Improved shipping container and display box

The present invention relates to shipping containers formed from generally flat material such as cardboard or paperboard. More specifically, the invention relates to a shipping container box which is assembled without fastening one major edge with a glue flap or equivalent structure. The container is assembled from top (1), bottom (3), left and right side panels (2,4) and associated flaps on each panel, but does not include a glue flap. The top (13) of the container may be opened by removal of top flaps from attachment points, to allow access to contained items or to display the contained items. The container functions both as a shipping container and a display case.
Description

BACKGROUND OF THE INVENTION

Field of the Invention

[0001] This invention relates to boxes for shipping and/or displaying items. More specifically, it relates to wrap-around style boxes made from paperboard, or like materials which may be used to ship items and then may be opened easily to display the items. The items contained may include primary packages which themselves in turn contain items or a product.

Description of Related Art

[0002] Many retail articles and food items are generally shipped to stores in cardboard shipping containers, which are subsequently unloaded and discarded. The products are then often manually priced and transferred to display shelving, or alternatively they are re-assembled in open, low-profile cartons which are then vertically stacked so as to display the products. However, recent merchandising trends have emphasized stores where consumers realize price savings by purchasing goods that are no longer removed from the carton and individually stacked on a display shelf, but instead are displayed in the shipping cartons themselves. The emphasis of such businesses is to pass the labor savings realized by not shelving on to consumers. Thus, it can be appreciated that many shipping containers in use today are operable to convert the same container which the products were shipped within, into a point-of-display unit to attract attention to the products contained therein. Thus, these dual functioning containers have become generally well known and various types or versions have been developed to suit specific functions or needs, such as end-of-aisle display units, or shrink wrap display units for displaying bottles, etc. The use and importance of dual functioning shipping cartons has increased tremendously and is expected to continue to increase.

[0003] Many of the items shipped through display packages and other means are contained in wrap-around cartons or containers. As used herein, cartons and containers are used synonymously and interchangeably. Containers known as wrap-around containers are formed by packaging machines which wrap container blanks around prearranged groups of articles traveling through the machine, wherein various container flaps are glued or fastened together to form the relatively thin, but strong paperboard containers. The containers may also be formed by hand, without the use of packaging machines. To this end, it has been common practice to provide dual function containers with sides, ends, or top or bottom panels which include an additional tab or glue flap (often referred to as the manufacturers joint) for receiving deposits of adhesive glue in order to connect the panels of the carton together and seal the connection face. For example, U.S. Pat. No. 4,562,922 to Midura discloses a display carton which requires a plurality of glue tabs about the sheet blank in order to effectively close and seal a display portion and end portions. Another example is shown in U.S. Pat. No. 4,553,656 to Gullikson where each of the face panels is formed with a pair of flaps that are glued together. In addition, this carton is provided with a half panel extending from one of the face panels. The half panel functions as a glue panel for sealing and securing the edges of the large face panels together. A hood and tray carton design is illustrated in U.S. Pat. No. 5,195,677 to Quintana, providing a glue tab on an end panel in order to form the connection and sealing of the hood section. Similarly, fold triangles are provided in the tray portion which are used as glue tabs for connecting the sides together.

[0004] The container may perform the single function of shipping only, or may perform a dual function of shipping and display. Thus, it can be appreciated that no matter what the specific purpose or design with which the single or dual function container serves, it is common industry practice to provide at least one glue tab whose one function is to seal the joint which connects the face panels together.

[0005] Since the open display concept has generally become an accepted mode of shopping, more recent emphasis has been placed on improving the appearance and cost effectiveness of providing such containers. One of the drawbacks of state-of-the-art wraparound containers is that they contain one or more glue flaps which are specifically arranged to provide extra structural strength and edge protection of the carton during shipping. These glue flaps are an additional flap of material which protrudes from a terminal edge of the blank, and which wraps around an exposed edge area, to seal the edge and fasten to an adjoining side. In some instances, these flaps are problematic in that they not only add material, and costs, to the container, but they must be glued, and must later be opened in order to access the items of the container, and/or to convert the carton into a display unit. Pulling a glued flap apart to facilitate conversion into a display unit will often tear the surface of the container, which then detracts from the appearance of the display unit. To avoid this problem, tear strips or perforated tear away sections have been disclosed in the art. For example, U.S. Patent 4946042 to Ferreri discloses a container which has a frontal section which tears away.

[0006] Quite often, the shipping containers with glue flaps are only utilized to ship the product, because these containers are at least partially destroyed when removing the contents. This partial destruction renders the container less useful as a display container. This means that the contents have to be moved to a separate display unit. This process consumes a substantial amount of labor and time, and results in added costs. In addition
to the cost of the additional material for the glue flap, extra glue also has to be used to seal the container.

[0007] The present invention eliminates the use of typical glue flaps, and the associated glue attachment and detachment process, and other related problems and costs.

Summary of the Invention

[0008] The present invention eliminates the necessity of a glue flap to fasten and seal the panels of wrap-around style shipping and display container boxes. This structure and method facilitates construction of the container, opening of the container and conversion into a display case. An open, unfastened edge is purposely created by eliminating the glue flap.

