Feb. 20, 1940. G. C. NYDEGGER 2,190,846

COLLAPSIBLE BOX OR CARTON

Filed June 7, 1937 4 Sheets-Sheet 1

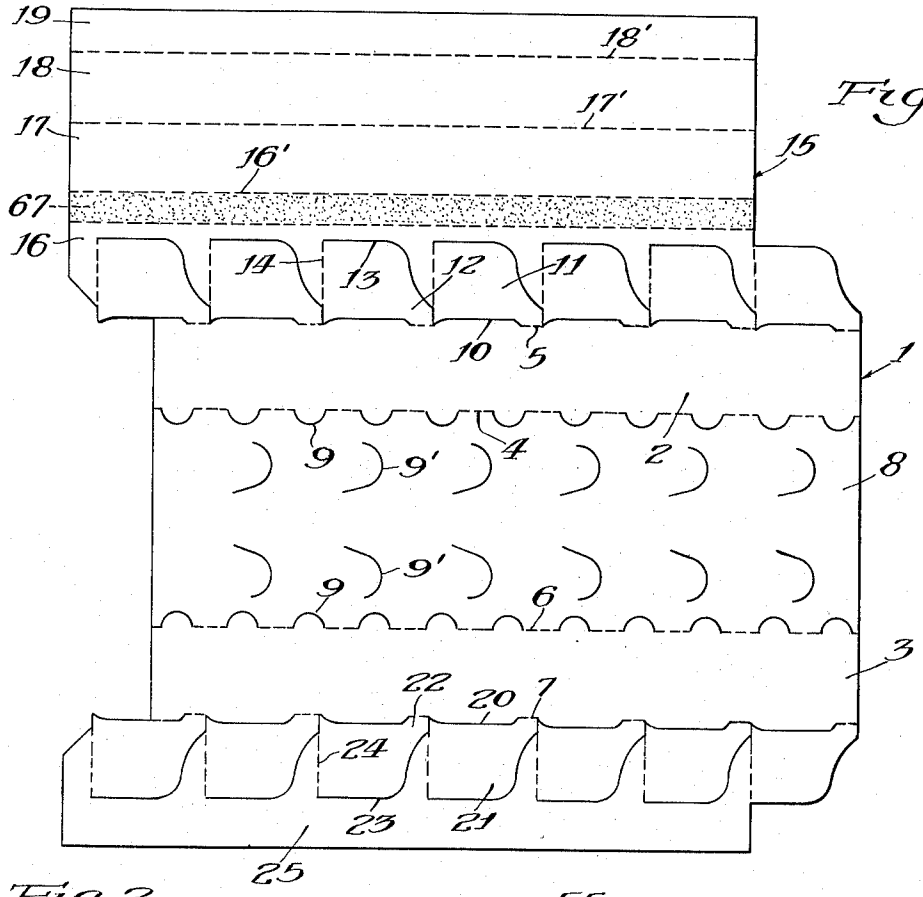
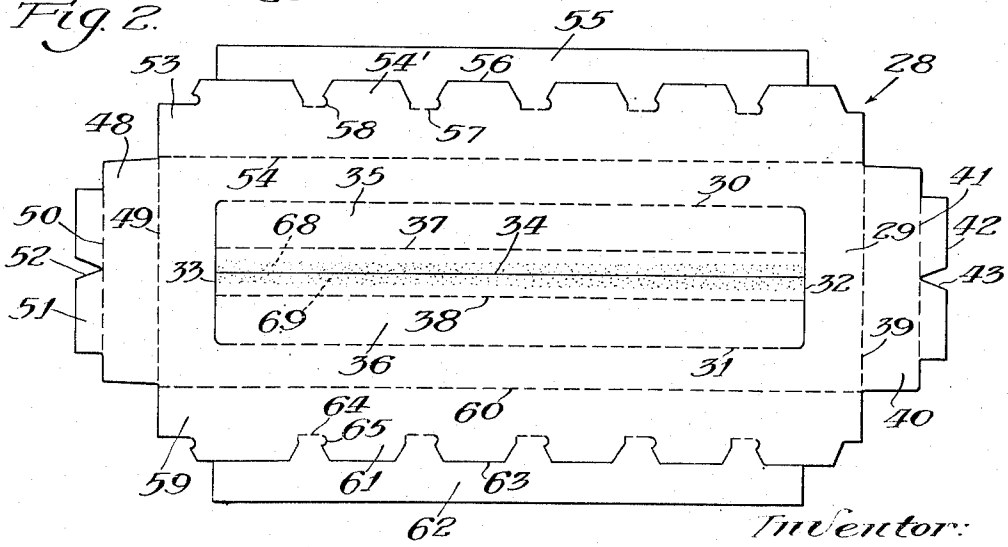


