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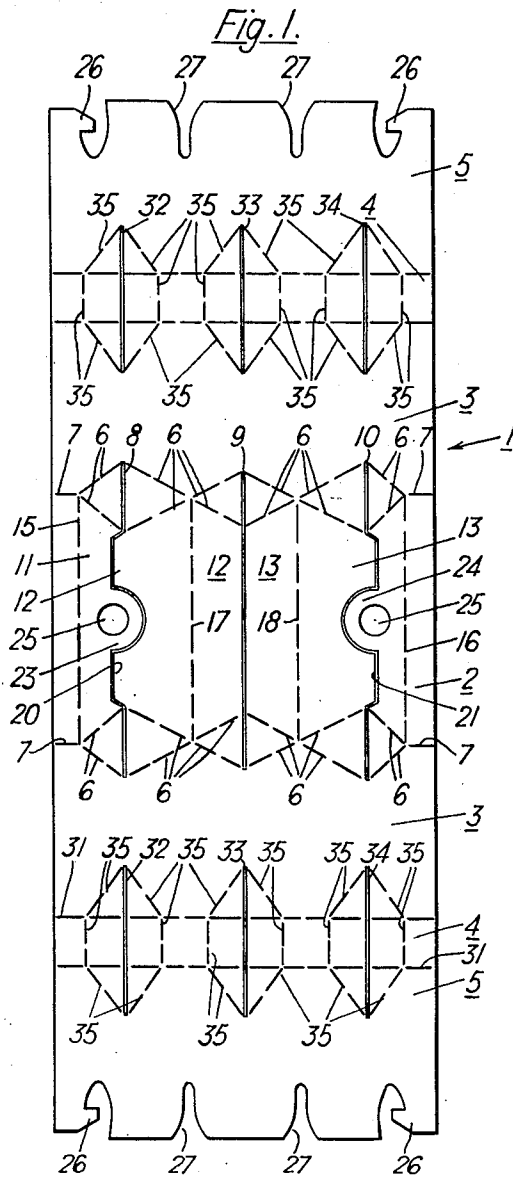
C. SHELDON-WILLIAMS

3,104,794

CARTONS

Filed Nov. 17, 1961

2 Sheets-Sheet 1



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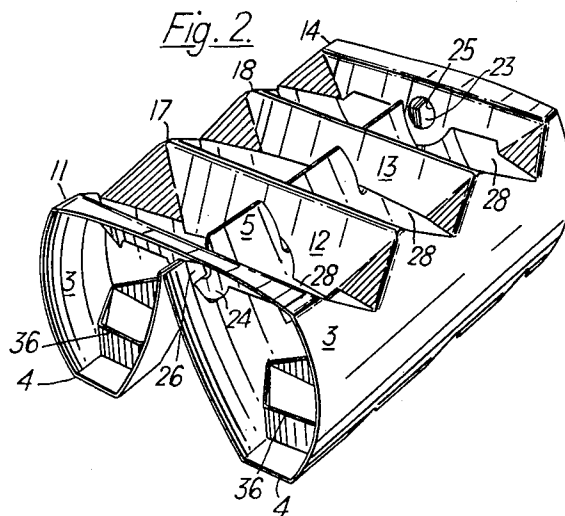
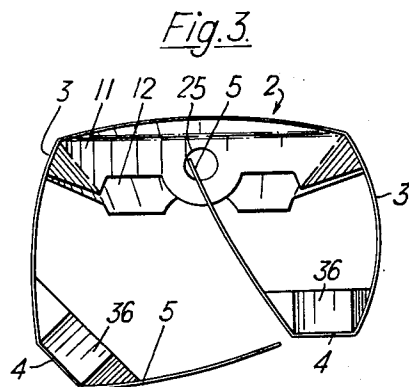
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CARTONS

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This invention is concerned with improvements in or relating to cartons and more particularly cartons having a plurality of cells or compartments therein suitable to receive eggs or like articles.

It is already known to make egg cartons from cardboard blanks, cut and creased to provide a desired number of compartments. Generally the blank has a central panel constituting the top of the assembled carton and further panels on either side of the central panel which are foldable to provide side walls, a bottom wall for the compartments and an upwardly directed central wall or partition which divides the carton into two parallel rows of compartments. The central panel is cut and creased to provide a number of transverse partitions which are slotted to engage with slots or apertures in the central wall or partition. The compartments so formed received the eggs loosely therein with the bottom of the egg resting directly on the bottom wall, which in some cases is the base of the carton. There is therefore in such cartons incomplete protection for eggs.

It is an object of the invention to provide an improved carton of the kind above described in which improved means is provided for supporting the bottoms of the eggs or other articles in the compartments.

According to the invention there is provided a compartmented carton of cardboard or like material for articles such as eggs comprising a top panel cut or apertured to permit insertion of articles therethrough, each side of the top panel having hingedly connected thereto in succession a side wall, and a central longitudinal partition, the base of the carton being formed at the junction of the respective side walls and partitions, and having transverse cuts extending thereacross which permit portions of the base to be folded inwardly of each compartment to provide a seating or support for the bottom of an article disposed in the compartment.

