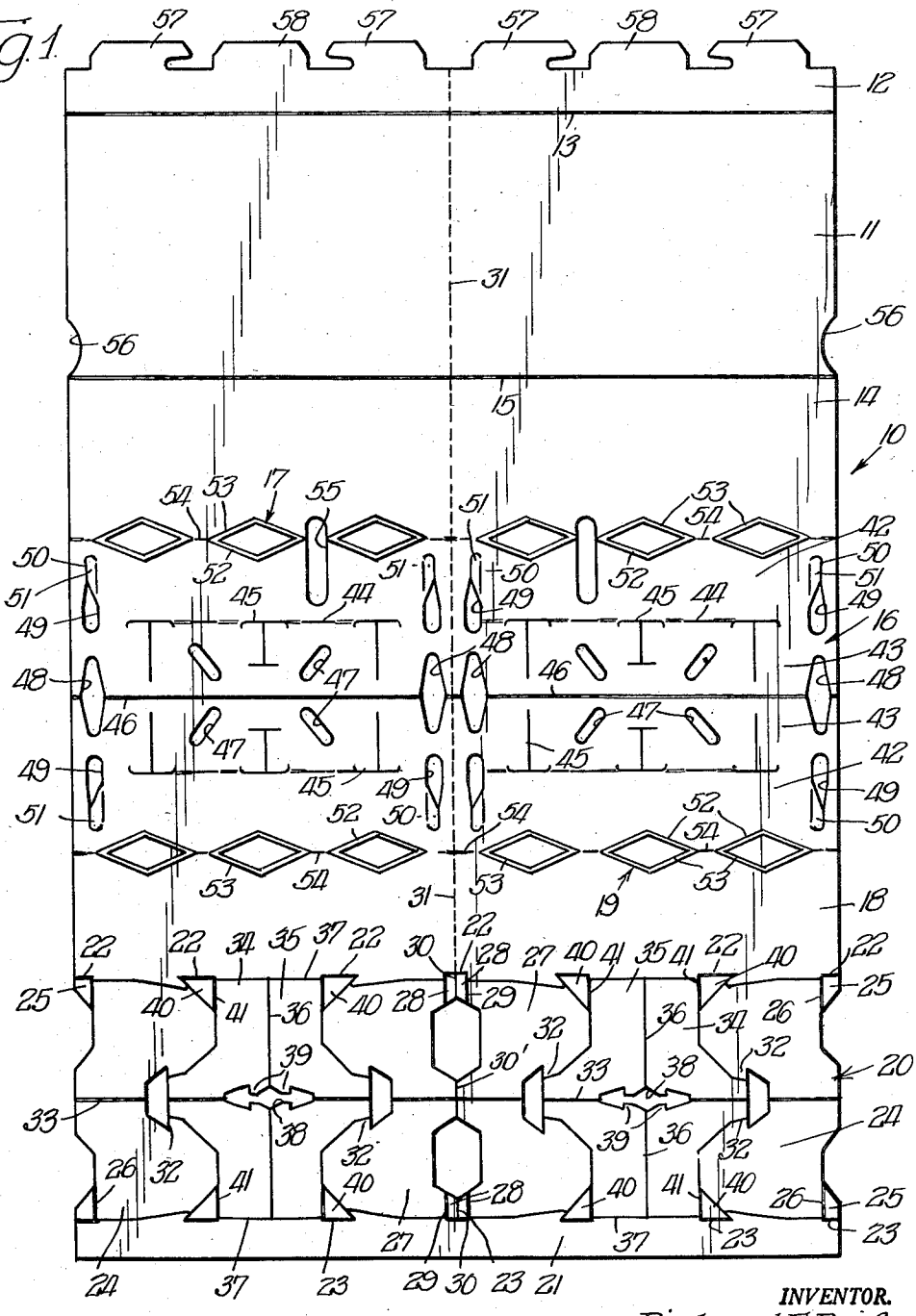
Feb. 10, 1959 R. F. REIFERS 2,873,059

EGG CARTON

Original Filed March 12, 1954 3 Sheets-Sheet 1

Fig. 1.



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Fig. 2.

