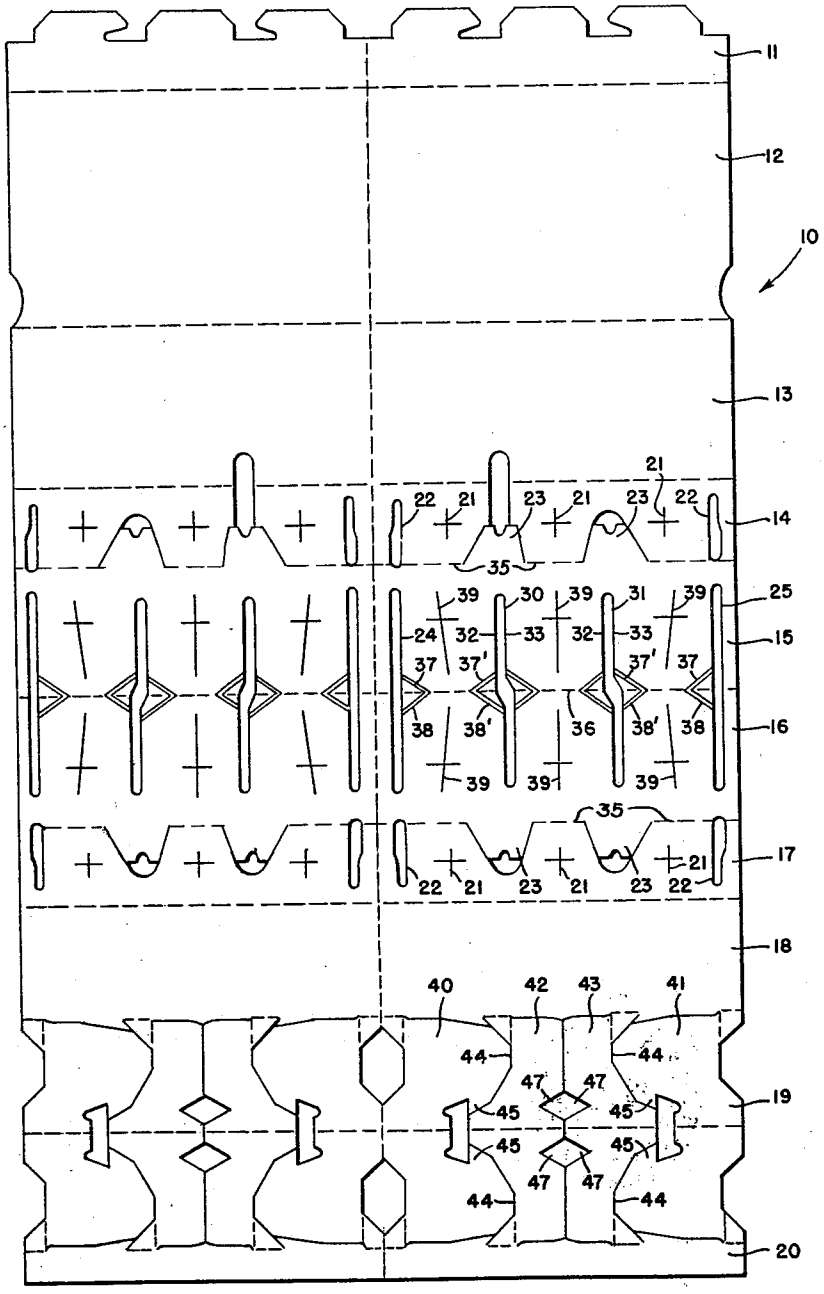
Oct. 31, 1961 R. F. REIFERS 3,006,528

PAPERBOARD CONTOURED POST EGG CARTON

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FIG. 1



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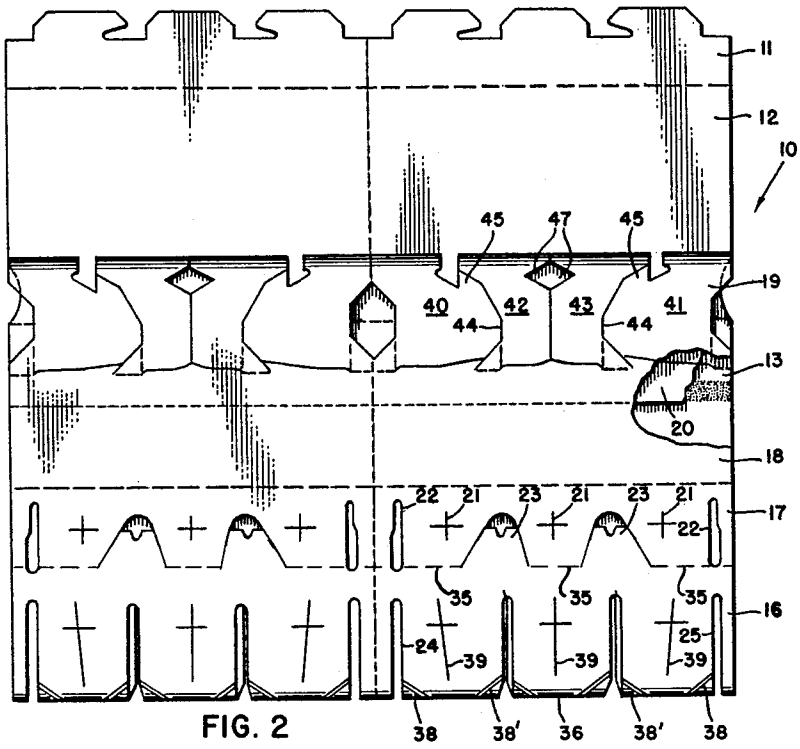


