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3,420,362

DISPLAY CARTON FOR TUBES OR BOTTLES

Filed Aug. 31, 1967

Sheet 1 of 2

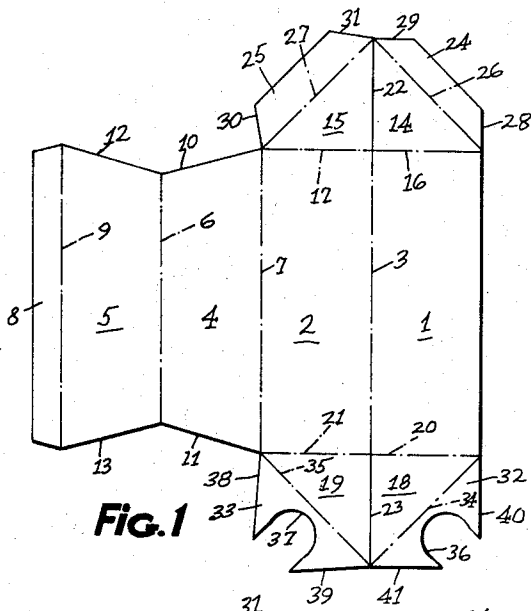


Fig. 1

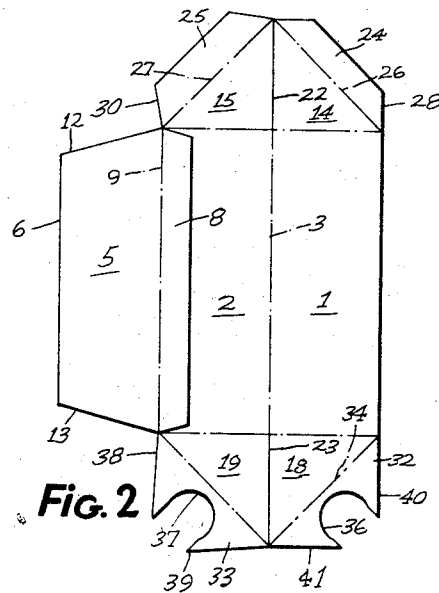


Fig. 2

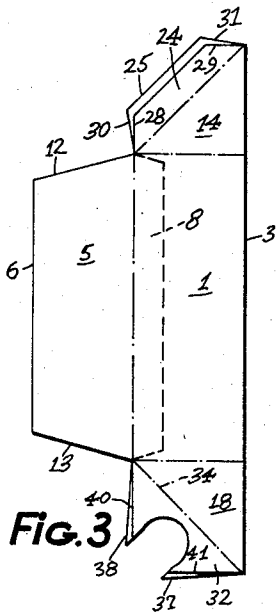


Fig. 3

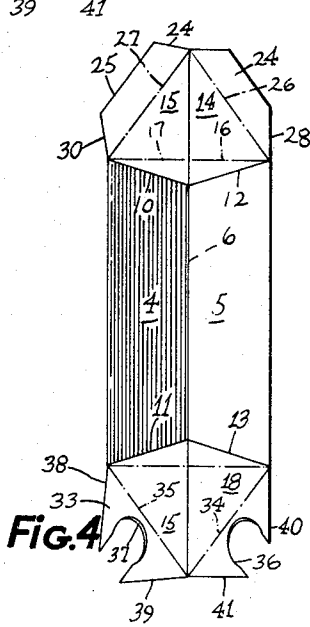


Fig. 4

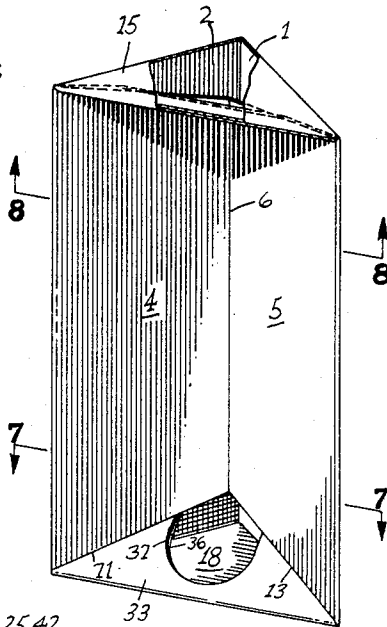


Fig. 6

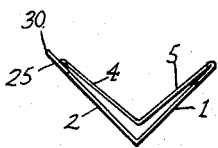


Fig. 5

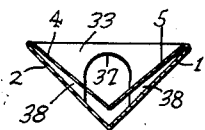


Fig. 7

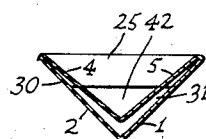


Fig. 8

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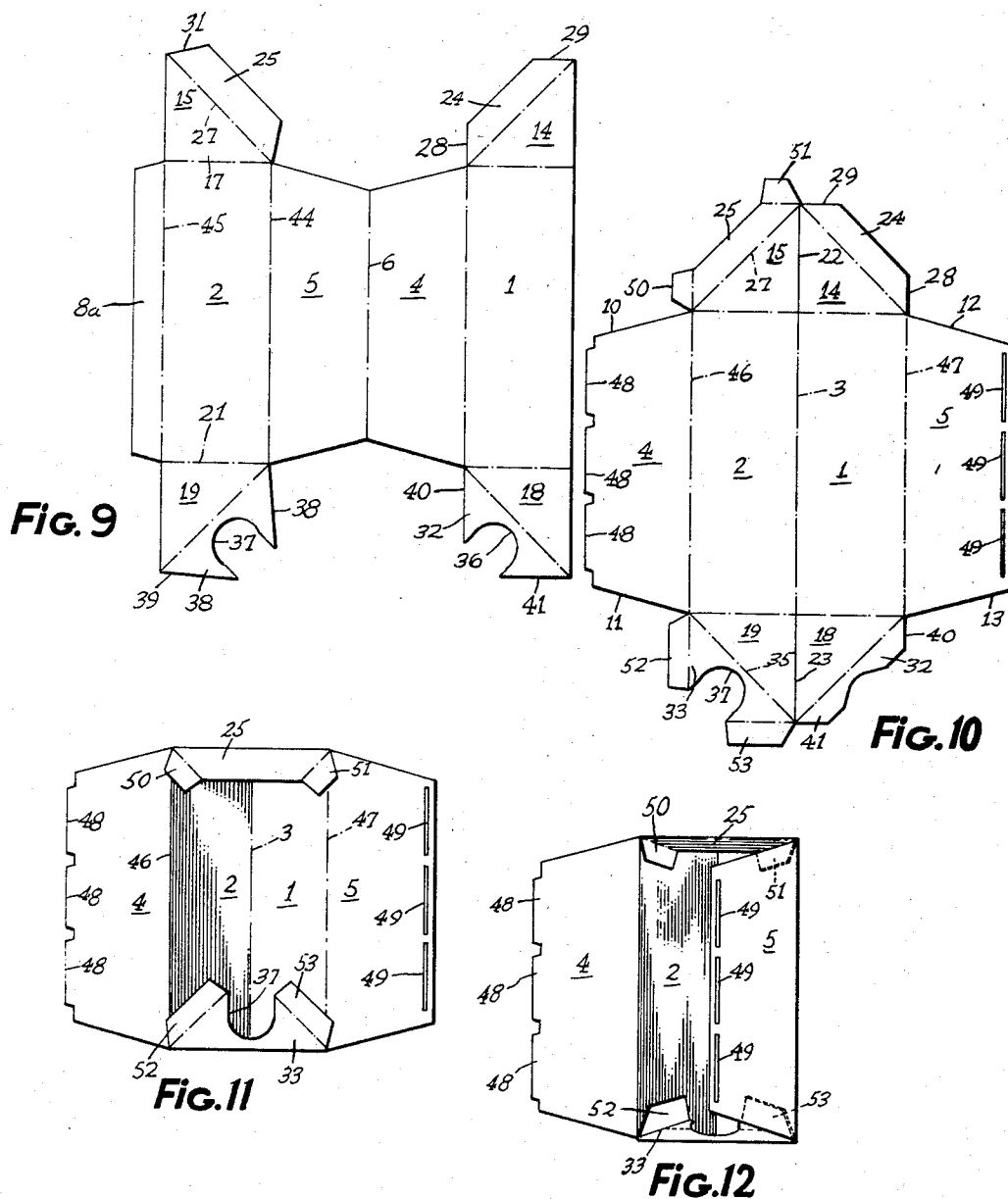
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Sheet 2 of 2



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DISPLAY CARTON FOR TUBES OR BOTTLES
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8 Claims

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ABSTRACT OF THE DISCLOSURE

A one-piece knock-down carton structure of triangular cross-section for displaying tubes or bottles, the structure having a pair of angularly related outer body wall panels to which a pair of inner body wall panels are hingedly connected, the inner body wall panels preferably being narrower than the outer body wall panels and inclined inwardly at their opposite edges so that, when folded inwardly to overlies the outer body wall panels, there is a gap at each end of the inner wall panels which serve to engage flaps on triangular end wall panels which are articulated to the ends of the outer body walls, the end wall flaps being configured to receive the opposite ends of a tube or bottle to be displayed.

