

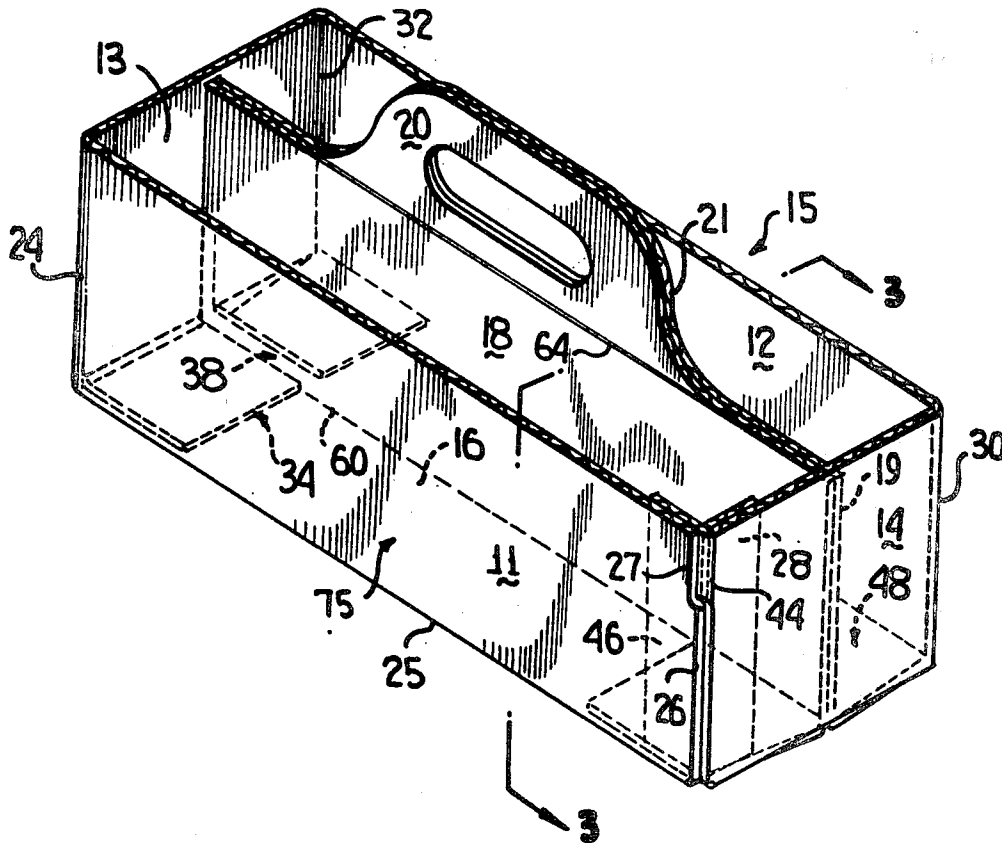
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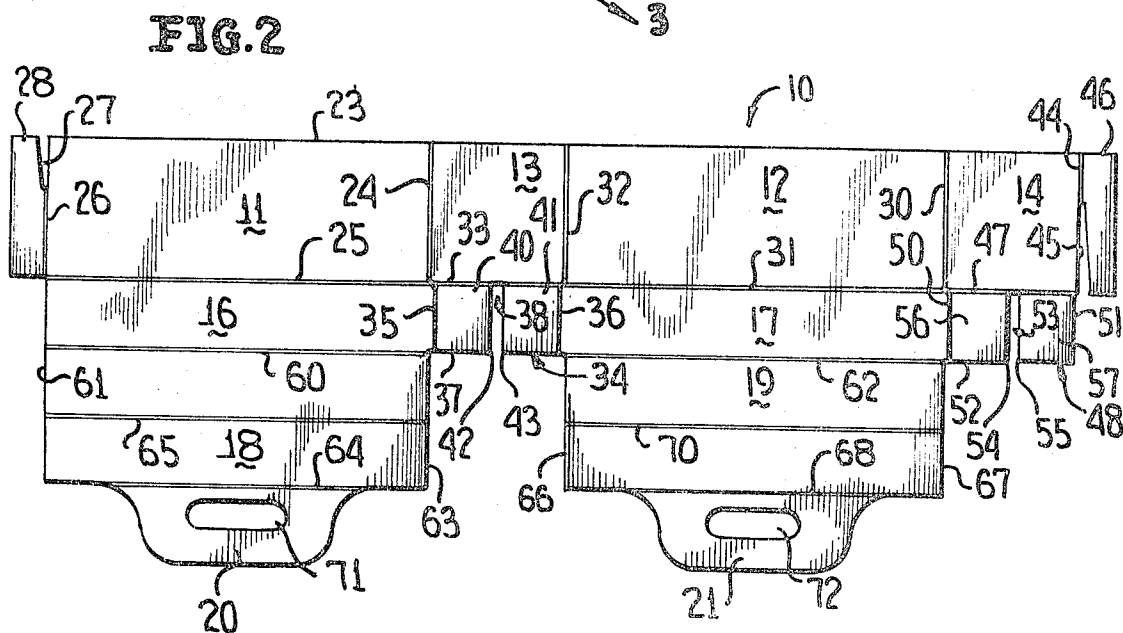
