June 13, 1933. R. GUYER 1,913,441

EGG CARTON

Filed June 24, 1929 3 Sheets-Sheet 1

Fig. 1.

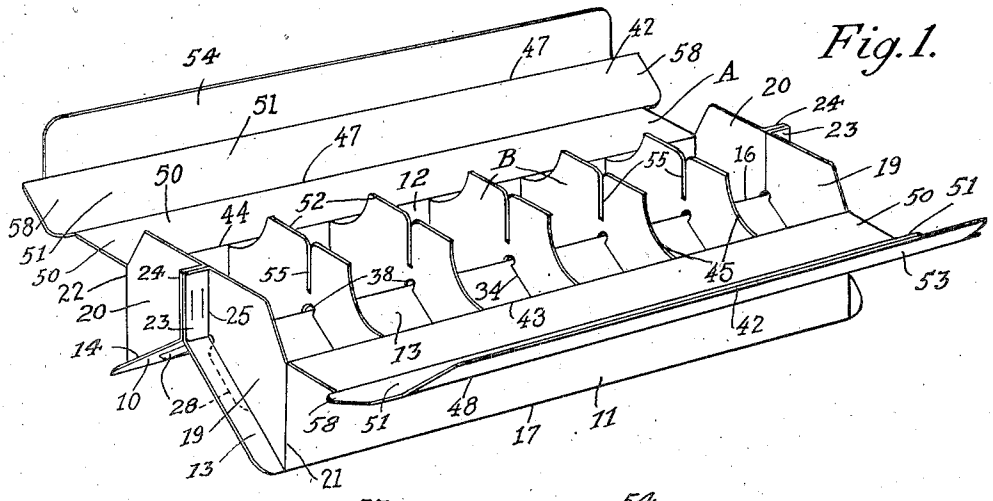


Fig. 2

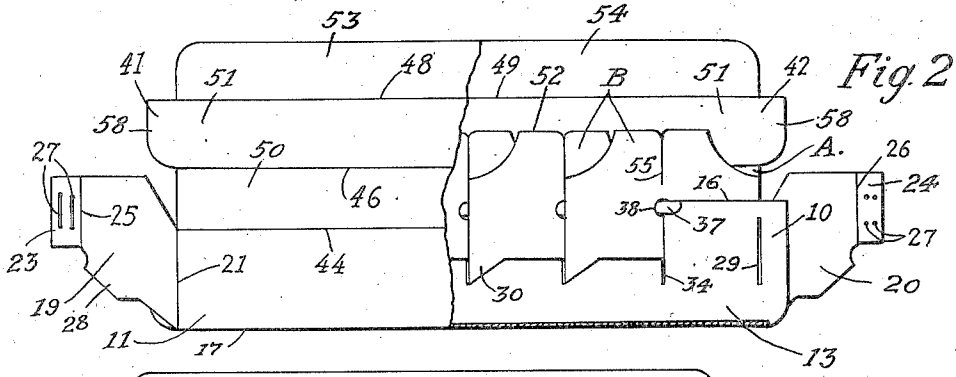
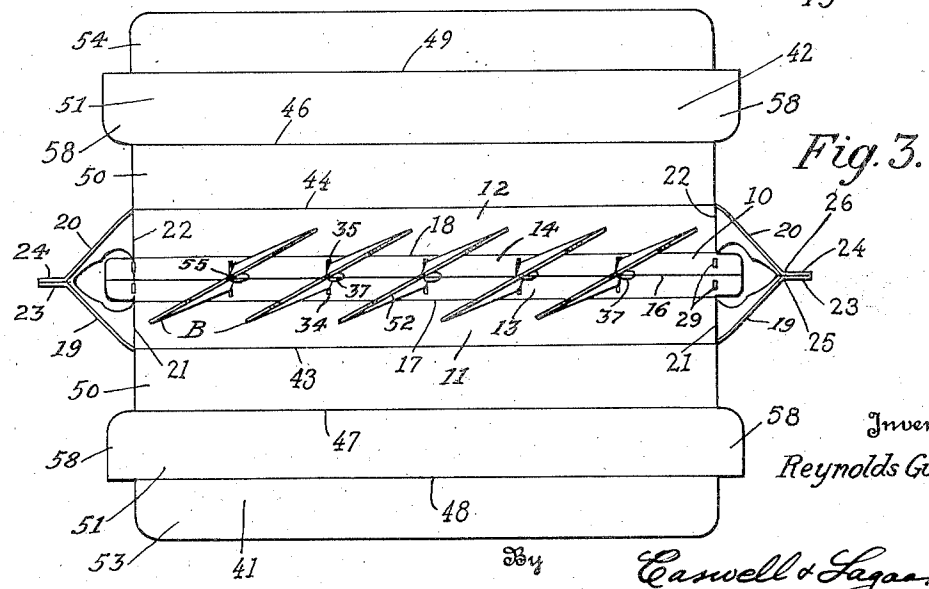