FIG. 2

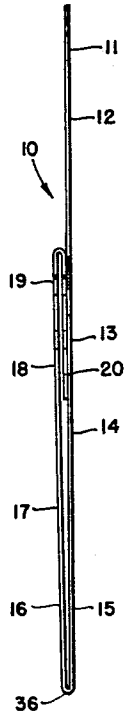


FIG. 3

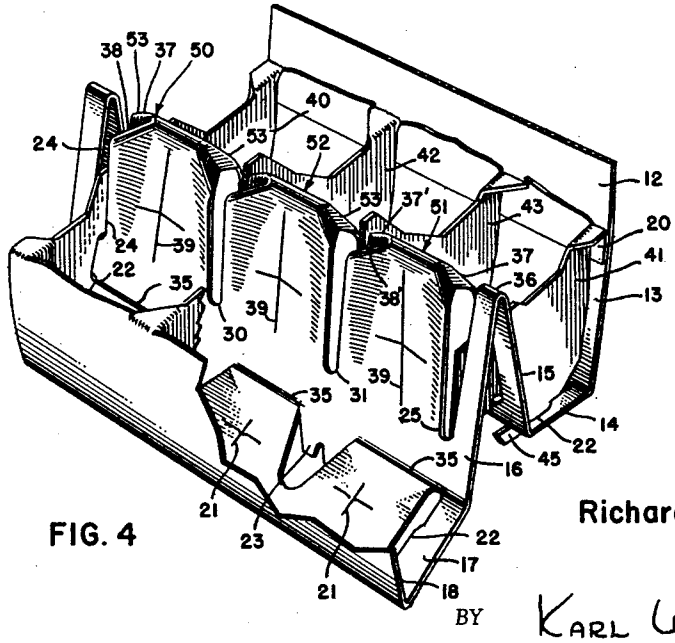


FIG. 4

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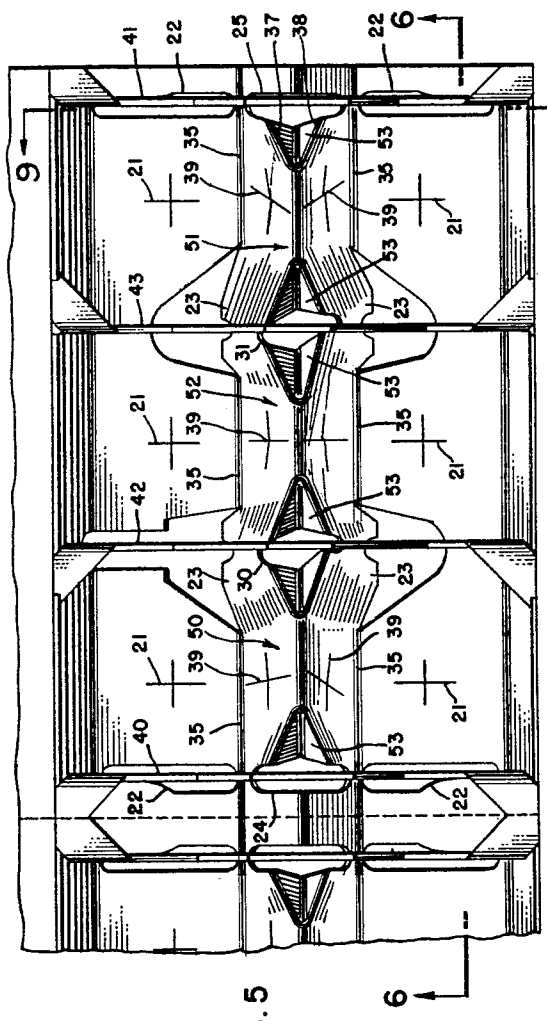


FIG. 5

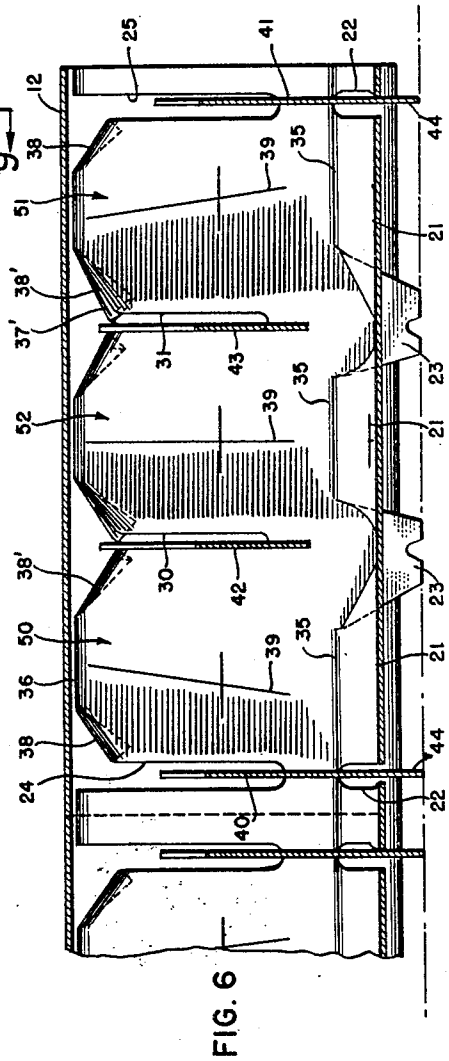


FIG. 6

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FIG. 8

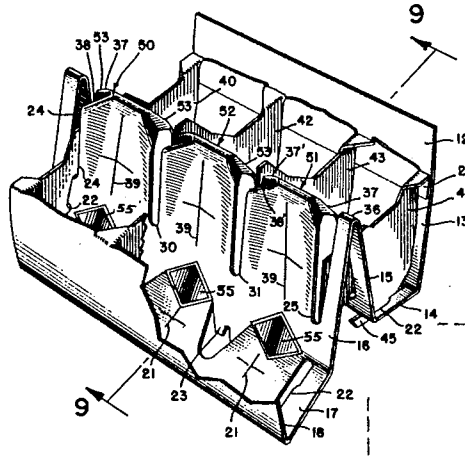
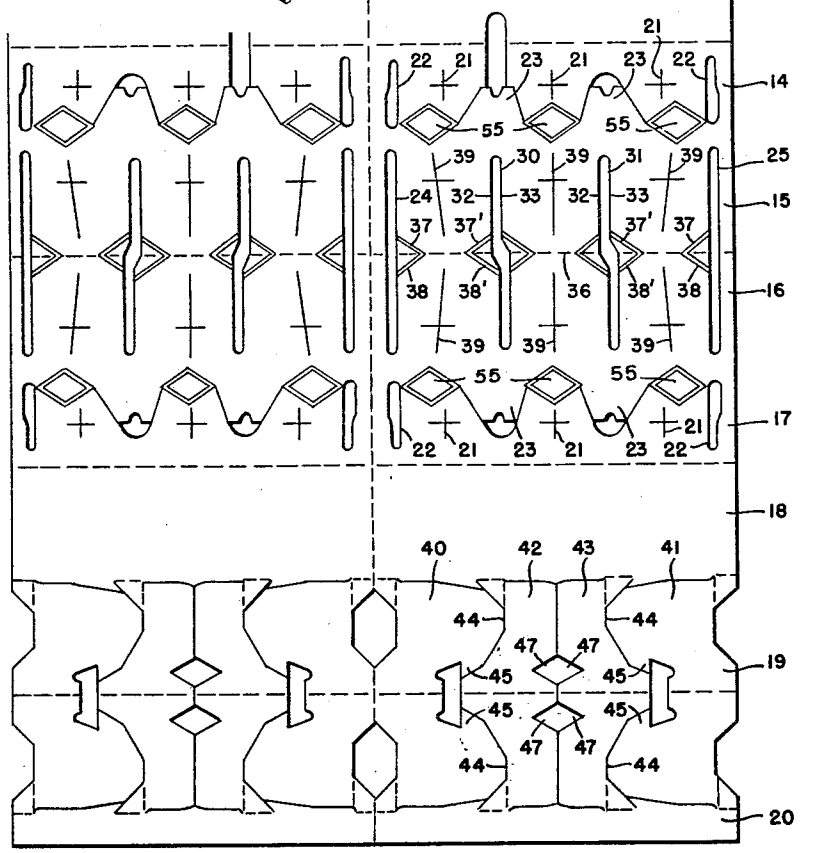


