

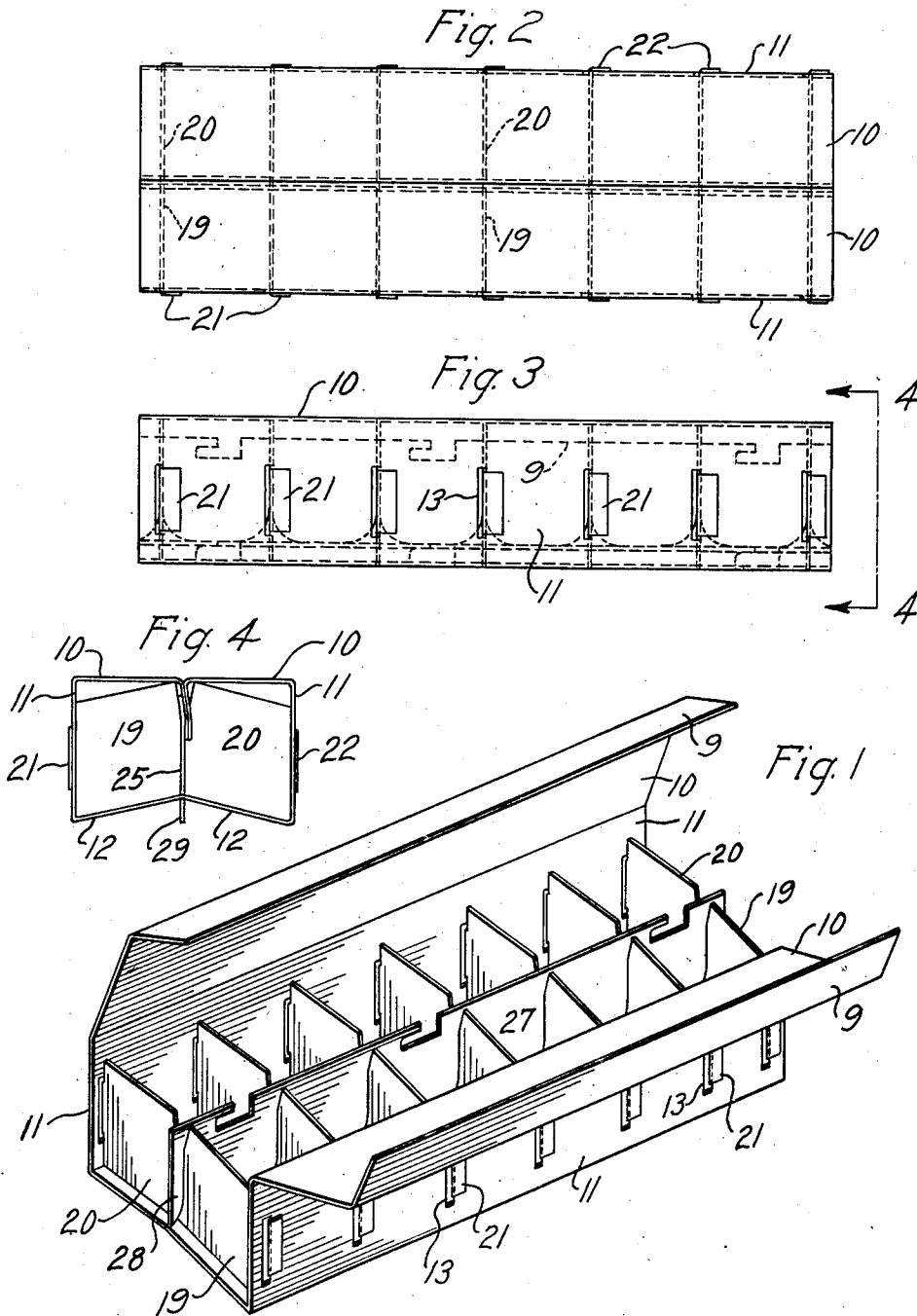
March 21, 1944.

