Dec. 20, 1966 J. D. DESMOND 3,292,777

DISPLAY CARTON

Filed June 15, 1965 3 Sheets-Sheet 1

Fig. 1

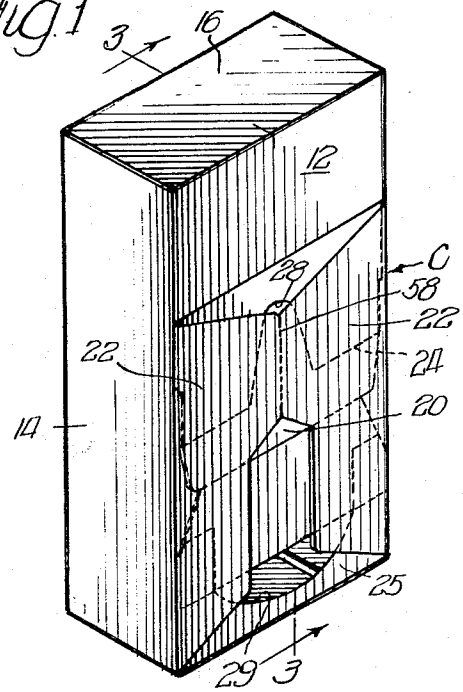



Fig. 2

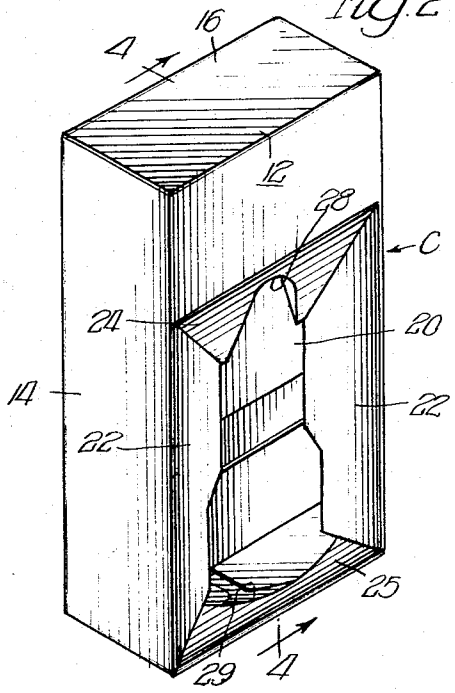



Fig. 3

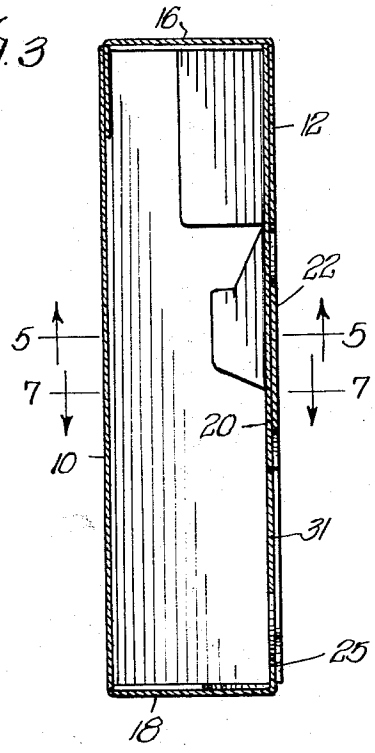
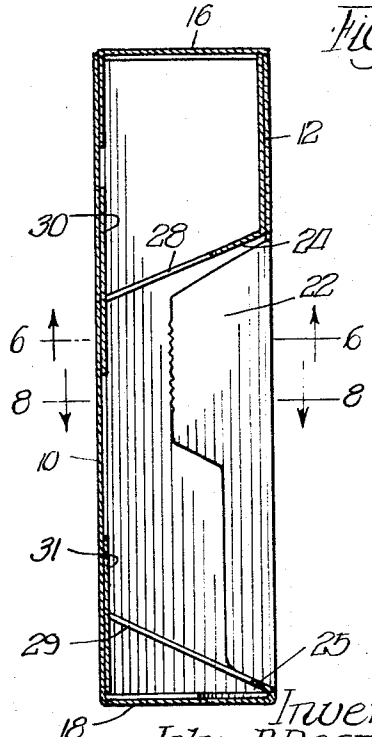