Fig. 3.



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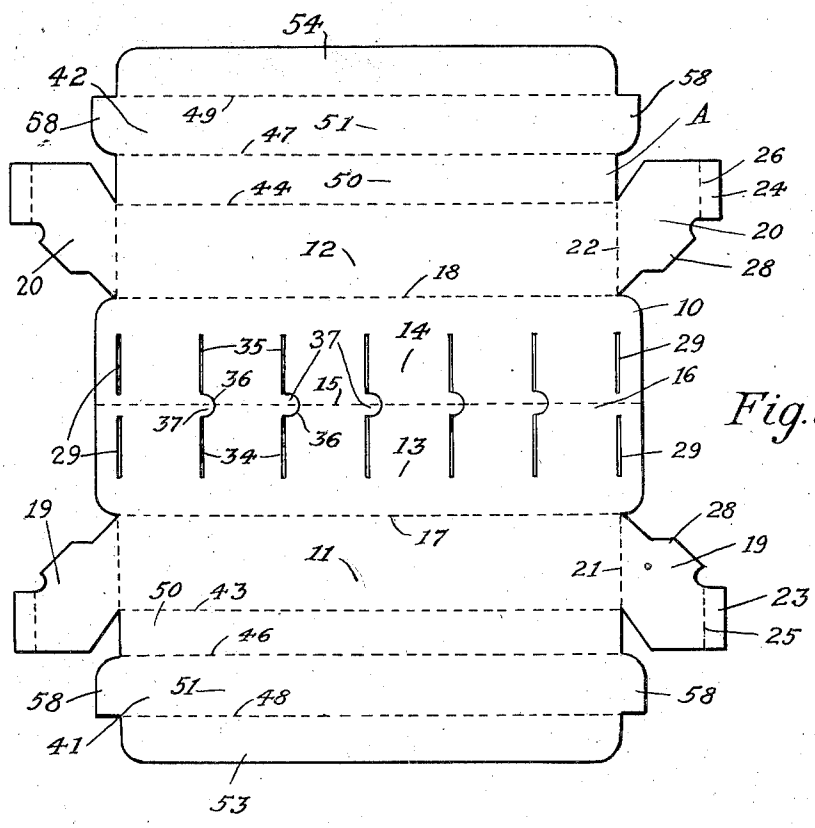


Fig. 5

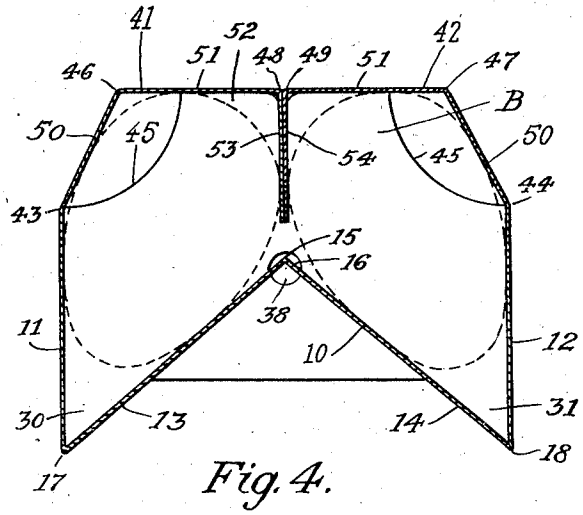


Fig. 4.

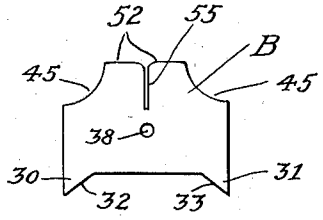


Fig. 6.

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EGG CARTON

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Fig. 7.