FIG. 7.



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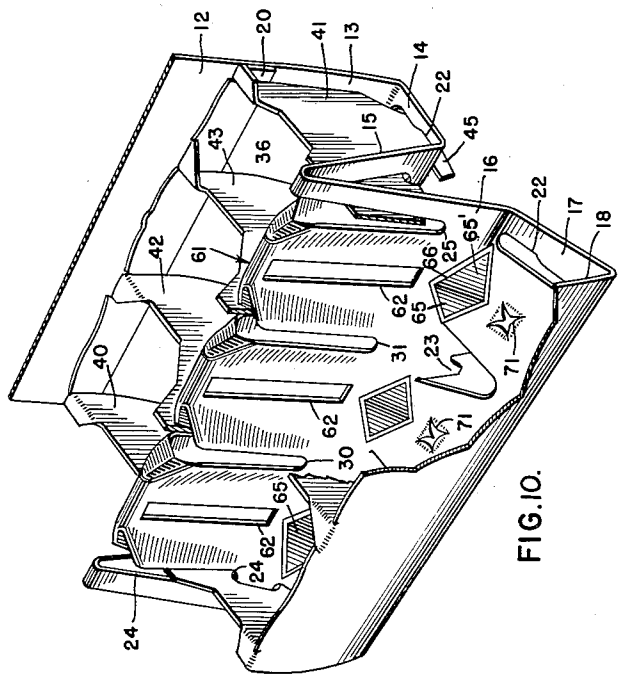


FIG. 10.

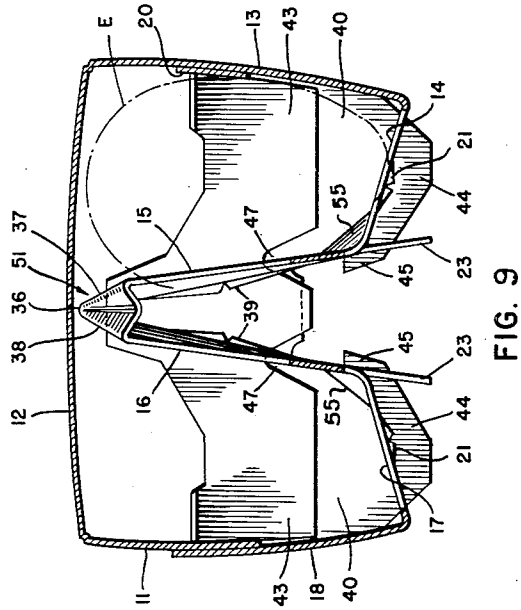


FIG. 9

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United States Patent Office 3,006,528 Patented Oct. 31, 1961

3,006,528

PAPERBOARD CONTOURED POST EGG CARTON

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Filed July 10, 1959, Ser. No. 826,320
14 Claims. (Cl. 229—28)

The present invention relates to an egg carton of paperboard, and more particularly to such an egg carton that is made from a single blank of material and which has a plurality of contoured posts forming the intermediate longitudinal partition structure thereof.

Egg cartons made of paperboard have enjoyed a wide commercial success, particularly those cartons that are capable of being formed of a single blank of paperboard and are capable of being set up on automatic equipment. In one highly successful carton of this type there is provided an inverted V-bottom forming a longitudinal partition structure extending from end to end of the carton parallel to the front and back walls thereof. Transverse partitions extend between the front and back walls of this type of carton and cooperate with the longitudinal partition structure to form cells within the carton for holding the eggs.

During the marketing operations, in which the erected cartons are filled, closed and shipped to the retail point of sale, the cartons are subjected to a variety of forces which tend to damage them and the eggs that they contain. For example, where filled cartons are transported by trucks, they are subjected to considerable jostling, this giving rise to motion of the eggs within the cells, known as egg rattling. In addition, the cartons are subjected to rather heavy vertical loads, and so it is necessary to make the cartons as strong as possible in order for them to withstand these loads without crushing or deforming sufficiently to enable the transmission of forces into the eggs, which result would cause the eggs to break.

While the above-mentioned factors pertaining to egg cartons must be considered in the construction of the carton, sight must never be lost of the further factor that the cost of the carton must be kept as low as possible, and so those features of construction which may be highly desirable from a strength point of view must always be considered in the light of the cost which the total carton will have.

Other factors involved in the construction of an egg carton are the necessity for providing as few sizes of basic cartons as possible, it being well known that eggs are commonly sold graded according to weight, the heavier eggs being larger than the lighter eggs. Thus, it is desirable to provide an egg carton construction in which only a limited number of sizes of cartons need be provided in order to safely accommodate a wide range of egg sizes. In addition, those engaged in the sale of eggs are cognizant of the usefulness of the egg carton as an advertising medium for itself, and so the carton must be of a generally regular construction with generally planar surfaces of maximum dimension, in order to accommodate the advertising and decorative printing in the best possible manner.

While some of the above discussed desideratum have been achieved in prior art egg cartons, none of these cartons have met all of the above noted desideratum. Thus, where good strength in the longitudinal partitions has been obtained in some prior constructions, they have usually been costly in the amount of paperboard used and/or in the process for manufacturing them. An example of this is those cartons which have a multi-layer longitudinal partition structure in which the layers are glued together. Other prior art cartons have been relatively complicated in constructions, requiring complex machinery for their manufacture and for setting them up from the knocked-down condition. Still other constructions have had limited egg room, or have decreased the amount of space for advertising printing in order to achieve additional egg room. In summary, all of the prior art egg cartons have been deficient in not providing one or more of the above discussed desideratum.