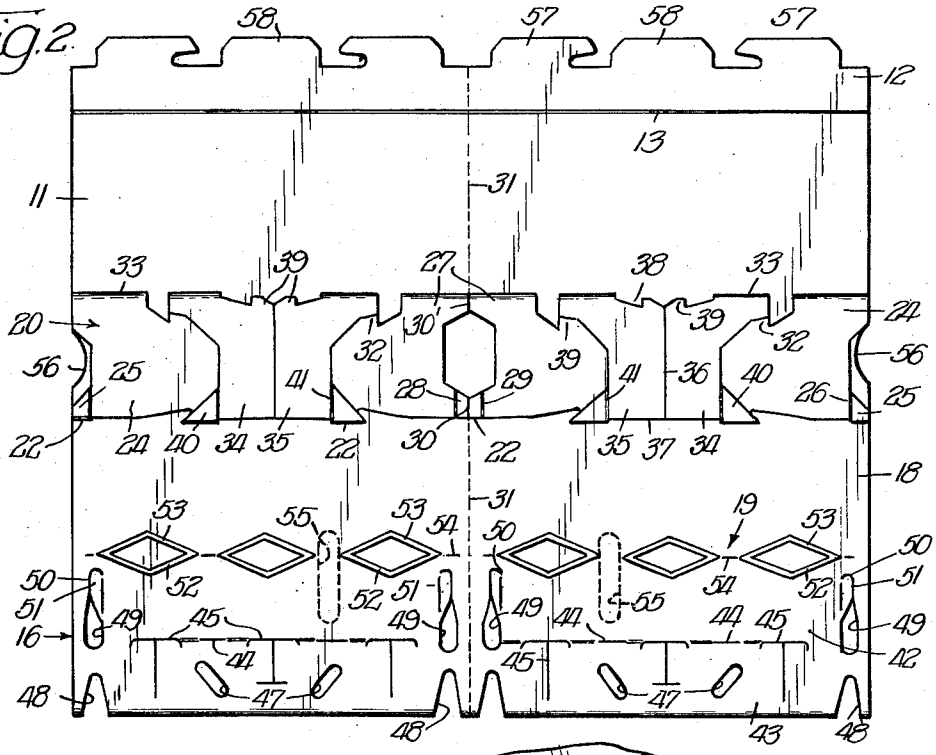
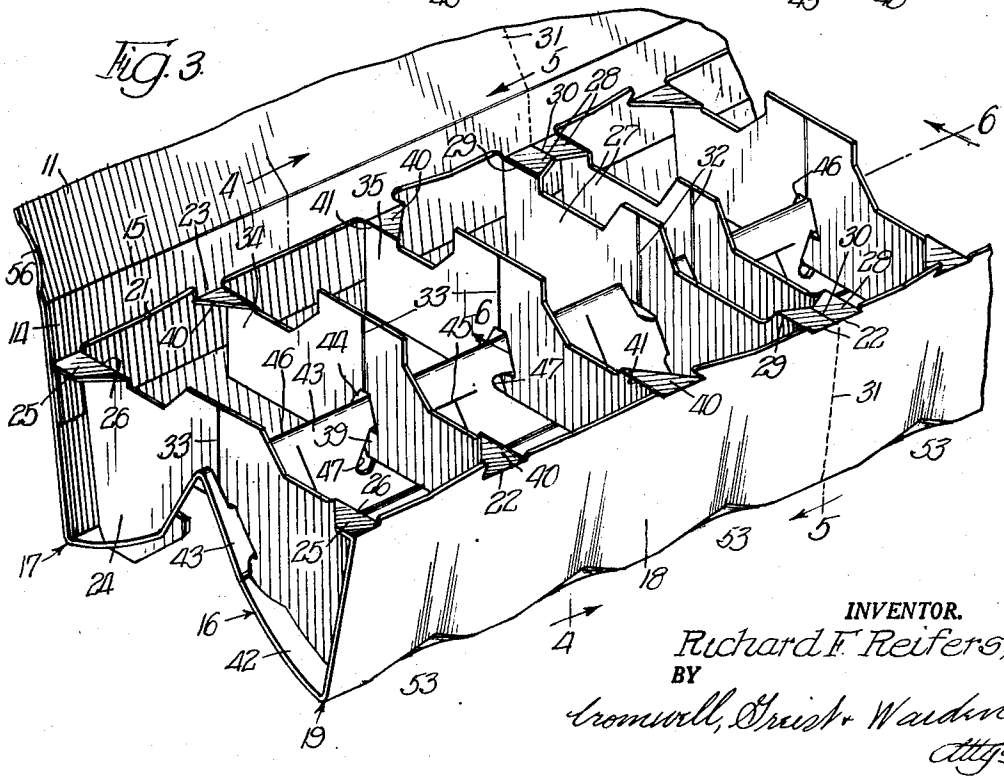


Fig. 3.