Fig. 1.

Fig. 2.



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Fig. 3.

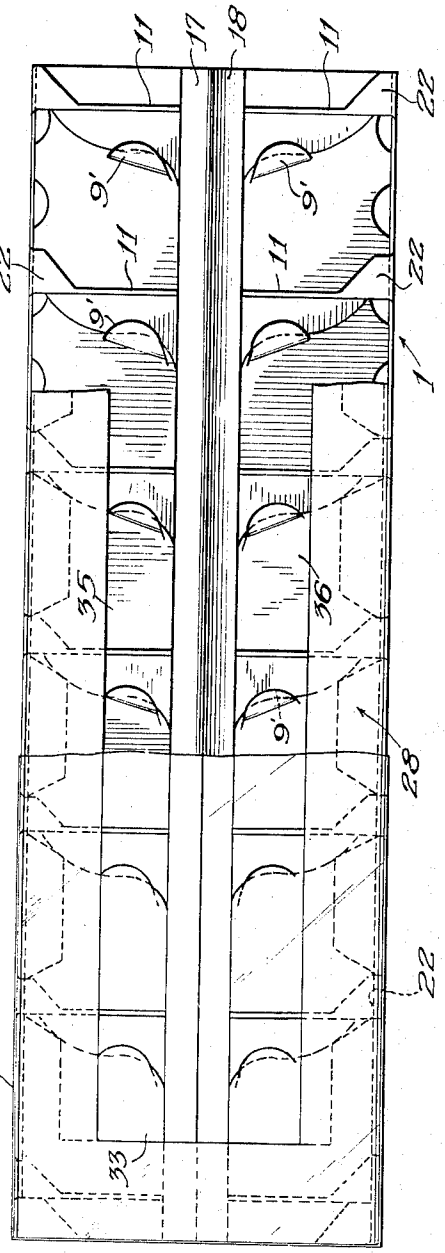
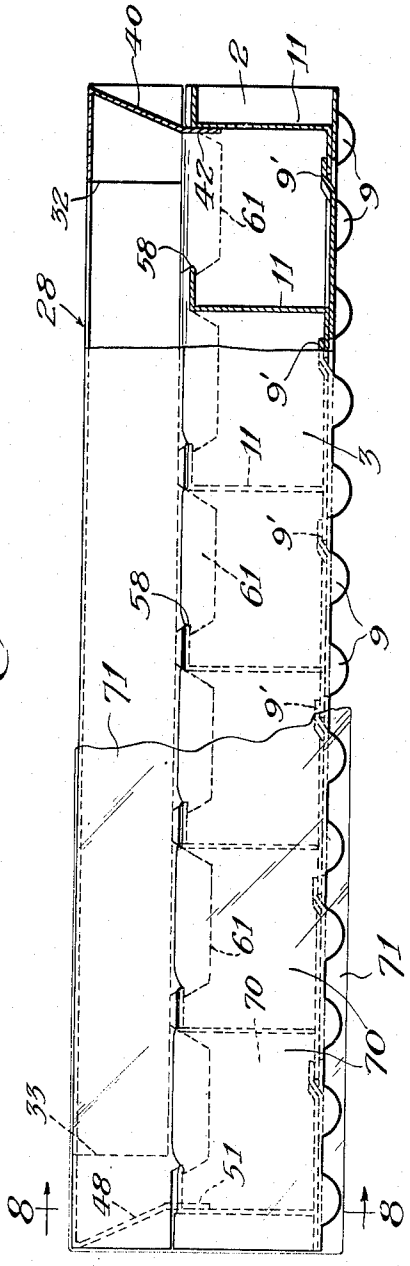


Fig. 4.