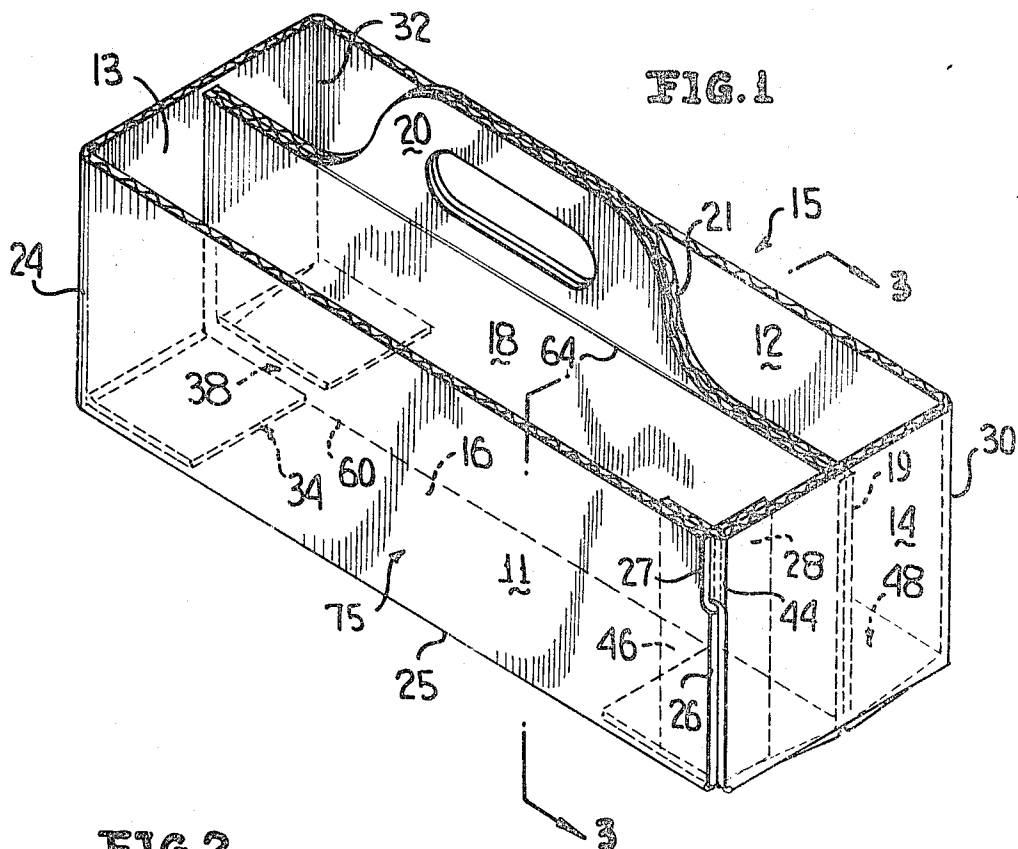
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[54] **CORRUGATED BOARD BOTTLE CARRIER**
6 Claims, 6 Drawing Figs.