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Fig. 4

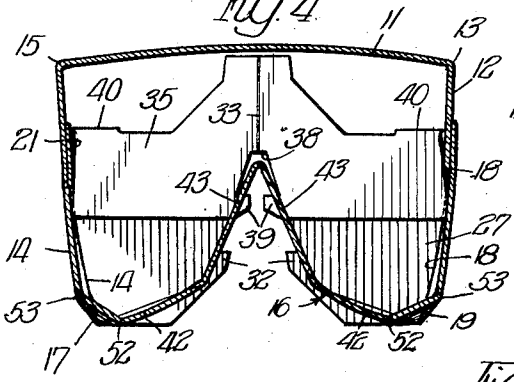


Fig. 5

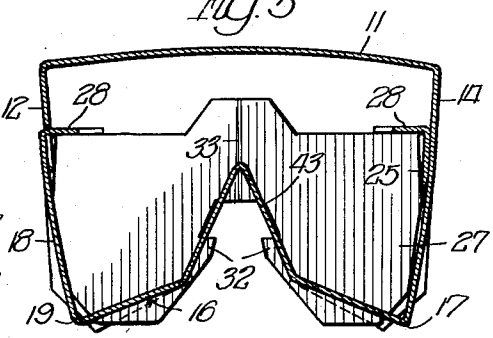
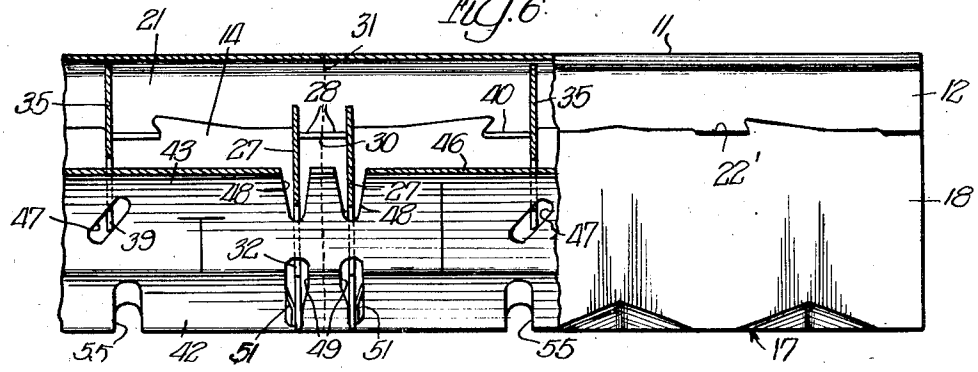


Fig. 6



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2,873,059

EGG CARTON

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Continuation of abandoned application Serial No. 415,878, March 12, 1954. This application March 26, 1957, Serial No. 648,539

13 Claims. (Cl. 229—28)

The present invention relates to improvements in an egg carton fabricated from a died-out paperboard blank and to a novel form of blank itself, the blank being folded and glued into a completed, knocked-down or flat form in which the carton is supplied by the manufacturer, and in which it is shipped or stored. The invention particularly relates to an improved carton of this general description which is subsequently erected or set up by automatic machinery operating at high speed, as distinguished from a manual set-up operation, even when performed with the assistance of a simple set-up fixture or form.

This application is a continuation of application Serial No. 415,878, now abandoned.

Considered still more specifically, the invention provides a machine set-up type of egg carton which in its flat, knocked-down condition as a blank is perfectly rectangular in section, rendered so by the use of a split cross partition principle to be described. It is free from projecting partition elements at one end or both ends thereof, such as are susceptible of being bent or damaged in handling or use. At the same time, the split partition principle enables a carton of maximum egg receiving capacity to be constructed from a paperboard blank of minimum size.

The attainment of this last objective is specially aided when the split partition principle referred to is coupled with an improved construction of a longitudinal partition of the carton, with which the cross partitions coact; and is still further abetted by the use of an improved diamond-type hinge connecting the bottom and sides of the carton, all as contemplated by the invention.

A typical egg carton of the presently used, automatic set-up variety is characterized, in a non-divisible style, by a pair of integrally connected cell-defining cross partitions which project outwardly from one end margin of the completed, flat carton. These partitions, like other similar cross partitions of the carton, are swung about integral hinges to the carton's spread side walls to an upright parallel relation to one another, as the carton is erected, and when they are so swung a central bottom and longitudinal partition forming member is shaped to inverted V-shaped cross section, thrust between the respective sets of cross partitions and interlocked therewith. In this position the cross partitions sustain the longitudinal partition forming member in an inverted V-shaped outline.

It is the fact that all cross partitions must be swung to and held in longitudinally spaced, parallel relation to one another while the longitudinal partition is interengaged with them that obliges the carton in question to be set up by machinery having coordinately moving parts, whereas other types of hand set-up paperboard cartons can be erected by simply swinging cross partitions successively into locked engagement with a longitudinal partition, which last named partition is pre-positioned in its final relation to the carton side walls in the knocked-down condition of the carton blank.

