

United States Patent

[11] 3,584,740

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[54] **DISPLAY CARTON**
4 Claims, 4 Drawing Figs.

[52] U.S. Cl..... **206/45.14**
 [51] Int. Cl..... **B65d 5/50**
 [50] Field of Search..... 206/45.14,
 45.19; 229/38

[56] **References Cited**
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ABSTRACT: A shadow box which may be made from one piece of sheet material, preferably paperboard, uses triangular panels to connect and fold the front panel down into the carton while providing a unique tie panel or saddle to support the packaged object in position. The front panel of the box has a window centrally located in such a way that portions of the front panel surround the window opening like a frame and at the same time provide a shadow box appearance while avoiding the use of swinging panels and flaps to accomplish same.

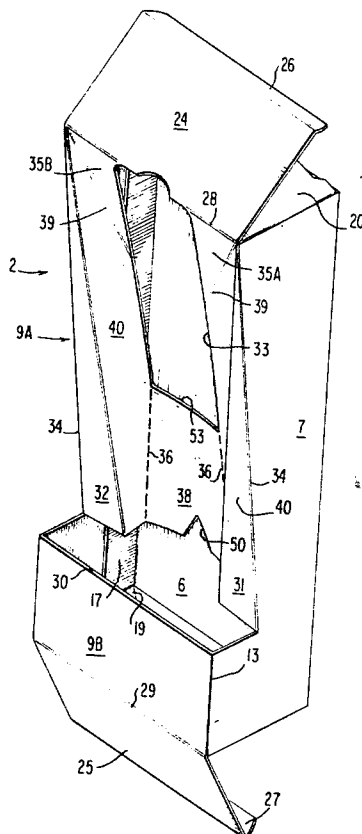


FIG. 1

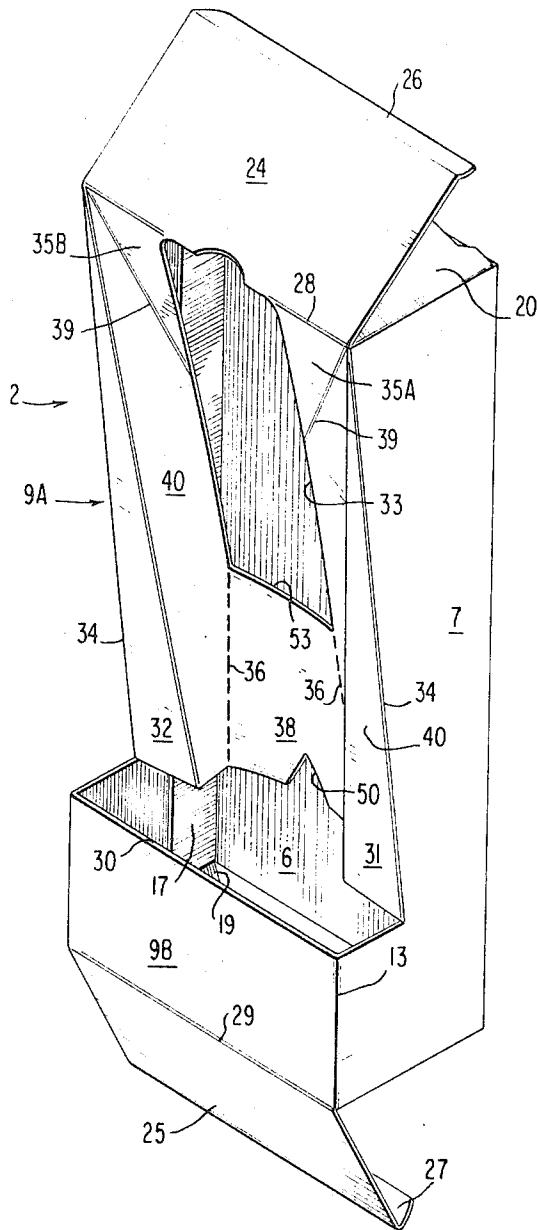
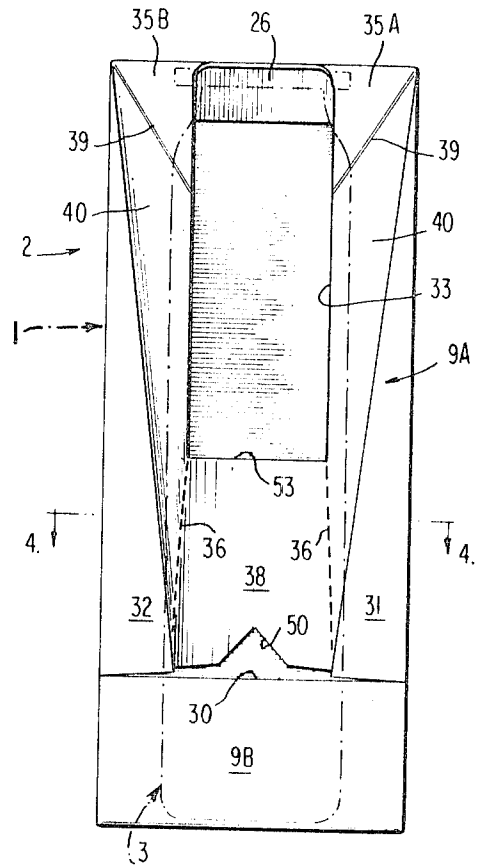