M. H. SIDEBOTHAM
COLLAPSIBLE EGG CARTON

2,344,567

Filed July 16, 1942

4 Sheets-Sheet 1



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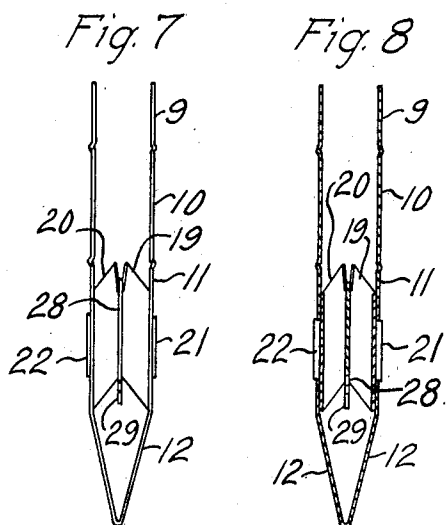
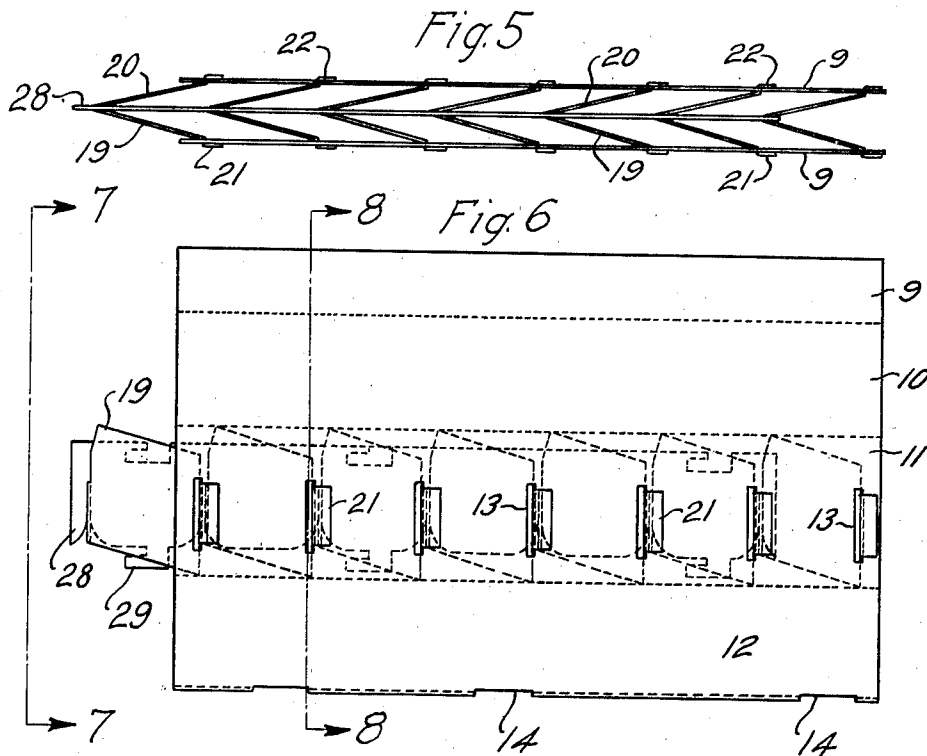
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Fig. 9