Thus it is a major advantage of the invention that it enables the avoidance of the characteristically projecting

end cross partitions of the knocked-down machine set-up carton blank, bringing those partitions within the end of the flat carton blank. The likelihood of damage occurring to the projecting elements by impact in handling or shipment is eliminated.

The advantage is even more pronounced in the case of a carton designed in a divisible or separable style, i. e., adapted to be medially subdivided into two halves, each of six egg cell capacity, than in a non-divisible style in which the cross partitions are swung unidirectionally. In the divisible style pairs of cross partition elements project outwardly from both ends of the knocked-down carton, being swingable in opposite direcions to reach the desired parallel relation for final interengagement with the longitudinal partition.

It is possible to eliminate the projecting ends in a non-automatic, hand set-up carton by subdividing a panel from which the various cross partitions are cut and by which they are hingedly connected to the side walls, by transversely splitting the panel between two of its longitudinally spaced side wall hinges, thus enabling two oppositely swingable, cell-defining cross partition elements to be derived from this particular area of the panel. As a result the cross partitions at extreme ends of the flat carton can be brought inside of those ends and arranged to swing downwardly from an interior part of the squared-up carton. The over-all size of the requisite blank is also reduced somewhat by this expedient and the outward projection of the partition elements is avoided. However, such split partition provisions have heretofore been possible only in the hand set-up type carton.

As to the machine set-up type, the longitudinal partition of the carton, with which the cross partitions engage, is usually slotted or notched along its top to receive them for interlocked engagement and unless all cross partitions are so interlocked with the longitudinal partition to vertically sustain the same in a substantial degree, as is not practical in accordance with the split partition concept, the notching of the longitudinal partition at points where it is not so sustained will seriously weaken the same. It will be weakened to the extent that it will tend to buckle downwardly, under load, in the unsustained zone, and of course an undue share of load is borne by the further cross partition elements which are directly latched thereto.

The present invention imparts the advantages of the split cell cross partition idea to a paperboard carton which is erected and locked by machine only, usually at very high speed by completely automatic machinery. Provisions are made whereby the supporting strength of its characteristic, inverted V longitudinal partition is fully retained yet pivoted split cell cross partitions are embodied in the carton and, moreover, are engaged with the longitudinal partition to hold them against undesired swing. A longitudinally extending, uninterrupted ridge or spine of the longitudinal partition extends continuously across the split partition zone, i. e., between zones at which the longitudinal partition is vertically supported by full size cross partitions. The latter serve as load supporting struts on which the carton rests, and their support is transferred to the longitudinal partition along the uninterrupted spine or ridge portion referred to. Additionally, the split cross partition elements may interlock with the sides of the longitudinal partition to sustain a portion of the load on the latter, however, the primary purpose of their engagement with the same will be to hold the split elements in vertical position when the carton is completely erected.

To the last named end, the longitudinal partition is provided with slots which are inclined in a predetermined degree so as to receive inturned locking lugs on the split cross partition elements. Due to the slot inclination the

split partitions are unfailingly received in the slots, notwithstanding possible mis-setting of the erecting machine. Moreover, opposite edges of the partitions are wedgingly engaged with opposite sides of the slots and are held in true upright position.

In accordance with a further improvement in the carton, the crease formations which integrally articulate its side walls and its inverted V bottom and partition forming portion are composed of diamond-shaped crease elements extending longitudinally of the carton and connected in longitudinal alignment by alternating aligned creases or cut-scores. The effect of the diamond creasing is to bow or buckle and spread the side walls as well as the upwardly angled bottom and partition forming portions, with the effect that the engagement of the lugs of the split partitions in the inclined slots of the longitudinal partition is further facilitated. As another advantage, increased egg receiving space is afforded in the cells defined between the cross partitions.

Still another specific feature of improvement of the carton resides in the provision of novel "trap door" means to engage its full size cross partition elements in interlocked relation to the bottom and longitudinal partition portion of the carton. To this end, slotted apertures of substantial size are formed in the portion in question, in which the lower ends of the cross partitions are introduced. The apertures have outwardly convergent edges, from the apex of which hooked transverse slits extend outwardly, and these slits define bendable trap door elements adjoining the slotted apertures. The trap door elements are deflected downwardly and out of the plane of the bottom section's surface as the cross partition elements pass into the slots, thereafter assuming side frictional engagement with the cross partitions. Yet the enlarged size of the slots insures unfailing reception of the cross partitions for interlocked engagement with the bottom.

The foregoing statements are indicative in a general way of the nature of the invention. Other and more specific objects will be apparent to those skilled in the art upon a full understanding of the construction and operation of the improved carton.