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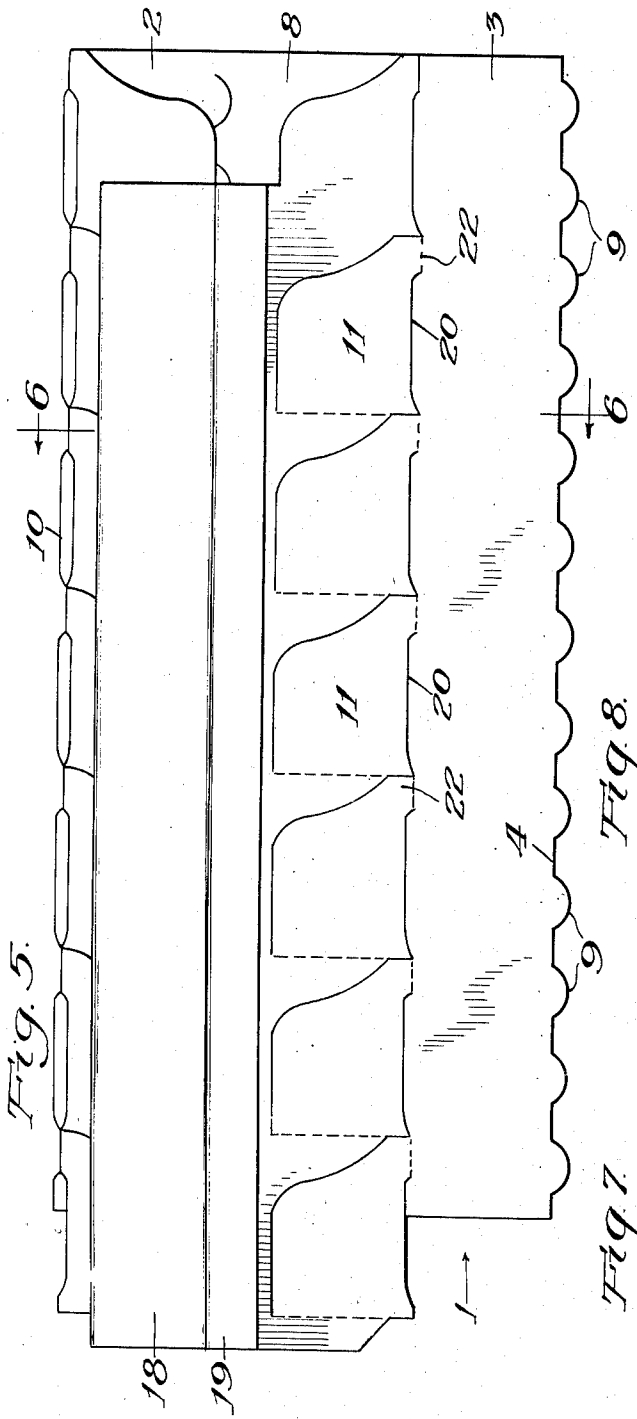


Fig. 5.

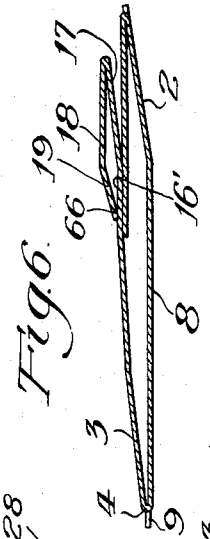


Fig. 6.