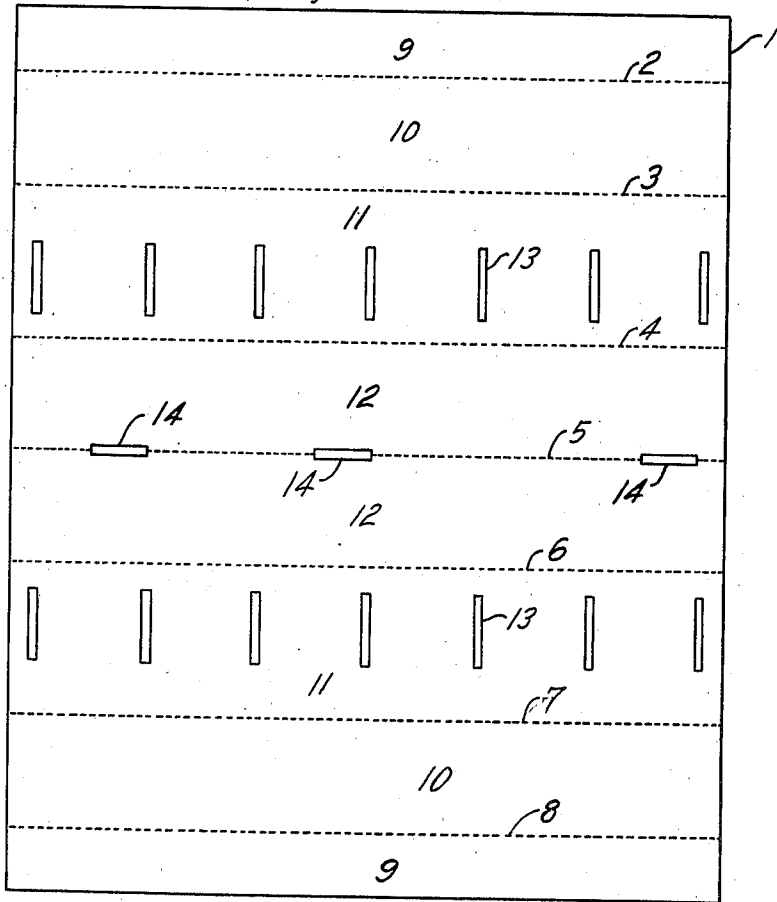
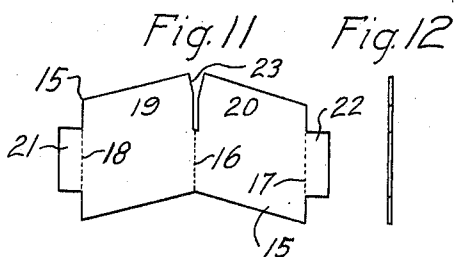


Fig. 10.



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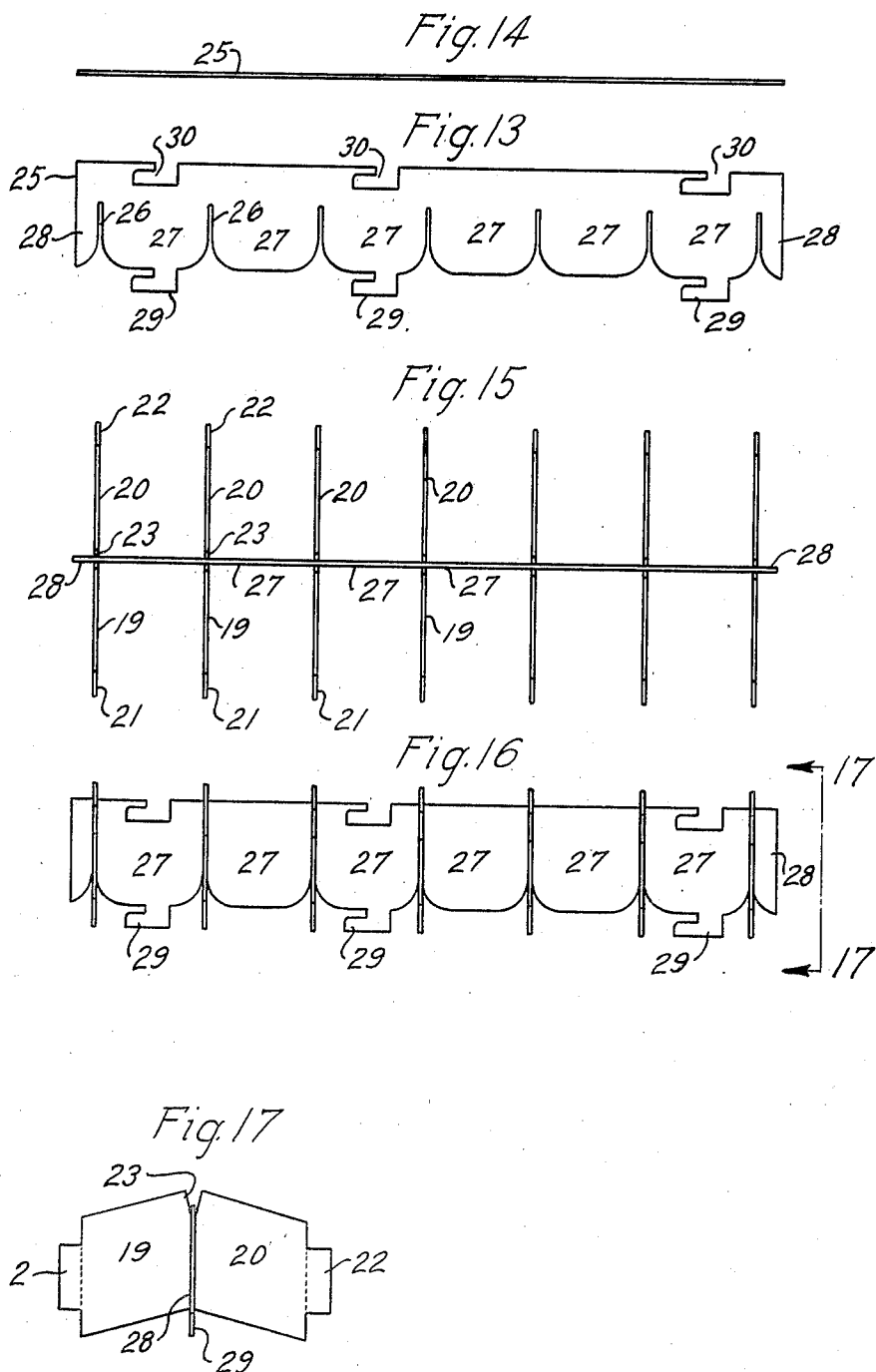
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UNITED STATES PATENT OFFICE