Two embodiments of the invention are presented herein for purpose of illustration. It will be appreciated that the invention may be incorporated in other modified forms coming equally within the scope of the appended claims.

In the drawings:

Fig. 1 is a top plan view of a rectangular paperboard blank from which the improved carton is fabricated, illustrating the manner in which the blank is died out, slitted and creased in accordance with the invention, embodied in a divisible style;

Fig. 2 is a top plan view of the carton in a completed, knocked-down condition in which it is shipped or stored;

Fig. 3 is a fragmentary perspective view of the divisible style of the carton according to the invention, being in its completed and erected condition and ready for the reception of its intended contents;

Figs. 4 and 5 are, respectively, views in transverse vertical sections along lines corresponding to lines 4—4 and 5—5 of Fig. 3, further illustrating details of the longitudinal and split cross partition structure;

Fig. 6 is a view in vertical longitudinal section along line 6—6 of Fig. 3 showing the elongated load sustaining spine along the longitudinal partition which is afforded by the invention.

Fig. 1 illustrates a rectangular paperboard blank 10 from which the improved carrier is fabricated. The blank comprises, in general top to bottom sequence as viewed in Fig. 1, a cover forming panel 11 having a hooked tuck flap 12 integrally articulated thereto by a longitudinally extending crease 13; a rear side wall panel 14 integrally hinged to cover 11 by a longitudinal crease

15; a bottom and longitudinal partition forming section, generally designated 16, integrally connected to rear side wall 14 by means of an improved, diamond-type crease formation 17, later to be described in detail; a front side wall panel 18 integrally hinged to section 16 by a crease formation 19 similar to formation 17; and the blank terminates in a cross partition section, generally designated 20, to which a longitudinally extending glue flap 21 is integrally appended. Section 20 is hinged to front wall 18 by means of a longitudinally extending series of individual creases 22, and glue flap 21 is similarly hinged to the section 20 by means of similar creases 23.

Section 20 is died out and slitted to provide opposite end cross partition elements 24 which are similarly hinged to swing outwardly in opposite rotative directions about similar end webs 25 which connect the same to the respective side wall panel 18 and glue flap 21. Such hinging movement takes place about short transverse creases 26 connecting the cross partitions to the web elements in question.

Other cross partitions 27 at either side of the longitudinal center of the blank are arranged to swing toward the center in opposite directions about web elements 28 to which they are integrally hinged by transverse creases 29. The webs 28 are separated from one another by transverse slits 30 extending inwardly from the centermost hinge creases 22, 23 and the medial cross partitions 27 are otherwise separated from one another by a transverse slit 30' aligned with slits 30. A continuous transverse perforated line 31 extends from these slits across the remainder of blank 10, weakening the same for subdivision into two halves when desired. The partitions 24, 27 are shaped and are freed for hinging movement in relation to section 20 by appropriate longitudinal and transverse slitting of the latter in a well known fashion and by slotting the section to provide inturned hooks 32 on the partitions, also in a known way. The section 20 is provided with a longitudinal crease 33 along its center about which it folds in its completed knocked-down condition.

It will be noted that in the flat, knocked-down condition of the carton (Fig. 2), as well as of the blank 10, the endmost cross partitions 24 are disposed inwardly of the extreme end margins of the section 20, not projecting in any degree outwardly of the blank as is the usual case in machine set-up cartons. This is made possible by the provision of pairs of split, partial depth cell defining partitions between the respective central and end partitions 27, 24, which intervening partitions are designated 34, 35. They are separated from one another in the section 20 by transverse slits 36 extending across the section and they are separated from the glue flap 21 and side wall panel 18 by means of longitudinally disposed slits 37 at the ends of slits 36. The slits 37 have their inner termini at shaped slots 38 in section 20, which slots outline a pair of inturned partition restraining lugs 39 on each of the split partitions 34, 35. These are of somewhat smaller size than the inturned hooks 32 of full depth cross partitions 24, 27.

The pairs of split cross partitions 34, 35 are swingable about triangular web elements 40 inwardly adjoining certain of the creases 22, 23, to which webs they are integrally hinged by transverse creases 41, the swinging taking place in opposite rotative directions in the case of each pair.

Turning now to the bottom and longitudinal partition forming section 16 of blank 10, it is subdivided into two longitudinally extending outer portions 42, which may be termed bottom forming portions, and two intervening, longitudinally extending portions 43, which may be termed partition forming portions. The subdivision as between portions 42, 43 is in each case made by short longitudinal cut scores 44 and alternating T-shaped cushion forming slits 45.