Fig. 4




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DISPLAY CARTON

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Fig. 5

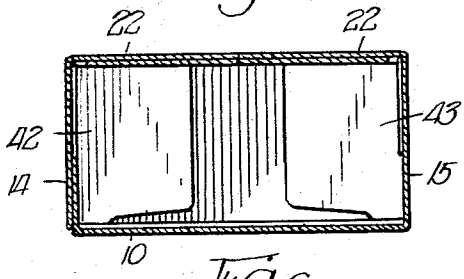



Fig. 7

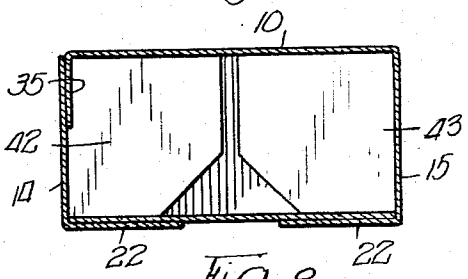



Fig. 6

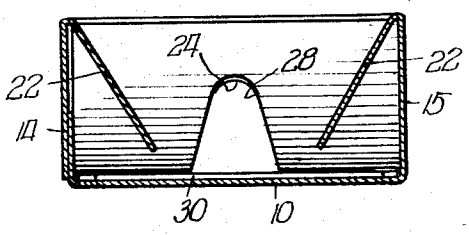



Fig. 8

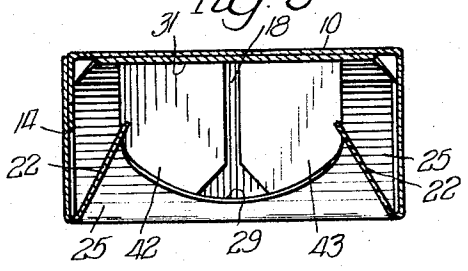
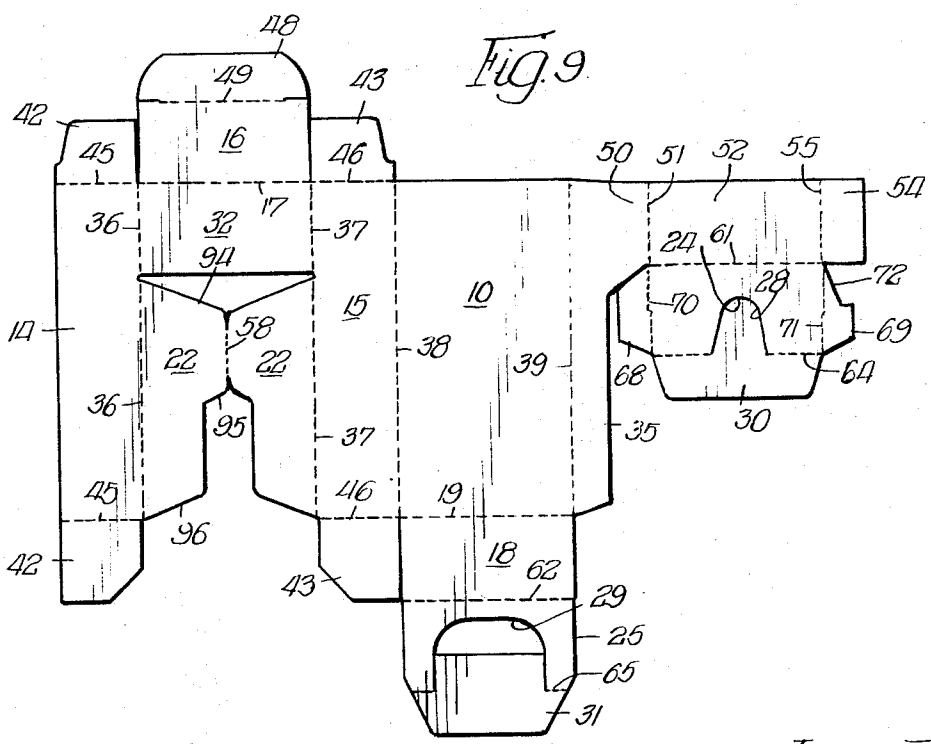



