

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References Cited
UNITED STATES PATENTS
3,246,738 4/1966 Weiss et al. .................206/45.19
2,946,433 7/1960 Hennessey .....................206/45.19

2,303,264 11/1942 Flick ..................................206/45.19 X
2,571,833 10/1951 Chidsey, Jr. ............206/65 C

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ABSTRACT
A dual compartmented carton adapted to hold two or more items that might be of different size and shape wherein the carton contains an exposed tray-like upper portion for packaging one or more of the items completely visible to the consumer, and an enclosed lower portion for packaging the other items. The carton is constructed from a one-piece blank of material such as paperboard or the like so that the two portions are isolated from one another by a carton partition element or panel.

5 Claims, 18 Drawing Figures
MULTI-PRODUCT CARTON

SUMMARY OF INVENTION

The present invention relates generally to a one-piece collapsible carton and is particularly concerned with a cardboard carton that is constructed and arranged to hold at least two separate items in separate compartments within the same package. The items may be the same or similar, or, may be of different kind, size and/or shape and still be accommodated by the carton construction anticipated.

From time to time it has been found desirable to package at least two items in a single carton so that they may be sold together. Such an arrangement is particularly useful where the seller desires to introduce a new product on the market and as a means of introduction gives a sample package of the new product to a customer purchasing an older or better known product. In many instances the two items are not exactly of the same shape or they are of different size. For example, certain types of washing powders or detergents have been sold in combination with a can of scouring powder or the like. Similarly it is not unusual to find multi-packs of different women's cosmetics being sold on the shelf. As a result of these combination sales, the items are often difficult to support in a package in side-by-side relation, and it is difficult to retain both of the items in the same package. Accordingly, the present invention was devised to hold at least two items in separate compartments of the same package, and in the construction disclosed, the items may be of the same type, or of materially different size and shape, and at least one of the packaged items is preferably exposed for viewing by the consumer.

An object of the present invention resides in the provision of a simple cardboard carton comprising a tray-like upper portion and an enclosed lower portion in combination for retaining two items for sale which are readily handled and sold as a unit.

A feature of the carton described herein resides in the provision of a package which is extremely inexpensive to produce and which can be made on readily available equipment. Moreover, the carton of the present invention is capable of being filled and assembled either by hand or on high speed packaging machinery. In addition, the carton is capable of being shipped in a flattened or collapsed condition to minimize costs of handling and shipping a supply of the cartons to the packager.

A further object of the present invention is the feature whereby each compartment of the carton may be especially formed to receive a particular size and shape article with at least one of the articles being advantageously displayed.

Accordingly, it is a feature of this invention to provide an improved carton for packaging two or more related but dissimilar articles, as well as articles generally, wherein the container is provided with unique compartment and shelf means therewithin to support such items.

In at least one embodiment of the present invention the carton is designed to contain as a first item, a can or the like in the exposed upper tray-like portion of the package with an enclosed space in the lower portion of the carton for housing the second item completely isolated from the first item. The outer or remote ends of the can or the like are held engaged in the carton or tray by means of tabs which enter the chimed ends of the cans to hold these ends from removal. The tabs may be formed as a part of any one of the end closure flaps of the carton as shown in the drawings. Each tab is provided with arcuate edges which are designed to engage against the inner surface of the chime of the can to position the can firmly against the bottom of the upper tray. Once the collapsed carton is set-up for filling and the can or the like inserted in the upper end thereof, the can acts to hold the carton in the closed condition.

In other embodiments of the present invention, the package is designed to hold specific items of any desired shape in the upper tray-like portion of the carton by means of carefully shaped slots formed in the tab like elements attached to any one of the end closure flaps of the carton. Of course, in each of the embodiments discussed thus far, the lower portion of the carton remains completely enclosed for retaining the second item isolated with regard to the first item.

Other and distinct embodiments of this invention employ different means for closing the ends of the novel carton disclosed herein including different means for obtaining access to the enclosed lower portion of the carton. However, each and every embodiment of the invention disclosed herein retains the basic novel concept of providing a dual compartmented carton having an exposed tray-like upper portion with an enclosed lower portion wherein the two portions are isolated from one another by a carton partition element or panel.

