May 19, 1936. H. A. INMAN 2,041,609

CARTON

Filed Jan. 9, 1932

Fig.1.

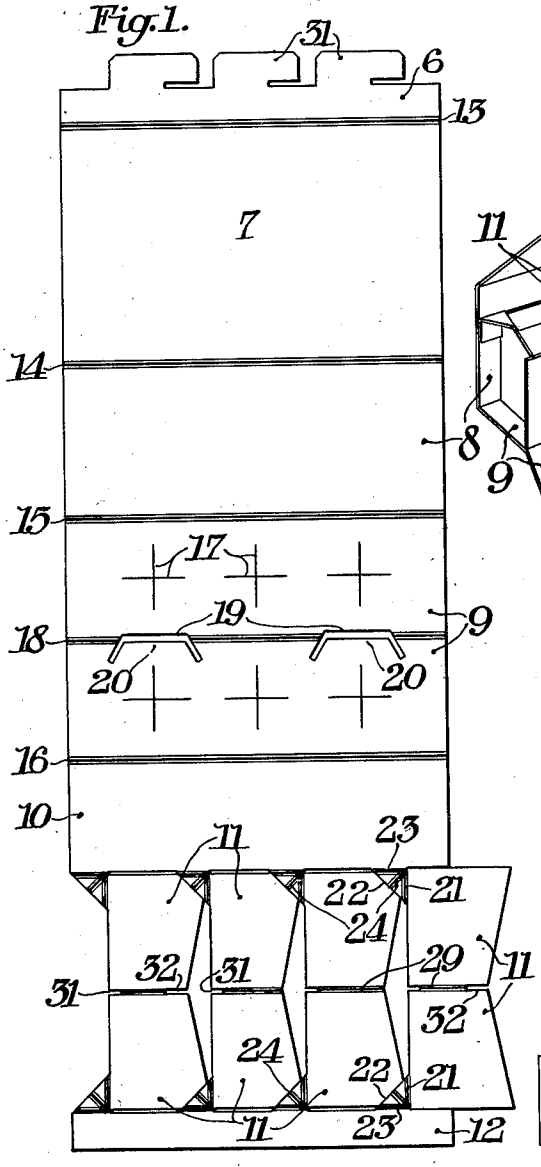


Fig.3.

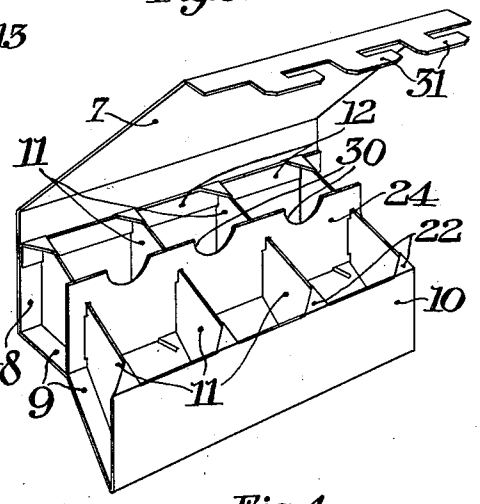
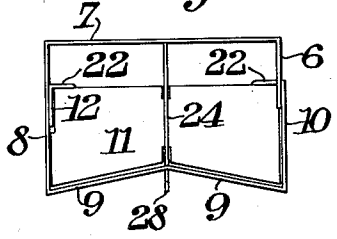


Fig.4.



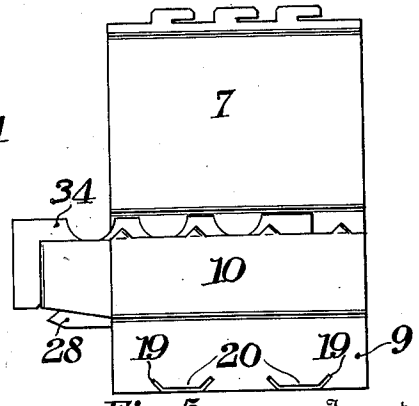
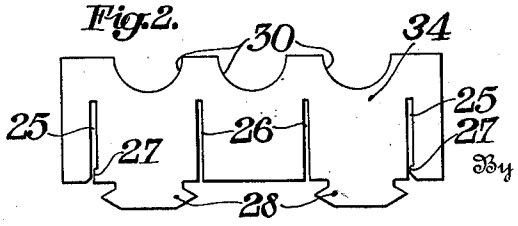


Fig.5.

Fig.2.



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UNITED STATES PATENT OFFICE

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CARTON

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Application January 9, 1932, Serial No. 585,756

8 Claims. (Cl. 229—29)

This invention relates to cartons and more particularly to egg cartons.

An object of the present invention, is to provide a collapsible carton formed from a minimum amount of sheet material, which carton possesses a higher degree of strength and provides a substantial amount of cushioned protection for the eggs contained therein.

Another object of the invention, is to provide a carton having transverse partitions formed integrally with the main portion of the carton, and co-operating with the V-shaped bottom of the carton where they are held in this co-operating relation by a longitudinal partition engaging the carton bottom.