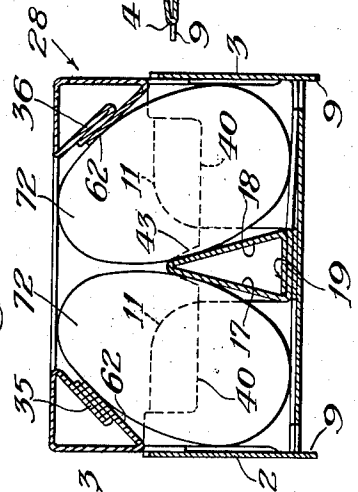


Fig. 8.

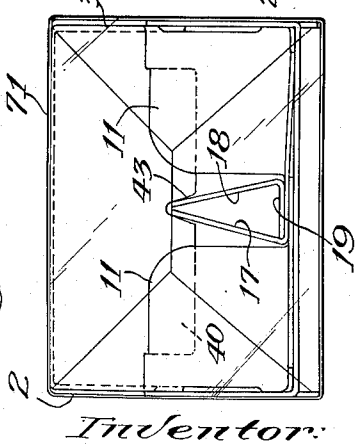


Fig. 7.

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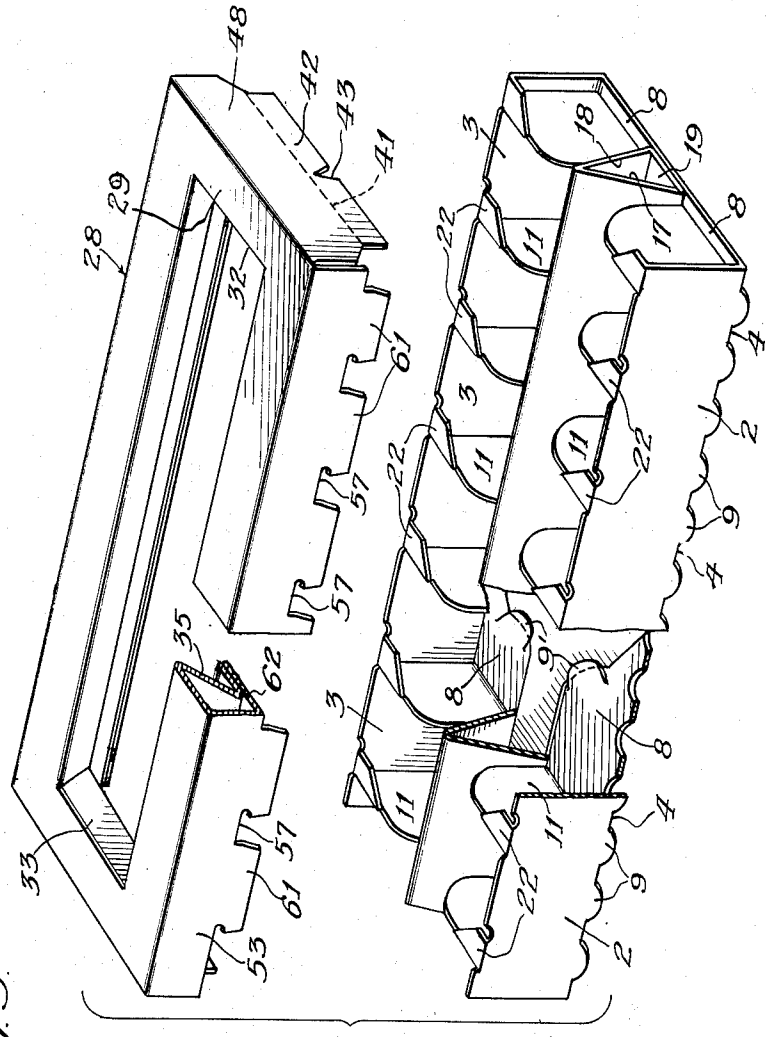


Fig. 9.

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UNITED STATES PATENT OFFICE

2,190,846

COLLAPSIBLE BOX OR CARTON

George C. Nydegger, Chicago, Ill.

Application June 7, 1937, Serial No. 146,755

9 Claims. (Cl. 229—29)

My invention relates to improvements in an inexpensive collapsible box or carton, and particularly to a box or carton for carrying eggs, fruit or other frangible articles.