Partition forming portions 43 are hingedly connected

by a longitudinal top forming crease 46 and each is provided with pairs of upwardly inclined, convergent slots 47 of substantial width and length, which slots are in transverse alignment with the short creases 41 which hingedly articulate the split cell partitions 34, 35 to cross partition section 20. Slots 47 are predeterminedly inclined to the vertical so that when the partitions 34, 35 are, like the remaining, full depth partitions, disposed in longitudinally spaced, parallel relation to one another, and when the section 16 is shaped in inverted V form and thrust into interlocked relation to the cross partitions, the positioning lugs 39 on split partitions 34, 35 will unfailingly enter in slots 47. Thereafter they are wedgingly engaged at their opposite side edges by those slots.

Bottom and longitudinal partition forming section 16 is also provided, in transverse alignment with the respective end and central cross partition hinging creases 26 and 29, with transversely extending slots 48 to receive the full depth cross partitions and with further locking slots 49 characterized by outwardly convergent outer edges. Slots 49 are adapted to receive the hooks 32 of the full depth cross partitions 24 and 27, their width insuring unfailing entry of the cross partitions, and for the purpose of frictionally engaging the hooked partition ends once they are received in the slots, the section 16 is provided with inwardly hooked slits 50 extending outwardly from the apex of the convergent slot ends. The hooked slits thus define bendable trap door elements 51 adjoining slots 49 which yield to accommodate the hooked cross partition ends, thereafter having frictional retaining and bracing engagement with opposite side surfaces of the partitions.

The special character of the crease formations 17, 19 which join section 16 to the rear and front side walls 14, 18, respectively, has been referred to. These are each constituted by longitudinally spaced pairs or sets of convexly opposed, obtusely angled creases 52, 53 which meet at their longitudinally spaced ends in a diamond-shaped outline. The diamond formations are connected at the apices of the respective diamonds by weakened, longitudinally extending slits or cut scores 54, and the minor axes of the diamonds are located in transverse alignment with the centers of cells between the various cross partitions when the same are arranged in erected, parallel relation. The effect of the diamonds is to increase the egg receiving space in the cells. In doing this they bow the surfaces of the longitudinal partition portions 43 of section 16 in such manner as to substantially facilitate entry into inclined slots 47 of the retaining lugs or hooks 39 of split partitions 34, 35. Damage to the retaining lugs by bending in erecting of the carton is thereby avoided.

A transversely elongated slot 55 of substantial size is formed adjacent one edge of the section 16, and two inward scallops 56 are also formed on the end margins of the blank adjacent cover-wall hinge 15. However, these relate only to the operation of apparatus for erecting the carton and have nothing to do with the present invention. The cover locking tuck flap 12, consistent with the special nature of the cross partitions of the carton, is shaped to provide sets of locking tongues 57 which face in opposite directions, these engaging beneath triangular webs 40 when the cover is closed, and further plain intervening tabs 58 which are adapted to be disposed in the split cells of the carton.

The carton is completed to a flat, knocked-down condition (Fig. 2), by first folding the cross partition forming section 20 and its glue flap 21 180° upwardly, inwardly and downwardly about the medial longitudinal crease 33 of the section. Next a line of adhesive is applied to the exposed upper surface of the glue flap and a further fold is made about the longitudinally extending crease 46 which medially subdivides the bottom and longitudinal partition forming section 16. Glue flap 21 is thus adhered to rear side wall 14 adjacent the longitudinal crease 15 which hinges cover section 11 to the rear wall, and the completed, flat, knocked-down carton is then in the condition illustrated in Fig. 2.

The carton is erected to an operative, article receiving condition, illustrated in Fig. 3 by suitable automatic machinery which first brings the front and rear side walls 14, 18 and bottom and longitudinal partition forming section 16 into a generally rectangular, box-like outline. Cross partitions 24, 27, 34 and 35 are then swung about their respective hinge connections to parallel, longitudinally spaced relation, whereupon bottom and longitudinal partition forming section 16 is thrust toward the cross partitions and simultaneously shaped into the inverted V outline shown in Figs. 3, 4 and 5. As this happens the respective slots of the partition forming portions of the bottom are interengaged with the respective positioning and locking hooks or lugs of the cross partitions 24, 27, 34 and 35, leaving the carton in the completed form shown in Figs. 3, 4, 5 and 6. The diamond crease formations 17, 19 cause the walls 14, 18 and portions 42, 43 of bottom and partition section 16 to assume outwardly convex, bulged outline at the cell centers, as best shown in Figs. 3 and 4. This increases egg room in the cells and also relieves pressure on and makes it easier to engage the positioning lugs 39 of split cross partitions 34, 35 in inclined slots 47 without damage. Partitions 34, 35 are thus engaged properly with the longitudinal partition by the inclined slots, even in the event of possible variations in the adjustment of set-up machinery. They are wedged by the sides of the slots 47 and properly held in vertically upstanding position, in which they may also to some degree sustain the longitudinal partition. Yet the latter presents a continuous and uninterrupted ridge or spine across the span of the split partitions, extending all the way from full depth partitions 24, 27 on either side of the split pair. Whatever loss of rigidity is attributable to less effective support of the longitudinal partition by the split pair is fully compensated by the increased beam strength provided by this continuous spine.

