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[54] **CARTON CONSTRUCTION**
3 Claims, 8 Drawing Figs.

[52] U.S. Cl..... 229/27,
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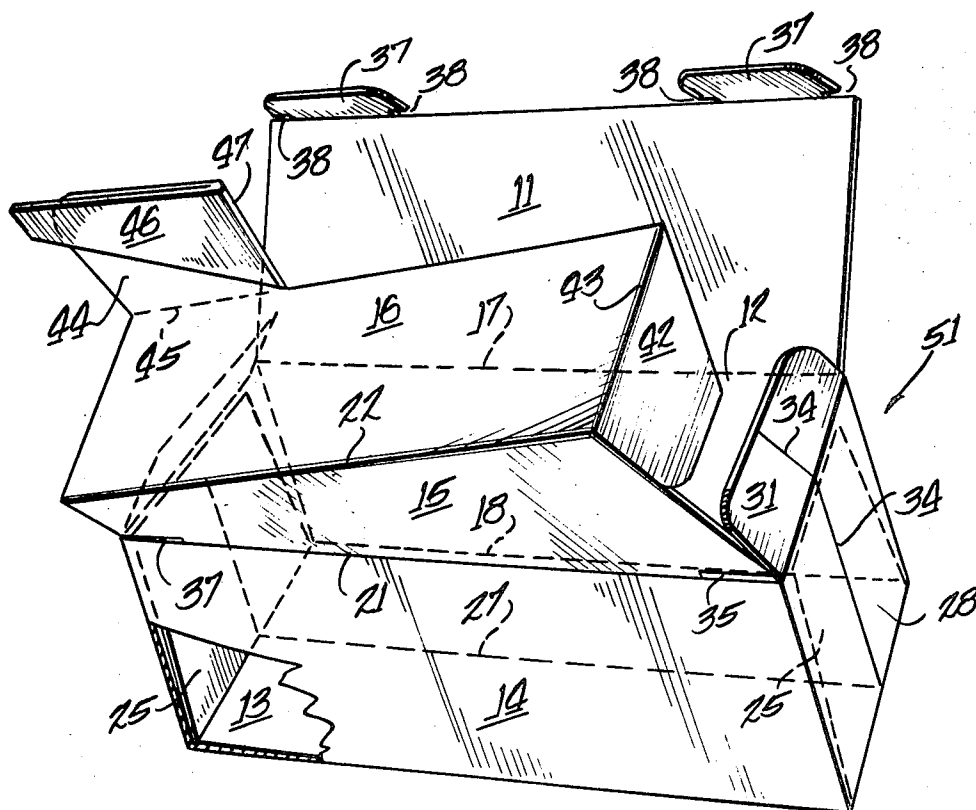
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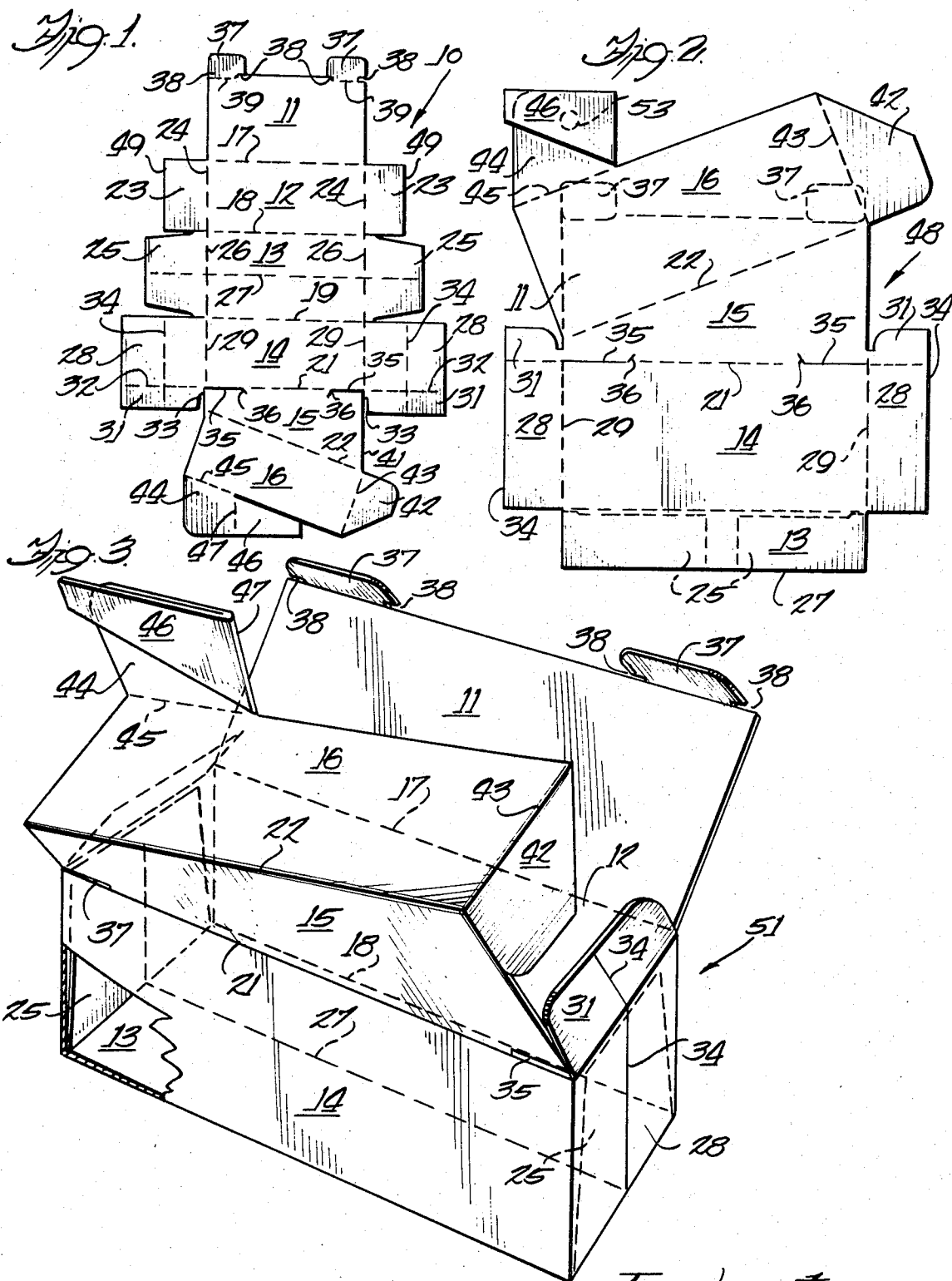
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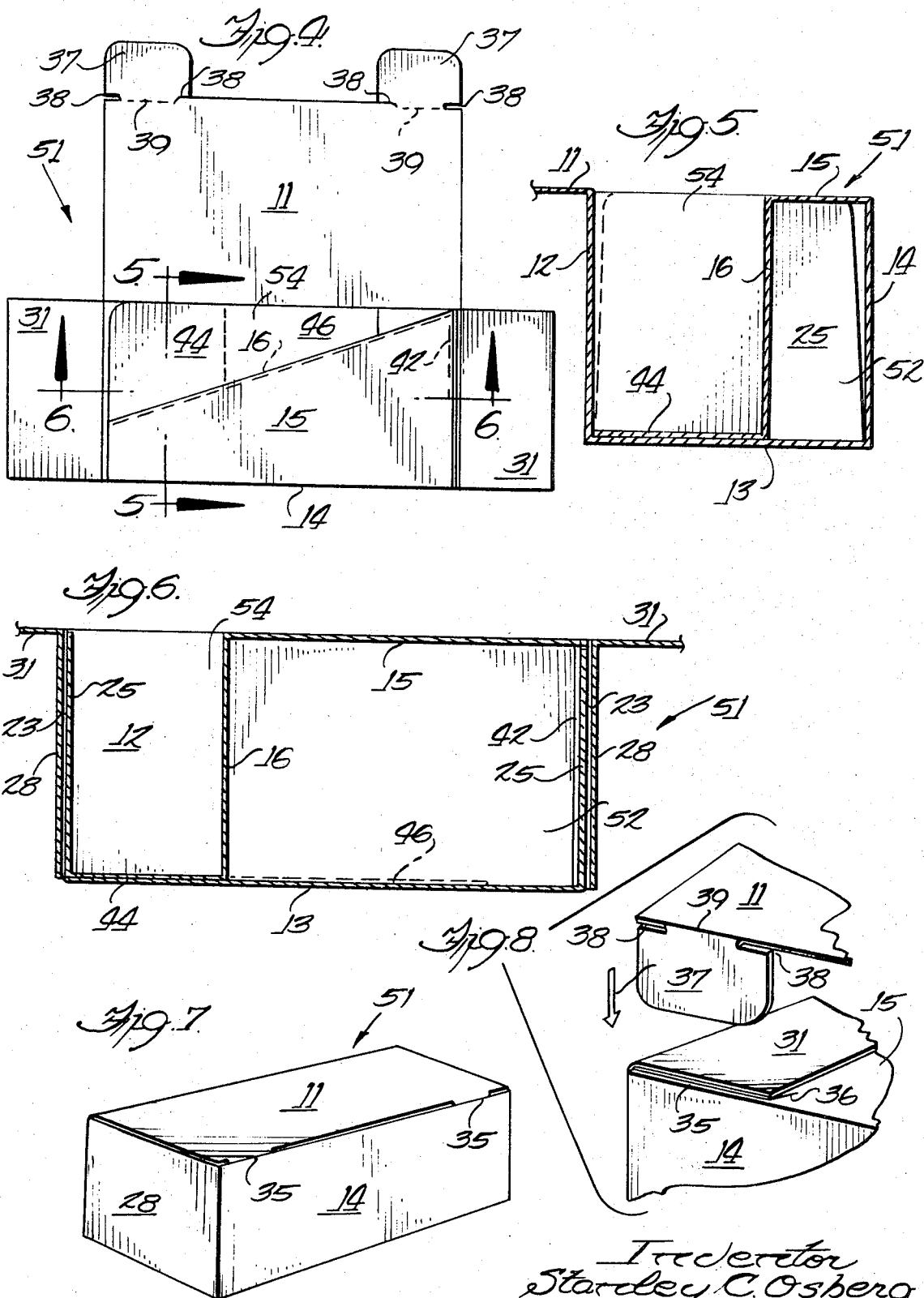
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ABSTRACT: A one-piece folding carton having a semisolid bottom and tuck top which is formed from a single piece of cardboard or similar material and which requires less material and provides a flat fold utilizing minimum space for both storage and shipping and the necessary storage area at a given loading station. The carton is formed with a top, front and rear wall, end walls with side or dust flaps, and a bottom wall capable of being folded along a plane extending lengthwise across the box, and foldable inner bottom flaps integral with the bottom wall or the ends thereof and adapted to be secured to the end walls. A pair of partition sections integral with the front wall fold into the formed carton to partition the carton space into a pair of generally equal portions.