These and other objects and novel features of the present invention will be more clearly and fully set forth in the following specification and claims.

DESCRIPTION OF DRAWINGS

FIG. 1 is a plan view of a flat cardboard blank from which one embodiment of the carton of this invention may be folded;

FIG. 2 is a partial perspective on an enlarged scale of an end portion of the assembled carton of FIG. 1 showing how each of the panels are secured together;

FIG. 3 is a perspective view on an enlarged scale of the carton prior to the introduction of the items therein;

FIG. 4 is a perspective similar to FIG. 3 of the complete carton;

FIG. 5 is a plan view of a modified form of the flat cardboard blank of FIG. 1;

FIG. 6 is a perspective view on an enlarged scale of the partially folded carton constructed from the blank of FIG. 5;

FIG. 7 is a plan view of another modified form of the flat cardboard blank of FIG. 1;

FIG. 8 is a perspective view on an enlarged scale of the partially folded carton constructed from the blank of FIG. 7;

FIG. 9 is a plan view of a flat cardboard blank from which a second embodiment of the carton of this invention may be folded;

FIG. 10 is a perspective view on an enlarged scale of the partially folded carton constructed from the blank of FIG. 9;

FIG. 11 is a plan view of a modified form of the flat cardboard blank of FIG. 9;
FIG. 12 is a perspective view on an enlarged scale of the partially folded carton constructed from the blank of FIG. 11;

FIG. 13 is a plan view of a flat paperboard blank from which a third embodiment of the carton of this invention may be folded;

FIG. 14 is a perspective view on an enlarged scale of the partially folded carton constructed from the blank of FIG. 13;

FIG. 15 is a plan view of a flat paperboard blank from which a fourth embodiment of the carton of this invention may be folded;

FIG. 16 is a perspective view on an enlarged scale of the partially folded carton constructed from the blank of FIG. 15;

FIG. 17 is a plan view of a flat paperboard blank from which a modified form of the carton of the present invention can be constructed; and,

FIG. 18 is a perspective view on an enlarged scale of the partially folded carton constructed from the blank of FIG. 17.

DETAILED DESCRIPTION

While the various features of this invention are hereinafter illustrated and described as being particularly adaptable for packaging at least two or more related but dissimilar articles including cans, as well as for packaging similar articles or the like in combination, it is to be understood that the various features of this invention can be utilized singly or in combination to provide cartons for other articles as desired. Accordingly, this invention is not to be limited to only the embodiments illustrated in the drawings because the drawings are merely utilized to illustrate examples of the wide variety of uses of this invention.

In the exemplary embodiment of the invention illustrated in FIGS. 1-4, an improved carton for packaging two or more articles is shown. Moreover, for this first embodiment of the present invention, the carton is illustrated as having a lower, enclosed compartment 3 and an upper, exposed tray-like compartment 5.

Referring now to the drawings in detail and particularly to FIG. 1, there is shown a flat blank of paperboard or the like which is cut and scored to form the container illustrated in FIGS. 2-4. The paperboard is of a conventional type and may be coated one side or both, and/or printed as desired for the ultimate end use. As shown in FIG. 1, the blank includes a plurality of main panels 10, 12, 14 and 16 separated from one another by fold lines or the like. Panels 10, 12 and 16 also have attached to their respective ends along fold lines, pairs of end closure flaps 22, 26 and 28. Meanwhile, the other main panel 14 has attached along its respective sides the secondary panels 20. These latter panels 20 are shown as being attached to the main panels along suitable fold lines and may be referred to as adhesive panels since they ultimately are adhered to the respective main panels 12 and 16 in the final configuration. Moreover, these secondary panels 20 which form the inside walls of the double thickness side walls of the upper exposed tray-like compartment 5, give the upper edges thereof a finished surface along the fold lines 11 and 15 as shown in FIG. 3.