An object of the present invention is to provide an egg carton capable of being manufactured from a single blank of paperboard material and having superior vertical rigidity.

Another object of the present invention is the provision of such an egg carton having superior strength for a given caliper of paperboard.

Yet another object of the present invention is to provide a paperboard egg carton that may be readily set up by automatic set-up equipment.

Another object of the present invention is the provision of an egg carton having added egg room with the same relative amount of paperboard material.

A further object of the present invention is to provide a paperboard egg carton having maximum space on the exterior thereof to receive advertising printing.

Yet a further object of the present invention is the provision of an egg carton having a cell construction that will permit less movement of the eggs therein.

A still further object of the present invention is to provide an egg carton having a cell structure with an increased number of points of contact between an egg and the cell.

Other objects and the nature and advantages of the instant invention will be apparent from the following description taken in conjunction with the accompanying drawings, wherein:

FIG. 1 is a view showing a blank for making a carton in accordance with the present invention.

FIG. 2 is a view, with parts broken away, showing the blank after it has been folded and glued.

FIG. 3 is a side view of the folded and glued blank of FIG. 2.

FIG. 4 is a perspective view, with parts removed, of a carton in accordance with the present invention.

FIG. 5 is a plan view of the carton, with the top thereof removed.

FIG. 6 is a cross-sectional view taken on the line 6—6 of FIG. 5.

FIG. 7 is a plan view of a blank, with parts removed, of another egg carton in accordance with the present invention.

FIG. 8 is a perspective view, with parts removed, of an egg carton erected from the blank of FIG. 7.

FIG. 9 is a cross-sectional view taken on the line 9—9 of FIG. 8, showing the top of the carton closed with an egg illustrated in position in the carton by means of phantom lines.

FIG. 10 is a perspective view of another embodiment of an egg carton in accordance with the present invention, with parts removed.

Referring now to the drawings, wherein like reference characters are used to designate like or corresponding parts throughout the several views, there is shown in FIG. 1 a blank generally designated **10**. Blank **10** is in two symmetrical halves, and as is well known, the blank **10** forms a carton having cells for one dozen eggs and may be divided into two sub-units each holding one-half dozen eggs. The blank **10** presents, in order a tuck flap **11**, a cover panel **12**, a back panel **13**, a bottom panel **14**, a pair of longitudinal partition panels **15** and **16**, a second bottom panel **17**, a front panel **18**, a cross partition panel **19**, and a glue flap **20**. As is conventional,

the solid lines represent cuts and margins, and the dashed (or dotted) lines and the double solid lines represent score lines and folds. It may therefore be seen that such panels as **12** and **13** are separated from each other by a score line, that such panels as **18** and **19** are separated from each other by a combination of score lines and cuts and that the partition panels **15** and **16** are each bounded by, in part, hinge forming means represented by double solid lines.

The bottom panels **14** and **17** each has a pair of transversely extending slots **22** therein adjacent the lateral margins thereof, reference being had in this description to the right-hand sub-unit of the blank **10**. Each of the bottom panels **14** and **17** also has a pair of spaced feet lugs **23** severed therefrom on three sides and integrally joined to the adjacent longitudinal partition panel. Hence, the feet lugs **23** in bottom panel **14** are integrally joined to the longitudinal partition panel **15** and the feet lugs **23** in the bottom panel **17** are integrally joined to the longitudinal partition panel **16**.

The longitudinal partition panels **15** and **16** have a transversely extending slot **24** near the left margin of the right-hand sub-unit and a similar transversely extending slot **25** near the right margin thereof. The slots **24** and **25** are end slots, and extend continuously from adjacent the boundary between bottom panel **14** and longitudinal partition panel **15** to adjacent the boundary between bottom panel **17** and longitudinal partition panel **16**.

Each of the longitudinal partition panels **15** and **16** has a pair of intermediate slots **30** and **31** therein, these slots **30** and **31** being identical in construction and each being defined by a first margin **32** that extends transversely from the boundary between the longitudinal partition panels **15** and **16**, and by a second margin **33** that is spaced from the first margin **32** and extends from the aforementioned boundary at an angle towards the first margin **32**, and thence in parallel relationship thereto. The first margin **32** of an intermediate slot **30**, **31**, in one of the longitudinal partition panels **15**, **16**, is joined to the second margin **33** of an intermediate slot in the other one of the longitudinal partition panels **15**, **16**. Hence, as is apparent, the slots present a configuration that is generally zig-zag, and which has a relatively wide connecting part at the boundary between the partition panels **15** and **16**.

The boundary between partition panel **15** and bottom panel **14** is formed by an interrupted fold line **35**, as is the boundary between partition panel **16** and the bottom panel **17**.

The hinge formation between the longitudinal partition panels **15** and **16** comprises an interrupted fold line **36**, and a plurality of pairs of diverging fold lines **37** and **38**. Each pair of fold lines **37**, **38** diverges from a point on the fold line **36** and extends to the adjacent margin of the closest transverse slot; thus, the pair of fold lines **37**, **38** extend to the margin of the slots **24** and **25** and pairs of fold lines **37'**, **38'** extend to the margins of the transverse slots **30** and **31**.

Egg cushioning cross-slits **39** are provided in the longitudinal partition panels **15** and **16**, and it will be observed that the generally longitudinally extending slit lying between slots **24** and **30** on the one hand and slots **31** and **25** on the other hand, extend from adjacent fold line **35** to a point adjacent the fold line **36**; further, these particularly transversely extending slits are inclined toward the center of the sub-unit of the blank **10**.

The cross partition panel **19**, which may be seen to have a fold line thereacross, comprises a pair of full depth cross partitions **40** and **41**, in each sub-unit, and a pair of shallow depth cross partitions **42** and **43** therebetween.

The full depth cross partitions **40** and **41** each has a pair of spaced extensions **44**, and these extensions **44** have hooks **45** thereon, the hooks **45** facing each other. Each of the shallow depth cross partitions **42** and **43** has a pair of spaced triangular apertures **47**, each of which is located at the margin of the partition that is adjacent the other one of the shallow depth cross partitions.

To provide a carton in which the under side of the cover will contact the longitudinal partition structure, the longitudinal partition panels **15** and **16** are of equal width and are wider than the front panel **18**.

The blank **10** is transformed into a knocked-down carton, as shown in FIGS. 2 and 3, by having glue applied to the hidden side of glue flap **20**, as seen in FIG. 1. The bottom part of blank **10** is folded upwardly, about fold line **36** between the longitudinal partition panels **15** and **16**, and then the blank is folded about the fold line that divides the cross partition panel **19**, and the glue flap **20** attached to the back panel **13**. This construction is shown by the broken away parts in FIG. 2, the glue being shown on back panel **13**.