Furthermore, it is possible to reduce the extent of cushion-slitting of the carton bottom, as at 45, to thus add further strength in the carton's bottom. It will be noted by reference to Fig. 6 that the slits 45 exist only in the upper portions 43 of the bottom and longitudinal partition forming section 16 of the carton. The lower portions 42 of those sections present solid or continuous surfaces between cross partitions to sustain the eggs. This preserves the strength of the carton, particularly under moist conditions, yet the slitting 45 affords desired cushions beneath the top ridge 46 of the partition to yield inwardly and receive large sized eggs, which are otherwise firmly supported by the bottom portions 42.

A machine set-up carton is provided which is truly rectangular in its flat condition, being made from a minimum of stock due to the split partition principle, yet which has all of the strength of a machine set-up carton whose cross partitions are of full depth throughout. A reduction in size of the carton permits the use of corrugated board shipping cases of smaller size, without the need to use protective inserts, and danger of damage in shipment to the carton user is practically eliminated with the elimination of projections on the flat cartons.

The full depth partitions are effectively and strongly interlocked with the upstanding, inverted V partition to afford positive support for the latter. For this reason the inturned hooks 32 on the cross partitions are of substantial size and stiffness. On the other hand, the lower depth, split partitions 34, 35, are formed by a less deep notching of the stock to provide lugs 39 of smaller size, which will more readily be introduced into slots 47. The height of the split partitions is not sufficient to enable the resultant smaller lugs 39 to obtain the same sort of supporting "bite" on the longitudinal partition as the larger hooks, however the lugs nevertheless keep the split

cell partitions in upright position, and also cause the same to effect a measure of support for ridge 46.

It will be obvious to those skilled in the art that various changes may be made without departing from the spirit of the invention and therefore the invention is not limited to what is shown in the drawings and described in the specification but only as indicated in the appended claims.

What is claimed is:

1. A divisible paperboard egg carton formed of a one-piece paperboard blank and comprising upstanding side walls, a bottom connected to the lower margins of said side walls and converging upwardly and inwardly of said margins to provide an upstanding longitudinal partition structure of inverted V cross-section which parallels said side walls, a medial score line laterally dividing said carton into two symmetrical halves, each half having parallel, upright cross partitions depending from integral hinges adjacent the upper margins of said side walls, said cross partitions in each half including two full depth partition members spaced substantially from one another longitudinally of the carton, and a pair of further upright, longitudinally and successively spaced partition members of lesser depth disposed between said full depth partition members, which lesser depth partition members are hinged to swing oppositely from one another to upright position, an upright, longitudinal partition-forming part of said bottom and longitudinal partition structure being provided beneath and spaced from its top with openings in which portions of said lesser depth partition members are received and restrained against swing, said top extending continuously and uninterruptedly between points spaced substantially outwardly from the respective planes of said lesser depth partition members, said openings in said structure being in the form of elongate slots extending diagonally in relation to the plane of the first named upright cross partitions and having wedging engagement with edge portions of said lesser depth partition members, said longitudinal partition forming part having slots opening upwardly through said top thereof which are longitudinally spaced to receive portions of said full depth partition members, said full depth partition members having interlocked engagement with said bottom and longitudinal partition structure beneath said top.

2. A paperboard egg carton made from an integral generally rectangular blank, including a six cell unit comprising: (*a*) a pair of parallel upstanding and longitudinally extending side walls; (*b*) directly connected to said side walls and integral therewith is an inverted V-section longitudinally extending structure, the two spaced upper portions of which near the apex of the V form a longitudinal partition dividing the unit into two sub-units of three cells each, and each of the two lower portions of which forms a bottom for a sub-unit of three cells; (*c*) a pair of end walls for said six cell unit extending transversely of said V section structure formed integrally with a first of said side walls and having portions secured to the second of said side walls; (*d*) said end walls being of relatively full depth and formed with projections including hook-like portions, said V section structure being formed with first openings generally in the transverse plane of said end walls and said projections including hook-like portions extending through said first openings in interlocking fashion so as to support said V section structure against spreading and to restrain said end walls from movement in a longitudinal direction; (*e*) a pair of spaced transverse partitions of relatively shallow depth located intermediate said end walls and formed integrally with the first side wall and having portions secured to said second side wall; (*f*) said shallow depth partitions having projections for engaging the spaced upper portions of said inverted V section structure which is formed with second openings therein for receiving said projections on said shallow depth partitions; (*g*) the tops of said second openings being spaced downwardly from the ridge of said inverted V section structure; (*h*) said ridge being continuous and uninterrupted from a place thereon adjacent one end wall to a place thereon adjacent the second of said pair of end walls; whereby said six cell unit is formed of a relatively rigid backbone-like inverted V section shaped longitudinally extending structure supported against forces in tension pulling in directions outwardly of and transverse to said side walls.