The blank of FIG. 1 also includes a glue flap 18 attached along a fold line to the main panel 16 and a pair of product retaining flaps 24 attached along fold lines to the end closure flaps 22. The glue flap 18 is adhesively secured to the inside of main panel 10 (FIG. 2) in the final configuration while the product retaining flaps 24 are adapted to be inserted within the rimmed area of any can or other circular product in the upper tray 5.

As shown in FIG. 2, the blank is folded and glued before being filled and closed either by hand or on properly programmed folding and gluing machinery. In most instances, the blanks are printed with the appropriate identifying matter and advertising information and then shipped to the user in a pre-glued flat form. The user then need only fill the carton before securing the end closure flaps.

For the sake of illustration, the blank of FIG. 1 is shown as being face down so that the inside of the carton is up, or, exposed to view. In this position, the two secondary panels 20 are applied with adhesive on the inside faces thereof prior to being adhered to the inside surfaces of the main panels 12 and 16. The subsequent assembly of the carton is carried out by folding main panel 16 about fold line 15 to adhere the inside faces of panel 16 and the adjacent panel 20 together. The blank is then folded along fold lines 11 and 13 to adhere the inside faces of panel 12 and the adjacent panel 20. This latter step is accomplished by folding the secondary panel 20 adjacent main panel 12 while at the same time, reversely folding main panel 14 about fold line 13. In this intermediate condition, the glue flap 18 appears with its outside face exposed for the application of adhesive thereto and the carton is completed by folding main panel 10 over along fold line 9. Of course, in some instances, where top and bottom glue pots are employed, the blank is only passed through the gluing station once. For these latter installations, the folding steps remain the same and the carton is set-up much faster and more efficiently. Thus, with glue flap 18 adhered to the inside of main panel 10, and, with the secondary panels 20 adhered to the inside faces of main panels 12 and 16, a carton as shown in FIGS. 2 and 3 is obtained.

The carton is filled by initially placing one of the articles to be packaged within the enclosed compartment 3 (FIG. 3) prior to folding the closure flaps 22, 26, 28 into closed condition. With the first item enclosed as described it is only necessary to insert the second article into the exposed tray-like compartment 5 as hereinafter described.

The embodiment of the invention illustrated particularly in FIGS. 1-4, and as specifically shown in two modified forms as represented by FIGS. 5-6 and FIGS. 7-8, is adapted for accepting a can or other circular rimmed item within the upper, exposed compartment 5. For this purpose, the product retaining flaps 24, attached to the ends of closure flaps 22 in FIG. 1 for instance, are illustrated as having arcuate ends for achieving the desired results. In the operation of placing the can 8 or the like in the proportionally sized tray portion 5 of the carton, the can is forced downwardly thereby folding the flaps 24 downwardly until the flaps 24 become engaged into the recessed or rimmed ends of the can 8 as indicated in FIG. 5. Thus once the tray becomes formed and the can 8 inserted therein, the can serves to hold the carton in its erected form. Finally, if desired, the entire carton can then be shrink wrapped or otherwise wrapped for shelf display and sale.
Obviously, the carton obtained will then remain closed and pilfer-proof as long as the wrapping is retained on the carton. When it is desired to obtain entrance into the carton, the wrapping would be removed and the can 8 removed therefrom by pressing either one or both of the product retaining flaps 24 away from the recessed ends of the can. Finally, removal of the can 8 would allow access to the enclosed compartment 3 and the second item stored therein. The unique enclosed compartment and exposed tray thus provided assures maximum protection to the enclosed item while allowing maximum exposure of the exposed item. Moreover, the structural stability of the carton is assured while the main panel 14 serves adequately as a divider element for effectively isolating the exposed item from the enclosed item. Thus the panel 14 serves several functions to give the carton added structural stability when suitably sealed.

An added feature of the embodiment disclosed in FIGS. 1–4 is the fact that all of the exposed edges of the tray 5 are smooth and of double thickness. This feature is achieved by making the secondary panels 20 continuations of side panels 12 and 16 while making the product retaining flaps 24 continuations of end closure flaps 22.