[52] U.S. Cl..... 229/52,
229/28, 229/30
[51] Int. Cl..... B65d 5/46
[50] Field of Search..... 229/52BC,
28BC, 6, 30

ABSTRACT: This disclosure relates to a bottle carrier having a body defined by pairs of side and end panels disposed in up-standing relationship to a bottom wall, the bottom wall is defined by a pair of bottom panels to each of which is joined a partition panel, and a flap connected to each of the end panels includes a slot into which upwardly projects the partition panels for forming a frictional and a camming interlock for preventing inadvertent or accidental disassembly of the carrier.





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FIG. 3

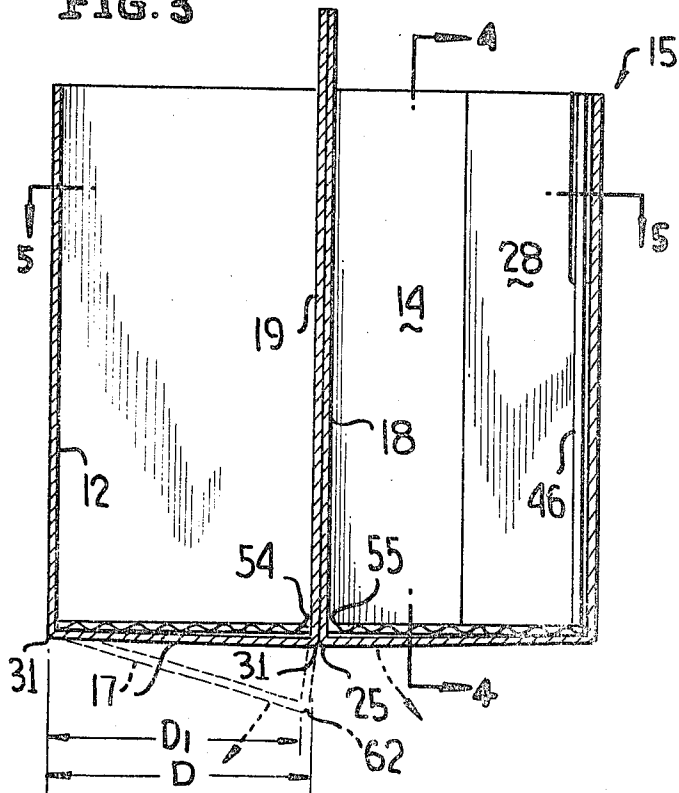


FIG. 4

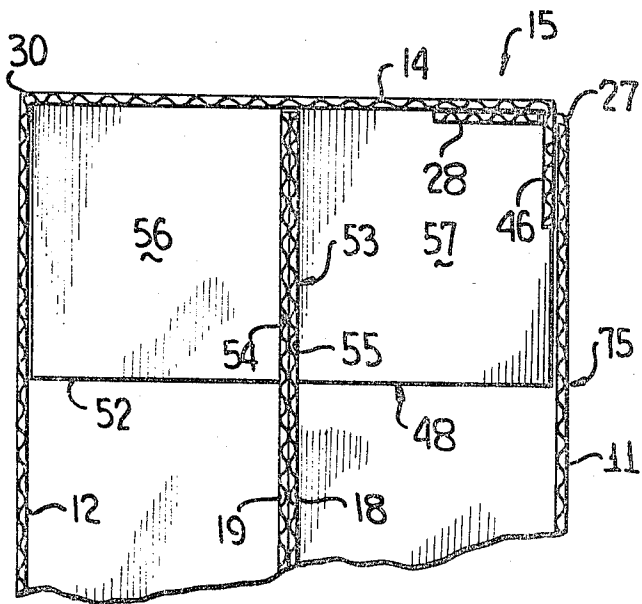
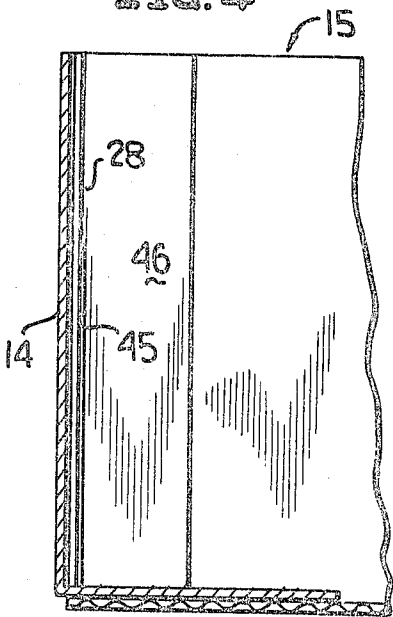
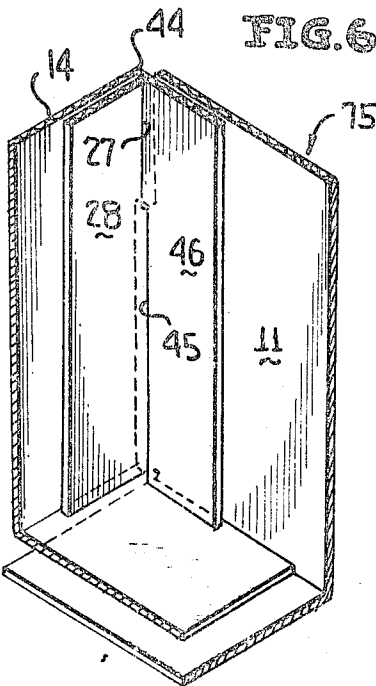