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CARTON CONSTRUCTION

The present invention relates to a one-piece carton construction and more particularly to a carton that is capable of being folded flat for storage or shipping and is easily opened for loading.

Among the objects of the present invention is the provision of a carton construction formed of a single piece or blank of cardboard or similar material which requires a minimum amount of board to form the carton. The cardboard blank is partially folded and secured to form the basic carton that can be folded flat requiring minimum storage, shipping and warehousing space.

Another object of the present invention is the provision of a one-piece carton construction which when unfolded from its folded storage condition provides a solid bottom and is easy to open and set up. When folded flat, the carton can be easily imprinted on the exterior surfaces of the carton. When loaded, the carton has greater durability and better stackability in shelving the carton for sales and/or display purposes.

A further object of the present invention is the provision of a one-piece carton construction having front and rear walls joined by a bottom wall and opposite end walls formed from end flaps, inner bottom flaps integral with the bottom wall and a top. The bottom wall, inner bottom flaps and formed end walls with side or dust flaps are provided with a fold line along a plane extending lengthwise through the carton so that the carton, in partially formed position, can be folded flat for storage.

The present invention also comprehends the provision of a one-piece carton construction having partition panels integral with the front wall of the carton and adapted to be folded into the carton when opened for loading to substantially longitudinally divide the interior of the carton into two or more compartments for storage of the articles to be packaged in the carton.

Further objects are to provide a construction of maximum simplicity, efficiency, economy and ease of assembly, and such further objects, advantages and capabilities as will later more fully appear and are inherently possessed thereby.

In the drawings:

FIG. 1 is an open plan interior view of a sheet of cardboard or similar material cut to proper dimensions and provided with fold and score lines for forming the carton by folding an assembly.

FIG. 2 is a plan view of the carton in partially assembled and folded condition for storage.

FIG. 3 is a perspective view of the unfolded carton prior to its complete assembly.

FIG. 4 is a top plan view of the fully assembled carton with the top and side flaps open.

FIG. 5 is a vertical cross-sectional view of the assembled carton taken on the line 5-5 of FIG. 4.

FIG. 6 is a vertical cross-sectional view of the assembled carton taken on the line 6-6 of FIG. 4.

FIG. 7 is a perspective view of the loaded carton with the top and side flaps closed.

FIG. 8 is a partial perspective view showing the manner of insertion of an end tab of the top into the carton.

Referring more particularly to the disclosure in the drawings wherein is shown an illustrative embodiment of the present invention, FIG. 1 discloses a die cut blank 10 formed of cardboard or similar material to form the desired carton. The blank 10 includes panels 11, 12, 13, 14, 15, and 16 which form the top, rear wall, bottom, front wall, top partition and vertical partition, respectively, these panels being joined by fold lines 17, 18, 19 and 21, and the partitions 15 and 16 are joined by a score or perforated line 22.

Integral with the rear panel 12 at the opposite ends thereof are partial end flaps 23,23 joined to the panel 12 by fold lines 24,24. At the opposite ends of the bottom 13 are inner bottom flaps 25,25 integral with the bottom at fold lines 26,26. Also, a central fold line 27 extends longitudinally across the bottom 13 and inner bottom flaps 25,25 for a purpose to be later described. At the opposite ends of the front wall 14 are

located a pair of full end flaps 28,28 joined to the panel 14 by fold lines 29,29. These end flaps each have a dust flap 31 extending along an edge of the end flap at a fold line 32 and parallel to the longitudinal axis of the front wall 14. The dust flap 31 is cut away at 33 adjacent the front wall for ease of folding. Also, a fold line 34 extends across the end flap 28 and dust flap 31 parallel the fold line 29 at the center of the flap 28.

The fold line 21 includes a slit 35 at each end having an inward inner end 36 to conformably receive a tucking tab or flap 37 formed at each end of the free edge 38 of the top 11. The tabs 37 each have a cut out 38 at each end of a fold line 39 therefor (see especially FIGS. 4 and 8). The score or perforated line 22 can be cut at an angle as shown or straight to provide the panel 15 with either a generally triangular or straight configuration which ever may be desirable with the edge 41 approximately the same length as the width of the bottom wall 13 or to what other dimension best suits articles to be packed therein. The partition panel 16 has a width substantially equal to the width of the front and back panels 14 and 12, respectively. An end flap 42 is joined to one end of the panel 16 by a fold line 43, and a tuck and sealing flap 44 joined at one corner of the panel 16 by a fold line 45 has a generally triangular flap 46 extending along the panel 16 and joined to flap 44 by a fold line 47.

To prepare the carton for its intermediate storage and shipping form 48, the inner bottom flaps 25,25 are folded inward about fold lines 26,26 to contact the bottom panel 13, the rear wall 12 and front wall 14 are folded upward about the fold lines 18 and 19, respectively, and the flaps 23,23 and 28,28 are folded inward to be secured together by glue or other suitable fastening means. The flap 23 is positioned inwardly of the flap 28 at each end and these flaps form the end walls of the carton. Also the flap 23 is approximately one-half the width of flap 28 so that the edge 49 of flap 23 generally coincides with the fold line 34 to allow for folding of the end panels to the storage position. When secured together, the carton is collapsed along the fold lines 27, 34, 34 to form the intermediate carton 48 for storage or shipping as seen in FIG. 2.