Background of the invention

In recent years there has been a trend toward packaging tubes or bottles of consumers merchandise, such as shampoos, hair dressings, and similar items in display cartons which expose the contents to view. Such cartons have sometimes been referred to as shadow boxes in that the carton frames the tube or bottle and yet exposes it to view without benefit of an overwrap or a covering window formed of a non-fibrous film or the like.

Such display boxes have heretofore generally comprised a carton structure which is rectangular in cross-section and provided either with a separate insert for holding the tube or bottle in place or with a complicated panel and flap arrangement to engage and support the product being packaged.

Summary of the invention

In contrast to prior art display cartons as characterized above, the instant invention provides a structure which utilizes a minimum of boxboard and is easily fabricated and erected utilizing conventional carton folding and gluing equipment. In the erected carton, the outer or finished surface of the carton blank lines both the inside and outside of the structure, thereby giving it an attractive appearance and making it possible to print over the entire inner as well as the outer surface in a single printing operation. The carton end flaps, coacting with the inner wall panels, firmly grip and yet cushion the tube or container received therein, and the package is such that it can be stood on either end or on its sides to display the merchandise, thereby lending itself to a variety of display arrangements. The cartons are preferably of right triangular shape in cross-section, thereby readily lending themselves to being boxed in multiples of two with an appreciable savings in space.

The basic construction of the carton structure taught herein is subject to a number of variations and modifications which are set forth in the hereinafter described preferred embodiments or which will be apparent to the skilled worker upon reading this specification.

Description of the drawings

FIGURE 1 is a plan view of a flat blank for forming a carton structure in accordance with the invention.

FIGURE 2 is a plan view showing the blank of FIGURE 1 with parts in folded condition.

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FIGURE 3 is a plan view showing the blank of FIGURE 1 in knocked-down tubular condition.

FIGURE 4 is a front elevational view of the partially erected carton structure with the inner wall panels folded inwardly.

FIGURE 5 is a vertical sectional view taken along the line 5—5 of FIGURE 4.

FIGURE 6 is a perspective view with parts broken away of the fully erected carton structure.

FIGURE 7 is a vertical sectional view taken along the line 7—7 of FIGURE 6.

FIGURE 8 is a vertical sectional view taken along the line 8—8 of FIGURE 6.

FIGURE 9 is a plan view of a flat carton blank illustrating an alternate embodiment of the invention.

FIGURE 10 is a plan view of a flat blank illustrating another alternate embodiment of the invention.

FIGURES 11 and 12 are front elevational views showing the blank of FIGURE 10 in successive stages of erection and illustrating the manner in which the inner end wall panels engage locking tabs on the end wall flaps.

The preferred embodiments

Referring first to FIGURE 1 of the drawings, there is illustrated a carton blank formed from a one-piece sheet of paperboard or boxboard cut and scored to define outer body wall panels 1 and 2 hingedly connected together along the line of articulation 3. A pair of inner body wall panels 4 and 5 are hingedly connected to each other along a line of articulation 6, and one edge of inner body wall panel 4 is hingedly connected to outer body wall panel along line of articulation 7. A longitudinal glue flap 8 is hingedly connected to the outer edge of inner body wall panel 5 along line of articulation 9. Alternatively, the glue flap 8 may be hingedly articulated to the free side edge of the outer body wall panel 1. In accordance with the invention, the end edges of inner body wall panels 4 and 5 are tapered or inclined inwardly, as indicated at 10, 11 and 12, 13; and in a preferred embodiment of the invention the width of inner body wall panels 4 and 5 will be somewhat less than the width of outer body wall panels 1 and 2.