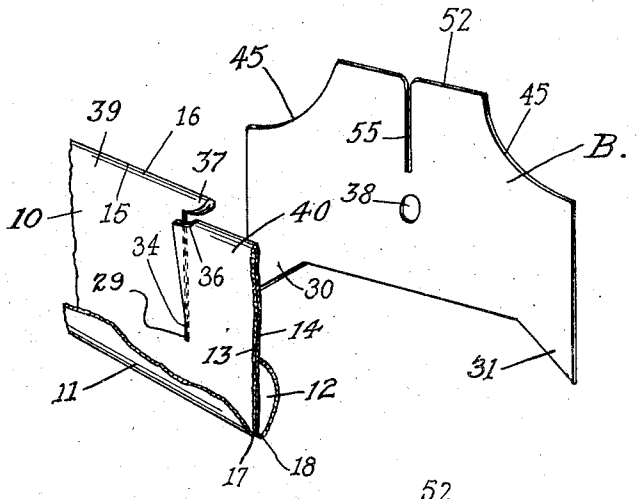
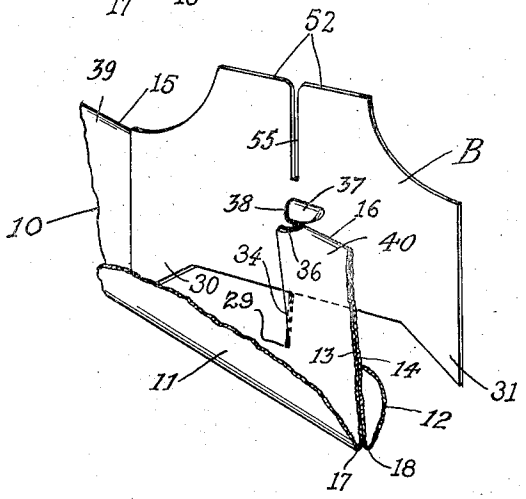


Fig. 8.



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Patented June 13, 1933 1,913,441

UNITED STATES PATENT OFFICE

REYNOLDS GUYER, OF ST. PAUL, MINNESOTA, ASSIGNOR TO WALDORF PAPER PRODUCTS COMPANY, OF ST. PAUL, MINNESOTA, A CORPORATION OF MINNESOTA

EGG CARTON

Application filed June 24, 1929. Serial No. 373,189.

My invention relates to egg cartons, and has for its object to provide an egg carton which shall be simple and inexpensive to manufacture.

Another object of the invention resides in providing a carton which may be shipped in knocked down or collapsed form, and which may be readily extended or erected in an easy and simple manner when desired for use.

A still further object of the invention resides in providing a carton in which the eggs are disposed in an inclined manner to give ready access thereto.

A feature of the invention resides in providing an egg carton in which the eggs may be easily removed therefrom.

An object of the invention resides in constructing the carton with a body portion having a V-shaped bottom adapted to be collapsed into the medial plane of the carton, and in hingedly connecting to the bottom a number of dividers adapted to normally lie along the medial plane or to be swung outwardly therefrom at right angles to the bottom of the carton when the same is in extended position.

Another object of the invention resides in providing the bottom with transverse slots for the reception of such dividers and in constructing the apex of the bottom with a number of keys adapted to overlie said slots, and serving to hold the dividers attached to the bottom.

A still further object of the invention resides in forming the keys of said bottom detached from the adjoining portions of the bottom so as to permit of the lateral displacement of the parts of the bottom adjacent each of said slots to allow the insertion of the dividers between the laterally displaced portions of the bottom when the bottom is collapsed.

A feature of the invention resides in forming the dividers with openings adapted to receive the keys and for holding the dividers mounted within the carton.

An object of the invention resides in providing side walls attached to the bottom and in providing end members connected to the side walls along the vertical edges thereof adapted to fold along the medial plane of the carton upon the erecting of the carton.

Another object of the invention resides in forming the ends of said end members with tabs disposed along the medial plane for hingedly connecting the end members of the carton together, and in further connecting said tabs to one another.

A still further object of the invention resides in terminating the apex of said bottom below the uppermost portion of the eggs, and in providing closure members for the carton connected to the side walls and constructed with flaps adapted to meet along the medial plane of the carton for separating the upper portions of the eggs.