To enable said portions readily to be folded inwardly into their support forming position additional cuts opening into said transverse cuts may be provided so as to form a number of tabs on either side of the transverse cuts, which tabs when folded inwardly form the seating or support. Preferably however the support forming portions of the base on either side of the transverse cuts are provided with fold lines, which are so disposed as to facilitate the erection of the seatings or supports. One convenient way of achieving this is to provide fold lines on either side of each transverse cut which form a hexagonal figure intersected by the transverse cut.

The base of the carton can be simply formed by the junction of a side wall and its central partition, or if desired a substantially flat base can be provided for each row of compartments by providing a pair of parallel fold lines one in the side wall and one in the partition which between them provide a base portion from which the seating or support is formed for the bottom of the articles.

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The said top panel which is cut or apertured to permit insertion of the articles preferably has a number of transverse cuts therein which, divide the panel into a number of strips, each of which is provided with fold lines extending from side to side of the panel so that by means of these fold lines and further fold lines extending in zig-zag fashion along the length of the panel on either side, the strips can be folded to form resilient partitioning strips extending across the top of the carton to define pairs of compartments.

Preferably these strips are folded into the form of downwardly directed V-shaped partitions which not only serve to give rigidity to the carton but also give a cushioned support to articles in the compartment.

In order to hold the carton in its erected form any desired form of slots, notches or cut out portions may be provided in the free edges of the central longitudinal partitions to engage with the transverse partition forming strips when the carton is erected.

Cartons according to this invention are preferably made from a single integral blank of cardboard suitably cut and scored and whilst in general such cartons and blanks will be made to have six compartments in two rows of three it will be apparent that larger numbers of compartments may be provided with weakening lines or perforation lines arranged to enable a larger carton or blank to be subdivided into a number of smaller units.

In order that the invention may be well understood a preferred embodiment thereof will be described in further detail with reference to the accompanying drawings and by way of example only as applied to a carton to receive six eggs.

In the drawings, FIGURE 1 is a plan view of a creased and cut blank from which the carton is to be made; FIGURE 2 is a perspective view of an assembled carton and FIGURE 3 is an end view of a partially assembled carton.

Referring now to the drawings, the carton is made from a single integral cardboard blank 1 of rectangular shape. The blank 1 has a central top panel 2 and is symmetrical about a line extending longitudinally and centrally of the top panel 2. On each side of the top panel there is hingedly connected in succession a side wall 3, a base 4 and a central longitudinal partition 5.

The top panel 2 is provided along each longitudinal side with three diamond shaped sets of fold lines 6 arranged apex to apex with a straight fold line 7 extending from the outer apex at each end to the edge of the blank 1, such straight fold line 7 being parallel to the longitudinal centre line of the top panel 2.

Three cuts 8, 9, 10 are formed transversely across the top panel 2, each cut extending diametrically through opposite pairs of the diamond shaped fold lines 6. These three cuts 8, 9, 10 divide the top panel 2 into four partitioning strips 11, 12, 13, 14. The outer strips 11, 14 at each end have a transverse fold line 15, 16 respectively extending between the outer apices of the two opposite diamond fold lines 6, and the inner strips 12, 13 each have a transverse fold line 17, 18 respectively extending between the abutting apices of opposite pairs of diamond fold lines 6.

The cuts 8, 10 formed between each pair 11, 12 and 13, 14 of inner and outer strips are so formed that the inner strips 12 and 13 will have a tab or tongue 20, 21 respectively extending on either side of a cutout portion

centrally disposed with respect to the top panel 2. This cut out portion leaves a corresponding tab or tongue 23, 24 respectively on the outer strips 11, 14 which tab or tongue 23, 24 is provided with a hole 25 therein. The holes 25 at each end of the carton and the said centrally disposed cut outs respectively serve to engage hook like portions 26 and slots 27 formed in the free edges of the central longitudinal partitions 5 when the carton is erected.

When a carton is made up this arrangement of fold lines and cuts enables strips of the top panel 2 to be folded about their respective transverse fold lines, so that the inner strips 12, 13 form inverted V-shaped partition strips, whilst the outer strips 11, 14 can be folded into a partition strip of right angle section. These four partition strips thus define between them three pairs of compartments 28 extending across the top panel 2.

It will be understood that the said straight fold lines 7 and the zig-zag fold lines forming part of the said diamond fold lines 6 constitute the hinged connection between the top panel 2 and the side walls 3.

A base 4 is provided between the side wall and its associated partition forming portion 5 by providing a pair of parallel fold lines 31 spaced apart by the desired width of the base of each row of compartments.

