United States Patent

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[54] **DISPLAY CARTON**
8 Claims, 6 Drawing Figs.

[52] U.S. Cl. ..... 206/45.19, 206/45.31, 229/16 D
[51] Int. Cl. B65d 25/00
[50] Field of Search ..... 206/45.14, 45.19, 45.31, 78, 79; 229/16 D

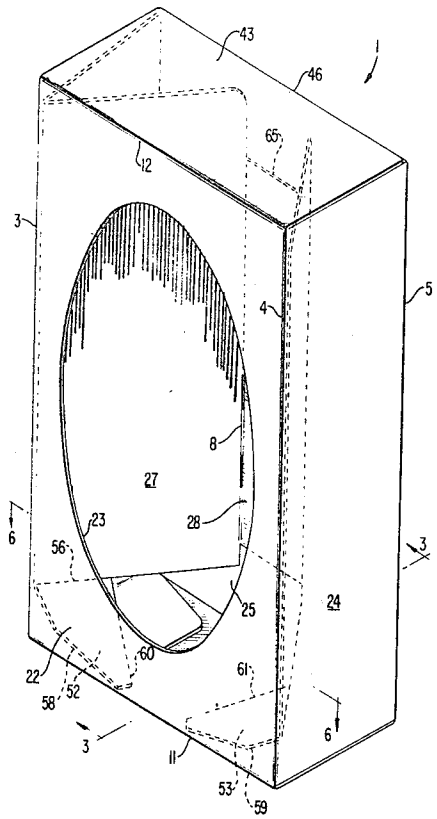
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ABSTRACT: A display carton consisting of a shadow box made of one piece of sheet material having a plurality of serially connected panels that form an outer generally rectangular box unit and an inner shadow panel unit. The shadow panel unit includes a pair of shadow panels which are arranged to present oblique faces to the window opening in the carton.