The modification of the first embodiment of the present invention shown in FIGS. 5 and 6 is substantially the same as the construction of FIGS. 1–4 except that the product retaining flaps 24 are provided at the free sides of the end closure flaps 26. In addition, the other end closure flaps 22 and 28 have been made full size for the sake of continuity with the remainder of the carton blank. The modification illustrated in FIG. 5 and 6 is set-up and glued in substantially the same manner as the primary embodiment of FIGS. 1–4.

For these reasons, the same reference characters have been applied to similar elements in FIGS. 1–4 and FIGS. 5–6. Thus the blank of FIG. 5 comprises a plurality of main panels 10, 12, 14 and 16 separated from one another along fold lines and including a closure flap 18 attached to the free edge of panel 16 along a fold line. End closure flaps 22, 26 and 28 have been added along fold lines to the end edges of panels 10, 12 and 16, and the carton retaining flaps 24 have been provided along fold lines to the side edges of end closure flaps 26. It should be obvious moreover that the product retaining flaps 24 could just as readily have been added to the inside free edges of closure flaps 28 rather than flaps 26 to achieve the same purpose. Accordingly, when the carton blank is glued and set-up as shown partially completed in FIG. 6, a configuration similar to FIG. 3 is obtained wherein an enclosed compartment 3 is provided with an exposed tray-like compartment 5 at the upper end thereof. The carton of FIG. 6 is filled like the carton of FIG. 3 by inserting a first article into compartment 3, then closing flaps 22, 28 and finally 26 prior to insertion of the can or like article into the upper compartment 5.

In the modification of FIGS. 7 and 8, the blank structure shown in FIG. 7 is similar to the blank of FIGS. 1 and 5, while the partially completed carton of FIG. 8 is similar to the partially completed cartons of FIGS. 3 and 6. Like reference characters have been applied to the same or similar elements in each of the different FIGURES and the carton disclosed in the modification of FIGS. 7 and 8 is formed and set-up substantially like the carton of FIGS. 3 and 6. The only different feature illustrated in the modification of FIGS. 7 and 8 resides in the placement of the product retaining flaps 24 on the blank structure. Note that for this modification the flaps 24 have each been divided in half and one-half of each product retaining flap provided along a fold line to the two end closure flaps 26, 28.

Thus in the modified structure of FIGS. 7 and 8, the end closure flaps 26, 28 have been reduced in size by one-half as compared with the structure of FIGS. 5 and 6 while end closure flap 22 has remained full sized. The carton of FIG. 8 is filled like the cartons of FIGS. 3 and 6 by first inserting an item into the enclosed compartment 3 prior to folding flaps 22, 26 and 28 into closed condition. In this latter state, the can or other rimmed article is then forced into the tray portion 5 by bending the partial product retaining flaps 24 over until they become engaged within the recessed or rimmed ends of the can. Thus the modified carton of FIG. 8 becomes completed with the can acting to hold the carton erect as explained hereinafter.