An object of my invention is to provide a simple and easily assembled carton capable of housing a plurality of such articles in such a manner as to prevent breakage.

Another object is the provision of a carton from a single blank of material which may be collapsed into flattened condition for shipping and storage.

A further object is the provision of a carton of the class described which, while securely cushioning the articles contained therein will permit of their inspection without opening the carton.

An additional object is to provide a carton of the type described in which the bottom or sectional cushioning portion may be separate from the top or closing section of the carton.

These and other objects will be apparent from a consideration of the following description of my invention and by reference to the accompanying drawings, in which

Fig. 1 is a development of the blank from which the bottom or container portion of my carton is constructed.

Fig. 2 is a development of the blank from which the cover of the carton is constructed.

Fig. 3 is a top plan view of my invention showing the carton in assembled position with parts broken away to show the interior thereof.

Fig. 4 is a side view showing a partial vertical section with parts broken away.

Fig. 5 is a plan view showing the carton in collapsed position.

Fig. 6 is a cross-sectional view taken on line 6—6 of Fig. 5 showing the carton in collapsed position.

Fig. 7 is an end view of the carton with the cover in assembled position.

Fig. 8 is a cross-sectional view taken on line 8—8 of Fig. 4.

Fig. 9 is a perspective view of the bottom portion of the carton, with parts broken away to show the interlocking tabs, together with a perspective view of the cover which may be associated with the bottom portion of the carton.

Referring more in detail to the drawings, the numeral 1 indicates a blank constructed of fibrous material, such as cardboard, pasteboard or the like, which is appropriately cut and scored to provide the various structural elements comprising my improved carton. The blank 1 includes two imperforate sections 2 and 3 which, as will be hereinafter more fully described, comprise the side walls of the finished or assembled carton. The section 2 is defined by score lines or lines of fold 4 and 5 which are positioned in spaced relationship with respect to each other, and the section 3 is defined by score lines or lines of fold 6 and 7 which are also positioned in spaced relationship with respect to each other. The score lines 4 and 6 define a base or bottom portion 8 of the carton. Score lines 4 and 6 are severed at spaced intervals to provide lugs 9 which, as will be hereinafter more fully described, constitute the legs or base upon which the carton rests. These legs may be rounded, rectangular or of any desired shape. Curvilinear slots 9' may be provided at spaced intervals within the base 8 to permit the carton to be locked in fixed position, as will be later explained.

The lines of fold 5 may be severed at spaced intervals as shown at 10 to provide cross partitions 11 which are connected to the line of fold 5 by hinges or web members 12. The partitions 11 may be severed along curvilinear line 13, and folds 14 may be provided at one outer edge thereof. An outward extending flap 15, which may constitute the central dividing section of my carton, may be divided into sections 16, 17, 18 and 19 by means of score lines 16', 17' and 18', respectively.

In a similar manner, section 3 may be severed at spaced intervals along score line 7, as shown at 20, to provide cross partitions 21 which are connected to the line of fold 7 by hinges or web members 22. The partitions 21 may be severed along curvilinear line 23, and score lines or lines of fold 24 may be provided at one edge thereof which may define an outer section 25.

The numeral 26 indicates a blank constructed of fibrous material, such as cardboard, pasteboard or the like, which may constitute the top or covering portion of the carton. The blank 26 may be appropriately cut and scored to provide the various structural elements comprising the top of my improved carton. The center of blank 26 may be provided with a section 29 which may be severed along vertical lines as shown at 32 and 33. Score lines 30 and 31 may be provided within section 29 and the longitudinal center between score lines 30 and 31 may be severed along line 34 to provide sections 35 and 36, respectively. Sections 35 and 36 may be provided with lines of fold or score lines 37 and 38, respectively, which will permit the center of the cover to be open and exposed as will be hereinafter more fully described.

Section 29 may be provided at one extremity thereof with a line of fold 39 to define section 40. Section 40 may be provided with a score line 41 to define a lug 42, and lug 42 may be provided with a V-shaped slot 43 centrally thereof.