For a clearer understanding of the invention, reference is made to the drawing in which Fig. 1 represents a blank which may be folded to form certain of the walls of a carton and certain of the transverse partitions forming a part thereof; Fig. 2 is a longitudinal partition blank which co-operates with the transverse partitions and with the bottom of the carton blank of Fig. 1 to hold these parts in position for use; Fig. 3 is a perspective view of the carton ready for use; Fig. 4 represents an end view of the carton with its cover in closed position; and Fig. 5 is a top view of the carton in its collapsed condition.

Referring especially to Fig. 1, there is represented a blank of cardboard or other suitable sheet material including latch strip 6, cover 7, rear section 8, bottom section 9, front section 10, transverse partitions 11 and fastening strip 12. It will be noted that the latch strip 6 and the cover 7 are defined by a line of scoring 13, while the line of scoring 14 defines the cover with respect to the rear section 8. Lines of scoring 15 and 16 define the bottom section with respect to the sections 8 and 10. The bottom section is provided with a series of interconnecting kerfs 17 which provide depressible tabs to form a cushioned depression in each cell for receiving an egg, or other articles to be packed therein. The bottom section is also provided with a longitudinal line of scoring 18 to permit the central portion of the bottom section to be elevated, thereby providing two inclined portions joined at this line of scoring. There is also provided along the scoring line 18 in the bottom section, several U-shaped slits 19 which also define retaining tongues 20, the purpose of which will be further set forth. The transverse partitions 11 are cut free from the remainder of the blank except that the upper corners 21 of each partition is integral with triangular connecting pieces 22 which are also integral with the section 10 and fastening strip 12, being connected through the material scored at 23. Each triangular portion is also provided with a line of scoring or fold line 24 extending from its free margin to its opposite apex. Although three lines of scoring, 21, 23, and 24, are provided in the connecting pieces 22, it will be understood that these lines of scoring are merely provided for convenience in assembling the carton, and that the sheet material may be so selected that it is readily foldable at the desired points even in the absence of scoring.

In Fig. 2 there is shown a longitudinal partition generally designated 34 which partition is provided with vertical end slots 25 and intermediate vertical slots 26 which slots may engage the notches 31 and the intermediate portions of the transverse partitions 11 at the lines of scoring 29. The entrances to the end slots 25 are restricted by retaining tongues 27 which enter the notches 32 and engage the material of their respective transverse partitions to lock the partition 34 in place. The partition 34 is also provided with a plurality of downwardly extending tongues 28 which are insertable into the slits 19 in the bottom section by bending the tongues 28 to conform to the shapes of the slits. After these tongues have been inserted in these slits, the ends are straightened out and the tabs 20 hold the tongues 28 in interlocking position, thereby, holding the several parts of the carton in position ready for use.

In completing the carton ready for shipment, the blank is folded into rectangular form along the lines of scoring 14, 15, 16 and the scoring lines 23 of the triangular portions at both sides of the transverse partitions; the fastening strip 12 has its free edge turned downward and this strip is then glued or otherwise fastened such as by wire stitching, to the back section 8. The transverse partitions are then folded downward at right angles to the bottom section 9 by folding on the lines of scoring 21, thereafter, the longitudinal partition 34 is placed into position by inserting the transverse partitions into the slots 25 and 26, where the tongues 27 at the entrance to the end slots 25 engage the material of the end transverse partitions to hold the partition 34 in place.

With the parts thus formed, the carton may be collapsed into flat condition (as shown in Fig. 5) by folding the portions of the bottom section 9 along the line of scoring 18 away from the remainder of the carton and by moving the longitudinal partition 34 to the left while doubling

both portions of each transverse partition 11 toward each other along the line of scoring 29. With the carton in this flat condition, as shown in Fig. 5, it may be shipped to the ultimate consumer who can form the carton as shown in Fig. 3, merely by moving the longitudinal partition 24 to the right until both portions of each of the transverse partitions are in alinement and thereafter, the tongues 28 on the longitudinal partition are inserted through the slots 19 in the bottom section of the carton which has been raised to the position as shown in Fig. 4. It has been mentioned that the tongues are inserted through the U-shaped slots 19, while the end portions of each tongue are to conform to the slot and after they have been inserted the ends thereof are straightened out to engage the material of the bottom where the tabs 20 hold them locked in place. It will be noted that the longitudinal partition 34 has cut out portions 30 which permit the eggs or other articles of the individual cells to be displayed within the carton while sufficient material is retained in the upper portion of this partition to act as a support for the cover section 7 as shown in Fig. 4. The locking strip 6 has hook-shaped tongues 31 which are adapted to engage the triangular connecting pieces 22 at the front of the carton so that the cover may be locked in closed position as shown in Fig. 4.