Fig. 9




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DISPLAY CARTON

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Fig. 10

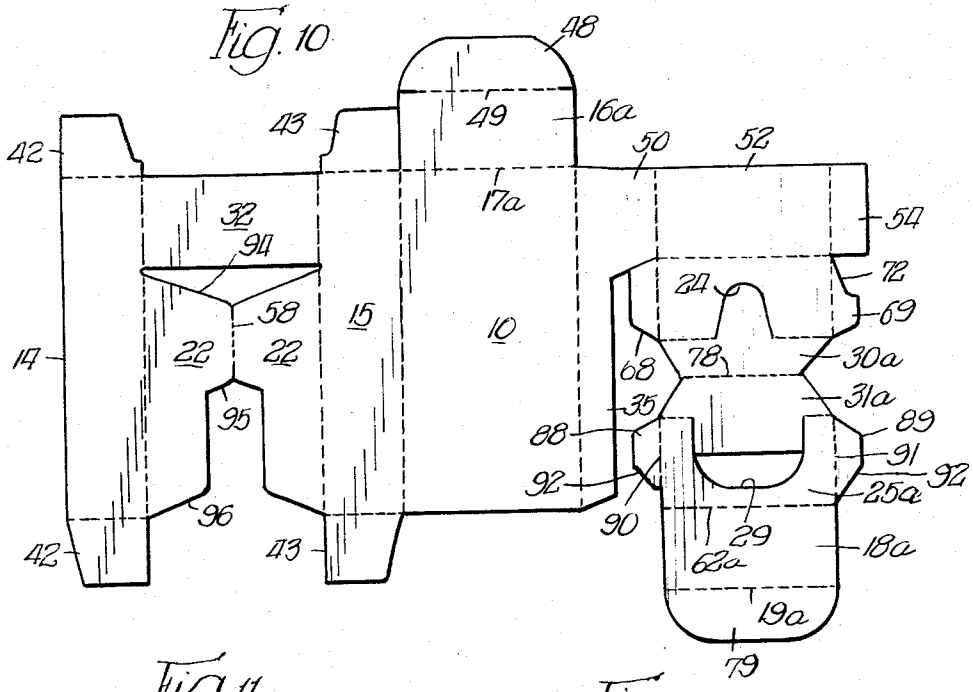



Fig. 11

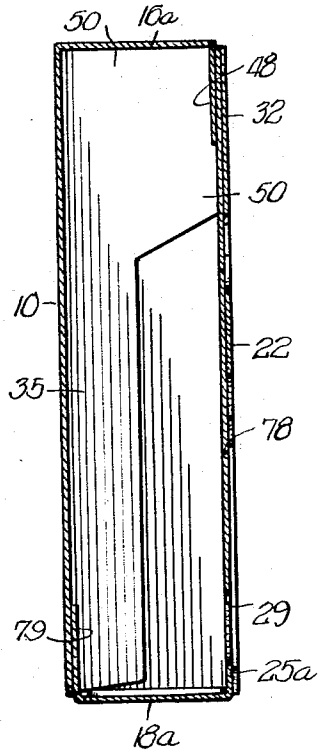
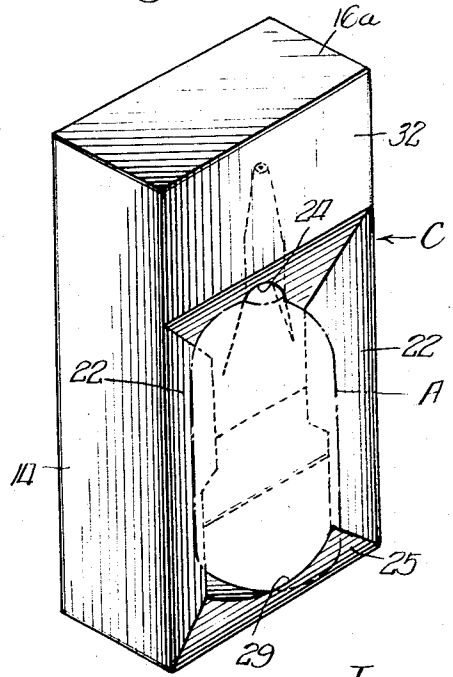



Fig. 12




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United States Patent Office 3,292,777 Patented Dec. 20, 1966



3,292,777

# DISPLAY CARTON

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Filed June 15, 1965, Ser. No. 463,997
9 Claims. (Cl. 206—45.14)

This invention relates to a display carton, formed of a foldable sheet material such as paperboard, for holding and displaying an elongated article such as a bottle or tube. More particularly, this invention relates to a display carton having basically a tube configuration including interconnected front, back and side walls, but having a tray or shadow box appearance in that the article is received in and displayed through a window opening in the front wall of the carton.