FIG. 3

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FIG 2

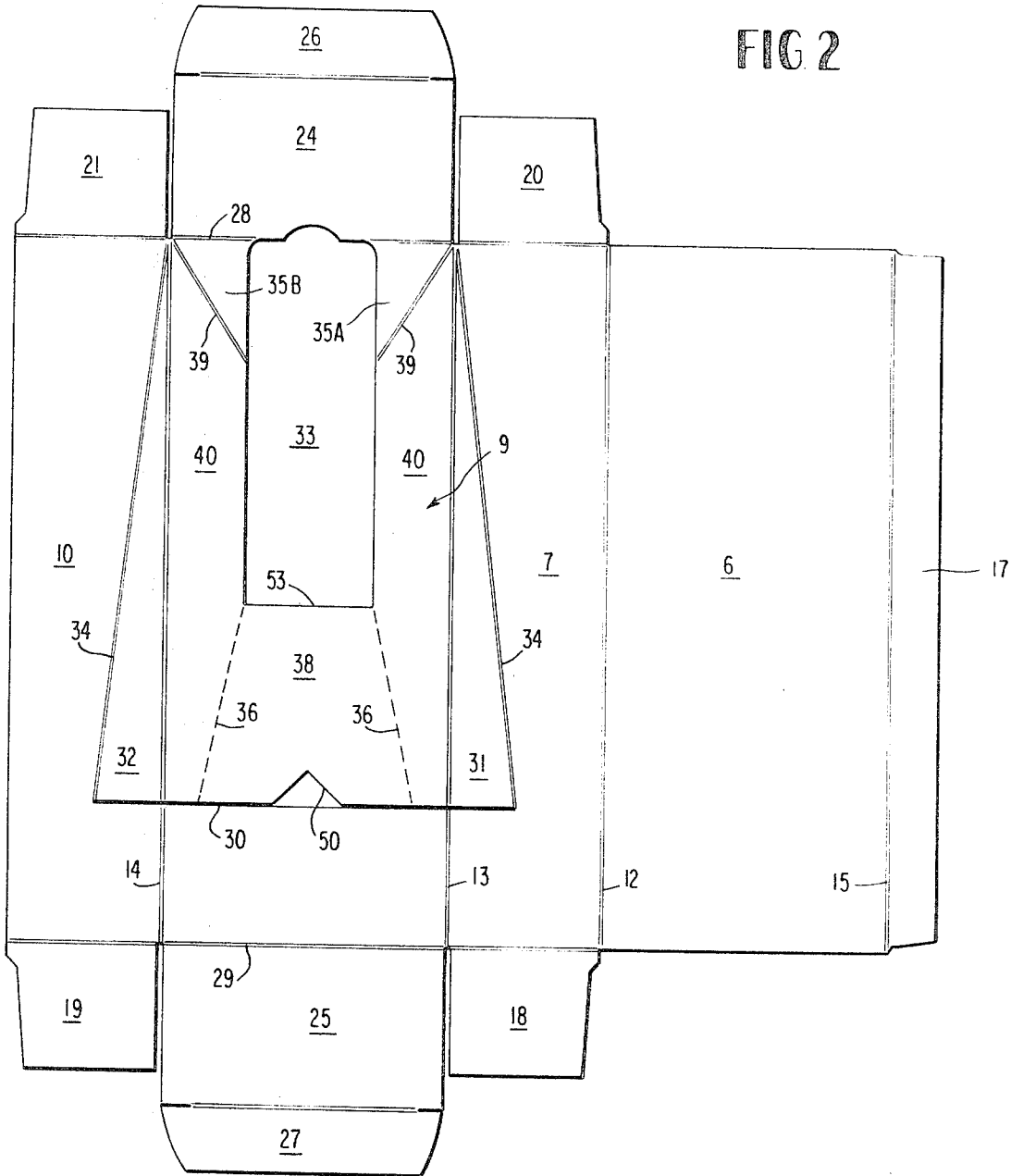
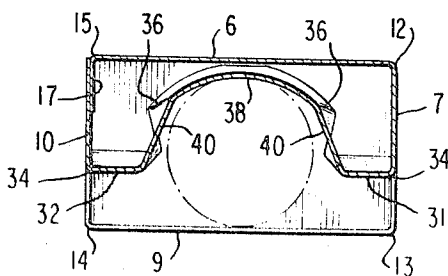