It is in the condition or state shown in FIGS. 2 and 3 that the carton is shipped from the manufacturer to the user, where it is set up automatically. The automatic setting up of the egg carton is accomplished in known manner, and when set up the egg carton of the present invention has the appearance illustrated by FIG. 4.

In FIG. 4, there may be seen the back **13** of the erected carton with the integral cover **12** largely broken away, as is the tuck flap **11**. It will be understood that FIG. 4 shows only one of the sub-units for holding six eggs, and that the sub-unit holding the other six eggs in the full dozen carton has been broken away along the dividing fold line. The longitudinally extending bottom and partition structure may be seen to comprise the bottom panels **14** and **17** which slope gently upwardly from the lower edges of the front and back **13** and **18**, respectively. The longitudinal partition panels **15** and **16** rise sharply from the uppermost part of the bottom panels **14** and **17** respectively to a summit, which is the fold line **36**. The full depth cross partitions **40** and **41** are shown, with nearest partition **41** broken away for purposes of clarity. Between the full depth cross partitions **40** and **41** are the shallow depth cross partitions **42** and **43**, which latter cross partitions have also been broken away for purposes of clarity. As will be understood, all of the cross partitions have been folded downwardly in the automatic machinery that sets up the carton and therefore extend through the slots **24**, **25**, **30** and **31**. As will be observed, the cross partitions **40**, **41**, **42** and **43** are integral with the front wall **18** and are attached to the back wall **13** by the glue flap **20**. As is best shown in FIG. 4 the hooks **45** on the full depth cross partitions **40** and **41** are in engagement with the longitudinal bottom and partition structure, extending through the slots **22** in the bottoms **14** and **17**.

Attention is particularly directed to the formation of the longitudinal bottom and partition structure, and the configuration of the longitudinal partition panels **15** and **16** in the six cell sub-unit shown in FIG. 4, which form two contoured end posts **50** and **51** and an intermediate contoured post **52**. As may best be seen from FIGS. 4 and 5, which latter figure shows a part of the six cell sub-unit that is removed in the FIG. 4 showing, the three posts, **50**, **51** and **52** comprise outwardly facing concave panels. These panels, which are, of course, parts of the longitudinal partition panels between the slots **24**, **30**, **31** and **32**, are joined in pairs at the summit formed by the fold line **36**. Each post **50**, **51**, **52** also includes two generally triangular concave areas **53**. Each triangular concave area **53** has an apex on the fold line (or summit) **36** and extends obliquely and downwardly therefrom to the adjacent margin of the closest slot in the longitudinal partition structure. The triangular concave areas **53** are defined by the pairs of fold lines **37**, **38**, etc., and due to the angularity between the diverging fold lines **37** and **38** and the fold line **36**, at the summit

of the longitudinal partition structure, the longitudinal partition panels **15** and **16** that are below each of the diverging fold lines **37** and **38** are substantially in the plane thereof. As will be understood, the fold lines **37** and **38** constitute margins between the concave areas **53** and the longitudinal partition panels **15** and **16**. The maintenance of the areas **53** in their concave formation is enhanced by the fact that the fold line **36** extends downwardly and into the areas **53**, between the diverging fold lines **37** and **38**, and thus the entire structure is maintained with parts thereof in the relative positions shown in FIGS. 4 through 7.

The cross slit formations **39** are also shown in FIG. 4 on the near side of the three contoured posts **50**, **51** and **52**.

Referring now to FIG. 5, there may be seen in plan view an entire six cell sub-unit together with the several egg engaging surfaces in each of the cells. Thus, it will be understood that the bottom of each cell is a part of one or the other of the bottoms **14** and **17**, having the cross slits **21** in each of the cell bottoms. From FIG. 4, it will be understood that these cell bottoms slope gently upwardly. The concave panel of each of the contoured posts **50**, **51** and **52** that forms a part of each of the cells has a generally concave egg embracing and engaging formation, presenting at the upper end thereof three angularly related panel parts underlying the several fold lines **37**, **37'** and the part of fold line **36** that is between the two fold lines **37**, **37'** in one cell. Due to the nature of the paperboard, the angularly related areas merge gradually with each other, and finally join the fold line **35** at the bottom of the contoured post. The cell is completed by two of the transverse partition panels **40**, **42**, **43**, **41**.

The intermediate shallow depth cross partition panels **42** and **43** are firmly held by the margins of the slots **30** and **31**; the margins buttress the cross partitions **42** and **43** from either side thereof, as shown, and thus add to the overall strength and rigidity of the carton. The contact of the margins of the slots **30** and **31** may be seen in both FIGS. 5 and 6.

The summit of interrupted fold line **36** may be seen in FIG. 6 to lie closely beneath the under side of cover **12**. Of course, when the carton is subjected to a vertical load the cover **12** will be pressed downwardly into engagement with the units of the several contoured posts **50**, **51** and **52**, and stresses will be transmitted through the contoured posts and into and through the feet **23** which are integral therewith and extend to the bottom plane of the egg carton, i.e., the plane of the bottom edges of the front **18** and back **13**. The contoured posts **50**, **51** and **52** may also be seen in FIG. 6 to be supported by the full depth fold up cross partitions **40** and **41**, the extensions **44** of which are in this same bottom plane.

The carton described in FIGS. 1 through 6 may be made from an economical rectangular blank of paperboard material and may be glued together to form the carton in the knocked-down condition, shown in FIGS. 2 and 3, on available automatic equipment. The carton may be erected from the knocked-down condition into the erected condition shown in FIGS. 4 to 6 rapidly on automatic carton erecting machinery. This carton will hold either a dozen eggs or may be readily divided to present two cartons each holding a half-dozen eggs.

Due to the construction of the longitudinal partition in which contoured posts **50**, **51** and **52** are provided, in each six cell sub-unit, this carton has greatly increased vertical rigidity and strength, i.e., strength to resist vertical forces on the cover of the carton such as result when the cartons are stacked one on top of the other. Thus, the carton of the present invention will permit the utilization of a lighter or thinner paperboard material for a carton having the same strength as prior art cartons, or alternatively will provide a greatly strengthened carton of the same caliper of paperboard.

The egg cells of this egg carton are larger than have heretofore been provided, for the same amount of paperboard material, and thus provide added egg room. This permits the manufacture of a smaller number of sizes of egg cartons so that fewer sizes need be manufactured in order to supply the needs of the trade. The cells themselves have superior egg holding ability, and due to the many surfaces thereof which are angled with respect to each other they hold eggs securely and without permitting egg rattle.