Cartons commonly known as shadow boxes have become quite popular for holding and displaying in a three-dimensional manner three-dimensional articles. Since most of the front wall of the carton is not visible to give direct article exposure, most shadow boxes have been formed as a tray including a back wall and peripheral side walls hinged to the edges of the back wall and folded above the article. This tray type shadow box has the drawback that it cannot be handled as rapidly on automatic carton set-up equipment as a tube type carton. Tube type cartons generally include hingedly interconnected front, back and side walls and can be readily set up on many types of high speed automatic equipment.

This invention discloses a display carton which has the appearance of a tray in that the major area of the carton front wall has a window opening for display of the article to be carried, but which has the construction of a tube in that it has interconnected front, side and back walls.

An object of this invention is to provide a display carton, formed of foldable sheet material, having interconnected front, back and side walls, and having a separable front wall adapted to be folded into the tube for providing a window opening for three-dimensioinal display of the article carried in the carton.

Another object of this invention is to provide a display carton, of the type mentioned in the previous object, which can be easily loaded by inserting through an opening in the front wall of the carton the article to be carried thereby and which further has integral article retaining panels for securing the article in place.

These and other objects will be more fully appreciated after reference to the following specification and accompanying drawings, wherein:

FIG. 1 is a perspective view of the subject carton shown after it has been set up but before it has been loaded with the article to be carried;

FIG. 2 is a perspective view of the carton shown with the panels as if the carton had been loaded, but with the article removed;

FIGS. 3 and 4 are sectional views as seen generally from lines 3—3 and 4—4 of FIGS. 1 and 2 respectively;

FIGS. 5 and 6 are sectional views as seen generally from lines 5—5 and 6—6 of FIGS. 3 and 4 respectively;

FIGS. 7 and 8 are sectional views as seen generally from lines 7—7 and 8—8 of FIGS. 3 and 4, respectively;

FIG. 9 is a top plan view of a blank suitably cut and scored to form one embodiment of carton disclosed in the previous figures;

FIG. 10 is a top plan view of a blank suitably cut and scored to form a second embodiment of a carton of the type disclosed in the preivous FIGURES 1–9;

FIG. 11 is a sectional view of the second embodiment taken in a manner similar to FIG. 3 of the first embodiment; and



FIG. 12 is a perspective view of the subject display carton shown with the article positioned therein in the manner desired to provide for the display thereof.

For the purpose of clarity it will be understood that certain immaterial details have been omitted from some of the figures where they are believed adequately disclosed in others.

Referring now to the drawings, and particularly to FIGS. 1–4 and 12, it is noted that a carton, generally designated C, holds in a three-dimensional display an article designated A. The carton includes a back wall **10**, a front wall **12**, opposed side walls **14** and **15**, and top and bottom end walls **16** and **18**. The front wall **12** has formed therein a window opening **20** for display of the article A. The window opening is framed on its four sides by transverse panels **22**, **24** and **25** extending, respectively, from the sides and top and bottom of the window. The top and bottom transverse panels **24** and **25** have openings **28** and **29** for receiving and confining the opposite ends of the article A. Top and bottom base panels **30** and **31** are secured, respectively, to the free ends of the top and bottom transverse panels **24** and **25** and are disposed in back-to-back relation with the back wall of the carton between the article and the back wall.

Having thus disclosed the carton in its set up position, it would be well now to elaborate on its construction. FIG. 9 refers to a first embodiment of a blank that is suitably cut and scored for forming the carton disclosed herein. The blank includes the back wall **10**, side walls **14** and **15**, outer front wall panel **22** and **32**, and glue panel **35** hingedly interconnected to one another on parallel score lines **36**, **37**, **38** and **39** in the conventional manner to form a tube when glued. Closure panels **16** and **18** are hinged on score lines **17** and **19** to the outer front wall panel **32** and back wall **10**, respectively. Flaps **42** and **43** are hinged on hinge lines **45** and **46**, respectively, to the opposite ends of the side walls **14** and **15**, and are adapted to be folded at right angles to the side walls across the open ends of the tube, in the well known manner, to lie beneath the end closure panels **16** and **18**. A tuck-in flap **48**, hinged to the free edge of end closure **16** on hinge line **49**, is adapted to be inserted into the tubular structure in a conventional manner.