A second embodiment of the present invention is illustrated in FIGS. 9 and 10 wherein the basic blank structure of FIG. 1 has been altered to provide a different scheme for retaining the carton erected and closed and for retaining one of the combined articles in the upper exposed tray 5. The blank structure of FIG. 9 is applied with like reference characters to designate similar elements in the blank structure of FIGS. 1, 5 and 7. Accordingly, the main panels 10 and 12, 16 still correspond to the bottom and two side walls of the carton while the panel 14 retains its identity as the carton dividing wall separating the carton into two different compartments. Only one secondary panel 20 is shown as being attached between main panels 14 and 16 since a closure or glue flap 18 is attached to the free edge of panel 14. Thus the carton of FIG. 10 is formed by initially pre-applying adhesive to the inside surfaces of panels 20 and 40 prior to folding the carton blank into the desired configuration. The first fold is made at fold line 15° where the inside of panel 20 is adhered to the inside of panel 16. Secondly, panel 40 is folded about fold line 11° to become adhered to the inside of panel 12. These two steps yield a partially folded carton blank which will yield a tray-like upper portion with double thickness side walls and smooth upper edges. In this embodiment, the extreme panel 40 serves the same purpose as the intermediate panel 20 and is added to give the carton the smooth upper edges achieved with the blank construction of FIGS. 1, 5 and 7. Of course, the extreme panel 40 when folded over and glued to the main panel 12 also yields all the interior surfaces of the tray of coated board when the blank material is coated on one side only as is quite often done. It should be obvious, however, that the panel 40 could be omitted from the embodiment of FIGS. 9 and 10, if desired, without affecting the integrity of the carton. Finally, the construction of the carton shown in FIG. 10 is completed by applying adhesive to the now exposed outside face of glue flap 18 and folding over the panel 12 about fold line 13° to adhere glue flap 18 to panel 12 immediately adjacent to the panel 40. Thus the carton structure of the embodiment of FIGS. 9 and 10 is completed prior to being set-up and filled before sealing. It should be noted however, that when both top
and bottom glue pots are used, the blank only has to be passed through the glue station once with the folding sequence mentioned above remaining the same. Moreover, to improve the runnability of the carton illustrated in FIGS. 9 and 10, it has been found desirable in some cases to increase the width of flap 40 so that it will underlie the glue flap 18 in the glued and set-up condition. In these instances, flap 40 is initially adhered to panel 12 and the glue flap 18 is then adhered to flap 40. This feature improves the runnability of the carton through conventional machinery where the flaps 40 and 18 overlap, there is no need for a compression belt to force the double thick panels 12 and 40 into contact with the glue flap 18. When the glue flap 18 is adhered only to the inside of panel 12 as shown in FIG. 10, a compression belt is needed to accommodate the double thickness of the adjacent panels 12 and 40.

As pointed out herebefore, the cartons prepared according to the first embodiment of the present invention, and specifically shown in FIGS. 3, 6 and 8, were intended primarily to package cans or other like rimmed objects in the upper exposed tray-like compartment 5 thereof. Accordingly, the carton structures of the first embodiment were required to have product retaining end flaps 24 which assumed a position more or less perpendicular to the carton dividing wall 14 when the exposed product was inserted therein. In contrast to this first embodiment, the second embodiment, as illustrated in FIGS. 9 and 10, includes combination end closure flaps 22 and product retaining flaps 24 which become angularly related to the carton dividing wall 14 (see FIG. 10). This feature is accomplished by providing tab elements 34 on the extreme ends of product retaining flaps 24 which are inserted in slots 32 formed in the panel 14 as illustrated in FIG. 10. The cooperation of these latter elements is assured by the addition of the fold lines 35 in flaps 24 which aid in inserting the tabs 34 in their respective slots 32. Furthermore, the flaps 24 contain cut-outs 38 shaped to accept the exposed product in the upper tray-like portion 5 of the carton. The cut-out sections 38 are adapted to be tailored to the desired product and serve to isolate the product within the tray 5 completely spaced from the side and end walls, and the carton dividing wall 14. Of course, since the carton of FIG. 10 is similar to the carton described in the first embodiment in regard to the manner in which the enclosed product is packaged in the lower compartment 3, it should be obvious that the enclosed product would necessarily have to be packaged prior to securing both product retaining flaps 24 and the insertion of the exposed product in the upper compartment 5. Moreover, after the two products were securely packaged, the entire carton may be wrapped either with cellophane or a film before being offered for sale. Accordingly, the package obtained with the embodiment of FIGS. 9-10 retains each of the desirable features achieved with the unique design as characterized by the carton of the first embodiment. The carton is pinher-proof as to the enclosed item while the two items remain securely packaged in isolation from one another as a result of the presence of the carton dividing wall 14.

In FIGS. 11 and 12, there is illustrated a modified carton which relates to and is deemed to be encompassed by the second embodiment of the present invention defined by the carton construction of FIGS. 9-10. In its modified form, the carton is shown as being enlarged in height with the increased size being devoted to the enclosed compartment 3 allowing the exposed compartment 5 to remain substantially the same size. The modified carton is further distinguished by having the product retaining end flaps 24 extend from the carton end closure flaps 26, and also assume the function of a carton securing flap rather than a product retaining flap. Finally, the modified carton also discloses a construction which eliminates the traditional glue flap thereby allowing the entire carton to be formed with a single glue application applying two strips of glue, and only two folds.