A still further object of the invention resides in constructing the closure members with inclined walls inclining in the same direction as portions of the bottom for holding the eggs in inclined position within the carton.

Other objects of the invention reside in the details of construction thereof, and in the novel combination and arrangement of parts hereinafter illustrated or described.

In the drawings:

Fig. 1 is a perspective view of an egg carton in erected form illustrating an embodiment of my invention.

Fig. 2 is a side elevational view of the carton shown in Fig. 1 in collapsed form with portions thereof broken away to show the interior arrangement of parts.

Fig. 3 is a plan view of the carton partially erected showing the relative movement of parts during the erection of the carton.

Fig. 4 is a transverse sectional view of the carton in closed position.

Fig. 5 is a developed view of the blank from which the body of the carton is constructed.

Fig. 6 is a developed view of the blank from which the divider of the carton is constructed.

Figs. 7 and 8 are fragmentary detail perspective views showing the method of applying the divider to the collapsed bottom of the carton.

My improved carton comprises a body por-

tion which I have indicated in its entirety at A. This body portion is preferably constructed of a single sheet of cardboard or other suitable paper box material which is cut in the shape shown in Fig. 5 and scored along the various places indicated by dotted lines. This carton comprises a bottom 10 which is scored along the line 15 to permit of bending the same along the medial plane of the carton to give the bottom a V-shaped form. The score mark 15 is disposed at the apex of the bottom, which I have designated at 16, from which the two portions 13 and 14 of the bottom 10 slope downwardly. The body portion A of the carton is further provided with side walls 11 and 12 which are adapted to be bent upwardly from the bottom portions 13 and 14 along score marks 17 and 18. The side walls 11 and 12 have attached to them end wall members 19 and 20 which are adapted to be bent outwardly therefrom and at right angles thereto along score marks 21 and 22 along the vertical edges of the said side walls 11 and 12. The outer edges of the end walls 19 and 20 are constructed with tabs 23 and 24 which are further bent outwardly therefrom along score marks 25 and 26 and which lie back to back, as best shown in Fig. 1, when the carton is completed.

When the carton is in collapsed position, the two portions 13 and 14 of the bottom 10 are folded back upon themselves and are disposed between the side walls 11 and 12, as best shown in Fig. 2, while the end wall members 19 and 20 extend outwardly beyond the ends of the carton and lie in the same plane as the said side walls 11 and 12. The tabs 23 and 24 of these end wall members may be secured together by means of a staple 27 or the same may be attached to one another in any other desired manner. When the carton is erected, the portions of the body portion adjacent the score marks 17 and 18 are drawn outwardly, causing the side walls 11 and 12 to separate and the end wall members 19 and 20 to swing toward one another and at right angles to the said side walls. When in full extended position, the various parts become disposed as shown in Fig. 1 with the portions 13 and 14 of the bottom 10 in V-shaped formation, and the side walls 11 and 12 extending upwardly therefrom. For holding the end wall members 19 and 20 in locked position with respect to the carton proper, these end walls are constructed with tongues 28 which are adapted to extend into slots 29 formed in the portions 13 and 14 of the bottom 10. When so disposed, the carton proper is firmly held in erected position with the various sides and end walls disposed in proper relation to one another and to the bottom of the carton.

In conjunction with the body portion A of the carton, a number of dividers are employed which are shown in detail in Fig. 6, and which are indicated in their entirety at B. These dividers are constructed of cardboard or other suitable paper box material and are of a width equal to or less than the interior width of the carton between the side walls 11 and 12 when the carton is in erected position. The bottom of the divider B is constructed with two saddles 30 and 31 which are formed by cutting away the lower portion of the bottom of the divider along lines 32 and 33 parallel with the portions 13 and 14 of the V-shaped bottom 10. When disposed within the carton, these dividers rest upon the bottom 10 through the said saddles which form supports for holding the same in a fixed position within the carton proper. For holding the dividers in proper spaced relation, the bottom 10 is constructed with a plurality of complemental slots 34 and 35 which extend to within a short distance of the score mark 15 and fall short of the score marks 17 and 18. These slots are adapted to receive the various dividers B in a manner to be presently described. At the ends of the slots 34 and 35 adjacent the score mark 15, the stock of the blank from which the body member A is constructed is cut along circular lines 36 to form projections 37 which extend outwardly from the severed portions of the bottom and overlie the ends of the slots 34 and 35. These projections are adapted to be received within circular openings 38 cut in the various dividers B which are disposed at the intersections of the two lines 32 and 33. When the carton is assembled with the various dividers disposed within their respective slots and the keys disposed within the openings 38, the said dividers are held in proper position within the carton and are supported upon the bottom proper through the saddles 30 and 31.