The blank differs from a conventional tube construction in that a portion of the glue panel **35** is extended at **50**, almost the full width of the side wall **14**, and has secured thereto on hinge line **51** an inner front wall panel **52**. A secondary glue panel **54** is hinged on score **55** to the opposite end of the inner front wall panel **52** and is adapted to be fixed to the inside of back panel **10**. The inner front wall panel **52** occupies only a small portion of the total front wall and is adapted to overlap in face-to-face relation the panel **32** of the outer front wall. The panels **52** and **32** can be secured together in the area of overlap, but is preferable that they be separate from one another.

The outer front wall panel **22** in the area disposed remote from panel **32** is provided with a longitudinal weakened line **58** extending parallel to the adjacent longitudinal hinge lines **36** and **37**. In the erected but unloaded condition of the carton, the outer front wall panel is integral as a tube. To load the carton, the weakended line of tear **58** is ruptered and then the defined side transverse panels **22** hinged to the longitudinal hinge lines **36** and **37** are folded into the tubular structure and confined therein by the article carried.

In the blank as shown, article retaining means for the top and bottom ends of the article, including the transverse panels **24** and **25**, are secured to the inner front panel **52** and to the end enclosure panel **18** on

hinged lines **61** and **62**, respectively. Base panels **30** and **31** are secured to the transverse panels **24** and **25** on hinge lines **64** and **65**. As can be seen in FIG. 3, the retaining means are inner front wall panels when the carton is set up but unloaded, and are disposed adjacent the window opening **20** of the carton. The free edges of the article retaining means (base panels **30** and **31**), generally abut in the unloaded condition of the carton.

The blank is formed as a tube with the glue flaps **54** and **35** being secured successively and respectively to the inside of the back wall **10** and the side wall **14**. As such, a tubular structure is formed having open ends which are closed by closure panels **16** and **18** folded above their respective hinge lines normal to the tube and positioning the tuck panel **40** and bottom retaining panels **25** and **31** into the open ends of the tube.

Upon the article being inserted into the carton and the longitudinal weakened line **58** in the outer front wall panel rupturing, the side transverse panels **22** of the front wall outer panel are biased inwardly which in turn bias the end transverse panels **24** and **25** into the carton to extend across the carton from the front wall to the back wall. The base panels **30** and **31** hinge to the free edges of the transverse panels thus assuming a back-to-back position with the back wall between the article and the back wall.

Drag panels **68** and **69** hinged on score line **70** and **71** to the side edges of the transverse panel **24** can be added if desired, to give strength to the transverse panel. The edge **72** of drag panel **69** can be contoured to engage the secured glue flap **54** for additional support when the transverse panel is properly positioned across the carton as determined by the article carried.

FIG. 10 shows a top plan view of a second embodiment blank that is suitably cut and scored to form the subject shadow box type display carton. The blank includes similar back wall, side walls, inner and outer front wall constructions, and primary and secondary glue panel constructions as was disclosed in the previous FIG. 9, and are numbered the same. Top closure **16*a*** is hinged from score **17*a*** to the rear wall **10** to differ from that disclosed in FIG. 9. Similarly, the bottom article retaining means and bottom closure panel **18*a*** is hinged to the remote edge of the top base panel **30*a***. The juncture between the top and bottom base panels **30*a*** and **31*a*** is formed by a transverse weakened line **78** and the bottom article retaining structure, bottom closure **18*a*** and bottom tuck panel **79** are thus free from dependent connection with the major portion of the blank. Tuck-in flap **79** is hinged at score **19*a*** to the end closure panel **18*a***. Also, drag panels **88** and **89** are hinged on score lines **90** and **91** to the side edges of transverse panel **25*a***. Edges **92** of the drag panels are contoured to engage the positioned end closure panel **18*a*** for locating the panel as was noted above.

The carton is formed into a tube as was noted above. As thus set up, the carton has a front wall including outer panels **22** connected along weakened longitudinal line **58** and inner panels **30*a*** and **31*a*** connected along weakened transverse line **78**.

In the embodiment disclosed in FIG. 9 the article retaining means are initially separated from one another with their adjacent ends **30** and **31** in close, generally abutted relation. In the embodiment disclosed in FIG. 10, the adjacent ends **30*a*** and **31*a*** of the article retaining means are connected across transverse weakened line **78** suitable to break upon the article being biased inwardly into the tubular structure against the front wall thereof. Thus, inward bias of the article ruptures the longitudinal line of severance **58** in the FIGS. 9 and 10 embodiments and ruptures the transverse line of severance **78** in the FIG. 10 embodiment, whereupon the transverse panels **22**, **24** and **25** are folded rearwardly in a window frame effect about the article. Inward movement of the article, accompanied by a slightly initial upward advance thereof to insert the top of the article into the top article receiving opening **28** positions the article in the carton, as shown in FIG. 12.