Triangular end wall panels 14 and 15 are hingedly connected to the end edges of outer body wall panels 1 and 2, respectively, along lines of articulation 16 and 17. Similarly, triangular end wall panels 18 and 19 are articulated to the opposite end edges of outer body wall panels 1 and 2, respectively, along lines of articulation 20 and 21, and the pairs of end wall panels 14, 15, and 18, 19, are separated from each other by lines of cut 22 and 23. End wall flaps 24 and 25 are hingedly connected to end wall panels 14 and 15, respectively, along lines of articulation 26 and 27. The end edges 28 and 29 of end wall flap 24 are inclined inwardly, preferably lying at right angles to score line 16 and line of cut 22, whereas the end edges 30 and 31 of end wall flap 25, while inclined, are at a lesser angle of inclination and hence provide projecting edges 30 and 31 which extend beyond the edges 28 and 29 when the flaps are juxtaposed. Such projecting edges are adapted to engage beneath the end edges 10 and 12 of inner body wall panels 4 and 5 in the erected structure to lock the end walls in the erected condition.

The end wall panels 18 and 19 are provided with end wall flaps 32 and 33 hinged to the end walls along lines of articulation 34 and 35. In this embodiment, the end wall flaps are provided with mating cutouts 36 and 37 which are of a size to receive the cap of a tube or bottle. The end edges 38 and 39 of flap 33 are inclined at an angle such that they will project beyond the end edges 40 and 41 of end wall flap 32, thereby providing projections

adapted to lock beneath the end edges 11 and 13 of inner body wall panels 4 and 5.

The carton blank just described is formed into knocked-down tubular condition by first infolding inner body wall panel 5 along line of articulation 6, thereby bringing the parts to the position illustrated in FIGURE 2, whereupon outer body wall 1 is infolded along line of articulation 3, thereby juxtaposing the free side edge of body wall 1 to glue flap 8. It will be understood, of course, that adhesive will have been applied either to the glue flap or to the overlying portion of body wall 1 so that the inner and outer body walls will be joined together in tubular form. It will be evident that the carton structure may be shipped to the user in the knocked-down condition illustrated in FIGURE 3.

In the hands of the user, the structure is erected by first expanding the body walls 1 and 2 and reversely folding the inner body walls 4 and 5 to the position illustrated in FIGURES 4 and 5. As will be evident from the latter figure, the inner body walls 4 and 5, by reason of their being narrower than the outer body walls 1 and 2, will lie in spaced relation to the outer body walls. The end walls are then infolded, the end walls 14 and 18 being folded first, followed by the end walls 15 and 19, thereby placing the end wall flaps 25 and 33 outermost, whereupon the juxtaposed end wall flaps are infolded with the projecting side edges 30, 31 of flap 25 and the edges 38, 39 of flap 33 locking beneath the inclined end edges of the inner body walls. Such locking arrangement is illustrated in FIGURE 7 and 8.

The fully assembled carton structure assumes the condition illustrated in FIGURE 6 wherein it will be evident that the end wall flaps are inclined with respect to the carton end walls and hence afford a cushioned receptacle for the opposite ends of the tube or bottle to be inserted therein. For example, the cap of a tube may be inserted in the mating slots 36, 37, with the crimped opposite end of the tube received in the space 42 (FIGURE 8) lying beyond the edge of flap 25. It will be understood, of course, that the flaps 24 and 25 may be provided with suitable cutouts of a size to receive the end of a bottle or the like, as the case may be.

In the embodiment of the invention illustrated in FIGURE 9, wherein like parts have been given like reference numerals where applicable, the outer body walls are separated, the body wall 1 being hingedly connected to inner body wall 4 along line of articulation 43 and outer body wall 2 hingedly connected to inner body wall 5 along line of articulation 44. A longitudinal glue flap 8a is connected to the remaining side edge of outer body wall 2 along line of articulation 45. It will be evident, however, that when the inner and outer walls are tubed, the resultant knocked-down structure will correspond essentially to that illustrated in FIGURE 3 and the erected structure will be essentially identical to that illustrated in FIGURE 6.

FIGURES 10, 11 and 12 illustrate a modification of the invention which eliminates the initial tubing of the inner and outer body wall and hence the necessity for a gluing operation. Referring to FIGURE 10 wherein like parts have again been given like reference numerals where applicable, the inner body walls 4 and 5 are hingedly articulated to the outer side edges of body walls 1 and 2 along lines of articulation 46 and 47. In this instance the inner body walls 4 and 5 are preferably of essentially the same width as the outer body walls 1 and 2, but the outer edge of inner body wall 4 is provided with a plurality of tongues 48 engageable in slots 49 formed adjacent the outer edge of inner body wall 5.

In the instance, the projecting end edges of end wall panel 25 are omitted and replaced by locking tabs 50 and 51. Similarly, the projecting end edges of end wall flap 33 are replaced by locking tongues 52 and 53.