Extending across the base 4 and into the side wall 3 and partition 5 three transverse cuts 32, 33, 34 are formed, these cuts being so located that they are aligned with what will be the transverse centre line of each pair of compartments. Fold lines 35 of hexagonal shape are formed in the material of the side wall 3, base 4 and partition 5, with the transverse cuts 32, 33, 34 bisecting the hexagon. In this way support or seating forming portions defined by the fold lines 35 and the transverse cuts 32, 33, 34 are provided which when the carton is erected can be readily pushed inwardly of the respective compartments to form open seatings or supports 36 to receive the bottom of an egg inserted into the compartment.

It has been found that cartons according to this invention having the said seatings or supports for the eggs give improved protection to the eggs and hold the eggs firmly and securely between the seatings and the transverse partitions formed by the top panel.

The cartons can of course be dispatched in bulk in flat form after having been cut and creased as required. Their erection is both simple and rapid and indeed similar to the manner of erection of some known types of egg carton.

It will be understood that various modifications and changes may be made in the above described carton without departing from the scope of the invention. Thus for instance alternative methods of providing transverse partitions from the top panel may be adopted. Furthermore by suitable spacing of the fold lines the general cross sectional shape of the carton may be varied.

I claim:

1. In a compartmented carton of cardboard or the like material for articles such as eggs comprising a top panel apertured to provide two rows of openings for insertion of articles therethrough, each side of the top panel having hingedly connected thereto a downwardly and inwardly extending side wall, and a central longitudinal partition extending upwardly and inwardly from adjacent the lower edge of such side wall, the portions of the carton at the lower edges of the respective side walls and partitions defining the base thereof; the improvement comprising transverse cuts extending laterally across said base and into said side walls and partitions adjacent said base, portions of the base, side wall and partition on opposite sides of said cuts being folded inwardly of each compartment and away from each other to provide a generally annular upstanding seat for the bottom of an article disposed in the compartment, said generally annular seats being of less diameter than the apertures in said top panel.

2. A carton as claimed in claim 1, in which additional cuts are made in said base said cuts opening into said transverse cuts and defining tabs on either side of said transverse cuts, which tabs are folded inwardly from said sheet.

3. A carton as claimed in claim 1, in which fold lines are provided in said base on either side of said transverse cuts and are so disposed as to facilitate the inward folding of said portions of the base.

4. A carton as claimed in claim 1, including fold lines on either side of said transverse cut in the form of a hexagonal figure intersected by the transverse cut.

5. In a compartmented carton of cardboard or the like material for articles such as eggs comprising a top panel apertured to provide two rows of openings for insertion of articles therethrough, each side of the top panel having hingedly connected thereto a downwardly and inwardly extending side wall, and a central longitudinal partition extending upwardly and inwardly from adjacent the lower edge of such side wall, the portions of the carton at the lower edges of the respective side walls and partitions defining the base thereof; the improvement comprising transverse cuts extending laterally across said base and into said side walls and partitions adjacent said base, portions of the base, side wall and partition on opposite sides of said cuts being folded inwardly of each compartment to provide a generally annular upstanding seat for the bottom of an article disposed in the compartment, said generally annular seats being of less diameter than the apertures in said top panel, a pair of parallel fold lines, one in the side wall and one in the partition which between them define a substantially flat portion of said base for each row of compartments and from which flat portion at least a part of each seat is folded.

6. In a compartmented carton of cardboard or the like material for articles such as eggs comprising a top panel apertured to provide two rows of openings for insertion of articles therethrough, each side of the top panel having hingedly connected thereto a downwardly and inwardly extending side wall, and a central longitudinal partition extending upwardly and inwardly from adjacent the lower edge of such side wall, the portions of the carton at the lower edges of the respective side walls and partitions defining the base thereof; the improvement comprising transverse cuts extending laterally across said base and into said side walls and partitions adjacent said base, portions of the base, side walls and partitions on opposite sides of said cuts being folded inwardly of each compartment to provide a generally annular upstanding seat for the bottom of an article disposed in the compartment, said generally annular seats being of less diameter than the apertures in said top panel, said top panel having a plurality of transverse cuts therein which divide the panel into a plurality of strips, each of which is provided with fold lines extending from side to side of the panel and with further fold lines extending in zig-zag fashion along the length of the panel on either side, the arrangement of the fold lines being such that the strips are folded to form resilient partitioning strips extending across the top of the carton to define pairs of compartments.

7. A carton as claimed in claim 6, in which said strips are folded into the form of downwardly directed V-shaped partitions.

8. A carton as claimed in claim 6, wherein cutout portions are provided in the upper edges of said central longitudinal partitions engaging said transverse partition forming strips of the top panel.

9. A substantially rectangular blank for a carton of cardboard or the like material divided by parallel fold lines into a top central portion, and respectively on either side side wall portions, base portions and central longitudinal partition portions; said top central portion having a plurality of transverse cuts thereacross arranged to release strips extending between the said longitudinal fold

lines defining said central portion; said base portions each having a plurality of transverse cuts therein arranged to release portions foldable therefrom, said cuts extending across said base portions and into said side wall and partition portions on either side thereof, and said partition portions being provided at their free ends with cuts arranged to embrace portions of said strips in said top central portion.

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