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SHEET 1 OF 2

FIG. 1

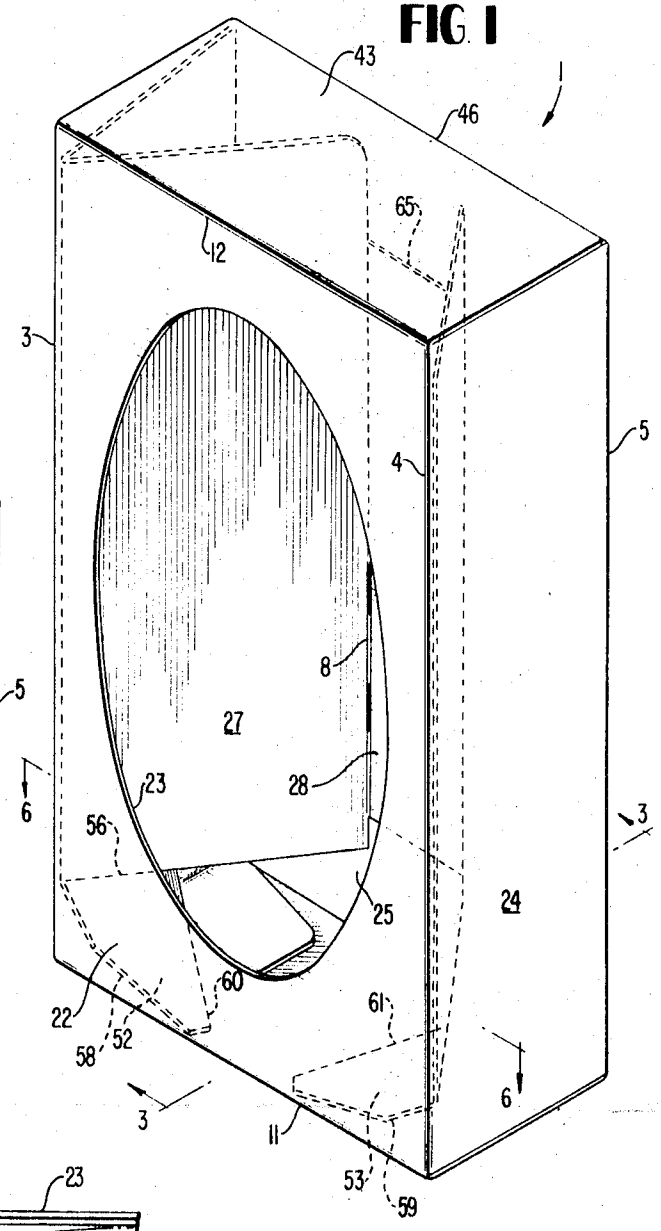


FIG. 2

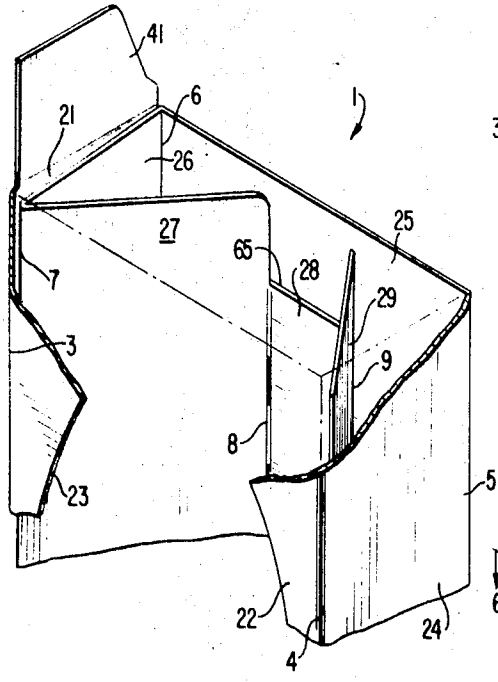
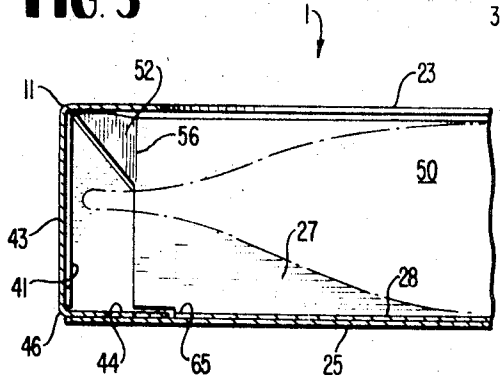


FIG. 3



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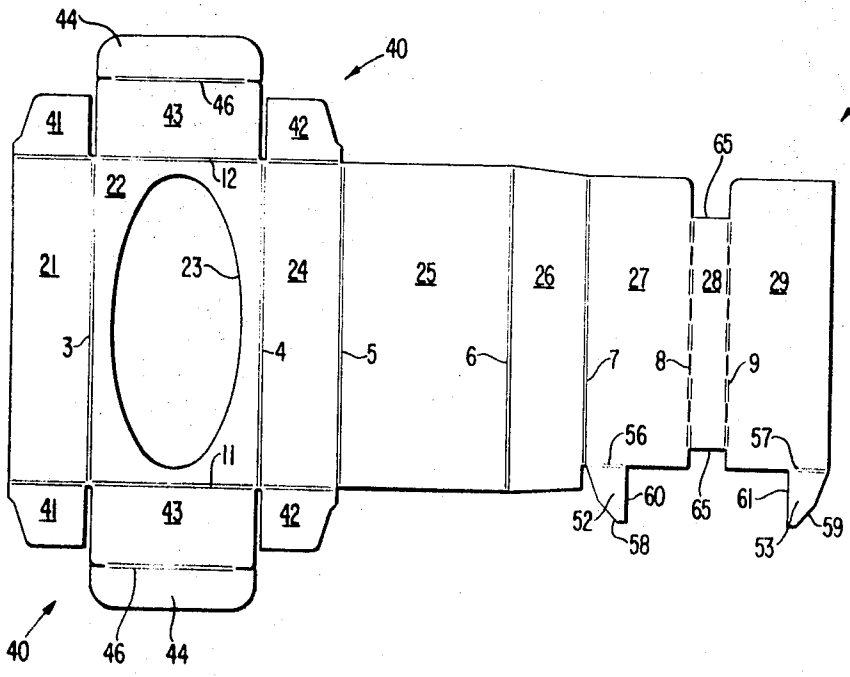


FIG. 4

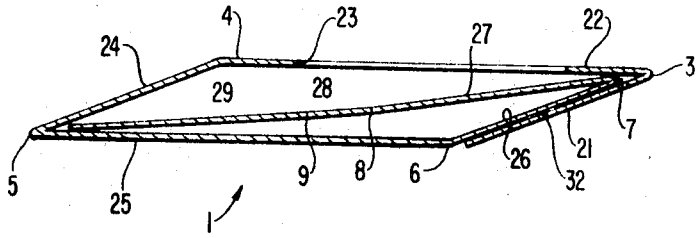


FIG. 5

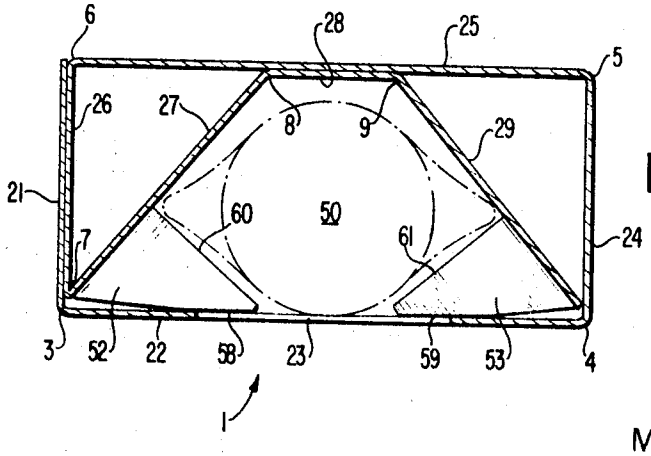


FIG. 6

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DISPLAY CARTON

SUMMARY AND DESCRIPTION OF INVENTION

This invention relates to improvements in display cartons. One aspect of the invention pertains to a display carton of the variety called a shadow box.