The cartons of the present invention provide top, front and back surfaces of maximum area and of undiminished advertising space, to thereby aid in the sales appeal of the cartons.

In FIG. 7, there is shown a blank **70**, with parts broken away, of another embodiment of the invention, this blank being the same as blank **10** except for the boundary between the partition panels and the bottom panels. The boundary between partition panel **15** and bottom panel **14** is formed by a series of diamond-shaped crease formations **55**; similar crease formations **55** form the boundary between the longitudinal partition panel **16** and the second bottom panel **17**. Each of the formations **55** lies between the planes of the transversely extending slots, and it will be noted that the crease formations between the intermediate slots **30** and **31** lie approximately centrally thereof, while the crease formations **55** between the end slots **24**, **25** and the next adjacent intermediate slot **30** and **31**, respectively, lie much closed to the end slots. An aligned longitudinal row of diamond-shaped crease formations **55** comprises a hinge between the adjacent partition and bottom panels.

Referring now to FIG. 8, which is similar to the showing in FIG. 4, there may be seen the same structure as in FIG. 4, but it will be noted that in FIG. 8 the diamond-shaped crease formations **55** enhance the contour effect of the posts **50**, **51** and **52**, and tend to maintain the bottoms of these posts at a greater angle to the longitudinal axis of the carton.

As may be seen in FIG. 9, the crease formation **55** in each cell is at a different angle than either the longitudinal partition panel or the bottom panel forming a part of each cell, thus to serve as an intermediately sloping connecting panel between the cell bottom and cell side.

In FIG. 9 there is also shown the position of the parts when an egg is placed in the right-hand cell shown therein. The egg E is supported in the cross slit area **39** of longitudinal partition panel **15** forming a part of the contoured post **51**. The egg is also supported on the part of bottom **14** that is between the transverse partitions **43** and **41**, only the former of which appears in FIG. 9, and is cushioned by the cross slits **21** therein; this is essentially the position of an egg in the carton of FIGS. 1–6, also.

Referring now to FIG. 10, there is shown another embodiment of the carton of the present invention, and it may be seen therein that the contoured post **61** is generally similar to the contoured post **51**, but has a generally vertically extending cut-out **62** that extends from just beneath the summit of fold line **36** to a point adjacent diamond-shaped crease formation **65**. This cut-out **62** provides for greater flexibility in a lateral direction of the side of contoured post **61** formed by the longitudinal partition panel **16**.

The diamond shaped crease formation **65** is generally similar to the formation **55**, but differs therefrom in that the formation **65** is somewhat elongated, particularly the right-hand part **65'** thereof as shown in FIG. 10. This provides for a slightly different contour to the part of longitudinal partition panel **16** extending upwardly from the edge **66** of formation **65**.

The cross slit arrangement **71** in the bottom **17** forming a part of the egg cell is positioned so that the slits

thereof are both in angular relationship to the bottom edge of front 18, instead of being parallel and perpendicular thereto as is a cross slit 21.

The carton of FIG. 10 in general provides somewhat more cushioning for eggs held in the cells thereof, and thus protects the eggs from breakage to an even greater extent than the carton shown in FIGS. 1 to 7 and 8 and 9.

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 blank for a paperboard egg carton comprising, in order, a truck flap, a cover panel, a back panel, a bottom panel, a pair of longitudinal partition panels, a second bottom panel, a front panel, a cross partition panel, and a glue flap, hinge forming means separating said flaps and panels, said bottom panels each having a pair of transversely extending slots therein adjacent the lateral margins thereof, said longitudinal partition panels having a transversely extending end slot therein adjacent each lateral margin thereof, extending continuously from adjacent the hinge forming means between one said longitudinal panel and the adjacent bottom panel to adjacent the hinge forming means between the other longitudinal panel and the other bottom panel, each of said longitudinal partition panels further having a pair of intermediate slots therein between said end slots, each said intermediate slot being defined by a first margin extending transversely from the fold line between said longitudinal partition panels and by a second margin spaced therefrom and extending from said fold line at an angle toward said first margin and thence in parallel relationship to said first margin, the first margin of an intermediate slot in one longitudinal partition panel joining the second margin of an intermediate slot in the other longitudinal partition panel, said cross partition panel comprising a pair of full depth cross partitions and a pair of shallow depth cross partitions therebetween, said full depth cross partitions each having extensions with a pair of facing hooks thereon and a pendent member between said extensions, each said shallow depth cross partition having a pair of spaced triangular apertures at the margin thereof that is adjacent said other shallow depth cross partition, the width of said longitudinal partition panels being coequal and greater than the width of said front panel, the hinge forming means between each bottom panel and each longitudinal partition panel comprising a plurality of spaced diamond shaped crease formations, each said formation lying between the planes of said transversely extending slots, the hinge forming means between said pair of longitudinal partition panels comprising a plurality of pairs of diverging fold lines, each such pair of fold lines diverging from a point on the boundary between said two longitudinal partition panels and extending to the adjacent margin of the closest transverse slot, one pair of said diverging fold lines extending from the point on the boundary into said transversely extending end slots adjacent each lateral margin, and a pair of said pairs of diverging fold lines extending from the point on the boundary from opposite sides of said intermediate slots and extending into the margins thereof, said last mentioned hinge forming means further comprising an interrupted fold line extending across said blank between said pair of longitudinal partition panels and completing said boundary, and slits in said longitudinal partition panels each extending from adjacent one of said crease formations to adjacent said boundary between the transverse end and intermediate slots, said partition panels including integral foot lugs extending into said bottom panels and separated therefrom.

