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2,661,891

CARTON

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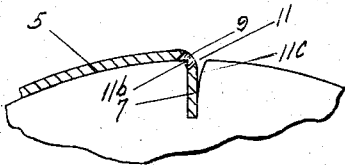


FIG. 4.

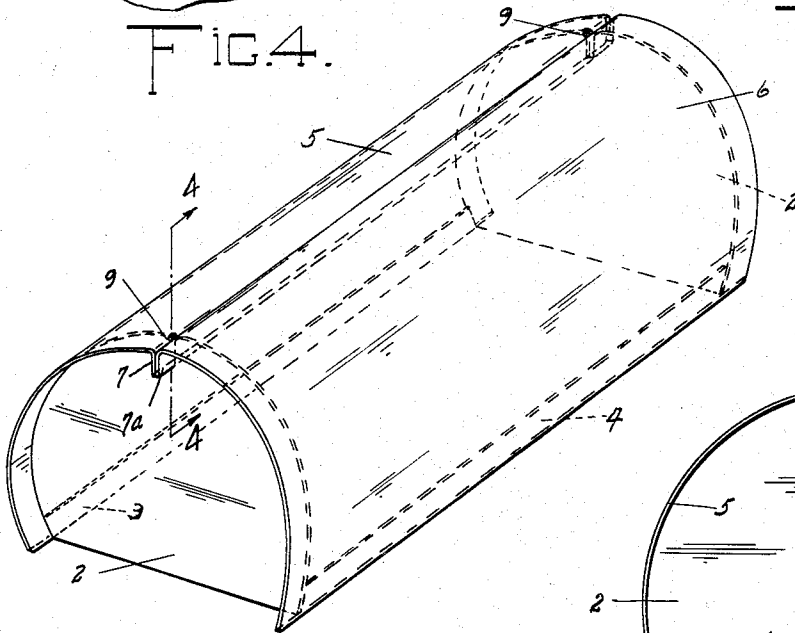


FIG. 1.

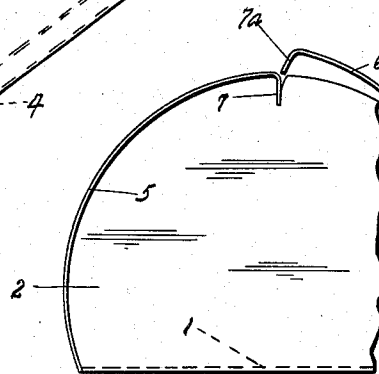


FIG. 3.

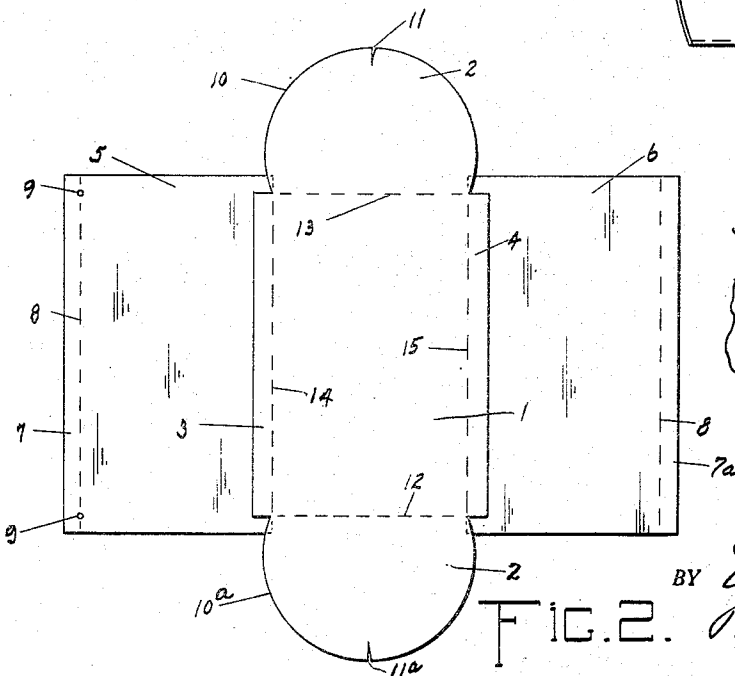


FIG. 2.