2,344,567

COLLAPSIBLE EGG CARTON

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Application July 16, 1942, Serial No. 451,115

8 Claims. (Cl. 229—28)

This invention relates generally to containers, and more particularly to cartons for packaging eggs and other fragile commodities.

One object of my invention is to provide a carton that is adapted to economical, high speed production by means of automatic machinery.

Another object is to provide an improved carton with partition members adhesively secured to the body of the carton.

Another object is to provide an egg carton, using a minimum of paperboard consistent with the protection required for the commodity.

A further object is the provision of an egg carton that may be set up from collapsed condition quickly and easily.

Other objects and advantages of the invention will be apparent to persons skilled in the art as the same becomes better understood by reference to the following description, taken in connection with the accompanying drawings, in which I have illustrated one typical embodiment of my invention, and wherein:

Figure 1 is a perspective view of the completed carton, with the cover portions folded upwardly in order to better show the partition assembly.

Figure 2 is a plan view of the completed carton.

Figure 3 is an elevation of the completed carton.

Figure 4 is an end elevation of the completed carton, taken at 4—4 of Figure 3.

Figure 5 is a top view of the carton in partially collapsed condition.

Figure 6 is an elevation illustrating the condition of the carton in partially collapsed condition.

Figure 7 is an end elevation of the carton in partially collapsed condition, taken at 7—7 of Figure 6.

Figure 8 is a section at 8—8 of Figure 6.

Figure 9 is a plan view of the cut and creased blank from which the body of the carton is formed.

Figure 10 is an edge view of the blank shown in Figure 9.

Figure 11 is an elevation of one of the transverse partitions before it is assembled with the body blank.

Figure 12 is an edge view of the transverse partition shown in Figure 11.

Figure 13 is an elevation of the longitudinal partition.

Figure 14 is a top view of Figure 13.

Figure 15 is a plan view of the partition assembly comprising one longitudinal partition, and a plurality of transverse partitions.

Figure 16 is an elevation of the partition assembly shown in Figure 15.

Figure 17 is an end elevation of the partition assembly taken at 17—17 of Figure 16.

Similar reference characters indicate similar parts or features in all of the views.

