March 20, 1951 R. A. SAMSING 2,545,589

COLLAPSIBLE CARTON

Filed Dec. 12, 1947 2 Sheets-Sheet 1

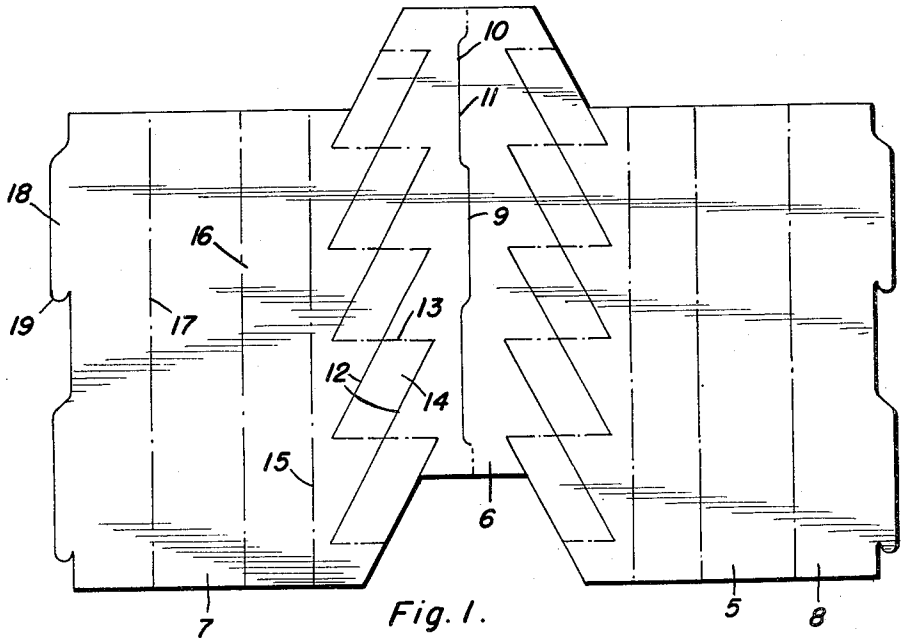


Fig. 1.

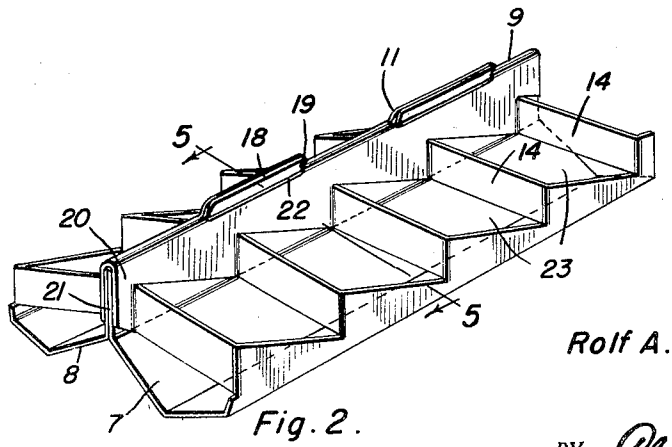


Fig. 2.

Rolf A. Samsing

INVENTOR.

BY Clarence A. O'Brien and Harvey B. Jacobson

Attorneys

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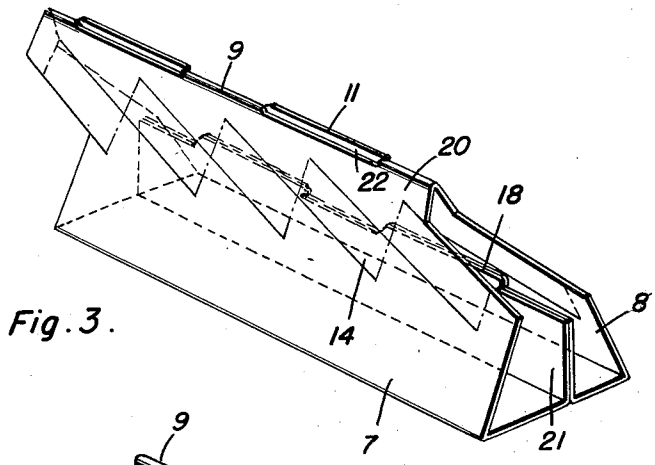


Fig. 3.