FIG 4



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DISPLAY CARTON

BACKGROUND OF INVENTION

This invention relates to a display package and more particularly to a shadow box made of one piece of sheet material such as paperboard in connection with which it will be described.

A shadow box as a general rule has the configuration of a rectangular parallelepiped. The shadow appearance is achieved by providing cut flaps or swinging panels which fold down inside the carton, e.g., as disclosed in U.S. Letters Pat. No. 3,360,118.

Some shadow boxes additionally have a frame appearance which is formed by panels on the display surface that are parallel to the back and surround all four sides of the display window in much the way a picture frame surrounds a picture. These frame panels provide both strength as well as unique aesthetic features. Examples of such frames are in U.S. Letters Pat. Nos. 3,379,305 and 3,094,264.

Automated packaging, both in setting up the boxes and in loading them (i.e., putting their contents in them) presents problems when shadow boxes are contemplated for use. Many shadow boxes have complicated structures due to the large number of panels which must be folded in a particular way or to various structures which engage the article to be packaged to retain it in the display position. During manual or machine loading some objects may hang up on parts of a shadow box construction.

It is an object of this invention to provide a shadow box made of one piece of sheet material.

It is yet another object of this invention to provide a shadow box of simple structure with maximum visibility of the product from both front and sides.

Other objects of the invention are to provide a package utilizing a shadow box constructed in accordance herewith and to provide a blank for a shadow box of the character herein described.

The present invention involves a shadow box having a tubular container with a front panel that is divided into upper and lower portions. The upper portion has a window formed centrally therein with some portion of the panel forming a frame effect around all sides of the window. Longitudinally of the front panel upper portion (the one with the window) extends a pair of triangular frame panels that connect the sides of the front panel with the side panels of the carton. Also located on the front panel are a plurality of fold lines to assist the panel in reaching its final configuration when the package is loaded. This structure involves no swinging panels or flaps, nor does it involve any internal panels to achieve the shadow effect.

Advantages and features of the present invention are that conventional end constructions can be employed thus providing a simple carton capable of properly retaining the packaged article; a shadow box capable of being loaded from either the front panel or either end by either hand or by machine; and the frame effect provides a self-centering action which assists in keeping the packaged article properly located both during loading and during subsequent handling and display.

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

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

FIG. 2 is a plan view of a blank for the carton of FIG. 1;

FIG. 3 is a front elevation view of a package having the carton of FIGS. 1 and 2 with the object retained therein shown in phantom lines; and

FIG. 4 is a cross section as viewed at section 4-4 of FIG. 3.

Referring to FIGS. 1 and 3 there is shown a package 1 comprising a carton 2 and an article 3 (the article being shown in broken lines in order that certain carton details may more clearly be shown).

The carton is made of sheet material and preferably comprises in sequence (See FIG. 2) a back panel 6, side panel 7,

front panel 9, and a second side panel 10 connected respectively by score lines 12, 13, 14, and 15. The score line 15 separates a seal flap 17 from back panel 6, it being understood that the seal flap is secured as by adhesive or other conventional means to the second side panel 10 in a conventional fashion in order to form a tubular container body.

The ends of the body are closed by end flaps 18, 19, 20 and 21 and end panels 24 and 25. Each end panel has a closure flap 26, 27 at its outermost end, or free end to assist in closing the carton end in a conventional fashion. The end flaps are separated from the end panels along cut lines lying along extensions of scores 13, 14. The end flaps and end panels are separated from the tubular body of the container by score lines 28 and 29 which, in the disclosed embodiment extend across both side panels and the intervening back or front panel. The illustrated embodiment shows the end panels as supported on the front panel 9.

A three panel cut line 30 extends from a central part of side panel 7, completely across the front panel 9, and to a central part of side panel 10. As shown in all figures, triangular frame panels 31, 32 are formed by cut score lines 34 respectively extending from the three panel cut line 30 diagonally along the respective side panels 7, 10 to the side panel corner corresponding to the intersection of score lines 28 and 13 (for triangular panel 31) and score lines 28 and 14 (for triangular panel 32). Preferably each line 34 is scored, not cut scored, for about an inch from said intersections, the balance of the line being cut scored.