The present invention is embodied in the new and improved 2 x 6 egg carton illustrated in Figures 1 to 4 inclusive. The main element of the carton is composed of a body blank, cut, creased and folded to form the bottom, sidewalls and cover elements. The folded body blank is provided with transverse partitions each having its ends secured to opposite side walls of the said body blank. A longitudinal partition is locked with the mid-portion of each transverse partition to form a plurality of compartments into which the commodities to be packaged are placed.

Figure 9 illustrates the prepared blank from which the body of the carton is formed. The blank may be made of paperboard or other suitable sheet material. The body blank 1 is provided with parallel crease lines 2, 3, 4, 5, 6, 7 and 8 which effect a division of the blank into two tuck sections 9, two cover sections 10, two side walls 11, and two bottom sections 12. The side walls 11 are provided with a plurality of partition slots 13. These slots (13) permit the ends of transverse partitions to be extended from the inside of the carton to the outside walls of the carton where the said ends of the transverse partitions are folded and secured to the outside of the side walls.

Slots 14 are provided, along the crease line 5 dividing the bottom sections, to receive locking members extending from the bottom edge of the longitudinal partition.

The transverse partitions, cut and creased as illustrated in Figures 11 and 12, serve to hold the side walls 11 in parallel position at all times and also to hold the side walls in upright position when the said transverse partitions are at right angles with the side walls.

Referring again to Figure 11 which shows a detailed illustration of one of the transverse partitions 15. Three parallel creased lines 16, 17 and 18 serve to divide the transverse partitions to provide transverse partition sections 19 and 20, and connecting flaps 21 and 22. A recess 23 is provided in each transverse partition 15 to receive and hold in alignment the longitudinal partition 25 (Fig. 13). The tuck sections 9 of the body blank are also inserted in the recesses 23 when the carton is closed.

The detailed construction of the longitudinal

partition 25 is shown in Figures 13 and 14. A plurality of slots 26, extending upwardly from the lower portion of the longitudinal partition, are provided to lock the transverse partitions with the longitudinal partition when the several partitions are assembled as shown in Figures 15 and 16. The said slots 26 divide the longitudinal partition 25 to provide longitudinal partition sections 27 and end sections 28. Locking hooks 29, extending downwardly from one or more of the longitudinal partition sections 27, are provided to lock the longitudinal partition 25 to the bottom sections of the carton when the said hooks 29 are inserted in slots 14 of the body blank, and the hooks brought into engagement with the under surface of the carton bottom. The recesses 30 in the top edge of the longitudinal partition serve no useful purpose other than that they are the result of cutting longitudinal partitions from a sheet of paperboard without waste of material.

The several elements which make up the complete partition assembly (Figs. 15, 16 and 17) are connected together by pressing the longitudinal partition 25 over seven spaced-apart transverse partitions, the sides of slots 26 in the longitudinal partition frictionally engaging the mid- portions of the transverse partitions, and the sides of recesses 23 in the transverse partitions frictionally engaging the adjacent portions of the longitudinal partition.

The partition assembly shown in Figures 15, 16 and 17 is combined with the body blank 1 to make up the complete carton. In combining the partition assembly with the body blank 1 the latter is folded on crease lines 4, 5 and 6 to bring the side walls 11 to vertical position. The partition assembly is placed over bottom sections 12, with the flaps 21 and 22 of the transverse partitions projecting through openings 13 in the side walls 11. The said flaps 21 and 22 are then folded against and are adhesively secured to the corresponding side wall. The hooks 29 on the lower edge of the longitudinal partition are inserted into the slots 14 in the bottom section, and locked to the bottom sections by manipulating the longitudinal partition to bring the said hooks 29 into frictional engagement with the bottom section.

The carton is closed, after the commodities to be packaged have been placed in the compartments formed by the partitions, by folding the cover sections 10 to overlie the partition assembly and then inserting the tuck sections 9 against the longitudinal partition and into the recesses 23 in the transverse partitions.

The cartons are folded for storage and shipment by folding the body blank of the carton on crease line 5, and projecting the longitudinal partition beyond an end margin of the blank, and folding the transverse partitions on crease lines 16, as illustrated by Figures 5, 6, 7 and 8. The said Figures 5, 6, 7 and 8 show the carton partly opened from flat folded condition in order to better illustrate the position of the several parts.