3. A paperboard egg carton in accordance with claim 2 wherein said carton includes two integral units of six cells each arranged side by side so that said carton is adapted to hold one dozen eggs in two rows of six eggs in each row.

4. A carton in accordance with claim 2 wherein the upper margins of said projections on said shallow depth partitions engage with margins of said second openings in said inverted V-section structure which second openings are spaced downwardly from and are completely below the ridge of said inverted V-section structure.

5. A carton in accordance with claim 2, wherein shallow depth partitions which engage with said inverted V-section structure are formed with bridge-like cut-away central portions so as to bridge the continuous and uninterrupted ridge portion of the inverted V-section structure and simultaneously extend below said ridge on both sides thereof.

6. A carton in accordance with claim 2, wherein the upper portions of said inverted V-section structure are set apart from said lower portions thereof which form the bottoms of sub-units by a series of relatively closely spaced weakened line-like formations.

7. A carton in accordance with claim 2, wherein said second openings in said inverted V-section structure are elongated and each have a major axis extending in a direction at an angle to the planes of said shallow depth partitions.

8. A carton in accordance with claim 7, wherein said elongated second openings are located entirely in said two spaced upper portions of said inverted V-section structure and above the two lower portions thereof which form the bottoms of said sub-units.

9. A carton in accordance with claim 2, wherein said first openings in said inverted V-section structure each have margins for a first slot-like part and margins for a second hook-shaped slit-like part, a weakened hinge-like formation adjacent said slit-like part, whereby said projections on said end walls may be more easily started through said first openings and when completely through as when in fully assembled position, the area adjacent said slit-like part will be pushed partially aside and will act like a clamp to hold said projections in place.

10. A carton in accordance with claim 9, wherein said hook-shaped slit-like parts are located entirely in said lower portions of said inverted V-section structure and said slot-like parts extend partially in said lower portions and partially in said upper portions of said inverted V-section structure.

11. In a paperboard egg carton of the character having longitudinally extending side walls and an inverted V-section longitudinally extending structure having lower portions serving as bottom structure and upper portions serving as longitudinal partition structure across which are planar end walls and planar transverse partitions which depend from integral hinge portions adjacent the upper margins of said side walls, the improvement comprising: (*a*) elongate openings in said upper portions of said inverted V-section structure; (*b*) said openings having their major axes inclined to the planes of said transverse partitions; (*c*) said transverse partitions having extending parts with opposite marginal edges, said marginal edges each having contact with opposite sides of said opening, whereby said transverse partitions have wedging engagement with the sides of said openings.

12. In a paperboard egg carton of the set-up type

wherein an inverted V-shaped longitudinally extending structure has an opening formed therein to receive a hooked part of a transverse planar member at substantially a right angle thereto, the improvement comprising: (*a*) a slot in said inverted V-shaped structure of greater width and less length than the hooked part to be received therein; (*b*) a first slit having a hook shaped end in said inverted V-shaped structure communicating with said slot at its end opposite to the hook shaped end; (*c*) a second slit substantially parallel to that part of said first mentioned slit which communicates with said slot; (*d*) said second slit having one end thereof close to the free end of said hook shaped end of said first slit and its opposite end close to a margin of said slot; (*e*) whereby a trap-door like element is formed to function as a wedge to securely hold said hooked part of said transverse planar member which may be readily initially threaded through said slot and subsequently threaded through said first mentioned slit.

13. A paperboard carton in accordance with claim 12 wherein said slot has a V shaped formation at one end where it communicates with said first mentioned slit.

References Cited in the file of this patent

UNITED STATES PATENTS

Re. 18,922	Troyk	Aug. 22, 1933
1,783,397	Troyk	Dec. 2, 1930
1,932,804	Risk	Oct. 31, 1933
2,184,014	Lowe	Dec. 19, 1939
2,584,595	Kowal	Feb. 5, 1952
2,664,233	Burger	Dec. 29, 1953

FOREIGN PATENTS

502,041	Great Britain	Mar. 10, 1939
165,570	Australia	Aug. 13, 1953