The three panel cut line 30 divides the front panel 9 into an upper portion 9A and a lower portion 9B. Portion 9A of the FIG. 1 embodiment has a window 33 cut out of it at a central portion such that the front panel upper portion has a retaining means, the gusset panels 35A and 35B, at the end remote from the lower portion 9B. The upper portion 9A also has a pair of fold lines 36 extending obliquely between the window and the cut 30 to form the saddle or tie panel 38. Lines 36 are preferably formed by perforations and diverge toward the bottom from the window.

The notch 50 is located in the tie panel 38, centered at the very bottom of the tie panel. The notch permits the panel 38 to be pressed to the back of the carton when the carton is being filled whereby an object to be packaged can more readily be moved into the window. This structure can employ the resiliency of the material to regulate the amount of flexure that the article places on the panel 38 by making suitable adjustments in the size of the notch 50 and in the location of the window bottom 53.

The retaining function is accomplished by the small gusset panels 35A and 35B which are generally triangular in shape. When using this embodiment, as best seen in FIGS. 1 and 3, the packaged article 3 must have a lid or top that is wider than the window 33. With this construction, for example, during loading of the carton 2 with article 3 by inserting the article up through the bottom, the side panels 40 can be flexed apart when the lid of the article is shoved into the central portion of the window and then the panels 40 resiliently spring back into position. However, since the window is narrower than the lid, the object is retained in position by engagement with the gusset panels 35A, 35B.

The end panel 24 is hinged to the upper end of the front panel 9 as illustrated. The bottom end panel 25 can be hinged either to the bottom front panel 9A at the score line 29 or to the back panel 6, the latter position comprising a reverse tuck embodiment.

The retaining means 35 or 35A-35B is defined by score line 28, window 33, and score lines 39 which run obliquely, almost diagonally, from an upper corner of the front panel down to the window 33. The fold line 39 diverges from the window to the corner. Actually the score lines 39 do not fall truly along a diagonal of either the front panel or the upper portion thereof; preferably the score lines 39 intersect the window at a place above where a true diagonal, as viewed in FIGS. 2 and 3, does.

Shadow panels 40 are integral with other portions of the front panel 9A and extend on opposite sides of the window between the gusset and tie panels 35, 38. Score lines 36, 39 separate the several parts 35A, 35B, 38, 40 of front upper portion 9A.

When the carton is erected a tubular container body is formed comprising the front, back and two side panels. The window 33 is the only cutout portion in the front and side panels. The ends are closed in conventional fashion by the end panels and closure flaps.

During loading of the FIG. 1-4 embodiment, one end—preferably the end comprising end panel 25 and side flaps 18 and 19—is held open and the article 3 is pushed into position from that end. As shown in FIG. 3 the article 3 is preferably long enough to engage the ends of the carton whereby the longitudinal position of the article is maintained. The article is retained in the carton by being held underneath the gussets 35A, 35B and the lower front panel portion 9B and in the saddle formed by the tie panel 38.

When the carton is erected, article 3 inserted and the tie panel 38 depressed to a position within the carton, the front panel 9 is separated along the cut line 30 into the upper and lower portions 9A and 9B, the lower portion 9B remaining in a fixed position while the upper portion is folded about the cut score lines 34 so that the triangular panels 31, 32 assume a frame position sloping slightly relative to the back panel while at the same time the shadow box effect is achieved by the inward slope of the various front panel parts especially shadow panels 40. The gussets 35A, 35B slope inwardly as do the shadow panels 40, yet the shadow panels 40, the tie panel 38, and gussets together are an integral panel structure. The score lines 39 and fold lines 36 facilitate the foldability of the front panel parts gusset about the respective score lines 13, 14, 28. As best seen in FIG. 4 the panel 38 provides a saddle which engages the underside of the article, assists in centering the article during loading, handling and storage, and yet does so with a structure that affords minimum opportunities for mechanical interference such as jamming during automatic or hand loading. The article is allowed to protrude from the package, yet the outer dimensions of the package or carton are rectangular achieving an ease of stacking and of packing in shipping containers.