It will be understood that cut outs **94** and **95** and **96** at the edges of the transverse panels **22** are made merely to give a shadow box effect by having all panels meet at sharp junctures. Similarly, the openings **28** and **29** in transverse panels **24** and **25** are shaped to accommodate a particular article and can be modified as desired.

Since it will be obvious to persons skilled in the art that slight modifications can be made from the disclosed embodiments without departing from the subject invention, it is hoped that the invention is limited only by the scope of the claims hereinafter following:

What is claimed is:

**1.** A display carton, formed of foldable sheet material such as paperboard, for holding and displaying an article such as a bottle or tube, comprising the combination of:

(a) front, back and side walls hingedly interconnected at their opposite side edges along substantially parallel, longitudinal hinge lines to define a tubular structure open at the ends;

(b) end closure walls hingedly connected to end edges of the front, back and side walls on transverse hinge lines and extended across the open ends of the tubulare structure for closing the same;

(c) the front wall including an outer front wall panel extending the full length of the front wall and an inner front wall panel extending only partially the length of the front wall and overlapping in face-to-face relation the outer front wall panel adjacent one end of the tubular structure;

(d) the outer front wall panel, spaced toward the other end of the tubular structure from the inner front wall panel, having a weakened line formed therein spaced from and extended parallel to the adjacent longitudinal hinge lines of the front wall that can be broken to separate the outer front wall panel into two side panels hinged, respectively, at the adjacent longitudinal hinge lines and adapted to be folded inwardly into the tubular structure toward the back wall to provide a window opening in the front wall into which the article can be positioned, which when so positioned confines the side panels inwardly;

(e) article holding structures hinged, respectively, adjacent the window opening to the end closure panel at the opposite end of the tubular structure and to the inner front wall panel, and each including a transverse panel extended across the tubular structure between the front and back walls and a base panel hinged to the free edge of the transverse panel and disposed in face-to-face relation to the back wall, and the transverse panels having intermediate openings therein for receiving and confining therein the opposite ends of the article.

**2.** A display carton, formed of foldable sheet material such as paperboard, for holding and displaying an article such as a bottle or tube, comprising the combination of:

(a) front, back and side walls hingedly interconnected at their opposite side edges along substantially parallel, longitudinal hinge lines to define a tubular structure open at the ends;

(b) end closure walls hingedly connected to end edges of the front, back and side walls on transverse hinge lines and extended across the open ends of the tubular structure for closing the same;

(c) the front wall including inner and outer front wall panels extended, when the carton is erected but not loaded with the article, in face-to-face relation the full length of the tubular structure but being free from one another at a major area of the front wall adjacent one end of the tubular structure;

(d) the outer front wall panel being hinged, along its entire length at its opposite side edges, to the adjacent side walls along two of the previously mentioned longitudinal hinge lines, and the inner front wall panel being separated, along its length representing said major area of the front wall, from the adjacent side walls in the region of the two longitudinal hinge lines;

(e) the outer front wall panel, at said major area of the front wall, having a longitudinal weakened line formed therein spaced from and extended parallel to the two longitudinal hinge lines that can be broken to separate the outer front wall panel into two side panels hinged, respectively, at the two longitudinal hinge lines and adapted to be folded inwardly into the tubular structure toward the back wall to provide a window opening in the front wall into which the article can be positioned, which when so positioned confines the side panels inwardly;

(f) the inner front wall panel, at said major area of the front wall, being separated transversely of the tubular structure between the side walls to define opposed article holding structures at the opposite ends of the window opening, hinged, respectively, to the end closure panel at the one end of the tubular structure and to the remainder of the inner front wall panel, and each including a transverse panel extended across the tubular structure between the front and back walls and a base panel hinged to the free edge of the transverse panel and disposed in face-to-face relation to the back wall, and the transverse panels having intermediate openings therein for receiving and snuggly confining therein the opposite ends of the article.