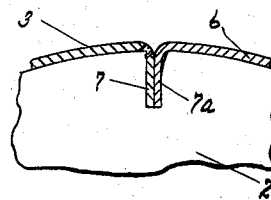


FIG. 5.

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CARTON

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3 Claims. (Cl. 229—30)

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This invention pertains to the art of packaging and comprises a novel packaging carton designed for display or non-display purposes, as desired.

The invention involves a construction of package of the type which is generally flat prior to being set up for use, and which comprises primarily a body section consisting of relatively rigid bottom and end members, and a flexible cover composed of separate cover members attached to the bottom member and adapted to be manipulated to interengage the end members of the body section as to create mutual reinforcement between the body section and cover effective to rigidify the entire packaging structure in a novel manner.

In carrying out the invention it is contemplated that the cover members shall be provided with flaps or flap sections at their free edges and that these flaps shall be mechanically interlocked with the upper free edges of the end members when bent upward from the bottom member, whereby to create the reinforcing action between the body and cover member, previously referred to.

In effectuating the last mentioned objective the flaps at the free edges of the cover members are utilized in a unique way to lock the end members of the body in vertical positions relative to the bottom, to prevent inward or outward displacement of the end members from their operative positions when the carton is set up for use. Moreover, the manner of interengaging the said flaps with the end members is especially designed to place the cover members under peculiar tension stress relatively to the end members to advantageously subserve the reinforcing characteristic of the cover feature. Also, the flaps on the free edges of the cover members are so engaged with the end members of the body that they are frictionally engaged with each other to guard against unauthorized detachment from the end members and collapsing of the package, at the same time creating by such engagement a sort of mechanical beam longitudinally of the carton providing longitudinal reinforcement of the entire package end to end.

It is further an objective of the invention preferably to use a flexible cover of transparent material such as plastic so that the contents of the carton when enclosed may be displayed, but the invention is not confined to employing such a transparent cover because in many instances the package or carton may be utilized for enclosing articles, the display of which is unnecessary

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so that opaque cover material may readily be resorted to.

Other advantageous features of the invention will appear more fully upon reference to the following detail description, in connection with the accompanying drawings, and in the latter:

Figure 1 is a perspective view of a carton embodying the essential features of the present invention and illustrating the cover of the carton as of transparent material.

Figure 2 is a view showing the carton in its initial flat condition as previous to folding and bending the parts to assemble the same for use as an enclosing receptacle.

Figure 3 is an end view of the carton, partly broken away, showing the final action of introducing the flap of the closing cover member into the interlocking slots of the end members.

Figure 4 is a detail enlarged sectional view showing the upper portion of one of the end members of the carton and the manner of interlocking the corner portion of such end member adjacent to the interlock slit or slot with the cover member which is designed to coact at its ends with corresponding such corners of the end members, the section being taken about on the line 4—4 of Figure 1.

Figure 5 is a detailed sectional view of a fragmentary nature similar to Figure 4 but illustrating the flaps of both cover members interengaged with the locking slots of one of the end members.

It is notable that the carton or container of the present invention is of exceedingly simple construction, the same being largely made of only three parts. These parts comprise a body which is made up of the bottom 1 having the end extensions providing end members for the package or carton, designated 2. The bottom 1 is formed with longitudinal edge flanges 3 and 4 which extend longitudinally of the edges of the bottom and which are intended to be folded upwardly from the bottom main portion to reinforce the latter longitudinally, said flanges 3 and 4 carrying the cover members 5 and 6 respectively of the cover for the carton.

The body unit described as including the parts 1, 2, 3, and 4, is an integral piece of pressed board or cardboard having a certain degree of inherent stiffness and corresponding strength. The provision on the bottom 1 of the flanges 3 and 4 involves making this bottom somewhat wider than the limits of width of the end members 2 designed to be folded upwardly at right angles to the bottom member 1.

The cover members 5 and 6 are preferably

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adhesively attached at their inner edges to the flange portions 3 and 4 of the bottom 1 and said cover members are of slightly greater length than the bottom 1 so that their ends will project beyond the end members 2 when the carton is folded into its operative condition of use, as seen in Figure 1 of the drawings.

