

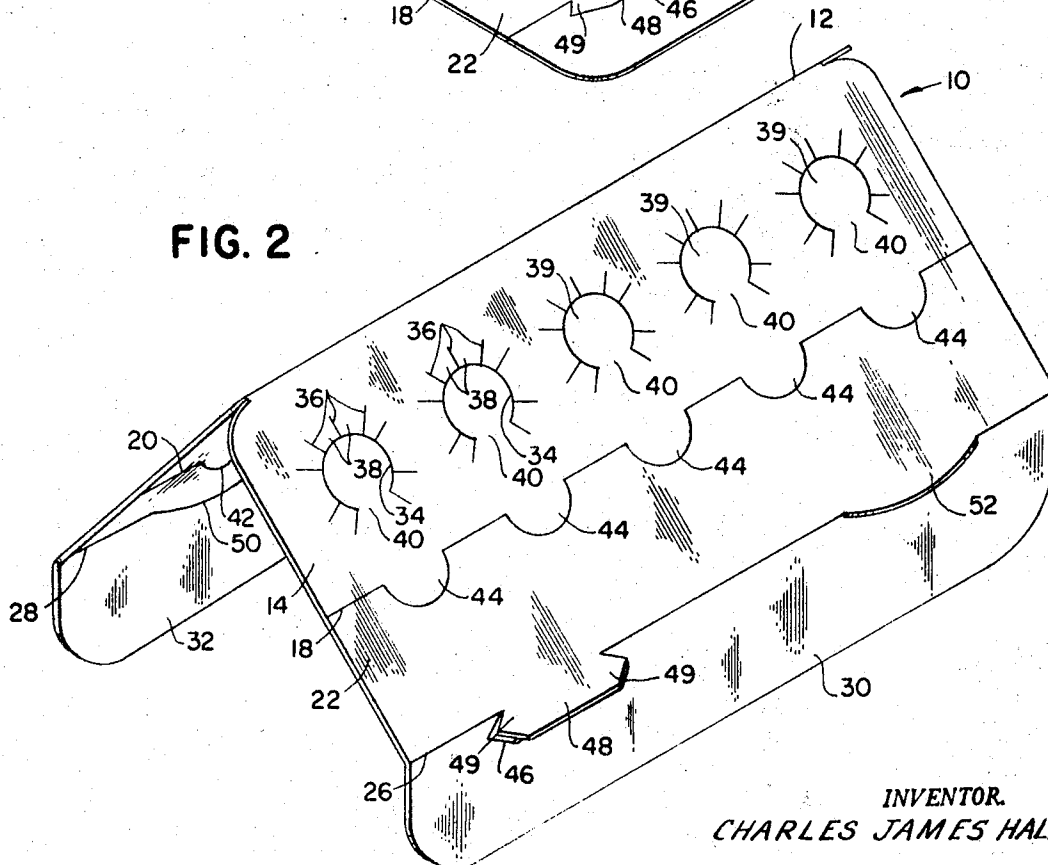
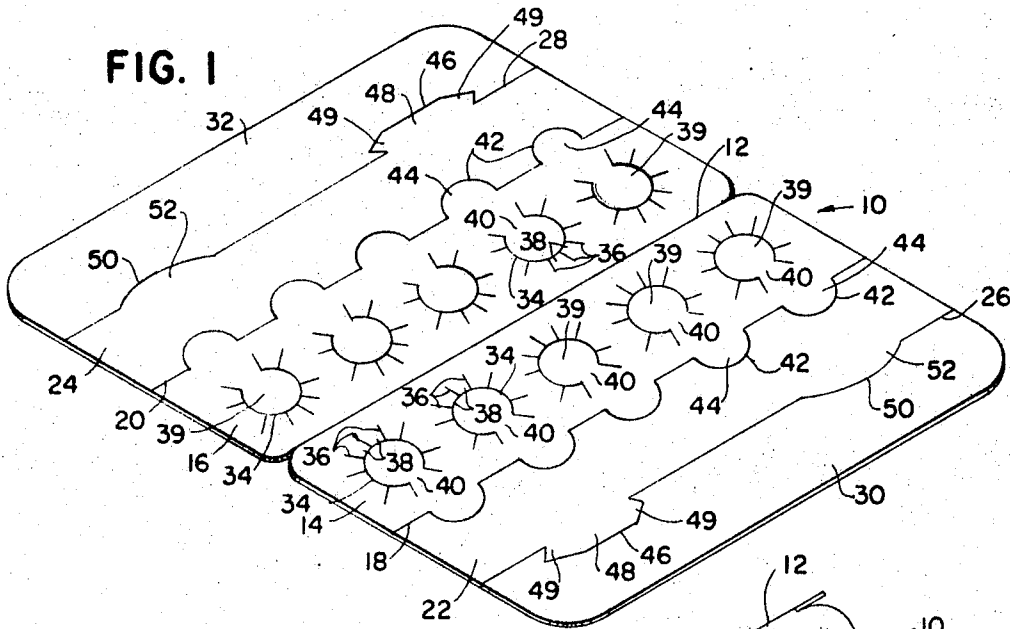
Aug. 19, 1969