A package 1 according to the invention thus comprises front panel 9 and back panel 6 spaced apart by opposing side panels 7, 10. The front panel is divided by the cut line 30 into an upper and lower portion. The upper portion 9A has a window 33 cut out of a central portion thereof and framed by the several parts including gusset panels 35A, 35B; tie panel 38; and shadow panels 40—all of which are integral and none of which are severed one from another: the various parts being defined by the fold lines 36, 39. Thus, the uppermost end 9A of the package has the retaining gussets 35A, 35B, the tie panel 38 is located opposite the gussets between the lower edge of the window 33 and the cut line 30, and the two shadow panels 40 are connected between the gusset and the tie panels. The object to be packaged 3 nests in the window 33 and rests on top of the saddle support provided by tie panel 38, has the upper end thereof received and retained underneath the gussets 35A, 35B while the lower most end is retained underneath the front panel lower portion 9B. The ends of the object 3 are preferably engaged by the opposite ends 24, 25 of the carton.

Thus, a shadow box is provided that is made from a blank of the same outer dimensions as an ordinary rectangular box: this achieves an economy of materials over many prior art shadow box designs which require extra material for shadow panels. Further, both ends of the instant shadow box (i.e., extreme top and bottom) are the same height, thus achieving a rectangular shape.

I claim:

1. A shadow box made from one piece of sheet material comprising a tubular container having a back panel, first side panel, front panel, and second side panel respectively connected together along first, second, third and fourth score lines;

a window in said front panel;

a three panel cut line near one end of the carton extending all the way across the front panel and at least part of the way into each side panel thus dividing the front panel into an upper and a lower portion;

a pair of triangular frame panels each formed in a respective side panel by a score line extending from the end of the three panel cut line to the adjacent upper corner of said front panel;

a tie panel formed in said front panel upper portion between said window and said cut line by fold lines diverging from said window to said three panel cut line; and

a pair of shadow panels in said front panel upper portion, each shadow panel being on opposite sides of said window, integral with said front panel, between one of said triangular panels and said window and sharing a respective one of said second or third score lines and a respective one of said fold lines,

whereby the triangular frame panels move into a frame relationship and the shadow panels into a shadow position when said tie panel is depressed into the tubular container body.

2. A shadow box according to claim 1 further comprising a retaining means formed in said front panel at the end of said window opposite said tie panel and separated from said shadow panel by oblique score lines extending divergently outwardly from said window to the upper corners of the front panel.

3. A package comprising an article and a shadow box, the shadow box comprising a tubular container having connected in series a back panel, first side panel, front panel and second side panel respectively hinged to each other by first, second, third and fourth score lines;

end closures for said container;

a three panel cut line extending all the way across the front panel and at least part of the way into each side panel thus dividing the front panel into respective upper and lower portions;

a triangular frame panel formed in each side panel and extending from said cut line along the said second and third score lines connecting the side panels to the front panel;

a window cut in said front panel;

a pair of side shadow panels, each shadow panel being formed in the front panel between one side of said window and along one of the second and third score lines on one side of said triangular panels;

at least one tie panel between said window and cut line, connected to each of said side shadow panels by a fold line;

a retaining means opposite said tie panel and connected to said pair of shadow panels at the end of said carton but integral with and a part of said upper portion; and

said article being seated underneath said retaining means at one end and underneath the lower portion at the other end of the front panel, in said window, and with said tie panel underneath, the ends of the said article engaging the end closures of the container whereby said article is retained in the container.

4. A shadow box made from one piece of paperboard or the like and comprising

a tubular container having a front panel, back panel, and a pair of side panels, the side panels spacing the front from the back panels; and each of the panels being connected by score lines to adjacent panels;

a three panel cut line near one end of the carton extending all the way across the front panel and at least part of the way into lower and upper portions;

a folding line extending along each side panel adjacent said front panel upper portion from the end of said cut line in each side panel to the junction of the side panel with the upper corner of the front panel upper portion to thereby form from each side panel a triangular frame panel;

a window cut intermediate the sides of said front panel in said upper portion;

a retaining means at the carton end remote from said lower portion;

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at least a pair of fold lines in said upper portion, each diver-
gently extending from said window to said cut line to
thereby form at least one tie panel adjacent said lower
portion; and
a shadow panel on each of the opposite sides of said window 5
and integrally connected to said retaining means, tie
panel, and one of said triangular panels;
said window being the only cutout portion in said front and

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side panels;
whereby folding said tie panel into said container and said
framing panels to framing position provides a shadow
container for receiving an object underneath said retain-
ing means and lower portions, cradling it upon said tie
panel means and nesting it in said window between said
shadow panels.

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UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 3,584,740

Dated June 15, 1971

Inventor(s) Wallace E. Hanson

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Column 4, Line 66, after "into" insert --- each side panel, thus dividing the front panel into ---.

Signed and sealed this 6th day of June 1972.

(SEAL)

Attest:

EDWARD M. FLETCHER, JR.
Attesting Officer

ROBERT GOTTSCHALK
Commissioner of Patents