3. A display carton, formed of foldable sheet material such as paperboard, for holding and displaying an article such as a bottle or tube, comprising the combination of:

(a) front, back and side walls hingedly interconnected at their opposite side edges along substantially parallel, longitudinal hinge lines to define a tubular structure open at the ends;

(b) end closure walls hingedly connected on transverse hinge lines to the tubular structure and extended across the open ends of the tubular structure for closing the same;

(c) the front wall including inner and outer front wall panels extended, when the carton is erected but not loaded, in face-to-face relation;

(d) the outer front wall panel being hinged along its entire length to the adjacent side walls along two of the previously mentioned longitudinal hinge lines, and the inner front wall panel being hinged along only a portion to said side walls along said two hinge lines and being separated along the remaining portion from said side walls;

(e) said remaining portion of the inner front wall panel defining opposed article holding structures hinged, respectively to one end closure wall at one end of the tubular structure and to the hinged portion of the inner front wall panel;

(f) the outer front wall panel disposed over the remaining portion of the inner front wall panel having a longitudinal weakened line formed therein spaced from the two hinge lines that is severed when the carton is being loaded to divide said outer front wall panel into two side transverse panels, hinged respectively at said two hinge lines adapted to be folded inwardly toward the back wall to provide a window opening in the front wall into which the article can be positioned;

(g) each of the article holding structures including an end transverse panel extended, when the carton is loaded, across the tubular structure from the front wall to the back wall and a base panel hinged to the free edge of the end transverse panel disposed adjacent the back wall, and the end transverse panels having openings therein for receiving the opposite ends of the article.



4. A display carton, formed of foldable sheet material such as paperboard, for holding and displaying an article such as a bottle or tube, comprising the combination of:

(a) front, back and side walls hingedly interconnected at their opposite side edges along substantially parallel, longitudinal hinge lines to define a tubular structure open at the ends;

(b) end closure walls extended across the open ends of the tubular structure for closing the same;

(c) the front wall including an outer front wall panel extending the full length of the front wall and an inner front wall panel underlying in adjacent face-to-face relation the outer front wall panel when the carton is erected but not loaded;

(d) overlapping minor portions of the inner and outer front wall panels being hinged to the adjacent side walls along only a small common part of two of the previously mentioned hinge lines toward one end of the tubular structure, and the remaining major portion of the outer front wall panel being hinged to the side walls at the remainder of the two longitudinal hinge lines and the remaining major portion of the inner panel being free or separated from the walls at the remainder of the two longitudinal hinge lines;

(e) the remaining major portion of the outer front wall panel having formed therein a longitudinal weakened line that can be severed upon loading the carton to divide the outer front wall panel into two side transverse panels hinged at the two longitudinal hinge lines and adapted to be folded inwardly toward the back wall to provide a window opening in the front wall into which the article can be positioned;

(f) the remaining major portion of the inner front wall panel defining article holding structures, disposed in adjacent face-to-face relation with the remaining portion of the outer front wall panel when the carton is erected but not loaded and before said weakened line is severed, but which are folded inwardly toward the back wall at the opposite ends of the window opening when the longitudinal weakened line is severed and the carton is being loaded;

(g) the article holding structures being hinged, respectively, to one end closure wall and to the minor portion of the inner front wall panel at the edges thereof adjacent the window opening, and each including an end transverse panel adapted to be extended across the tubular structure from the front wall to the back wall and a base panel hinged to the free edge of the end transverse panel adapted to be disposed adjacent the back wall, and the transverse panels having intermediate openings therein for receiving and confining therein the opposite ends of the article.

5. A display carton according to claim 4, wherein the article holding structures are secured together when the carton is erected but not loaded by a transverse weakened line that is severed upon loading the carton.

6. A display carton, formed of foldable sheet material such as paperboard, for holding and displaying an article such as a bottle or tube, comprising the combination of:

(a) front, back and side walls hingedly interconnected at their opposite side edges along substantially parallel, longitudinal hinge lines to define a tubular structure open at the ends;

(b) end closure walls extended across the open ends of the tubular structure for closing the same;

(c) the front wall including an outer panel and an inner panel underlying in adjacent face-to-face relation the outer panel when the carton is erected but not loaded;

(d) ovelapping portions of the inner and outer front wall panels being hinged to the adjacent side walls along only a small common part of two of the pre-

viously mentioned hinge lines, and the remaining portion of the outer front wall panel being hinged to the side walls at the remainder of the two longitudinal hinge lines and the remaining portion of the inner panel being separated from the side walls;