To load the carton with merchandise, the folded intermediate carton 48 has the bottom panel 13 and the end flaps 28,28 unfolded, as seen in FIG. 3, to form the final package or carton 51. If the carton is to be utilized for a single large item or group of items and no partition is required, the partition panel 16 can be removed from the top partition panel 15 along the score line 22. When the box is filled, the top partition 15 is folded inward, the dust flaps 31,31 are folded inward over the top partition 15, and the top panel 11 is folded to cover and enclose the top of the carton with the tabs 37,37 being inserted in the slits 35,35 at each end of the fold line 21. The nature of the goods filling the carton may retain the inner bottom flaps 25,25 against the end flaps 28,28, or the flaps 25,25 may be secured to the flaps 28,28 by glue or other suitable fastening means.

Where the vertical partition is desired to divide the interior of the carton into two generally triangular portions, the carton is unfolded from the collapsed intermediate member 48 by unfolding the bottom 13 and end flaps 28,28, and the inner bottom flaps 25,25 are unfolded upwardly and suitably secured against the interior surface of end flaps 23,23, 28,28 to form an open carton. Then the item to be packaged in the front triangular portion 52 is positioned in the carton 51 and the top partition 15 is folded over to a horizontal position (see FIGS. 4-6), and the vertical partition 16 is folded down into the carton as shown. The flap 42 on partition 16 is folded inward to abut the inner bottom flap 25 at the right hand end as shown in FIGS. 4 and 6. The flap 44 has a spot of adhesive 53 on the underside which abuts the bottom 13 of the carton, as shown in FIGS. 4 and 6, and is adhesively joined to form the rear triangular portion 54. This portion is then packaged with the goods, the end flaps 31,31 folded inward and the top 11 folded down with tabs 37,37 inserted into slits 35,35 (see FIGS. 7 and 8).

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To remove the packaged goods from the carton 51, the top 11 is opened and the articles removed from the rear portion 54. Then the top partition 15 is torn or slit from the vertical partition 16 along the score line 22 to gain access and remove the articles from the storage portion 52. While a carton of a particular and effective shape has been shown and described by way of illustration, it is not my intent or desire to unnecessarily restrict the improvement by virtue of this limited showing. The partitions utilized may be changed to divide the carton interior in any desired manner, and the flaps utilized in this carton may change in length, shape, type of scoring and position in a folded blank to facilitate both manufacturing and imprinting requirements.

I claim:

1. A carton construction comprising four connected panels forming a top panel, rear wall, bottom wall and front wall of a carton, said rear wall and said front wall each having an end flap at each end thereof, said end flaps on the rear wall being approximately one-half of the width of said end flaps on said front wall, said end flaps being folded inwardly and secured together to form the end panels of the carton, said bottom wall having an inner bottom flap at each end thereof, said bottom wall, inner bottom flaps and said end panels having a fold line extending longitudinally in the center thereof so that the carton can be folded flat in an intermediate stage of assembly with the bottom wall and end panels folded outwardly, said inner bottom flaps being initially unsecured in the inter-

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mediate stage of assembly and are folded upwardly and secured against the interior surface of said end panels when the carton is in fully open position, said end flaps on the rear wall each having an outer edge generally coincident with the central fold line on said bottom and said full end flaps on the front wall, a dust flap at the upper edge of each said full end flap, a top partition joined to said front panel by a fold line having an inwardly extending slit at each end, an end tab at each end of the outer edge of said top panel adapted to be inserted in a slit in the fold line between the front wall and the top partition when the top is closed onto the carton, and a vertical partition joined to the top partition by a perforated line and extending downward into the fully open carton to divide the carton into two portions.

2. A carton construction as set forth in claim 1, including a flap on the lower edge of said vertical partition adapted to abut the bottom wall of the fully opened carton, and an end flap on one edge of said vertical partition adapted to be folded inward against the adjacent end panel and inner bottom flap secured thereto.

3. A carton construction as set forth in claim 1, in which said top panel and said dust flaps overlap said top partition when the carton is closed, and when said top panel is opened, one portion of the carton is exposed, and the other portion of the carton is exposed by separating said top partition from said vertical partition along said perforated line.

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