C. J. HALL
DISPLAY DEVICE

3,462,020

Filed June 1, 1967

3 Sheets-Sheet 1



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FIG. 3

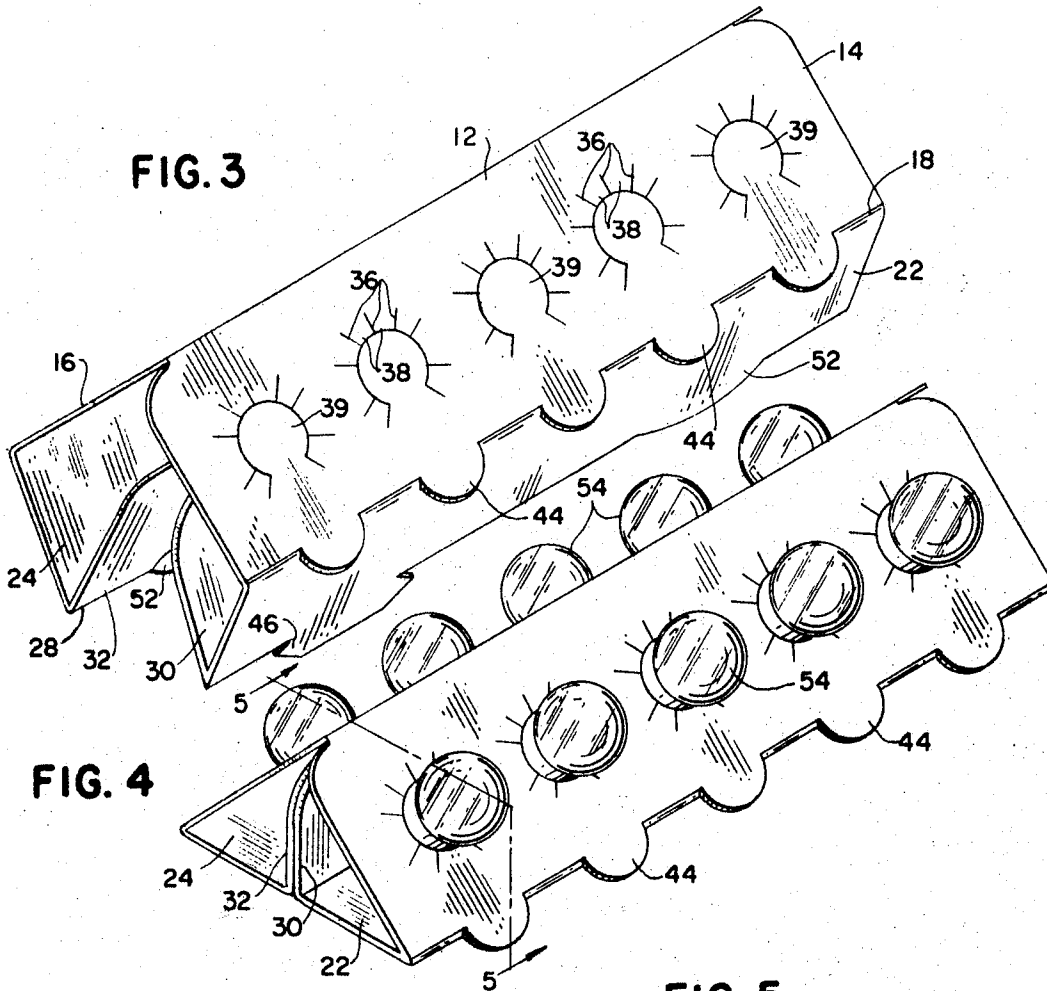


FIG. 4

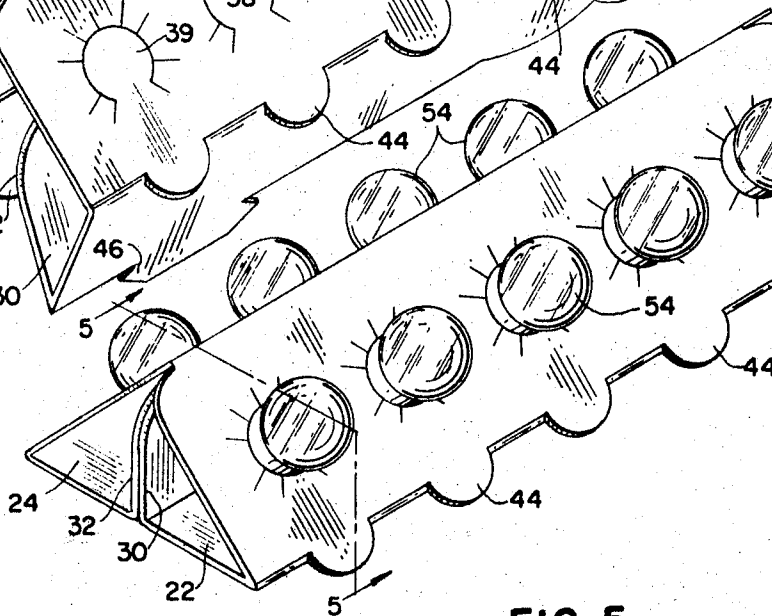