FIG. 5

FIG. 6



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CORRUGATED BOARD BOTTLE CARRIER

A primary object of this invention is to provide a novel carrier or carton, particularly adapted to hold bottles, cans, or similar containers in which is packaged liquid edible products, such as soda, beer, etc., the carton being defined by a pair of side panels, a pair of end panels, a pair of bottom panels, and a pair of upwardly directed partition panels, each of the end panels includes a flap provided with a slot having a width generally corresponding to the total thickness of the partition panels, and the partition panels being disposed within the slots whereby a frictional and a camming interlock is achieved to prevent inadvertent disassembly of the carton.

Another object of this invention is to provide a novel carton of the type heretofore set forth wherein one of the side panels and one of the end panels includes oppositely axially directed interlock flaps for maintaining the tubular configuration of the carton body.

With the above and other objects in view that will hereinafter appear, the nature of the invention will be more clearly understood by reference to the following detailed description, the appended claimed subject matter, and the several views illustrated in the accompanying drawings.

In the Drawings:

FIG. 1 is a top perspective view of a novel carton constructed in accordance with this invention, and illustrates a pair of partition panels projecting upwardly into and being interlocked with a pair of slots formed in flaps joined to end panels of the carton body.

FIG. 2 is a plan view of a blank from which the carton of FIG. 1 is constructed, and illustrates the specific manner in which various panels of the blank are joined to each other along fold lines.

FIG. 3 is an enlarged cross-sectional view taken generally along line 3-3 of FIG. 1, and more specifically illustrates the manner in which the partition panels are in frictional interlocking engagement with edges of the slot of one of the flaps.

FIG. 4 is a cross-sectional view taken generally along line 4-4 of FIG. 3, and illustrates the manner in which oppositely axially directed flaps of a side panel and an end panel are interlocked to maintain the tubular configuration of the carton body.

FIG. 5 is a fragmentary cross-sectional view taken generally along line 5-5 of FIG. 3, and more clearly illustrates the manner in which the partition panels project upwardly through the slot of the end panel flap.

FIG. 6 is a perspective sectional view of the right-hand corner of the carton illustrated in FIG. 5, and more clearly illustrates the interlocking engagement of the oppositely axially directed flaps.

Referring first to FIG. 2 of the drawings, a novel carton blank is generally designated by the reference numeral 10, and is adapted to be set up to form the carton or carrier 15 of FIG. 1. The blank 10 is preferably constructed from corrugated board and includes a pair of generally rectangular side panels 11, 12, a pair of end panels 13, 14, a pair of bottom panels 16, 17, and a pair of partition panels 18, 19 terminating at handle-gripping panels 20, 21.

The side panel 11 is defined by a portion of a longitudinal edge 23, a fold line 24, a fold line 25, a fold line 26, and a slot 27 formed in a flap 28 joined to the side panel 11 along the fold line 26.

The side panel 12 is similarly set off by a portion of the longitudinal edge 23, a fold line 30, a fold line 31 and a fold line 32. The end panel 13 is set off between the fold lines 24, 32, a portion of the edge 23, and a fold line 33 which additionally joins a flap 34 to the end panel 13. The flap 34 is defined by the fold line 33, severance lines 35, 36, and a terminal edge 37 through which outwardly opens a slot 38 which divides the flap 34 into flap portions 40, 41. Parallel edges 42, 43 of the slot 38 define the transverse width of the slot which, as will be more apparent hereafter, corresponds generally to the combined thickness of the partition panels 18, 19.

The end panel 14 is set off by the fold line 30, a portion of the longitudinal edge 23, a fold line 44, a slot 45 formed in a

flap 46 joined to the end panel 14 along the fold line 44, and a fold line 47 which joins a flap 48 to the end panel 14.