2. A blank for a paperboard egg carton comprising, in order, a tuck flap, a cover panel, a back panel, a bottom panel, a pair of longitudinal partition panels, a second bottom panel, a front panel, a cross partition panel, and a glue flap, hinge forming means separating said flaps and panels, said bottom panels each having a pair of transversely extending slots therein adjacent the lateral margins thereof, said longitudinal partition panels having a transversely extending end slot therein adjacent each lateral margin thereof, extending continuously from adjacent the hinge forming means between one said longitudinal panel and the adjacent bottom panel to adjacent the hinge forming means between the other longitudinal panel and the other bottom panel, each of said longitudinal partition panels further having a pair of intermediate slots therein between said end slots, said cross partition panel comprising a pair of full depth cross partitions and a pair of shallow depth cross partitions therebetween, said full depth cross partitions each having extensions with a pair of facing hooks thereon, the width of said longitudinal partition panels being coequal and greater than the width of said front panel, the hinge forming means between each bottom panel and each longitudinal partition panel comprising a plurality of spaced diamond shaped crease formations, each said formation lying between the planes of said transversely extending slots, the hinge forming means between said pair of longitudinal partition panels comprising a plurality of pairs of diverging fold lines, each such pair of fold lines diverging from a point on the boundary between said two longitudinal partition panels and extending to the adjacent margin of the closest transverse slot, one pair of said diverging fold lines extending from the point on the boundary into said transversely extending end slots adjacent each lateral margin, and a pair of said pairs of diverging fold lines extending from the point on the boundary from opposite sides of said intermediate slots and extending into the margins thereof, said last mentioned hinge forming means further comprising an interrupted fold line extending across said blank between said pair of longitudinal partition panels and completing said boundary, and slits in said longitudinal partition panels each extending from adjacent one of said crease formations to adjacent said boundary.

3. A blank for a paperboard egg carton comprising, in order, a tuck flap, a cover panel, a back panel, a bottom panel, a pair of longitudinal partition panels, a second bottom panel, a front panel, a cross partition panel, and a glue flap, hinge forming means separating said flaps and panels, said bottom panels each having a pair of transversely extending slots therein adjacent the lateral margins thereof, said longitudinal partition panels having a transversely extending end slot therein adjacent each lateral margin thereof, extending continuously from adjacent the hinge forming means between one said longitudinal panel and the adjacent bottom panel to adjacent the hinge forming means between the other longitudinal panel and the other bottom panel, each of said longitudinal partition panels further having a pair of intermediate slots therein between said end slots, said cross partition panel comprising a pair of full depth cross partitions and a pair of shallow depth cross partitions therebetween, said full depth cross partitions each having extensions with a pair of facing hooks thereon, the width of said longitudinal partition panels being coequal and greater than the width of said front panel, the hinge forming means between each bottom panel and each longitudinal partition panel comprising a plurality of spaced diamond shaped crease formations, each said formation lying between the planes of said transversely extending slots, the hinge forming means between said pair of longitudinal partition panels comprising a plurality of pairs of di-

verging fold lines, each such pair of fold lines diverging from a point on the boundary between said two longitudinal partition panels and extending to the adjacent margin of the closest transverse slot, one pair of said diverging fold lines extending from the point on the boundary into said transversely extending end slots adjacent each lateral margin, and a pair of said pairs of diverging fold lines extending from the point on the boundary from opposite sides of said intermediate slots and extending into the margins thereof, said last mentioned hinge forming means further comprising an interrupted fold line extending across said blank between said pair of longitudinal partition panels and completing said boundary.

4. A blank for a paperboard egg carton comprising, in order, a tuck flap, a cover panel, a back panel, a bottom panel, a pair of longitudinal partition panels, a second bottom panel, a front panel, a cross partition panel, and a glue flap, hinge forming means separating said flaps and panels, said longitudinal partition panels having a transversely extending end slot therein adjacent each lateral margin thereof, each of said longitudinal partition panels further having a pair of intermediate slots therein between said end slots, said cross partition panel comprising a pair of full depth cross partitions and a pair of shallow depth cross partitions therebetween, the width of said longitudinal partition panels being coequal and greater than the width of said front panel, the hinge forming means between each bottom panel and each longitudinal partition panel comprising a plurality of spaced diamond shaped crease formations, each said formation lying between the planes of said transversely extending slots, the hinge forming means between said pair of longitudinal partition panels comprising a plurality of pairs of diverging fold lines, each such pair of fold lines diverging from a point on the boundary between said two longitudinal partition panels and extending to the adjacent margin of the closest transverse slot, one pair of said diverging fold lines extending from the point on the boundary into said transversely extending end slots adjacent each lateral margin, and a pair of said pairs of diverging fold lines extending from the point on the boundary from opposite sides of said intermediate slots and extending into the margins thereof, said last mentioned hinge forming means further comprising an interrupted fold line extending across said blank between said pair of longitudinal partition panels and completing said boundary.

5. A paperboard set-up egg carton comprising a front, a back, a cover integral with said back and extending forwardly in a generally horizontal plane to said front, a longitudinally extending bottom and partition structure integral with said front and back and hingedly joined to the lower margins of said back and front and a pair of sharply rising partition panels extending upwardly to a summit, hinge means foldably joining each said partition panel at the lower margin thereof to the adjacent bottom, said summit underlying and contacting the underside of said cover, said longitudinal partition structure having slots adjacent the ends thereof and a pair of intermediate slots therebetween, a pair of full depth cross partitions joined to said front and back adjacent the upper margins thereof and extending through said end slots and a pair of shallow depth cross partitions similarly joined to said front and back and extending through said intermediate slots, inwardly directed hooks on the lower ends of said full depth cross partitions in engagement with said longitudinal bottom and partition structure, said full depth partitions including a lower edge portion for engaging a support surface, a plurality of generally triangular concave areas in said longitudinal partition structure each having an apex on said summit and extending obliquely and downwardly therefrom and terminating at the adjacent margin of the closest slot in said partition structure, one triangular concave area extending toward each of the slots adjacent the ends thereof, and a pair of the concave areas extending from opposed sides of said intermediate slots, said areas each having a margin in each of said longitudinal partition panels, the longitudinal partition panel below each said margin of said generally triangular areas being integral with and substantially in the plane of the said margin, said hinge means comprising a diamond shaped crease formation between each two cross partitions, and a pair of downwardly extending feet integral with each of said longitudinal partition panels and each underlying one of said shallow depth cross partitions and having lower edge portions substantially coplanar with the lower edge portions of said full depth partitions.

6. A paperboard set-up egg carton comprising a front, a back, a cover integral with said back and extending forwardly in a generally horizontal plane to said front, a longitudinally extending bottom and partition structure integral with said front and back and comprising a pair of gently sloping bottoms integrally and hingedly joined to the lower margins of said back and front and a pair of sharply rising partition panels extending upwardly to a summit, hinge means foldably joining each said partition panel at the lower margin thereof to the adjacent bottom, said summit closely underlying the underside of said cover, said longitudinal partition structure having slots adjacent the ends thereof and a pair of intermediate slots therebetween, a pair of full depth cross partitions joined to said front and back adjacent the upper margins thereof and extending through said end slots and a pair of shallow depth cross partitions similarly joined to said front and back and extending through said intermediate slots, inwardly directed hooks on the lower ends thereof of said full depth cross partitions in engagement with said longitudinal bottom and partition structure, said full depth partitions including a lower edge portion for engaging a support surface, a plurality of generally triangular concave areas in said longitudinal partition structure each having an apex on said summit and extending obliquely and downwardly therefrom and terminating at the adjacent margin of the closest slot in said partition structure, one triangular concave area extending toward each of the slots adjacent the ends thereof, and a pair of the concave areas extending from opposed sides of said intermediate slots, said areas each having a margin in each of said longitudinal partition panels, the longitudinal partition panel below each said margin of said generally triangular areas being integral with and substantially in the plane of the said margin, said hinge means comprising a diamond shaped crease formation between each two cross partitions.