In assembling the dividers within the carton, the carton is first collapsed so that the portions 13 and 14 of the bottom 10 lie along the same plane as indicated in Fig. 7. The adjacent portions of the bottom 10 on opposite sides of the various slots 34 and 35 which I have indicated in Fig. 7 at 39 and 40 are moved laterally out of the medial plane of the carton so as to spread the two portions of the bottom apart and permit the insertion of one of the dividers B into the space therebetween. When the parts are so arranged, the projection 37 of the bottom adjacent the slots 34 and 35 may be inserted into the opening 38 of the divider so as to cause the parts to be disposed as shown in Fig. 8. By now releasing the portions 39 and 40 of the bottom, the same will spring back to substantially normal position securely holding the dividers in place substantially in the medial plane of the carton. In a similar manner, all of the various dividers of the carton may be assembled, as clearly shown in Fig. 2.

The carton is assembled at the factory and is shipped in collapsed form to the user. When it is desired to erect the carton, the portions 13 and 14 of the bottom 10 of the carton are merely spread apart by direct engagement therewith. This causes the various dividers B to follow along the respective grooves 34 and 35 and to automatically swing from their positions in the medial plane to positions at right angles thereto. The dividers being free from the side walls readily move into extended position when the carton is so manipulated and quickly and properly become disposed in the desired relation. After the carton has been properly extended, the tongues 28 of the end wall members 19 and 20 are inserted into the respective grooves 29 of the bottom 10 which firmly locks the various parts in proper position. When the carton is erected, the dividers B are held from transverse movement through projections 37 which form keys for holding the same in place and are held from longitudinal or pivotal movement through the slots 34 and 35.

For closing the carton, the side walls 11 and 12 are constructed with closure members 41 and 42. These members are adapted to be bent toward one another along score marks 43 and 44 and are arranged to extend across the upper portions 45 of the dividers B. These closure members are further scored along the lines 46 and 47 to divide the same into inclined portions 50 and horizontal portions 51 which latter lie along the upper edges 52 of the dividers B and hold the same immovable within the carton. For the purpose of holding the closure in place, the members 41 and 42 are constructed with flaps 53 and 54 which are bent outwardly from said closures along score marks 48 and 49. These flaps are adapted to meet one another back to back along the medial plane of the carton and are adapted to be received within a plurality of slots 55 centrally disposed within the upper portions of the various dividers B. It will be noted in Fig. 4 that the eggs may be arranged in inclined position within the two compartments formed on each side of the bottom 10 and when so disposed, the apex 16 of the bottom falls short of the upper portion of the eggs. When the carton is closed, the two flaps 53 and 54 separate the two rows of eggs, and when the closure members are open, the said flaps are withdrawn from between the eggs, thereby exposing the major portion of the same. This permits of readily inserting the forefinger and index finger within the carton and in readily removing the eggs individually, which is otherwise extremely difficult where the partition between the two rows of eggs extend upwardly to the top of the carton or to within a short distance of the upper portion thereof.

In the use of the invention, the carton is shipped in knocked down form, as previously brought out. When desired, for use, the same is erected by spreading apart the portions at the bottom which automatically moves the dividers into position. The end walls are then locked in position with respect to the bottom and the carton is then ready to receive the eggs. After placing the eggs in the various compartments formed by the dividers, bottom and side walls of the carton, the closure may be closed by inserting the flaps in the various slots formed in the dividers. By making the slots of proper width, the flaps can be made to fit snugly within the same, and to hold the carton firmly closed so that the same may be readily handled without danger of being accidentally opened. In order to facilitate the ooening of the closures, the same are constructed with ears 58 which project outwardly beyond the end walls of the carton proper. By means of these ears, the fingers may be readily inserted between the portions 51 of the closure members 41 and 42 and the ends of the carton and the flaps 53 and 54 disengaged from within the slots 55. Upon removal of the said flaps from between the rows of eggs, free spaces are formed at the upper portions of the eggs in which the fingers may be inserted to permit of the withdrawal of the eggs individually from the carton.