The flap 48 is identical to the flap 34 and is defined by the fold line 47, a severance line 50, an edge 51, and a terminal edge 52 through which outwardly opens a slot 53 having a width defined by generally parallel edges 54, 55. The slot 53 divides the flap 54 into a pair of flap portions 56, 57.

The bottom panel 16 is set off by the fold line 25, the severance line 35, a fold line 60 and a portion of a transverse edge 61, while the bottom panel 17 is similarly set off by the fold line 31, the severance lines 36, 50, and a fold line 62.

The partition panel 18 is set off by the fold line 60, a portion of the edge 61, an edge 63 and a fold line 64 which joins the handle-forming panel 20 to the partition panel 18. The partition panel 18 also includes a fold line 65 between and parallel to the fold lines 60, 64. The fold lines 64, 65 function to facilitate the insertion of the partition panel 18 upwardly into and between the slots 38, 53, as will be described more fully hereafter.

The partition panel 19 is set off by the fold line 62, a pair of parallel edges 66, 67 and a fold line 68 along which the handle-forming panel 21 is joined to the partition panel 19. The partition panel 19 is likewise divided with a fold line 70 which in conjunction with the fold line 68 facilitates the introduction of the partition panel 19 into the slots 38, 53.

The handle-forming panels 20, 21 are provided with respective openings 71, 72.

The carton blank 10 of FIG. 2 is set up to form the carton 15 by folding the panels 11 through 14, 28 and 46 about the fold lines 24, 26, 30, 32 and 44 to form a generally tubular body 75 which is maintained in the tubular configuration thereof by interlocking the slots 27, 45 of the respective oppositely axially directed flaps 28, 46, in the manner clearly illustrated in FIGS. 1 and 6 of the drawings.

After the end and side panels have been folded to the general configuration shown in FIG. 1, the flaps 34, 48 are folded to the positions shown in FIGS. 1, 3 and 4 normal to the respective end panels 13, 14. When so positioned, the handle-forming panels 20, 21, the partition panels 18, 19 and the bottom panels 16, 17 can be folded toward the longitudinal centerline of the carton body and upwardly to the final position shown in FIGS. 1, 3, 4 and 5.

Reference is now made particularly to FIGS. 3 and 5 which illustrate that the combined thickness of the partition panels 18, 19 corresponds to the width of the slot 53 as defined by the parallel edges 54, 55 thereof. This same relationship also exists between the slot 38 and the partition panels 18, 19. Therefore, when the partition panels 18, 19 are completely projected through the slots 38, 53 with the bottom panels 16, 17 adjacent and generally parallel to the flaps 34, 48, the edges 42, 43 and 54, 55 of the slots 38, 53, respectively, bear against and frictionally engage the surfaces of the partition panels 18, 19, as best illustrated in FIGS. 3 and 5, thereby maintaining the carton 15 in the setup position. In addition, any tendency of the partition panels 18, 19 to move downwardly through the slots is not only resisted but a camming action is effected between the edges of the slots and the partition panels 18, 19. This camming action can be best visualized by referring to FIG. 3 wherein the bottom panel 17 is shown in a phantom outline position tending to pivot downwardly and outwardly about the fold line 31. During such pivoting movement the distance D between the partition panel 19 and the fold line 31 in the fully seated position is progressively foreshortened as at D1 as the fold line 62 moves away from the longitudinal center line of the carton body toward the adjacent side panel 12. This results in a camming action between the edge 54 of the slot 53 and thereby prevents the inadvertent or accidental disassembly of the carton 15, it being noted at the same time that during any downward pivoting movement of the bottom panels 16, 17, the flaps 34, 48 cannot pivot downwardly because the edges (unnumbered) thereof adjacent the fold lines 25, 31 are supported by the respective bottom panels 16, 17. Therefore, the edge of each slot 38, 53 functions not only

to frictionally engage and retain the partition panels 18, 19 in the solid outline position shown in FIG. 3, but also effect the camming action heretofore noted to prevent disengagement if and when the partition panels 18, 19 tend to move downwardly outwardly of the slots 38, 53.

While preferred forms and arrangements of parts have been shown in illustrating the invention, it is to be clearly understood that various changes in details and arrangement of parts may be made without departing from the spirit and scope of this disclosure.