7. A paperboard set-up egg carton comprising a front, a back, a cover integral with said back and extending forwardly in a generally horizontal plane to said front, a longitudinally extending bottom and partition structure integral with said front and back and comprising a pair of gently sloping bottoms integrally and hingedly joined to the lower margins of said back and front and a pair of sharply rising partition panels extending upwardly to a summit, hinge means foldably joining each said partition panel at the lower margin thereof to the adjacent bottom, said summit closely underlying the underside of said cover, said longitudinal partition structure having slots adjacent the ends thereof and a pair of intermediate slots therebetween, a pair of full depth cross partitions joined to said front and back adjacent the upper margins thereof and extending through said end slots and a pair of shallow depth cross partitions similarly joined to said front and back and extending through said intermediate slots, inwardly directed hooks on the lower ends thereof of said full depth cross partitions in engagement with said longitudinal bottom and partition structure, a plurality of generally triangular concave areas in said longitudinal partition structure each having an apex on said summit and extending obliquely and downwardly therefrom to the adja-

cent margin of the closest slot in said partition structure, one triangular concave area extending toward each of the slots adjacent the ends thereof, and a pair of the concave areas extending from opposed sides of said intermediate slots, said areas each having a margin in each of said longitudinal partition panels, the longitudinal partition panel below each said margin of said generally triangular areas being integral with and substantially in the plane of the said margin, said bottom having crossed slits therein between each two adjacent transverse partitions.

8. The carton of claim 7, said slits being parallel and perpendicular to said front and back.

9. The carton of claim 7, said slits lying in planes inclined to said front and back.

10. A paperboard set-up egg carton comprising a front, a back, a cover integral with said back and extending forwardly in a generally horizontal plane to said front, a longitudinally extending bottom and partition structure integral with said front and back and comprising a pair of gently sloping bottoms integrally and hingedly joined to the lower margins of said back and front and a pair of sharply rising partition panels extending upwardly to a summit, hinge means foldably joining each said partition panel at the lower margin thereof to the adjacent bottom, said summit closely underlying the underside of said cover, said longitudinal partition structure having slots adjacent the ends thereof and a pair of intermediate slots therebetween, a pair of full depth cross partitions joined to said front and back adjacent the upper margins thereof and extending through said end slots and a pair of shallow depth cross partitions similarly joined to said front and back and extending through said intermediate slots, inwardly directed hooks on the lower ends thereof of said full depth cross partitions in engagement with said longitudinal bottom and partition structure, a plurality of generally triangular concave areas in said longitudinal partition structure each having an apex on said summit and extending obliquely and downwardly therefrom to the adjacent margin of the closest slot in said partition structure, one triangular concave area extending toward each of the slots adjacent the ends thereof, and a pair of the concave areas extending from opposed sides of said intermediate slots, said areas each having a margin in each of said longitudinal partition panels, the longitudinal partition panel below each said margin of said generally triangular areas being integral with and substantially in the plane of the said margin, and a slit in the longitudinal partition extending between each two adjacent cross partitions from adjacent the bottom to adjacent the summit thereof.

11. A paperboard set-up egg carton comprising a front, a back, a cover integral with said back and extending forwardly in a generally horizontal plane to said front, a longitudinally extending bottom and partition structure integral with said front and back and comprising a pair of gently sloping bottoms integrally and hingedly joined to the lower margins of said back and front and a pair of sharply rising partition panels extending upwardly to a summit, hinge means foldably joining each said partition panel at the lower margin thereof to the adjacent bottom, said summit closely underlying the underside of said cover, said longitudinal partition structure having slots adjacent the ends thereof and a pair of intermediate slots therebetween, a pair of full depth cross partitions joined to said front and back adjacent the upper margins thereof and extending through said end slots and a pair of shallow depth cross partitions similarly joined to said front and back and extending through said intermediate slots, inwardly directed hooks on the lower ends thereof of said full depth cross partitions in engagement with said longitudinal bottom and partition structure, a plurality of generally triangular concave areas in said longitudinal partition structure each having an apex on said summit and extending obliquely and downwardly therefrom to the adjacent margin of the closest slot in said partition structure, one triangular concave area extending toward each of the slots adjacent the ends thereof, and a pair of the concave areas extending from opposed sides of said intermediate slots, said areas each having a margin in each of said longitudinal partition panels, the longitudinal partition panel below each said margin of said generally triangular areas being integral with and substantially in the plane of the said margin, and a generally vertically extending slot in the longitudinal partition between each two adjacent transverse partitions from adjacent the bottom to adjacent the summit thereof.

12. An integral one-piece foldable paperboard set-up egg carton of the type comprising a front side, a back side, a cover, a pair of bottom panels and a series of discrete and separate upstanding posts engageable on an undersurface portion of said cover and comprising a pair of downwardly diverging panels forming a longitudinal partition structure connected by said bottom panels to said front side and said back side respectively, said series of said discrete posts each comprising two principal concave faces respectively facing said front and back sides, each of said upstanding discrete posts including upper corners formed with a pair of inwardly-folded, gusset-like depressions at each upper corner thereof.

13. An integral one-piece foldable paperboard set-up egg carton of the type comprising a front side, a back side, a cover, a bottom, and a series of discrete and separate upstanding posts forming a longitudinal partition structure connected with said front side and said back side, and transverse partition panels extending from said front side and to said back side and between and along the sides of said discrete posts characterized in that said series of said discrete posts each comprises two principal concave faces, one of said faces being associated with a row of egg cells adjacent the front side of said carton and one of said faces being associated with a row of egg cells adjacent the back side of said carton, one of said sides, one of said faces and two of said partition panels forming an egg cell, each of said upstanding discrete posts including upper corners and formed with a pair of gusset-like depressions at each upper corner thereof.

14. A one-piece egg carton as set forth in claim 13; the base of each of said concave face and adjoining bottom portion including a diamond-shaped crease formation.

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