FIG. 5

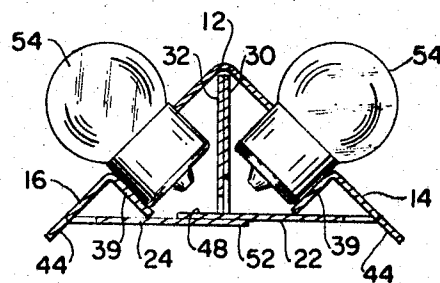
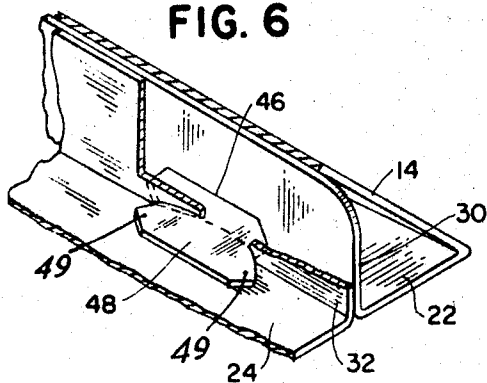


FIG. 6



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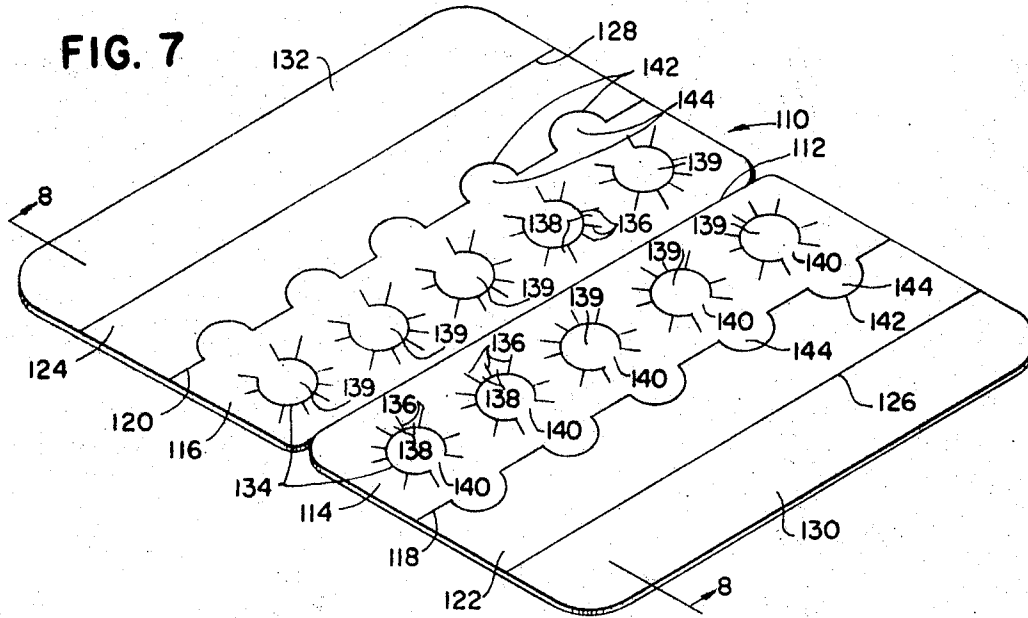
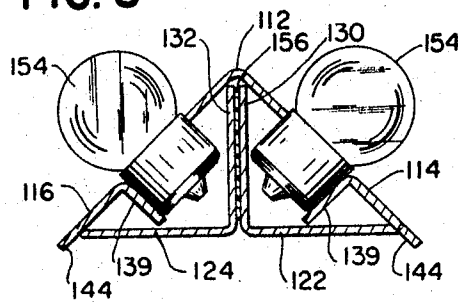