[0009] One object of the present invention is to utilize a four panel blank to serve the same purpose of a five panel blank, where the fifth panel would normally be a glue flap.

[0010] A related object of the present invention is to provide a self-opening container having side flaps which are easily opened outward, allowing the top panel to open upward exposing items such as primary packages for display and/or removal.

[0011] Another object of the invention is to provide a container box which avoids in one embodiment the necessity to cut or tear perforation lines to open the box, thereby increasing appearance and quality.

[0012] Another object of the present invention is to eliminate a sealed joint and purposely create an unfastened, open edge in the container, while still maintaining its structural integrity.

[0013] A further object of the present invention is to provide a unique container which can serve as a shipping container and later as a display case, without the necessity of removing the items from the container.

[0014] A final object of the invention is to provide a container which utilizes the inside surface of the top panel or other inside panel surfaces as an advertising surface for displaying words and/or images, coupons, or other advertising means.

[0015] This and other objects are realized by the article and method of the present invention.

Brief Description of the Drawings

[0016] Fig. 1 is a top view of the container in an unassembled state.

Fig. 2 is a perspective view of the container showing placement of items to be contained in the final assembled container before container assembly.

Figs. 3 - 5 are perspective views of the container of the present invention in partially assembled states.

Fig. 6 is a perspective view of the container in the fully assembled state.

Description of the Preferred Embodiments

[0017] Referring to Fig. 1, a four-panel blank 10 is shown having a top panel 1 and two top flaps 5, a first side panel 2 having two first side flaps 6, a bottom panel 3 having two bottom flaps 7, and a second side panel 4 having two second side flaps 8. Contained items 9 are shown placed on the bottom panel 3 prior to assembly of the four-panel blank 10 into a container. The contained items 10 may be loose, but more preferably are primary packages which themselves contain items or products. These primary packages provide additional structural integrity to the container. In this embodiment, the four-panel blank 10 is shown as it moves along a container assembly machine. This embodiment shows the flaps and panels having different sizes; the flaps and panels may also all be of the same size, and it should be noted that the sizes of the flaps and panels may vary depending on the application.

[0018] Fig. 2 illustrates the four-panel blank 10 having the contained items 9 placed on the bottom panel 3 before assembly of the container.

[0019] Fig. 3 illustrates the four-panel blank 10 during the first stage of assembly. The contained items are placed on the bottom panel 3. In one embodiment, these items may be primary packages of product, such as retail boxes of food product.

[0020] In one embodiment, before assembly, all four panels lie in substantially the same plane, for purposes of this description, in a horizontal plane. This horizontal plane is shown viewed from the top in Fig. 1. As shown in Fig. 3, the second side panel 4 may be rotated upwards substantially 90° from horizontal to form a first vertical side. The first side panel 2 may be rotated upwards substantially 90° from horizontal to form a second vertical side. The top panel 1 moves out of the original horizontal plane along with the first side panel 2 as first side panel 2 is rotated upwards from the original horizontal position. An interior space is now defined between the first side panel 2 and the second side panel 4.

[0021] In Fig. 4, the first side flaps 6 and the second side flaps 8 are rotated from their original orientation inward substantially 90° toward the interior space to form and present attachment points 12 for the top flaps...
5 and bottoms flaps 7. In one embodiment, the attachment points 12 are disposed on an outside surface of flaps 6 and 8. In practice the first and second side flaps 6 and 8 may be rotated inward before, after, or simultaneously with the rotation of second and first side panels 4 and 2.

[0022] Fig. 12 illustrates the container in a partially assembled state similar to Fig. 4 described above. However, here the top flap 1 and first side panel 2 are shown in a substantially vertical plane, where they have been rotated to this position together, as shown also in Fig. 13.

[0023] Fig. 13 illustrates the four panel blank 10 during a first stage of assembly, as shown also in Fig. 3. Here, however, top flap 1 and first side panel 2 are shown in a substantially vertical plane, as shown also in Fig. 12. Also, it is to be noted that the contained items 9 are preferably first placed in the container at this stage of assembly, as shown in Fig. 13 instead of as shown in Figs. 2 and 3.

[0024] Fig. 14 illustrates the container after the top panel 1 and the top flaps 5 have been rotated downward over the interior space. This stage follows from the stage shown in Fig. 4 or Fig. 12. The bottom flaps 7 may be in a substantially horizontal plane at this stage as shown, or may be in a substantially vertical plane, attached to the first and second side flaps 6 and 8.

[0025] Fig. 5 illustrates the bottom flaps 7 after they have been rotated up from horizontal substantially 90° to form the tray area. The bottom flaps 7 may be affixed by adhesive or other means such as staples, tape, or other mechanical means to the attachment points 12 not shown in Fig. 5 at outside surfaces of the first and second side flaps. To complete assembly of the container, the top panel 1 is rotated down to lay flat against the upper edges 11 of the first side flaps 6, the second side flaps 8, and the second side panel 4. The top flaps 5 are then rotated substantially 90° downward to mate with the outside surfaces of the first side flaps 6 and second side flaps 8, and are attached in a manner similar to attachment of the bottom flaps 7, described above.