It is noted that the cover members 5 and 6 are designed to be made preferably of flexible material and a flexible plastic may be advantageously used for such purpose, such plastic being transparent when the contents of the carton or container of the invention are designed to be displayed, whereas, if such is not the desire, the material from which the parts 5 and 6 are made may be opaque.

The cover member 5 is provided at its outer free edge with a flap 7, adapted to be folded on the fold line 8 indicated, to extend at substantially a right angle to the body of the member 5, and in like manner, the cover member 6 is formed with a similar flap 7a, foldable on the fold line 8. The cover member 5 is designed to have a positive interlocking connection with the two end members 2 when the carton is assembled in the condition for use and with this in mind there are provided adjacent to the opposite ends of the member 5, on the fold line 8, the openings 9, these openings being small apertures, the purpose of which will appear more fully hereinafter. They are seen best in Figures 4 and 5 of the drawings arranged as when they are performing their desired function.

As seen in the drawings, the end members 2 of the carton are of partial or semi-circular form by reason of the curve shape of the edge portion thereof, providing partial curved peripheries 10 and 10a in contact with which the inner surfaces of the cover members 5 and 6 are adapted to cooperate when the carton is set up for use.

Now, in each of the end members 2 and substantially at the middle of its peripheral edge 10 or 10a as the case may be, are provided certain friction and locking slots, that for the edge 10 of one member 2 being designated 11 and that for the edge 10a of the other member 2 being designated 11a. The slots 11 and 11a extend inwardly and radially of the body of each end member 2, and one side of each slot 11 and 11a is straight so as to provide a corner lock portion 11b while the other side of the slot for each member 2 is relatively curved, as seen at 11c. Reference in this connection is made to Figure 4 bringing out in an enlarged manner the formation of the slots 11 and 11a.

With the foregoing construction of the carton of the present invention in mind, the operation of setting up the carton for packaging purposes will now be set forth.

It is assumed that the carton as a preliminary condition is in the state depicted in Figure 2 of the drawings. First, the end members 2 are folded upwardly upon the fold lines 12 and 13, noted on Figure 2, so that they stand relatively vertical or at right angles to the plane of the bottom 1. Next the flange portion 3 of the bottom 1 is folded upwardly upon the fold line 14 and the cover member 5 is raised and folded around the adjacent peripheral portions of the end members 2 so as to bring the flap 7 of the member 5 opposite to the slots 11 and 11a of the members 2. Thereupon, the flap 7 is forced into the slots 11 and 11a until the apertures 9 are caused to interlock with the corner portions 11b of the end members 2, at which time the flap 7

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will be fully introduced into the slots 11 and 11a. The slots 11 and 11a and the flap 7 are so positioned that the peripheral portions of the end members adjacent to the cover member 7 are of slightly greater length than the distance from the fold line 14 to the apertures 9. This condition causes the cover member 5, when folded over the adjacent portions of the end members 2 to be placed under slight tensional stress when its flap 7 is inserted in the slots 11 and 11a, thus to create a reinforcing action between the parts 5 and 2 when the flap 7 is interlocked by the openings 9 with the corner portions 11b of the end members 2.

It will be assumed now that the carton is partially set up for use with the cover member 5 engaged or connected with the end members 2, as shown in Figure 4.

The contents of the carton or container may now be introduced therinto prior to closing the same by means of the cover member 6. This done, the cover member 6 is folded over the end portions or end members 2 much in the same manner as was the cover member 5, and the flap 7a of the cover member 6 is introduced or pulled downwardly into the slots 11 and 11a as seen in Figure 5, in this operation the flap 7a being frictionally engaged with the adjacent side of the flap 7 of the cover member 5. This frictional engagement causes the flaps 7 and 7a to be effectively held in interlocked relation with the end members 2 in the slots 11 and 11a.