Section 29 may likewise be provided with a section 48 on the opposite extremity thereof which may be separated therefrom by a line of fold 49. The section 48 may be provided with a score line 50 to define an outwardly extending lug 51 which may be provided with a V-shaped slot 52 centrally thereof.

A section 53 may be provided adjacent section 29 and may be defined by a score line 54 along one edge thereof. The section 53 may be provided, at spaced intervals, with outwardly extending lugs 54' which are separated from an outer section 55 by means of lines of severance 56. Section 55 may be hingedly connected to section 53 by means of lines of fold 57. The lugs 54' may be notched as at 58 to provide locking means for the cover of my invention.

In a like manner, a section 59 may be provided at the other extremity of section 29 and may be provided with a line of fold 60. The section 59 may be provided, at spaced intervals, with outwardly extending lugs 61 which are separated from an outer section 62 by means of lines of severance 63. Section 62 may be hingedly connected to section 59 by means of lines of fold 64, and lugs 61 may be provided with notches as indicated at 65 to provide locking means for the side 59 of my cover.

In assembling or folding blank 1 to form the bottom or basket of my improved carton, sections 2 and 3 are folded along the score lines 4 and 5 and provide the outer walls of the carton. When the sections 2 and 3 are folded upwardly, the integrally connected lugs 9 will extend downwardly and will provide legs to support the base 8 and the assembled carton. Section 25 may then be folded inwardly along the fold lines 7 to a position above and parallel with the base 8. Likewise, section 16 may be folded inwardly along the fold lines 5 so that it will rest above and in contact with section 25. In this manner the marginal faces of the strips 16 and 25 are disposed adjacent each other, as indicated at 66 in Fig. 6. An elongated area of adhesive 67 may be provided on the under surface of strip 16 which, upon contacting the face of the section 25 may serve to unite both strips together in the manner illustrated at 66 in Fig. 6. If desired, however, said strips may be disposed in face abutting relationship and maintained in such position by means of stitching, staples or the like (not shown).

The blank may then be folded upwardly along the score line 16' and then folded in a reverse direction along the lines 17' and 18' to form the triangularly-shaped central dividing section 15, the section 19 when in assembled position lying in face abutting relationship with the section 16. By moving the section 15 in folded position forwardly and in a downward direction, the lines of severance 10, 13, 20 and 23 will permit the sections 16 and 25 to be swung to an abutting position parallel to the base 8. The assembling operation is continued further by moving the section 15 in a reverse direction while in abutting relationship with the base 8 to permit the upwardly extending slots 9' to overlap the sections 16 and 25 and thereby lock the carton in assembled position. When in this position a plurality of compartments 70 are provided into each of which eggs 72 may be disposed.

Referring now to Fig. 2, the blank 28, comprising the cover of my invention, may be assembled by folding sections 53 and 59 in a downward direction along the score lines 54 and 60, respectively. Sections 55 and 62 may be hingedly folded inwardly along the lines 57 and 64, respectively, and in view of the severance along lines 56 and 63, the lugs 54' and 61 will protrude in a downward direction. Sections 35 and 36, being severed along the edges 32 and 33 and line 34, may then be folded inwardly along the fold lines 30 and 31, respectively. Sections 35 and 36 may be further folded along score lines 37 and 38, respectively, and the endmost portions thereof brought into overlapping relation with the marginal portions of sections 55 and 62, respectively. These endmost portions of sections 35 and 36 may carry areas of adhesive 68 and 69, respectively, whereby sections 35 and 36 may be adhesively united to the strips 55 and 62, respectively. It will thus be seen that the sections 53 and 59 will be fixed in a downward position to form the sides of my cover, and the center of section 29 will now have a central opening through which the eggs or other contents of the carton will be exposed to view. Sections 40 and 48 may now be folded in a downward manner along the score lines 39 and 49, respectively to form the ends of the cover of my improved carton.