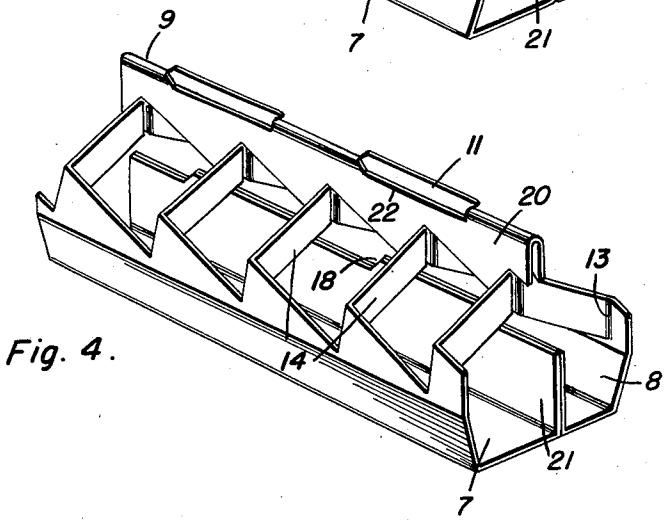


Fig. 4.

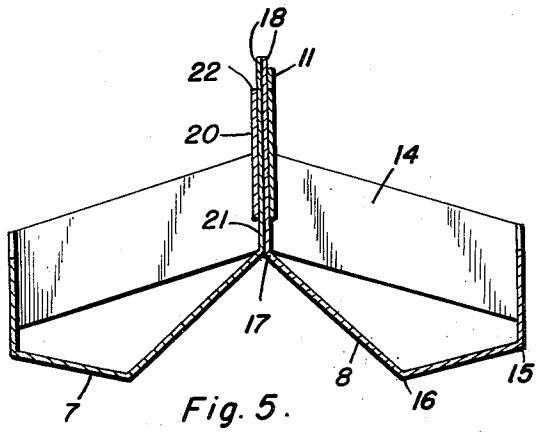


Fig. 5.

Rolf A. Samsing
INVENTOR.

BY Thomas A. O'Brien and Harvey B. Jackson
Attorneys

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# UNITED STATES PATENT OFFICE

2,545,589

## COLLAPSIBLE CARTON

Rolf A. Samsing, Dorchester, Mass.

Application December 12, 1947, Serial No. 791,236

4 Claims. (Cl. 229—28)

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The present invention relates to new and useful improvements in collapsible cartons and more particularly to a tray-like carton constructed to provide individual compartments whereby fruit and other articles may be shipped therein without the danger of damage thereto.

An important object of the invention is to provide a carton of one piece construction in which all of the parts thereof, including the partition or separators are made from a single blank stock and machine cut to provide a tray having a double row of compartments or pockets in which the fruit or other articles may be individually carried and a self locking longitudinal separator between the rows of compartments to hold the carton in its open position.

A still further object is to provide a device of this character of simple and practical construction, which is neat and attractive in appearance, efficient and reliable in use, relatively inexpensive to manufacture and otherwise well adapted for the purposes for which the same is intended.

Other objects and advantages reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a plan view of the carton scored blank foldable to provide the complete self-locking carton.

Figure 2 is a perspective view of the carton in open position.

Figure 3 is a perspective view of the carton in partially open position.

Figure 4 is a similar view of the carton in open position and prior to the locking of the center separator, and

Figure 5 is a transverse sectional view taken substantially on the line 5—5 of Figure 2.

Referring now to the drawings in detail wherein for the purpose of illustration I have disclosed a preferred embodiment of the invention the blank of card board or other suitable material from which the carton is constructed is shown at 5 and is of substantially rectangular shape and includes a central portion 6 and wing portions 7 and 8 at each side thereof.

The central portion 6 is provided with a medial score line 9 extending transversely of the blank 5 and also provided with cuts or slits 10 in alined longitudinally spaced relation with respect to each other and in offset parallel relation with respect to the score line 9, the split 10 providing reinforcing tabs 11 for a purpose more fully hereinafter described. One edge of the central portion 6 projects outwardly beyond the adjacent edge of the blank 5 and the opposite edge of the central portion 6 is notched to terminate inwardly of its adjacent edge of the blank 5.

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The central portion 6 is provided at each side of its medial line 9 with space parallel diagonal slits or cuts 12 and score lines 13 at the ends of the slits extending at an acute angle with respect thereto and longitudinally with respect to the blank 5. The score lines 13 are also disposed at right angles to the medial line 9 for the central portion 6 of the blank is clearly shown in Figure 1 of the drawings.

The slits 12 are arranged in pairs in parallel relation with respect to each other with the score lines 13 at each end of each pair of slits, to provide partitions 14 at each side of the medial line 9 and with one of the slits 12 at one edge of the partitions continuing to provide one of the slits for an adjacent partition.