The blank structure of FIG. 11 illustrates the usual bottom wall 10, side walls 12 and 16 and the carton dividing wall 14 as disclosed herebefore in the other constructions of the carton of the present invention. For this modified construction however, each of the panels 10, 12, 14 and 16 have foldably attached thereto end closure flaps 22, 26, 28 and 30. Panel 16 contains the cut-out 39 which provides a window structure to permit examination of the product packaged in the enclosed compartment 3, and the carton divider wall 14 includes slots 32 which accommodate the lengthened flaps 24 attached to flaps 26 to retain the carton in its assembled condition. The carton structure illustrated in FIG. 12 is assembled by initially applying adhesive to the inside faces of panels 18 and 20. The first fold is made at fold line 15' when the inside face of panel 20 is adhered to the inside face of panel 16. Simultaneously a reverse fold is made at fold line 17' to retain the inside portion of panel 18 exposed after folding over the panel 14 in the first step. This latter step then places the adhesive applied face of panel 18 up so that the subsequent folding action of panel 12 along fold line 11' insures that the inside face of panel 18 will become adhered to the inside face of panel 12. The carton structure thus obtained yields an upper tray-like compartment 5 which has double thickness side walls, but with a smooth upper edge only along the fold line at 15". Of course, if desired, glue could be applied to the outside face of glue flap 18, depending upon the location of the glue pot on the machine. In this latter instance, the glue flap would then be turned down, as opposed to up as shown in FIG. 12, to still give a double thickness side wall to panel 12 in the region of the glue flap 18.

Thus the carton structure disclosed in FIG. 12 is obtained and need only be filled prior to being placed on the shelf for sale. Because of the enlarged size of the carton of FIG. 12 and since the flaps 24 do not physically engage the product in the tray portion 5, it is possible to package several similar items therein to advantage. One sample of the packaged articles could be displayed in the tray 5 while two or more could be stored in the enclosed compartment 3 for later use. Of course, the window structure at 39 would permit visual inspection of the items located in the enclosed compartment 3, and, of course, the entire package would be desirably wrapped prior to being displayed for sale. FIGS. 13 and 14 disclose a third embodiment of the present invention wherein a minimum amount of paperboard material is used to construct a dual compartment carton containing several unique features.
The blank structure of FIG. 13 shows the side panels 12, 16, the bottom panel 10, and the carton dividing wall 14 each separated from one another by fold lines. A glue flap 18 is disclosed as being attached to the panel 14 along a fold line, and each of the panels include end closure flaps as shown. The end closure flaps 22 and 30 at the ends of panels 10 and 14 are similar if not identical with the same flaps utilized in the modification shown in FIGS. 11 and 12. However, the closure flaps 48 and 50 at one side of the blank are each scored with weakened lines 47 and 51 which join with weakened line 21 in panel 10, and fold lines 46, 52 which provide ultimate access to the interior of the enclosed compartment 3 as illustrated in FIG. 14. Finally, conventional end closure flaps 26 and 28 are attached to the opposite end of the carton without any provision for access to the enclosed compartment. The blank of FIG. 13 is prepared for assembly by applying adhesive to the inside face of panel 20 and folding panels 14 and 20 over about fold line 17 so as to adhere panel 20 to the inside face of panel 16. The outside face of the glue flap 18 is then applied with adhesive and panel 12 is folded over about fold line 19 to adhere the glue flap to the inside face of panel 12. The carton would then be ready to set-up for final assembly and filling.

As shown in FIG. 14, the end closure flaps 26, 28 and 48, 50 are not full sized and must be adhered to one another to form an integrated structure. In FIG. 14, the flaps 26 and 48 are illustrated as being folded over and secured to the panels 28 and 50 respectively by any desired means which could include adhesive, staples or the like. Of course, the enclosed compartment 3 would have to be filled prior to sealing the two flaps 48, 50 since the only access to compartment 3 after sealing would require the permanent separation of the weakened lines 47, 21 and 51 as shown in FIG. 14. Obviously several of the packaged items could be stored in compartment 3 with only a single sample exposed in compartment 5. The carton would then desirably be wrapped for display and sale. Further, as may be appreciated from the illustration in FIG. 14, the consumer could obviously re-use the carton as a pre-formed tray.