(e) the remaining portion of the outer front wall panel having formed therein a longitudinal weakened line that can be and is severed upon loading the carton to divide the outer front wall panel into two side transverse panels hinged at the two longitudinal hinge lines and adapted to be folded inwardly toward the back wall to provide a window opening in the front wall into which the article can be positioned;

(f) the remaining portion of the inner front wall panel defining article holding structures adapted to be folded inwardly toward the back wall at the opposite ends of the window opening when the longitudinal weakened line is severed and the carton is being loaded;

(g) the article holding structrues being hinged, respectively, to one end closure wall and to the hinged portion of the inner front wall panel at the edges thereof adjacent the window opening, and each including an end transverse panel adapted to be extended across the tubular structure from the front wall to the back wall and a base panel hinged to the free edge of the end transverse panel adapted to be disposed adjacent the back wall, and the transverse panels having openings therein for receiving opposite ends of the article.

7. A display carton, formed of foldable sheet material such as paperboard, for holding and displaying an article such as a bottle or tube, comprising the combination of:

(a) front, back and side walls hingedly interconnected at their opposite side edges along substantially parallel, longitudinal hinge lines to define a tubular structure open at the ends;

(b) end closure walls extended across the open ends of the tubular structure for closing the same;

(c) the front wall including an outer panel and an inner panel underlying the outer front wall panel when the carton is erected but not loaded;

(d) the outer front wall panel being hinged to the adjacent side walls along its entire length along two of the previously mentioned hinge lines, and the inner front wall panel being separated from the side walls along a major portion of its length and overlapping the outer side wall panel along the remaining portion of its length;

(e) the portion of the outer front wall panel disposed over the separated portion of the inner front wall panel having formed therein a longitudinal weakened line that can be severed upon loading the carton to divide the outer front wall panel into two side transverse panels hinged at the two longitudinal hinge lines and adapted to be folded inwardly toward the back wall to provide a window opening in the front wall into which the article can be positioned;

(f) the separated portion of the inner front wall panel defining article holding structures adapted to be folded inwardly toward the back wall when the longitudinal weakened line is severed and the carton is being loaded;

(g) the article holding structures being hinged, respectively, to one end closure wall and to the overlapping portion of the inner front wall panel at the edges thereof adjacent to the window opening, and each including an end transverse panel adapted when the carton is loaded to be extended across the tubular structure from the front wall to the back wall and having openings therein for receiving the opposite ends of the article.



8. A display carton according to claim 7, wherein the separated portion of the inner front wall panel is initially a single piece, having the base panels of the article holding structures hinged together on a transverse weakened line that can be and is severed upon loading the carton to define thereby the separate article holding structures, and wherein the one end closure wall is hinged to only the respective adjacent article holding structure to be held in place across the open end of the tubular structure only by the said article holding structure after the transverse weakened line is severed and the carton is loaded.

9. A display carton, formed of foldable sheet material such as paperboard, for holding and displaying an article such as a bottle or tube, comprising the combination of:

(a) front, back and side walls hingedly interconnected at their opposite side edges along substantially parallel, longitudinal hinge lines to define a tubular structure open at the ends;

(b) end closure walls hingedly connected to end edges of the front, back and side walls on transverse hinge lines and extended across the open ends of the tubular structure for closing the same;

(c) the front wall including inner and outer front wall panels extended, when the carton is erected but not loaded with the article, in face-to-face relation but being free from one another at a major area of the front wall adjacent one end of the tubular structure;

(d) the outer front wall panel being hinged, along its entire length at its opposite side edges, to the adjacent side walls along two of the previously mentioned longitudinal hinge lines, and the inner front wall panel being separated, along its length representing said major area of the front wall, from the adjacent side walls in the region of the two longitudinal hinge lines;

(e) the outer front wall panel, at said major area of the front wall, having a longitudinal weakened line formed therein spaced from the two longitudinal hinge lines that can be broken to separate the outer front wall panel into the two side panels hinged, respectively, at the two longitudinal hinge lines and adapted to be folded inwardly into the tubular structure toward the back wall to provide a window opening in the front wall into which the article can be positioned, which when so positioned confines the side panels inwardly;

(f) the inner front wall panel, at said major area of the front wall, defining an article holding structure at one end of the window opening, hinged to the end closure panel at the one end of the tubular structure and including a transverse panel extended across the tubular structure between the front and back walls and a base panel hinged to the free edge of the transverse panel and disposed in face-to-face relation to the back wall, and the transverse panel having an intermediate opening therein for receiving and snuggly confining therein one end of the article.


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