Shadow boxes are well known in the prior art and are characterized by a generally rectangular container having an opening on at least one side. Structure inside the box supports the article packaged therein so that it can be seen through the display opening and yet the aesthetic features of box depth and a picture frame around the opening are realized. The box depth appearance is often enhanced by some of the interior panels. The prior art has been characterized by a complex arrangement of panels, often with various interlocking means between them or between them and the article to be packaged: such characteristics cause difficulty in setting up the boxes and in filling them with the articles to be packaged therein.

An object of the present invention is to provide an improved shadow box. A further object of the present invention is to provide an improved shadow box having a simplified construction. Still another object is provision of a shadow box that is easily set up and filled.

A shadow box according to the present invention is made of one piece of sheet material, preferably paper or paperboard. The box itself comprises two units—an outer generally rectangular box unit or tubular unit and an inner shadow panel unit. These two units in turn are composed of a series of serially connected panels so arranged that the box unit wraps around the shadow panel unit. The box unit has a front panel with a window therein, a back panel opposite thereto, and first and second outer side panels extending between the front and back panel. The second side panel is connected between the front and back panels. The inner shadow panel unit has first and second shadow panels, means connecting said shadow panel and an inner side panel connected between the back panel and the first shadow panel. When the box is erected, the inner side panel is secured by adhesive means in face to face contact with the first outer side panel.

Other objects, advantages and features will become apparent from the following disclosure when read in conjunction with the annexed drawings wherein:

FIG. 1 is a perspective view of an erected carton;

FIG. 2 is a cutaway perspective of a portion of an erected carton;

FIG. 3 is a partial side cross section of one end along 3–3 of FIG. 1 showing the end closure flap received by the recessed liner panel;

FIG. 4 illustrates the carton blank;

FIG. 5 is a folded blank before erection into a carton showing the diagonal extension of the shadow panel unit; and

FIG. 6 is a partially cutaway view along 6–6 of FIG. 1 at one end of the carton showing how the tabs engage the article packaged therein and coacted with the enclosure.

Referring to FIG. 1, the shadow box 1 of the present invention is made of one piece of sheet material, preferably paperboard and comprises a series of panels laid out on a carton blank 2 as shown in FIG. 4 in such a way that all of the panels forming the box are serially connected and that one group of adjacent panels forms an outer rectangular box unit while a second group of adjacent panels forms an inner shadow panel unit. Yet, as mentioned broadly above and as easily seen in FIGS. 2, 4 and 5, the panels are serially connected—as are the two units—in such a way that the outer box unit is wrapped around the inner shadow panel unit. At the same time the blank can be formed into a knocked down, unerected carton as in FIG. 5 which can be in conventional fashion erected into the carton of FIG. 1.

As best seen in FIG. 4 the carton blank is divided by a plurality of longitudinally extending score lines 3, 4, 5, 6, 7, 8, 9 into the various panels that form the respective units. Transverse score lines 11 and 12 in the box unit section separate the end closure structures from the panels from which they are connected. The transverse score lines are preferably colinear with the ends of the back panel. The longitudinal score lines 2—9 inclusive define the panels, reading from left to right of FIG. 4, a first outer side panel 21, a front panel 22 with a display window 23 cut therein, a second outer side panel 24, a back panel 25, an inner side panel 26, a first shadow panel 27, a connecting means or liner panel 28, and a second shadow panel 29. Preferably the inner side panel 26 is substantially the same height as the first outer side panel 21. In order that the "knocked-down" carton can be formed of the blank (i.e., by applying glue 32 between the inner side panel 26 to the inside face of the first outer side panel 21), it is required that the shadow panels and liner panel fit inside the confines of the flattened or knocked-down carton, as illustrated schematically in FIG. 5. This in turn requires that the width of both shadow panels 27, 29 plus the liner panel 28 width not exceed—and preferably substantially equals—the width of the back panel 25 plus the height of a side panel 21 in order that the shadow panel unit can extend diagonally across the unerected carton blank. If a score line is the connecting means 28 (instead of a panel) then, of course, the two shadow panels are substantially equal to the diagonal width of a side panel height plus back panel width. The first and second shadow panels each have a width greater than one-half the width of the back panel. Length, width and height of the various panels are measured in the directions of an erected carton, i.e., length along score line 3 between score lines 11 and 12, width across the back panel (or front panel) between score lines 5 and 6 and height on a side panel along score line 11 (or 12) between score lines 4 and 5.