When the carton is to be set up from flat folded condition, the longitudinal partition is drawn to a position with the ends thereof substantially in alignment with the ends of the carton. This action serves to automatically unfold the transverse partitions and to force the side walls apart to a position where the transverse partitions are at substantially right angles to the side walls. The longitudinal partition is

then manipulated to lock the hooks 29 to the bottom sections 12. The carton is closed after filling by closing the cover elements as above described.

The cover elements of the container are shown and described as the preferred form of closure, however, the cover may be of one piece crease-hinged to one side wall and having a tuck flap inserted between the ends of the transverse partitions and the corresponding side wall.

A feature of my invention resides in the construction of the carton whereby the transverse partitions tend to resist the movement of the longitudinal partition in the direction to unlock the hooks 29 from engagement with the bottom of the carton. This resistance is due to the inherent quality of paperboard to resist bending and folding. In order to lock and unlock the hooks 29 from engagement with the bottom of the carton, all of the transverse partitions must be bent at more than ninety degrees on creased lines 17 and 18. The tendency of each transverse partition is to return to flat condition unless it is held from so doing. The operation of hooks 29 serves to hold the partitions in position at ninety degrees with the side walls of the carton.

The only element of my improved carton that is not adhesively secured to the body of the carton is the longitudinal partition, and this element is so securely locked to the transverse partitions that it cannot be removed when the carton is closed without destroying the container.

The transverse partitions of my improved container, being adhesively secured to the side walls, provide a very sturdy carton that is easily set up from collapsed condition without danger of misplacing the parts. The longitudinal partition is controlled by hand or a mechanical device while the carton is being set up and locked in upright position.

My invention is not limited to the embodiment herein shown and described, its scope being set forth in the following claims.

Having now described my invention, what I claim is:

1. An egg carton, comprising a body blank, creased, cut and folded to provide two bottom sections crease-hinged together and having a plurality of horizontal slots therein lying parallel with and interrupting the crease-hinge; two parallel, upright side walls, each crease-hinged to the corresponding bottom section and having seven vertical slots therein; two cover sections each crease-hinged to the corresponding wall section; two tuck sections each crease-hinged to the corresponding cover section; seven transverse partitions positioned between and at right angles with the side walls, and each being provided with a locking slot extending downwardly from the midpoint of its upper edge; opposite flaps on each transverse partition extending through the vertical slots in the side walls and being folded against and adhesively secured to the adjacent outside surface of the corresponding side wall; and a longitudinal partition positioned in the locking slots in the transverse partitions; and locking hooks provided on the lower edge of the longitudinal partition, projecting through the slots in the bottom and engaging the outside surface of the bottom.

2. An egg carton, comprising a body blank, creased, cut and folded to provide two bottom sections crease-hinged together and having a plurality of horizontal slots therein lying parallel

with and interrupting the crease-hinge; two parallel, upright side walls each crease-hinged to the corresponding bottom section and each having a plurality of vertical slots therein; two cover sections each crease-hinged to the corresponding wall section; two tuck sections each crease-hinged to the corresponding cover section; a plurality of transverse partitions positioned between, and at right angles with the side walls, each transverse partition being provided with a locking slot extending downwardly from the mid-area of its upper edge; opposite flaps on each transverse partition, extending through the vertical slots in the side walls and being folded against and adhesively secured to the adjacent outside surface of the corresponding side wall; a longitudinal partition positioned in the locking slots provided in the transverse partitions; and locking hooks, on the lower portion of the longitudinal partition, projecting through slots in the bottom sections and engaging the outside surface of the bottom.