What I claim is:

1. A collapsible carton formed from a single blank, scored to provide a top, side sections, a bottom section and transverse partitions, said partitions being independent of the material of the blank, except for integral connecting pieces at two of their corners, each connecting piece being bounded by two lines of scoring and being provided with an additional line of scoring defining a fold when said carton is collapsed, each transverse partition being provided with a line of scoring extending crosswise of the partition along a medial axis, a longitudinal partition engaging said transverse partitions, and means for attaching said longitudinal partition to said bottom section.

2. A collapsible carton formed from a single blank, scored to provide a top, side sections, a bottom section, and transverse partitions, said blank being foldable into rectangular form, said transverse partitions being independent of the material of the blank, except for integral connecting pieces at two of their corners, each connecting piece being bounded by two lines of scoring substantially perpendicular to each other, each connecting piece being provided with an additional line of scoring defining a fold when said carton is collapsed, each transverse partition being provided with a line of scoring extending crosswise of the partition along a medial axis, a longitudinal partition having slots engaging said transverse partitions at the medial line of scoring thereof, and means for attaching said longitudinal partition to said bottom section.

3. A collapsible carton formed from a single blank, scored to provide a top, side sections, a bottom section, and transverse partitions, said blank being foldable into rectangular form, said transverse partitions being cut from the material of the blank, except for integral triangular connecting pieces at two of their corners, each connecting piece being bounded by two lines of scoring, an additional line of scoring on said connecting piece substantially bisecting the same, each transverse partition being provided with a line of scoring extending crosswise of the partition along a medial axis, a longitudinal partition having slots engaging said transverse partitions at the medial line of scoring thereof, and means for attaching said longitudinal partition to said bottom section.

4. A collapsible carton formed from a single blank, scored to provide a top, a side section, a bottom section, and transverse partitions, said blank being foldable into rectangular form, said transverse partitions being cut from the material of the blank, except for integral triangular connecting pieces at two of their corners, each connecting piece being bounded by two lines of scoring perpendicular to each other and by a free edge, an additional line of scoring formed in each connecting piece perpendicular to its free edge, each transverse partition being provided with a line of scoring extending crosswise of the partition along a medial axis, a longitudinal partition having slots engaging said transverse partitions at the medial line of scoring thereof, and tongues formed on said longitudinal partition engaging slots in the bottom section.

5. A collapsible carton having top, side sections, transverse partitions, and a bottom section blanked from a single sheet of material, said blank being foldable on parallel lines to form a body portion with the bottom section foldable about a medial fold line, said transverse partitions each having a V-shaped edge foldable into a position to engage said bottom section, a longitudinal partition engaging said transverse partitions, tongues provided on the longitudinal partition to engage slots in said bottom section for holding the bottom section elevated at its medial fold to provide a V-shaped cushioned bottom for the carton, and medial lines of scoring on said transverse partitions extending toward the said bottom section whereby the carton may be folded into flat position while said longitudinal partition is engaging said transverse partitions, said longitudinal partition having a width from the top edge thereof to the lower edge of the tongues thereon substantially equal to the depth of the carton, whereby a braced carton with a V-shaped or cushioned bottom is provided.

6. A collapsible carton formed from sheet material having a top, side sections, a bottom section, a connecting strip and transverse partitions, connecting pieces integrally joining said partitions respectively to said connecting strip and to one of said side sections, said connecting pieces when collapsed being folded between their junctions with said partitions and said side section as well as between their junctions between said partitions and said connecting strip, said bottom section having scoring extending lengthwise along a medial line, said transverse partitions being scored medially along a transverse line and having re-entrant edges foldable into engagement with said bottom section, a longitudinal partition engaging said transverse partitions, and means for holding said bottom section elevated along its medial scoring in a position adjacent the re-entrant edges of said transverse partitions.

7. A collapsible carton having top, side sections, transverse partitions, and a bottom section blanked from a single sheet of material, said blank being foldable on parallel lines to form a body portion with the bottom section medially foldable, said transverse partitions each having

a V-shaped edge foldable into a position adjacent said bottom section and each having connections with said side sections, a separate longitudinal partition interlocked with said transverse partitions, hooks provided on the longitudinal partition to engage slots in said bottom section for holding the bottom section elevated at its medial fold to provide a V-shaped cushioned bottom for the carton, and medial lines of scoring on said transverse partitions extending toward the said bottom section and fold lines on said connections whereby the carton may be folded into flat position, while said longitudinal partition is interlocked with said transverse partition.

8. A collapsible carton of sheet material comprising top, side sections, transverse partitions, and a bottom section, said transverse partitions being foldable along fold lines extending substantially centrally thereof from top to bottom and having folding portions connecting said partitions with said side sections, said bottom section being foldable along a substantially medial longitudinal fold line, a longitudinal partition interlocked with said transverse partitions, engageable means on said longitudinal partition and said bottom section for holding said bottom section elevated adjacent its medial fold line to provide a substantially V-shaped cushion bottom for the carton, said bottom section being also foldable downwardly at said medial fold line thereof, whereby the carton may be folded in a flat position while said longitudinal partition is interlocked with said transverse partitions.

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