FIG. 8



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DISPLAY DEVICE

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12 Claims

ABSTRACT OF THE DISCLOSURE

A display device for a plurality of articles in which the device is triangular in cross section. Article receiving means disposed in sloping side walls of the device include a flap which is pushed out of the plane of the side walls into engagement with a segmented base. Flap extensions on abutting segments of the base are suitably retained to provide a vertical support for the apex of the device.

This invention relates to a display device and more particularly to such a device for displaying a plurality of articles such as incandescent bulbs or the like.

A principal difficulty previously experienced with display device for auto bulbs and the like is that the bulbs tend to become dislodged from the device in the course of its shipment. This may be attributed partially to the fact that prior art devices have frequently relied upon an outer container to provide the necessary rigidity to the package to retain the articles in place. In the course of shipment, the outer device becomes twisted or deformed and because of the weakness of the holder for the articles, the latter become displaced thereby presenting relatively unsightly and untidy merchandise.

Accordingly, it is a primary object of the present invention to provide a display device for a plurality of articles which may be retained by the display device while being shipped without loss to or dislodgment of the merchandise.

It is another object of the present invention to provide a display device from a single flat blank which is sufficiently sturdy in and of itself to retain the display articles while still revealing the nature thereof to the ultimate purchaser.

It is a further object of the present invention to provide a display device which will hold its shape during transit.

These and other objects of the present invention will become apparent upon reference to the detailed specification and drawings, wherein:

FIG. 1 is a perspective view of a blank made in accordance with the present invention;

FIG. 2 is a perspective view of the blank of FIG. 1 in a partially folded condition;

FIG. 3 is a perspective view of the blank of FIG. 1 illustrating another partially folded condition subsequent to the FIG. 2 position;

FIG. 4 is a perspective view of the blank of FIG. 1 in its fully folded and erected position with articles in place;

FIG. 5 is a cross sectional view taken along line 5-5 of FIG. 4;

FIG. 6 is a fragmentary cross sectional view, with parts broken away, illustrating a locking feature for the blank of FIG. 1;

FIG. 7 is a perspective view of a blank made in ac-

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cordance with another embodiment of the present invention; and

FIG. 8 is a cross sectional view taken along line 8-8 of the blank in FIG. 7 after the blank has been fully folded and erected with articles in place.

Referring now to FIGS. 1 and 2, there is illustrated a blank, indicated generally at 10, having a fold line 12 which forms an apex for container 10 when fully folded and erected. On one side of fold line 12 of the erected device is a first sloping wall 14 and on the other side of fold line 12 is a second sloping wall 16. Sloping wall 14 terminates at a fold line 18 opposite fold line 12, and sloping wall 16 terminates at fold line 20 opposite fold line 12.

A first bottom segment 22 is integrally attached to fold line 18 on one side of blank 10 while a second bottom segment 24 is integrally attached to fold line 20 on the other side of the blank 10. Each bottom segment 22 and 24 is provided with a fold line at 26 and 28 respectively to define flaps 30 and 32 respectively. Flaps 30 and 32 define bridging support members in the fully folded and erected blank as will be described more fully hereinafter.