The carton when erected is closed at each end by a carton end closure unit 40. Each such unit comprises a pair of end side flaps 41, 42 each of which is hingedly supported from an outer side panel, an end closure flap 43 which is supported hingedly from score 11 or 12 from the front panel, and an end seal flap 44 which is hingedly supported by score line 46 from the end closure flap.

In order that the article 50 to be packaged can be positively held by the carton structure there are provided a pair of tabs 52, 53 respectively supported from the remote and upper edges of the respective first and second shadow panels. Each tab is connected to the panel hingedly by a score line 56, 57 and has a trimmed face 58, 59 which is at least a portion of its upper face that has been trimmed away so that the tab can be folded into the erected carton when pressed against by the end closure flap 43. Each tab also has an article face 60, 61 for engaging an article that is within the package. The article face may be cut to a variety of shapes to facilitate its physical engagement with such article.

The liner panel 28 is recessed at each end 65 so that the end seal flaps can be received within the carton, as shown in FIG. 3.

The score lines 8 and 9 are prebroken by bending the shadow panels 27 and 29 partially to their final position, thus creating a bias whereby the shadow panels can more readily move or be moved to their final position. This bias is illustrated in FIG. 5 where the three panels 27, 28, 29 are shown as concave relative to the carton front panel 22.

Preferably, the article is a tube (e.g., a tube of shampoo, toothpaste, etc.) the flat or crimped end of the tube being engaged by the tabs 52, 53. Thus, the tube is positively held against rotating and (due to the shape and spacing of the article faces 60, 61) lateral motion which maintains the appearance of the package and keeps displayed in the window 23 the trade name etc. on the tube.

The box unit thus comprises the two outer side panels 21, 24; the front panel 22, the back panel 25; and the end closure units 40. The shadow panel unit comprises the inner side panel 26, the connecting means 28 shown as the liner panel, and the two shadow panels 27, 29 with their tabs 52, 53.

In practice, a blank **2** as in FIG. **4** is made. It is then folded as shown in FIG. **5** with the shadow unit disposed inside of and diagonally of the box unit. Glue **32** or other suitable sealing means, e.g., plastic coating on the blank surface, is used to adhere the inner side panel **26** to the outer panel **21**. The knocked-down carton of FIG. **5** is shipped flat and erected into the carton **1** by diagonal pressure on scores **3** and **5** while flexing shadow panel **29** up to score line **4** thus forcing liner **28** into face to face contact with back panel **25**. No adhesive is required between the liner and back panels. In the erected carton the shadow panels extend obliquely and divergently from their connecting means **28** up to the score lines **3** and **4** at the side edges of the front panel.

The invention we claim is:

1. A shadow box made of one piece of sheet material and comprising

an outer generally rectangular box unit having a front display panel with a window therein;

a back panel opposite said front display panel; and

first and second outer side panels extending between said front display panel and said back panel, said second outer side panel being connected to each of said front and back panels; and

an inner shadow panel unit having

first and second shadow panels each having a width greater than one-half the width of said back panel;

means connecting said first and second shadow panels and disposed adjacent said back panel; and

an inner side panel connected between said back panel and said first shadow panel and extending in face to face contact with said first outer side panel;

said shadow panels each extending obliquely up toward a respective one of said outer side panels divergently from said connecting means whereby a shadow effect is realized by the oblique surfaces displayed through said window.

2. A shadow box according to claim **1** further comprising as said connecting means, a narrow liner panel face to face against said back panel and hingedly connected along each side to one of said shadow panels, whereby the shadow panels are spaced apart adjacent said back panel.

3. A shadow box according to claim **2** wherein said narrow liner panel is recessed at one end from the corresponding ends of said shadow panels whereby a flap on the carton can be received in the recess.

4. A shadow box according to claim **1** wherein said inner side panel is substantially the same height as said first outer side panel.

5. A shadow box according to claim **1** wherein said shadow panels extend obliquely from said back panel substantially to the respective junctions of said outer side panels with said front panel.

6. A shadow box according to claim **1** wherein the width of said shadow panels plus the connecting means width substantially equals the width of said back panel plus the height of said first outer side panel whereby said shadow panel unit extends diagonally across the carton when unerected.

7. A carton according to claim **6** comprising said shadow panels being at one end recessed from the carton end, a tab extending toward and past the carton end from each such recessed shadow panel ends, whereby closing the carton end pushes the tab on each panel end into the carton.

8. A shadow box according to claim **1** comprising said shadow panels being at one end recessed from the carton end, a tab extending toward and past the carton end from each such recessed shadow panel ends, whereby closing the carton end pushes the tab on each panel end into the carton.