[0026] Fig. 6 illustrates the container in its assembled form. The terminal edge 15 is shown here meeting the top edge 11. In this embodiment, a gap exists through which the contents may be viewed. This gap may also not be present.

[0027] Fig. 7 illustrates the container in its assembled form, and shows tear strips 16 which may be included to facilitate removal of the top panel 1. The tear strips may take the form of a plastic material, or a cord or string which runs along the area to be torn away. Any of the known tear strip means may be employed.

[0028] Fig. 8 illustrates the use of the container as a display case after it has fulfilled its duty as a shipping container. In order to open the container for removal of items, in one embodiment, top flaps 5 are pulled outwardly from their attachment points 12 not shown in Fig. 7 at outside surfaces of the first side flaps 6 and second side flaps 8. The top panel 1 is then rotated through an angle, usually 90° and in some embodiments beyond, to reveal a printed message, advertising, coupon pouch, or other item of interest contained on the display area 13 of the inside surface of the top panel 1. The display area 13 may be held vertical by supporting against a wall or other structure. In a further embodiment, if the top edge of the first side panel 2 is perforated or weakened in a known manner, such as along fold line 14, the entire top panel 1 together with top flap 5, may be removed by tearing cutting, or other means, exposing the container contents for display and sale. In all of these Figures, dashed lines represent fold lines for the assembly of the container.

[0029] Fig. 10 illustrates the use of the container as a display case. The top panel 1 and the two top flaps 5 have been removed.

[0030] It is understood that the embodiments shown in the accompanying figures set out only a few of many variations on the inventive concepts. Other shapes and configurations of the container are contemplated depending on the size and shape of the contained items. The associated flaps and panels, for example, may vary in size and may be non-uniform in size, depending on the contained items, the container assembly machinery, and other considerations. For example, the top and bottom flaps may be purposely shortened so that the terminal edges of top and bottom flaps do not meet and a gap is formed, to allow viewing of the contained items in an assembled box.

[0031] The elimination of the glue flap or similar structure saves substantially on material costs, reduces labor to assemble and open the container, and facilitates use of the container as a display case.

Claims

1. A container for shipping items manufactured from a four panel blank comprising: a top panel with at least two integral top flaps, a first side panel with at least two integral first side flaps, a bottom panel with at least two integral bottom flaps, and a second side panel with at least two integral second side flaps, the top panel, first side panel, bottom panel, and second side panel arranged consecutively adjacent to each other wherein the top flaps and bottom flaps are attachable to the first side flaps and second side flaps to form a box-shaped container with an open unattached edge, wherein said open unattached edge has no separate glue flap or attachment means.

2. A container according to Claim 1 or 2 further comprising advertising material displayed in an inside surface of the top panel, wherein upon unattaching the top flaps and rotating the top panel, the advertising material is displayed along with the contents.
of the container.

3. A container according to Claim 1, 2 or 3 wherein the bottom panel forms a horizontal edge joining the top panel and the first side panel, wherein after unattaching the top flaps from the side flaps, the top panel together with the top flaps is separable and removable from the first side panel and the container.

4. A container according to claim 1, wherein the bottom panel forms a horizontal base, the bottom flaps being arranged upward at substantially right angles with respect to the bottom panel, the first and second side panels being arranged upward at substantially right angles with respect to the bottom panel, the first side flaps and second side flaps being arranged inward at substantially right angles with respect to the first and second side panels, the first and second side flaps being attachable to the bottom flaps, the top panel being arranged to rest against a top edge formed by the termination of the first and second side panels and flaps, the top flaps arranged downward at substantially right angles with respect to the top panel, the top flaps being attachable to the first and second side flaps, a terminal edge of the top panel being unattached to the second side panel or to the container.

5. A container according to to of Claims 1-4 further comprising at least one tear strip disposed along at least one of the top flaps, wherein tearing away the tear strip facilitates opening the container.

6. A method for assembling a container from a four-panel blank having a top panel with at least two integral top flaps, a first side panel with at least two integral first side flaps, a bottom panel with at least two integral bottom flaps, and a second side panel with at least two integral second side flaps, comprising the steps of: initially orienting the four-panel blank in a substantially flat, planar orientation; rotating a first and a second side panel towards each other through substantially 90° with respect to a bottom panel; rotating inwards through substantially 90° a pair of first and second side flaps on each of the first and second side panels; rotating upwards through substantially 90° a pair of bottom flaps on the bottom panel; rotating a top panel attached to the first side panel so as to lie in a plane substantially parallel with the bottom panel and to contact upper edges of the side panels and edge panels, thereby forming a cover to the container; rotating downward through substantially 90° a pair of top flaps, and attaching the top flaps and the bottom flaps to respective first and second side flaps without attaching a terminal edge of the top panel to a top edge of the second side panel or to the con-
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The present search report has been drawn up for all claims.

Place of search: THE HAGUE

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