Each of the sloping walls 14 and 16 is provided with a series of substantially circular cutout patterns identified by the numeral 34. A series of radial slits 36 extend from the substantially circular cutouts 34 with one end of the circular slits terminating at the substantially circular cutout 34. The radial slits 36 define a series of tongues 38 in a substantially sunburst pattern. Tongues 38 provide rigidity to an article received in a series of flaps or support members 39 which are pushed out of the planes of the sloping side walls 14 and 16. The substantially circular cutout patterns 34 leave an uncut portion identified at 40 about which the tab or support members 39 pivot as they are pushed downwardly from the planes of sloping side walls 14 and 16. A series of semi-circular cut patterns 42 interrupt the continuity of fold lines 18 and 20 so as to define a series of feet 44 which are integral with the sloping side walls 14 and 16 and are effectively cut out from the bottom segments 22 and 24.

The continuity of fold lines 26 and 28 is interrupted by cut patterns 46 which extend into flaps 30 and 32 so as to define locking tongues 48 in a pattern so as to define locking ears 49 on the lateral extremities of the locking tongues 48. Also disrupting the continuity of fold lines 26 and 28 are cut patterns 50 which define extensions 52. The cuts 50 are so positioned with respect to locking tongues that when the blank 10 is folded through the sequence of operations illustrated in FIGURES 2, 3 and 4, the locking tongue is inserted through the aperture provided in flap 32 to the positions more fully illustrated in FIGS. 5 and 6.

In FIG. 2 the blank 10 is illustrated to have been first folded about fold line 12 and about fold lines 26 and 28. Further folding of the blank about fold lines 18 and 20 produces the FIG. 3 position, at which point the locking tongues 48 are inserted through the apertures provided in the bottom segments 32 and 30 by the cut patterns 50 to produce the position illustrated in FIGS. 5 and 6. FIGS. 4 and 5 illustrate the blank 10 fully folded and erected with a series of articles such as incandescent bulbs 54 in place suitable for use in automobiles or the like.

As is best shown in FIG. 5, the flaps 39 are folded out of the plane of sloping side walls 14 and 16 by insertion of the articles 54 so that the flaps 39 contact the bottom segments 22 and 24, thereby providing a rigid support for the articles 54.

In addition, the flaps 30 and 32 provide bridging support members in that they are folded to a substantially vertical position terminating either in contact with or immediately beneath apex 12 of blank 10 so as to prevent any substantial vertical collapse of the apex of the erected blank which forms a substantially triangular prism. In addition, the feet 44 which are integral with and extensions of sloping side walls 14 and 16 provide lateral support for the erected device. The locking ears 49 on locking tongue 48 may be deformed so as to permit insertion of the locking tongues 48 within the aperture provided by cut patterns 50.

Referring now to FIGS. 7 and 8, there is illustrated another embodiment of the present invention wherein an adhesive is used to maintain the locking flaps in vertical position so as to provide a bridging support for the apex of the device similar to the bridging support provided in the embodiment shown in FIGS. 1-6. For ease in identification, features in FIGS. 7 and 8 similar to those in blank 10 exceed the numerals in the previous embodiment by 100.

Thus the blank in FIG. 7 is identified generally by numeral 110. The fold line forming the apex of the blank is identified by numeral 112. Blank 110 when fully folded and erected is provided with sloping side walls 114 and 116 which are bounded by fold lines 118 and 120 respectively. Bottom segments 122 and 124 are attached integrally to sloping side walls 114 and 116 by means of fold lines 118 and 120 respectively. Bottom segments 122 and 124 are provided with fold lines 126 and 128 so as to define flaps 130 and 132. In this instance, fold lines 126 and 128 are noninterrupted as they extend completely across blank 110. Article support means are provided in blank 110 identical to those used in blank 10. Thus there is illustrated a substantially circular cutout 134 from which extend radial slits 136 so as to define a series of tongues 138. A flap 139, constituting a support member for the articles when the blank is in fully folded and erected position, is attached to the sloping side walls 114 and 116 by means of the uncut portion 140 of the substantially circular cutout 134.

One again semicircular cut patterns define a series of feet 144 as extensions to the sloping side walls 114 and 116 with the feet 144 effectively being cut from the bottom segments 122 and 124. The fold lines 118 and 120 do not extend across the attached portions of the feet 144 so that they may function to provide rigidity to the display device when erected in resisting lateral rocking movement thereto.