As illustrated in FIG. 14, access to the enclosed compartment 3 is obtained by tearing flap 22 away from panel 10 along weakened line 21 while simultaneously tearing the lower portions of flaps 48 and 50 along weakened lines 47 and 51, and then bending the combined flaps away from the carton structure about fold lines 46 and 52 to open the carton as shown. This arrangement yields a piffer-proof carton wherein several items of the same kind are packaged with ease.

The fourth embodiment of the present invention is illustrated in FIGS. 15 and 16 and this embodiment features a different method for enclosing the lower enclosed compartment 3 after the product is stored therein. The blank is illustrated in FIG. 15 and it includes the usual panels 10, 12, 14 and 16 which form the bottom wall, a side wall, the carton divider wall and a second side wall, respectively, of the carton illustrated in FIG. 16. End closure flaps 26 and 28 are shown attached to the panels 12 and 16, and combination end closure panels 30, 60 and an end closure flap 62 are shown attached to each end of the panel 14. The product retaining panels 30 are each shown as having cut-outs 38 therein for accepting a more-or-less fixed position the item packaged in the exposed compartment 5.

The carton blank is initially applied with adhesive along the inside faces of each of the panels 20 and panel 14 is reverse folded along fold line 21 as the right panel 20 is folded about fold line 23 to be adhered to panel 12. Then panel 10 is folded about fold line 25 to expose the outside face of glue flap 18. Adhesive is next applied to flap 18 and panel 16 is folded about fold line 27 to adhere the inside face of panel 16 to both the left panel 20 and the glue flap 18. Accordingly, the carton shown in FIG. 16 is obtained and need only then be set up for filling and closing. Of course, for this embodiment, as with the previous embodiments, a single glue station could be used with both top and bottom glue pots for the application of adhesive to both panels 20 and glue flap 18.

The filling and closing of the carton of FIG. 16 is accomplished with a simple tuck style flap arrangement associated with the product retaining panels 30. The product retaining panels 30 assume an angular relationship to the carton divider wall 14 and break at the fold line 59 to provide the end walls 60 separated from the tuck flap 62 by the fold line 61. The product retaining cut-outs 38 in panels 30 are adapted to be tailored for the desired product to be displayed, and, the article stored in the enclosed compartment 3 is securely held in place in isolated relation to the article in compartment 5. As in the case of the other embodiments of this invention disclosed herein, the entire package would then preferably be wrapped for display and sale.

FIGS. 17 and 18 of the present invention disclose a modification of the carton disclosed herein which incorporates the best features of the invention as shown in FIGS. 9–10 and 15–16. That is, the carton disclosed in FIG. 18 is set-up and glued in the same manner that the carton disclosed in FIG. 10 is set-up and glued, and, the carton of FIG. 18 can be loaded and closed substantially like the carton of FIG. 16. Of course, the reference characters used in FIGS. 17 and 18 designate similar elements in the blank structural disclosed in the other embodiments herein. Accordingly, the main panels 10, 12 and 16 still correspond to the bottom and two side walls of the carton while the panel 14 retains its identity as the carton divider wall which separates the carton into two distinct compartments. Only one secondary panel 20 is shown as being attached between the main panels 14 and 16 with a closure or glue flap being attached to the free edge of panel 14. A secondary flap 40 is shown attached to the free edge of panel 12 and for this modification the secondary flap 40 is shaped like the integral secondary panel 20, but, in addition thereto, includes an extension that is the same size as the closure flap 18. Therefore, because of this added feature, the modification shown in FIG. 18 incorporates the improved runnability feature described hereinafter in connection with the embodiment of FIGS. 9 and 10.