My invention is highly advantageous in that an extremely simple and inexpensive egg carton is provided which performs all of the functions desired with egg cartons. The egg carton may be shipped in collapsed form and readily and quickly erected by the user whenever desired. The carton is extremely rigid in construction and the various parts thereof are firmly held in proper position. When the carton is erected, the dividers are automatically moved into extended position. The body portion of the carton may be constructed from a single blank cut in the desired shape and the dividers used in conjunction therewith may be all assembled at the factory, while the carton is in collapsed form. When the closures for the carton are open, the eggs are fully exposed and are readily accessible to the user.

Changes in the specific form of my invention, as herein disclosed may be made within the scope of what is claimed without departing from the spirit of my invention.

Having described my invention, what I claim as new and desire to protect by Letters Patent is:

1. An egg carton comprising a body portion formed with a V-shaped bottom, said bottom being hinged at the apex thereof to swing from a collapsed to an extended position, said body being formed with a slot ex-

tending thereacross, a key formed at the apex of said bottom and overlying said slot, a divider adapted to be received within said slot and formed with an opening to receive said key, said divider being adapted to pivot on said key and to swing from a position coinciding with the plane of said bottom when collapsed to a position at right angles to said bottom when extended and means for swinging said divider on said key into its right angle position upon swinging of said bottom to its extended position.

2. An egg carton comprising a body portion collapsible along the medial plane thereof, said body portion comprising a bottom and side walls hingedly connected thereto, a divider pivotally mounted on said bottom and adapted to swing free between said side walls upon the erecting of the carton, and means permanently hinged along the medial plane forming end walls for said carton and connecting said side walls together.

3. An egg carton comprising a body portion having a bottom and side walls hingedly connected thereto, said body portion being collapsible along the medial plane of the carton, end members hingedly connected to said side walls along the vertical edges thereof, tabs extending outwardly from said end wall members along the medial plane for hingedly connecting said end walls together, and means for securing said tabs to one another.

4. An egg carton comprising a body portion having an inclined planiform bottom and an inclined planiform closure inclining in the same direction as said bottom and spaced therefrom, and means cooperating with said bottom and closure for supporting an egg in inclined relation with said carton.

5. An egg carton comprising a body portion formed with a V-shaped bottom, side walls connected to said bottom, a closure for said carton having walls inclined in the same direction as said bottom for causing said closure to nest within the bottom of another similar carton, and dividers within said carton extending through said bottom, said dividers being spaced from the lowermost portion of said bottom a distance greater than the distance between the portion of said bottom contacting with the other carton upon which said carton rests and the lowermost portion of the bottom thereof.

6. An egg carton comprising a body portion formed with a V-shaped bottom, vertical walls extending upwardly from said bottom, upwardly inclined walls connected to the upper edges of said vertical walls, horizontal closure members extending toward one another from said inclined walls, and flaps extending inwardly into the carton from said closure members, said bottom, side walls, inclined walls, closure members, and flaps all contacting with an egg placed within the carton at different localities thereon to hold the egg firmly supported within the carton.

7. An egg carton comprising a body portion collapsible along the medial plane thereof, said body portion comprising a bottom and side walls connected thereto, end members connected to said side walls and hinged along the medial plane, and locking means on said bottom and end walls for holding the carton in extended position.

8. An egg carton comprising a body portion collapsible along the medial plane thereof, said body portion comprising a bottom and side walls connected thereto, end members connected to said side walls and hinged along the medial plane, said bottom having a slot in the plane of said end wall, a tongue formed on said end wall and engaged within said slot for holding said carton in erected position.

9. An egg carton comprising a body portion collapsible along the medial plane thereof, said body portion comprising a V-shaped bottom and side walls connected thereto, end walls connected to said side walls hinged along the medial plane, said end walls having the lower edges thereof inclined to correspond to the inclination of said V-shaped bottom, and means for holding said end walls attached to said bottom.

10. An egg carton comprising a body portion collapsible along the medial plane thereof, said body portion comprising a V-shaped bottom and side walls connected thereto, end walls connected to said side walls along the medial plane, said bottom extending outwardly beyond the ends of said side walls, the lower edges of said end walls being inclined in the same direction as said bottom to lie upon the projecting ends of said bottom, and means for locking said end walls to said bottom.