3. A carton, comprising a body blank, creased, cut and folded to provide two bottom sections crease-hinged together and having a horizontal slot therein positioned parallel with and interrupting the crease-hinge; two parallel, upright side walls each crease-hinged to the corresponding bottom section and each having a plurality of vertical slots therein; two cover sections each crease-hinged to the corresponding wall section; two tuck sections each crease-hinged to the corresponding cover section; a plurality of transverse partitions positioned between and at right angles with the side walls, each transverse partition being provided with a locking slot extending downwardly from the midpoint of its upper edge; opposite flaps on each transverse partition extending through the vertical slots in the side walls and being folded against and adhesively secured to the adjacent outside surface of the corresponding side wall; a longitudinal partition positioned in the locking slots provided in the transverse partitions; and locking hooks, on the lower portion of the longitudinal partition, projecting through a slot in the bottom sections and engaging the outside surface of the bottom.

4. A carton, comprising a body blank, creased, cut and folded to provide two bottom sections crease-hinged together and having horizontal slots therein positioned parallel with and interrupting the crease-hinge; two parallel, upright side walls each crease-hinged to one of the bottom sections and each having a plurality of vertical slots cut therein; a cover section crease-hinged to the top edge of one of the side walls; a tuck section crease-hinged to the edge of the cover section opposite to the crease-hinged connection with the side wall; a plurality of transverse partitions positioned between and at right angles with the side walls, each transverse partition being provided with a locking slot extending downwardly from the midpoint of its upper edge; opposite flaps on each transverse partition extending through the vertical slots in the side walls and being folded against and adhesively secured to the adjacent outside surface of the corresponding side wall; a longitudinal partition positioned in the locking slots provided in the transverse partitions; and locking hooks, on the lower portion of the longitudinal partition, projecting through slots in the bottom sections and engaging the outside surface of the bottom.

5. A carton, comprising a body blank, creased, cut and folded to provide two bottom sections crease-hinged together, and having a horizontal slot therein positioned parallel with and interrupting the crease-hinge; two parallel, upright side walls each crease-hinged to the corresponding bottom section and each having a plurality of vertical slots therein; a plurality of transverse partitions positioned between and at right angles with the side walls, each transverse partition being provided with a locking slot extending downwardly from the midpoint of its upper edge; opposite flaps on each transverse partition extending through the vertical slots in the side walls and being folded against and adhesively secured to the adjacent outside surface of the corresponding side wall; a longitudinal partition positioned in the locking slots provided in the transverse partitions; and locking hooks, on the lower portion of the longitudinal partition, projecting through slots in the bottom sections and engaging the outside surface of the bottom.

6. A carton, comprising a body blank, creased, cut and folded to provide two bottom sections crease-hinged together and having a slot therein positioned parallel with and interrupting the crease-hinge; two parallel, upright side walls each crease-hinged to the corresponding bottom section and each having a plurality of vertical slots therein; a plurality of transverse partitions positioned between and at right angles with the side walls, each transverse partition being provided with a locking slot extending downward from the midpoint of its upper edge; opposite flaps on each transverse partition extending through the vertical slots in the side walls and being folded against and adhesively secured to the adjacent outside surface of the corresponding side wall; a longitudinal partition positioned in the locking slots provided in the transverse partitions; and a locking hook, on the lower portion of the longitudinal partition, projecting through a slot in the bottom sections and engaging the outside surface of the bottom.

7. A carton, comprising a body blank creased, cut and folded to provide a bottom having a slot cut in a midportion thereof, upright side walls each having a plurality of vertical slots therein, a plurality of transverse partitions having end flaps which project through the slots in the side walls and are adhesively secured to outside surfaces of the walls of the carton, a longitudinal partition locked with the midportion of each transverse partition, and a locking hook on the bottom of the longitudinal partition, projecting through a slot in the bottom and engaging the outside surface of the bottom.

8. A carton, comprising a body blank creased, cut and folded to provide a bottom having a slot cut in a midportion thereof, upright side walls each having a plurality of vertical slots therein, a cover crease-hinged to one of the side walls; a plurality of transverse partitions having end flaps which project through the slots in the side walls and are adhesively secured to outside surfaces of the walls of the carton; a longitudinal partition locked with the midportion of each transverse partition, a locking hook on the bottom of the longitudinal partition, projecting through a slot in the bottom and engaging the outside surface of the bottom.

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