I claim:

1. A carton blank comprising a pair of side panels, an end panel between said side panels and being joined thereto along a pair of generally parallel fold lines, a bottom panel joined to each side along an associated fold line, a partition panel joined to each bottom panel along an associated fold line, a flap joined to said end panel along a fold line and being disposed between said bottom panels, a slot in said flap opening outwardly through a terminal edge portion of said flap in a direction generally normal to said last-mentioned fold line for receiving said partition panels upon setting up the blank to form a carton therefrom, said slot being of a width corresponding generally to the combined thicknesses of said partition panels, the width of each bottom panel corresponds generally to the transverse distance between each side panel and an adjacent edge of said slot thereby effecting a camming interlock between the slot edges and the partition panels upon downward movement of the partition panels and pivoting of the bottom panels about fold lines joining the latter to the side panels, another end panel joined to one of said side panels along an associated fold line generally parallel to said pair of fold lines, said another end panel and the side panel remote therefrom carrying cooperative interlocking means for maintaining said side and end panels in a generally tubular configuration in the setup condition of the carton, said cooperative interlocking means being a locking flap carried by said another end panel and said remote side panel, each locking flap includes a locking slot disposed generally parallel to said pair of fold lines, and said locking slots open in opposite directions through terminal edge portions of said locking flaps.

2. A carton comprising a generally tubular carton body defined by pairs of side and end panels disposed in upstanding relationship to a bottom wall, said bottom wall being defined by a pair of bottom panels each joined by a fold line to one of said side panels, a partition panel joined to each of said bottom panels, said partition panels being in relative contiguous relationship in generally parallel relationship to said side panels and normal to said bottom wall, a flap carried by each of said end panels interiorly of and in overlying relationship to said bottom wall, a slot in each flap through which upwardly projects said partition panels, the width of each slot corresponding generally to the combined thickness of said partition panels for bearing thereagainst and preventing inadvertent disassembly of said carton by downward movement of said partition panels through said slots, the width of said bottom panels corresponding generally to the transverse distance between each side panel and an adjacent edge of each slot

thereby effecting a camming interlock between each slot edge and the partition panels upon downward movement of the partition panels and pivoting of the bottom panels about fold lines joining the latter to the side panels.

3. The carton as defined in claim 2 wherein one of said end panels and one of said side panels includes oppositely axially directed interlocked flaps for maintaining the tubular configuration of said body.

4. The carton blank as defined in claim 1 wherein said end and side panels have a common straight line terminal edge.

5. The carton as defined in claim 2 wherein said side and end panels have a common straight line terminal edge.

6. A carton blank comprising a pair of side panels, an end panel between said side panels and being joined thereto along a pair of generally parallel fold lines, a bottom panel joined to each side panel along an associated fold line, a partition panel joined to each bottom panel along an associated fold line, a flap joined to said end panel along a fold line and being disposed between said bottom panels, a slot in said flap opening outwardly through a terminal edge portion of said flap in a direction generally normal to said last-mentioned fold line for receiving said partition panels upon setting up the blank to form a carton therefrom, said slot being of a width corresponding generally to the combined thicknesses of said partition panels, and the width of each bottom panel corresponds generally to the transverse distance between each side panel and an adjacent edge of said slot thereby effecting a camming interlock between slot edge and the partition panels upon downward movement of the partition panels and pivoting of the bottom panels about fold lines joining the latter to the side panels, another end panel joined to one of said side panels along an associated fold line generally parallel to said pair of fold lines, another flap joined to said another end panel along a fold line, another slot in said another flap opening outwardly through a terminal edge portion of said another flap in a direction generally normal to said last-mentioned fold line for receiving said partition panels upon setting up the blank to form a carton therefrom, the width of said another slot corresponding generally to the combined thickness of said partition panels for bearing thereagainst and preventing inadvertent disassembly of said carton by downward movement of said partition panels through said slot, the width of said bottom panels corresponding generally to the transverse distance between each side panel and an adjacent edge of said another slot thereby effecting a camming interlock between said another slot edge and the partition panels upon downward movement of the partition panels and pivoting of the bottom panels about fold lines joining the latter to the side panels, said another end panel and the side panel remote therefrom carry cooperative interlocking means for maintaining said side and end panels in a generally tubular configuration in the setup condition of the carton, said cooperative interlocking means is a locking flap carried by said another flap and said remote side panel, each locking flap includes a locking slot disposed generally parallel to said pair of fold lines, and said locking slots open in opposite directions through terminal edge portions of said locking flaps.

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