11. An egg carton comprising a body portion collapsible along the medial plane thereof, said body portion comprising a V-shaped bottom and side walls connected thereto, end walls connected to said side walls along the medial plane, said bottom extending outwardly beyond the ends of said side walls, the lower edges of said end walls being inclined in the same direction as said bottom to lie upon the projecting ends of said bottom, a slot formed in the projecting portions of said bottom, and a tongue formed on said end wall engaged within said slot for holding the box in erected position.

12. An egg carton comprising a body portion having a bottom and side walls connected thereto, an end wall connected to said side walls and comprising two sections each foldable from its respective side wall toward the other and overlying said bottom, said bottom having an extension extending outwardly beyond said side walls, and tabs formed on the meeting portion of said end wall sections for securing the same together,

said tabs extending outwardly beyond the plane of the end wall in the same direction as the extension on said bottom.

13. An egg carton comprising a body portion having a bottom and side walls connected thereto, an end wall connected to said side walls and comprising two sections each foldable from its respective side wall toward the other and overlying said bottom, said bottom having an extension extending outwardly beyond said side walls, and tabs formed on the meeting portion of said end wall sections for securing the same together, said tabs extending outwardly beyond the plane of the end wall in the same direction as the extension of said bottom, and a closure connected to one of said side walls, said closure having an extension extending outwardly beyond said end wall in the same direction as said bottom extension and tabs.

14. An egg carton comprising a body portion formed with a V-shaped bottom, said bottom being hinged at the apex thereof to swing from a collapsed to an extended position, transverse slots in said bottom falling short of the apex thereof, said bottom being formed at its apex with a slit communicating with said slots to form a key extending longitudinally of said bottom and away from said slots, said key being foldable outwardly with said bottom into V-shaped formation to reinforce the same, and a divider insertable into said slots, said divider having an opening for the reception of said key.

15. An egg carton comprising a body portion formed with a V-shaped bottom, said bottom having slots therein, a key formed at the apex of said bottom, and at the ends of said slots, a divider insertable into said slots, said divider extending above said key and having an opening for the reception of said key, said opening being totally disconnected from the periphery of said divider.

16. An egg carton comprising a body portion having a V-shaped bottom, side walls hingedly connected thereto, said body portion being collapsible along the medial plane of said carton, said bottom being hinged along the apex thereof and swingable inwardly into the box, end members hingedly connected to said side walls along the vertical edges thereof, said end members being hinged along the medial plane and adapted to extend outwardly beyond the ends of said side walls to clear the collapsed bottom within said box.

17. An egg carton comprising a body portion collapsible along the medial plane thereof, said body portion comprising a V-shaped bottom and side walls connected thereto, end walls connected to said side walls hinged along the medial plane, said end walls having the lower edges thereof inclined to correspond to the inclination of said V-shaped bottom, said bottom having a slot in the plane of said end wall, a tongue formed on said end wall and engaged within said slot, said tongue being disposed within the angle of said V-shaped bottom.

18. An egg carton comprising a body portion having a bottom and side walls connected thereto, said bottom having inclined portions, closure members for said carton comprising walls issuing upwardly from the side walls and inclining in the same direction as the inclined portions of said bottom, parts of the inclined portions of said bottom and closure members superimposing one another to bring the closure members of one carton within the bottom portions of a superimposed carton to restrain lateral movement of the one relative to the other.

19. An egg carton comprising a body portion having a bottom and side walls connected thereto, said bottom having inclined portions, closure members for said carton comprising walls issuing upwardly from the side walls and inclining in the same direction as the inclined portions of said bottom, another wall issuing from one of said inclined walls and extending in a horizontal direction, and dividers within said carton extending through the bottom thereof and falling short of the lowermost part of the inclined portions of the bottom and having horizontally disposed edges therebetween, parts of the inclined portions of said bottom and closure members superimposing one another to bring the inclined closure members of one carton within the bottom portions of a superimposed carton to restrain lateral movement of the one relative to the other, the horizontal edges of the dividers of one carton being disposed above the horizontal closure wall of an underlying carton to bring the inclined portions of the two cartons in contact whereby one carton is centered relative to the other.

In testimony whereof I have affixed my signature to this specification.

REYNOLDS GUYER.