After the carton and the top have been assembled as hereinabove described and the eggs have been inserted in the respective compartments 70, the cover may be positioned upon the top of the carton by inserting the lugs 54' and 61 in the corresponding spaces provided along the longitudinal marginal edges of the carton. By moving the cover in a slight forward manner the slots 58 and 65 will insert themselves under the hinges 12 and 22 on each side of the carton thereby holding the sides of the cover in a locked position on the carton. The end sections 40 and 48 of the cover may be pushed inwardly and by means of the score lines 41 and 50 the lugs 42 and 51 will insert themselves over and against the inner end sections of the carton, the V-shaped notches 43 and 52 tending to define the central dividing section 15 and hold same in locked position.

When eggs or other frangible articles are placed in the carton they will be cushioned by the base 8 and protected from contact with other objects by means of the suspended legs 9 along both marginal sides of the carton. It will also be seen that the strips comprising the sections 35, 55, 36 and 62 will tend to distend inward causing a tension upon the upper portions of the eggs and by forcing them against the resilient dividing section 15 will hold the eggs in a secure manner and will allow them to be handled without danger of breakage.

After the cover has been positioned upon the carton in the manner above described, if desired, the entire carton may be enveloped in "Cellophane," transparent paper, or other covering medium, as indicated at 71 in Figs. 3 and 7. Obviously, this is a decided sales advantage as it will permit the purchaser to observe the condition and appearance of the contents of the carton without opening the package or disturbing the contents thereof.

A carton of this character has many sales advantages over the conventional egg cartons upon the present market. As one advantage,

it can readily be seen that the cover and receptacle portions of the carton can be made in separate operations and can be made of different stocks or grades of material, that is, the cover may be constructed of a costlier grade of material than the base portion. This will permit the printing of advertising matter on the cover alone without the necessity of printing the entire carton.

It is to be understood, of course, that wherever adhesive areas are used to unite the various elements of the carton, stitching, staples or the like are also contemplated to substitute for the adhesive. Moreover, although my invention has been described with specific reference to an egg container, other articles may be packaged in a device embodying the principles of my invention merely by changing the proportions of the various sections.

I claim as my invention:

1. In an egg holder, a base portion comprising longitudinally extending side walls, a plurality of longitudinally spaced partitioning portions, and a longitudinally extending triangularly-shaped member the base thereof being adapted to lie on said base portion, web portions formed integral with the base of said triangular member and said partitioning portions and extending laterally from the base of said triangular member, longitudinally spaced engaging slots formed in the base of said carton and adapted to engage said webs and to hold the base of said triangular portion against the base of said carton and to hold said partitioning portions in fixed vertical position.

2. A carton made from a single blank, cut, scored and folded to form side walls, cross partitions hinged to said walls, a continuous bottom, a longitudinal triangularly-shaped partition forming section extending integral from the cross partitions on one side of said carton and secured to a longitudinal edge of said blank to form an extension from the cross partitions extending from the other side of said carton, the base of said triangularly-shaped member being adapted to lie on the base of said carton and to extend between said partitions, and engaging means formed on the base of said carton adapted to hold the base of said triangularly-shaped partitioning member against the base of said carton and to retain said cross partitions in vertical position.

3. In an egg carton, an egg retaining portion formed of a single blank, cut, scored and folded to define a base member, longitudinally extending side walls, a longitudinally extending triangularly-shaped divisional member and a plurality of longitudinally spaced partitioning portions, said partitioning portions having upper and lower horizontally extending web portions, said upper web portions being integrally joined at the upper edges thereof adjacent the upper edges of said side walls and said lower web portions being joined to the base of said triangularly-shaped member.

4. In a collapsible egg container comprising a single blank, cut, scored and folded and adapted to define a base portion, side walls, supporting members for said base portion and a longitudinal spacing member adapted to lie on the base of said carton and a plurality of longitudinally spaced transversely extending partition members, said partition members having upper and lower horizontally extending web portions, said upper web portions being formed integral with said side members and said lower web portions being formed integral with the base of said longitudinally extending partitioning member, slots formed in the base portion of said carton and adapted to engage said lower web portions and to hold said laterally extending spacing members at right angles to said base and to said sides.