In erecting the blank just described, the outer body walls 1 and 2 are first folded into angular relationship,

whereupon the end walls 14, 15 and 18, 19 are juxtaposed and the pairs of end wall flaps 24, 25 and 32, 33 infolded to the position illustrated in FIGURE 11. The inner end wall panel 5 is next infolded in the manner illustrated in FIGURE 12, the infolding of the inner wall panel serving to sweep the end wall flaps 25 and 33 inwardly with the locking tongues 51 and 53 engaged in back of the infolded inner wall panel. Upon infolding of inner wall panel 4, the tongues 48 will engage in the slots 49, thereby effectively locking the structure in the erected and assembled condition. While it is preferred to employ mating tongues and slots on the inner body wall panels to effectively interconnect them in the erected structure, it is within the spirit and purpose of the invention to omit such tongues and slots and simply bring the side edges of the inner end wall panels into contracting relation, the tube or bottle which is inserted in the carton being utilized to maintain the inner end walls in the assembled position.

As should now be evident, the instant invention provides an inexpensive, easily fabricated and yet highly effective display container in which the tube or bottle being displayed is securely engaged at its opposite ends and yet readily removable by depressing the end wall flaps. While the inner body walls may be juxtaposed against the inner surfaces of the outer body walls to form a finished supporting surface, they are preferably spaced from the outer body walls so as to provide a cushioning effect. All of the exposed surfaces of the carton, both outside and inside, are formed with the outer surface of the board exposed, and consequently all visible surfaces may be suitably printed by a single printing operation on one surface of the flat blank. Where coated boxboard is employed, all exposed surfaces of the boxboard will be coated and hence adds to the attractiveness of the package.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A one-piece knock-down display carton which is triangular in cross-section, said carton comprising a pair of outer body wall panels hingedly connected together along one side edge and angularly disposed with respect to each other, an inner body wall panel hingedly connected to the opposite side edge of each of said outer body wall panels, said inner body wall panels being infolded to define an angularly related pair of wall surfaces lying to the inside of said outer body wall panels, triangular end wall panels closing the ends of said carton body as defined by the end edges of said outer body wall panels, said triangular end wall panels being hingedly connected along one side edge to an end edge of one of the outer body wall panels, an adjoining side edge of said end wall panels coinciding with the end edge of the other outer body wall panel, end wall flaps hingedly connected to the remaining side edges of said end wall panels, said end wall flaps being infolded to lie to the inside of said wall panels, and means connecting said flaps to said inner body wall panels with said flaps in inclined relation to said end wall panels, said end wall flaps being configured to receive the ends of a tube or bottle.

2. The display carton claimed in claim 1 where the end edges of said inner body wall panels are inclined inwardly so as to lie in spaced relation to said end wall panels and wherein the means connecting said flaps to said inner body wall panels comprise projections adapted to engage the inclined end edges of said inner body wall panels.

3. The display carton claimed in claim 2 wherein said projections comprise locking tongues hingedly articulated to the said end wall flaps.

4. The display carton claimed in claim 1 wherein said inner body wall panels are of a lesser width than said outer body wall panels and are hingedly connected to each other.

5. The display carton claimed in claim 4 wherein said

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inner and outer body walls are hingedly connected to each other to form a tubular body.

6. The display carton claimed in claim 1 wherein one of said inner body wall panels has tongues along one side edge engageable in slots in the other of said inner body wall panels.

7. In a one-piece knock-down display carton, a pair of angularly related outer body walls defining a triangular carton body, triangular end walls closing the opposite ends of said body, a pair of inner body walls hingedly connected to said outer body walls and folded inwardly to define angularly related inner wall surfaces, end wall flaps hingedly connected to said end walls and folded inwardly within the confines of said carton body, and inter-engaging means securing said flaps to said inner body walls with said flaps in inclined relation to said end walls, said flaps being configured to receive the opposite ends of a tube or bottle.

8. In a one-piece knock-down display carton, a pair of angularly related outer body walls defining a triangular carton body, triangular end walls closing the opposite ends of said body, a pair of inner body walls hingedly connected to said outer body walls and folded inwardly

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to define angularly related inner wall surfaces, said inner body walls having inwardly inclined end edges lying in angular relation to said end walls, and end wall flaps hingedly connected to said end walls, said flaps being in-
folded with edge portions thereof engaging the end edges of said inner body walls to secure said flaps in inclined relation relative to said end walls, said flaps being configured to receive and cushion the opposite ends of a tube or bottle.

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U.S. Cl. X.R.

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