The blank of FIG. 18 is formed by pre-applying adhesive to the inside surfaces of panels 20 and 40 with a pair of top glue pots while simultaneously applying adhesive to the outside surface of closure flap 18 with a bottom glue pot. The blank is then folded into the desired configuration by initially folding secondary flap 40 into contact with the inside of panel 12 while simul-
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taneously folding secondary panel 20 over into contact with the inside of panel 16 to expose the adhesive applied side of closure flap 18. Obviously these two folds could be made separately, but for the sake of efficiency they are preferably made simultaneously. These two folds, of course, yield a partially assembled carton blank which will have a tray-like upper portion with double thickness side walls and smooth upper edges. Finally, the construction is completed by folding the double thick side wall comprising panel 12 and secondary flap 40 over and into contact with exposed adhesive applied side of closure flap 18. Thereby, the glue flap 18 is adhered directly to the extension element of secondary flap 40 which was previously adhered to the panel 12. This scheme yields the desired improved runnability as described hereinbefore. Thus, the carton structure of FIG. 18 is completed prior to being filled and closed.

For this latter function, it should be noted that the carton of FIG. 18, like the carton of FIG. 16, is susceptible to being loaded both top and bottom from the end with one end closure flap open for the purpose. In the other embodiments of the invention disclosed herein, the top tray is normally loaded only from the top, and, preferably only after the bottom compartment has been loaded from one end thereof. A further feature of the cartons of both FIGS. 16 and 18 lies in the fact that the end panels 30 and 22 respectively may contain one or more openings for retaining therein one or more examples of the product exposed for view. The carton of FIG. 18 is moreover, especially useful for packaging fragile items since the partition panel 14 serves as a cushioning member between the product and the bottom of the carton. Furthermore, experience has shown that the displayed item when end loaded in the carton makes the carton more pilfer proof in the absence of an overlap.

In the detailed description of the various embodiments of this invention, the different panels have been described as being folded in a particular manner to yield the carton structures illustrated. It should be apparent, however, to one skilled in the art, that other and different schemes could be advantageously used to achieve the same results as obtained herein. That is, a combination of the different features shown in the different embodiments could be interchanged for packaging specific articles within the scope of the invention as disclosed. In that connection, the terms, "bottom", "side walls" and "end flaps" and the like have been utilized in the description for the sake of continuity and to define the position of the respective elements as shown in the drawings. These definitions should by no means be considered limiting.

The different modifications and embodiments disclosed herein illustrate how the principles of this invention can be achieved in a variety of ways all within the scope of the invention as defined in the appended claims.

1 claim:

A dual compartmented carton formed from paperboard or the like comprising:

a. a single blank of material scored to form a plurality of main panels separated from one another along parallel fold lines and a carton closure flap connected to one of said main panels; said main panels including a bottom wall, a pair of side walls and an intermediate wall connected between said pair of side walls to divide the carton into an upper exposed tray-like compartment and a completely enclosed lower compartment, said side walls being common to both the completely enclosed lower compartment and the upper tray-like compartment, with the intermediate wall of the carton serving as both at the top of the completely enclosed lower compartment and the bottom of the said tray-like upper compartment;
b. first end closure flaps connected to the ends of one or more of said carton forming walls for enclosing the ends of said lower compartment;
c. second end closure flaps integral with said end closure flaps to form finished upper edge end closures for each end of said upper tray-like compartment at the point where said second end closure flaps are integrally joined to said first end closure flaps, said second end closure flaps including arcuate end means integral therewith for retaining one or more products securely located in the upper tray-like compartment; and,
d. a pair of secondary panels connected along fold lines to one of said main panels to form both side walls of said upper tray-like compartment of double thick material with finished upper edges.

2. The carton of claim 1 wherein the secondary panels are connected to each side of said intermediate panel.

3. The carton of claim 2 wherein the first and second end closure flaps are connected to the bottom wall of said carton.

4. The carton of claim 2 wherein the first and second end closure flaps are connected to one of the side walls of said carton.

5. The carton of claim 2 wherein the first and second end closure flaps are connected to both of the side walls of said carton.

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