An especially advantageous feature of the invention lies in the fact that the cover members 5 and 6 are longer than the body of the carton established by the bottom 1 and the end members 2, thus, if necessary in pulling the flaps 7 and 7a firmly down into the slots 11 and 11a, it will be seen from Figure 1 that the fingers may grasp the end portions of the flaps 7 and 7a which are exterior to the outer faces or sides of the end members 2. When the flaps 7 and 7a are so grasped they can be more effectively manipulated than were these flaps wholly contained within the space between the end members 2 and the desired tension or stress may be placed upon the cover members 5 and 6 by the pull-down action of the flaps 7 and 8 not only to effectively hold the flaps in engagement with the end members 2 but to stress them firmly into engagement with the peripheral portions 10 and 10a of said end members along the entire sections of said peripheral portions, thus affording a reinforced condition of the entire container when the cover member 6 has been finally positioned for closing the entire carton with the contents thereof inside the same.

It is notable that the flanges 3 and 4 of the bottom are readily foldable on the fold line 14 and 15 when these flanges are initially folded upwardly in the preliminary operations to closing the cover members 5 and 6 against the end members 2.

Upon reference to Figure 1 of the drawings, it will be apparent that to a certain extent the reinforcement features of the carton of the invention involve mechanical engineering structure. In other words, the two flaps 7 and 7a extend longitudinally of the carton in the manner of a reinforcing beam and really operate to reinforce as if they were a beam structure. In like manner, at the lower front and rear corners of the carton the flanges 4 of the rather heavier material of the body of the carton constitute longitudinal single beam structures to reinforce

the carton additionally in a longitudinal direction.

From the foregoing it will be apparent that the carton of this invention is most simply constructed, is cheap to manufacture, and when set up provides a uniquely reinforced and comparatively rigid container.

The folding of the carton parts is a simple operation anyone can perform without previous skill, and the structure is also especially advantageous on this account.

Having thus described our invention, what we claim as new and desire to secure by Letters Patent of the United States is:

1. A carton, comprising a body composed of a flat bottom member having end members foldable upwardly therefrom to a position perpendicular thereto, flexible cover members laterally extended from the respective opposite sides of the bottom member and foldable over the adjacent end members, and foldable flaps on the free edges of the cover members adapted to be interlocked with the end members, said end members having relatively narrow slots extended inwardly from the free edges thereof for snugly receiving therein both flaps of the cover members, one of the cover members having apertures therein adjacent to its flap for positive interlocking engagement with the corners of the end members at the outer ends of the respective slots to hold the end members perpendicular to the bottom member, and the length of the free peripheral edges of the respective end members from the base member to the corners aforesaid at the outer ends of the slots being slightly greater than the distance from the bottom member to the apertures in the last-mentioned cover member so that the latter cover member will be maintained under tension stress engagement with the peripheral edges of the end members when positively interlocked with the end members as aforesaid.

2. A carton as defined in claim 1, wherein the opposite cover member is imperforate and its flap is frictionally interlockable with the end members and with the flap on the other cover member when both flaps are firmly and fully inserted in the slots to close the cover members of the carton.

3. A carton, comprising a normally flat, foldable blank including a generally rectangular bottom portion and end members of relatively stiff material, said blank having base fold lines at the juncture of the bottom portion and the respective end members, a pair of relatively flexible transparent cover members respectively secured

to the opposite lateral marginal edge of the bottom portion of said blank and normally extending from the opposite sides thereof in general alignment therewith, said blank also having laterally spaced base fold lines adjacent to the zone of attachment of the respective cover members thereto, a flap on the free edge of each of said cover members, said end members each having a relatively narrow flap-receiving slot extending inwardly from the free marginal edge thereof for snugly receiving therein both flaps of the cover members, at least one of said cover members having apertures therein adjacent to its flap for positive interlocking engagement with the corners of the end members at the outer ends of the respective slots to hold the end members in an upwardly folded position perpendicular to the bottom portion of the blank, the length of the free peripheral edges of the respective end members from their base fold lines to the corners aforesaid at the outer ends of the slots being slightly greater than the distance from the base fold line of the last-mentioned cover member to the apertures therein so that the latter cover member will be maintained under tension stress engagement with the peripheral free edges of the end members when positively interlocked with the end members as aforesaid, and the side of each slot in the respective end members opposite to the cover-locking corners of the slots being curved away from said corners and forming a widened throat at the outer end of each slot to facilitate entrance of the flap on the opposite cover member into the slots until frictional locking engagement of the latter flap is attained.

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