In this instance, and as fully illustrated in FIG. 8, an adhesive 156 is applied to the underside of each of the flaps 130 and 132 which are folded about lines 126 and 128 into vertical position and maintained thereby by the adhesive to constitute bridging support members for the apex 112 of the fully folded and erected blank 110.

Once again the flaps 139 provide support members for a series of articles 154 which are inserted into the article receiving means provided by the substantially circular cuts 134 and radial slits 136 which extend therefrom to provide a series of tongues 138.

The display device illustrated in the present invention has been found to retain articles securely in the course of their shipment without loss to or dislodgment of the articles. It has also been found that it is advantageous to be able to form the display device from a single blank which is sufficiently sturdy in and of itself so as to retain the display articles while still revealing the nature thereof. It is possible to use the display blank of this invention as an insertion in an outer carton with display window if desired. Alternatively, the display device illustrated in this invention may be encapsulated in a heat shrinkable plastic film such as polyvinyl chloride, or the like, so as to fully reveal the nature of the articles.

It is thought that the invention and many of its attendant advantages will be understood from the foregoing de-

scription, and it will be apparent that various changes may be made in the form, construction and arrangement of the parts without departing from the spirit and scope of the invention or sacrificing all of its material advantages, the forms hereinbefore described being merely a preferred embodiment thereof.

What is claimed is:

1. A display device comprising a pair of sloping walls joined to each other by a fold line which defines an apex of the device, said sloping walls having openings therein to receive articles to be displayed, a first bottom panel connected to one of said sloping walls for hinged movement about an axis generally parallel to said apex fold line, a second bottom panel connected to the other of said sloping walls for hinged movement about an axis generally parallel to said apex fold line, a pair of support flaps each connected to one of the first and second bottom panels along fold lines which are generally parallel to the apex fold line, each of said support flaps extending from its bottom panel to the apex of the device and extending substantially the full dimension of said apex, and means for securing said support flaps together to provide support for said display device.

2. A display device as defined in claim 1 wherein the means for securing the support flaps consists of locking members cut from said support flaps.

3. A display device as defined in claim 1 wherein said means for securing the support flaps consists of adhesive means between said support flaps.

4. A display device as defined in claim 1 wherein each of said article receiving openings comprises a first substantially circular cut and a plurality of straight cuts terminating at one end on said substantially circular cut.

5. A display device as defined in claim 4 wherein said first substantially circular cut defines a tab adapted to be pushed out of the plane of its sloping side wall into engagement with its respective bottom panel.

6. A display device as defined in claim 1 wherein the device is provided with a plurality of feet to provide lateral stability to said device, and said feet consisting of extensions of the sloping walls of the device.

7. A display device comprising a pair of sloping walls joined to each other by an apex fold line, each of said sloping walls having openings therein to receive articles to be displayed, the openings in each of said sloping walls being arranged in pairs opposite each other, a first and second bottom panel each connected to one of said sloping walls for hinged movement about an axis generally parallel to said apex fold line, a pair of support flaps each connected to one of the first and second bottom panels along fold lines which are generally parallel to the apex fold line, each of said support flaps extending from its bottom panel to the apex of the device to provide a partition within said display device to prevent interference between the base portions of articles located in said display openings, and means for securing the support flaps to each other.

8. A display device as defined in claim 7 wherein each of said article receiving openings comprises a first substantially circular cut and a plurality of straight cuts terminating at one end on said substantially circular cut.

9. A display device as defined in claim 8 wherein said first substantially circular cut defines a tab adapted to be pushed out of the plane of its sloping side wall into engagement with its respective bottom panel.

10. A display device as defined in claim 7 wherein said device is provided with a plurality of feet to provide lateral stability to said carton and said feet consist of extensions of said sloping walls of said carton.

11. A display device as defined in claim 10 wherein each of said article receiving openings comprises a first substantially circular cut and a plurality of straight cuts terminating at one end on said substantially circular cut.

12. A display device as defined in claim 11 wherein said first substantially circular cut defines a tab adapted

to be pushed out of the plane of its sloping side wall into engagement with its respective bottom panel.

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CHANCELLOR E. HARRIS, Primary Examiner

U.S. Cl. X.R.

206—45.14; 211—73