An inner score line 15 is provided in each of the end or winged portions 7 and 8 of the blank immediately adjacent the partitions 14 and parallel to the medial line 9, and an intermediate score line 16 extends parallel to the inner score line 15 in each wing or end portion of the blank, and an outer score line 17 extends parallel to the score lines 15 and 16 in each wing or end portion.

The outer edges of the wing or end portions 7 and 8 are cut to provide a pair of elongated locking tabs 18 each having an extension at one end to provide a locking hook 19.

The central section 6 of the blank is folded downwardly along the score line 9 to provide a central, inverted, channel-shaped longitudinal separator 20 and the edges of the end or wing sections 7 and 8 are folded inwardly under the central section 6 and upwardly with the tabs 18 in confronting relation to each other and are cemented, stapled, or otherwise suitably secured together to form a longitudinal locking separator 21 slidable in the separator 20. To facilitate storing and shipping of the carton in a folded position, the same is folded on the intermediate score lines 16 so that the partitions 14 at each side of the medial line 9 lie flatly at opposite sides of the central separators 20 and 21.

When it is desired to open the carton, the protruding end of the separator 20 is pressed inwardly longitudinally of the separator 21 while the opposite end of the separator 21 is held stationary and the opposite pressure longitudinally on the separators will cause the partitions 14 to spread outwardly at their fold lines 13 into a

position transversely of the central separators 20 and 21 and force the adjacent portions of the end or wing sections 7 and 8 outwardly for folding along their score lines into the position shown in Figure 4 to form the sides of the carton.

The folding of the central section 6 along the medial line 9 forms elongated openings 22 at the slits 10 with the tabs 11 projecting upwardly at one side of the openings, and the locking tabs 18 are then inserted upwardly in the openings, and locked by the extensions 19. The tabs 11 reinforce the locking tabs 18 to prevent bending thereof.

The partitions 14 thus define a row of compartments 23 at each side of carton separated by the central separators 20 and 21 and within which fruit or other fragile or easily damaged articles may be safely shipped or carried.

Inserting the locking tabs 18 upwardly in the openings 22 serves to fold the wings 7, 8 upwardly along the score lines 15, 16, 17 to form the bottom of the carton in V-shaped in cross section at opposite sides of the separator 20 with the partitions 14 raised above said bottom for circulation of air under said partitions at both sides of the separator 20, and sliding the separators 20, 21, as described, serves to arrange said partitions 14 in planes perpendicular to said bottom.

In view of the foregoing description taken in conjunction with the accompanying drawings it is believed that a clear understanding of the device will be quite apparent to those skilled in this art. A more detailed description is accordingly deemed unnecessary.

It is to be understood, however, that even though there is herein shown and described a preferred embodiment of the invention the same is susceptible to certain changes fully comprehended by the spirit of the invention as herein described and the scope of the appended claims.

Having described the invention, what is claimed as new is:

1. A collapsible carton comprising a one-piece blank cut, scored and folded to provide a tray having an upstanding longitudinal partition, an inverted channel shaped slide telescoped over the partition, transverse partitions foldably connected at their ends to the sides of the slide and to the side walls of the tray to form a double row of compartments in the tray, said transverse partitions being foldable against the opposite sides of the slide upon a movement of the slide in one direction and said transverse partitions spreading the sides of the tray and bracing the same upon an opposite movement of the slide, and



means locking the slide to hold the tray in open position.

2. A collapsible carton comprising a one-piece blank cut, scored and folded to provide a tray having an upstanding longitudinal partition, an inverted channel shaped slide telescoped over the partition, transverse partitions foldably connected at their ends to the sides of the slide and to the side walls of the tray to form a double row of compartments in the tray, said transverse partitions being foldable against the opposite sides of the slide upon a movement of the slide in one direction and said transverse partitions spreading the sides of the tray and bracing the same upon an opposite movement of the slide, and means locking the slide to hold the tray in open position, said means comprising interlocking tongues and slots between the slide and the longitudinal partition.

3. A carton comprising an elongated tray formed of a sheet of folded material and embodying a longitudinal central divider of inverted channel shape, said tray having sides, and wings folded on said sides and toward said divider and additionally folded to form a bottom for the tray of V-shape in cross section at opposite sides of the divider, said wings terminating in folded edges inserted upwardly side by side in said divider to maintain said wings folded.

4. A carton comprising an elongated tray formed of a sheet of folded material and embodying a longitudinal central divider of inverted channel shape, said tray having sides, and wings folded on said sides and toward said divider and additional folded to form a bottom for the tray of V-shape in cross section at opposite sides of the divider, said wings terminating in folded edges inserted upwardly side by side in said divider to maintain said wings folded, said tray further embodying partition members therein extending from said divider to said sides in planes perpendicular to said bottom.

ROLF A. SAMSING.


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