5. In a collapsible egg container comprising a single blank, cut, scored and folded and adapted to define a base portion, side walls, supporting members for said base portion and a longitudinal spacing member adapted to lie on the base of said carton and a plurality of longitudinally spaced transversely extending partition members, said partition members having upper and lower horizontally extending web portions, said upper web portions being formed integral with said side members and said lower web portions being formed integral with the base of said longitudinally extending partitioning member, slots formed in the base portion of said carton and adapted to engage said lower web portions and to hold said laterally extending spacing members at right angles to said base and to said sides, said supporting members extending integrally from the side walls and adapted to hold the base of said carton in spaced relation to a surface upon which the container may be supported.

6. In an article of the class described, a separable cover member comprising a blank cut and scored to define a top, sides and ends, notches formed on said sides and end portions adapted for interlocking engagement with an egg holding carton, longitudinally extending portions formed integral with said sides and foldable inwardly therefrom, said top being cut transversely adjacent the ends thereof and having a single central longitudinal cut extending between said aforementioned cuts to define two longitudinal tabs and to form a sight-opening in said top portion, said longitudinal tabs being scored and adapted to be bent downwardly and secured to the inwardly projecting longitudinal portions extending from said sides.

7. In an article of the class described, a separable cover member comprising a top, sides and ends, said side and end portions being adapted for interlocking engagement with an egg carton, a sight-opening in said top and longitudinal portions formed integral with said top and extending from said sight-opening and adapted to be secured to longitudinal projections formed integral with said sides and to extend at an angle between said top and said sides to form resilient cushioning portions.

8. A carton adapted to hold and retain eggs or the like, comprising a main body portion and a separable cover member therefor adapted for interlocking engagement therewith, said main body portion comprising, a single blank, cut, scored and folded and adapted to define a base portion, side walls, supporting members for said base portion and a longitudinal spacing member adapted to lie on the base of said carton and a plurality of longitudinally spaced transversely extending partition members, said partition members having upper and lower horizontally extending web portions, said upper web portions being formed integral with said side members and said lower web portions being formed integral with the base of said longitudinally extending partitioning member, slots formed in the base portion of said carton and adapted to engage said lower web portions and to hold said laterally extending spacing members at right angles to said base and to said

sides, and said separable cover member comprising a blank cut and scored to define a top, sides and ends, notches formed on said sides and adapted to engage said main body portion and to interlock with the said upper web portions thereof, longitudinally extending portions formed integral with said sides and foldable inwardly therefrom, said top being cut transversely adjacent the ends thereof and having a single central longitudinal cut extending between said aforementioned cuts to define two longitudinal tabs and to form a sight-opening in said top portion, said longitudinal tabs being scored and adapted to be bent downwardly and secured to the inwardly projecting longitudinal portions extending from said sides.

9. A carton adapted to hold and retain eggs or the like, comprising a main body portion and a separable cover member therefor adapted for interlocking engagement therewith, said main body portion comprising, a single blank, cut, scored and folded and adapted to define a base portion, longitudinally extending side walls, a plurality of longitudinally spaced and laterally extending members extending from each of said side walls and a longitudinally extending spacing member extending between said laterally extending members and means for holding said laterally extending members perpendicular to said base and to said sides and a plurality of longitudinally spaced supporting members formed integral with the upper and lower edges of said sides and adapted to extend horizontally therefrom to hold and support said base portion in right angular relation to said sides, said separable cover member comprising a top, sides and ends, said side portions being adapted to interlock with said main body portion and to hold the top of said cover in spaced relation thereto, a sight-opening in said top and longitudinal portions formed integral therewith and extending therefrom and secured to an inwardly turned longitudinal edge extending integrally from the sides of said cover to form an angularly extending resilient cushioning member between the top and sides of said cover, whereby articles placed in said body portion may be held pressed in position against dislodgment therefrom while exposed to view.

GEORGE C. NYDEGGER.