July 14, 1936. W. A. SCHURMANN 2,047,495

EGG PACKAGE

Filed Dec. 6, 1935 2 Sheets-Sheet 1

Fig. 1.

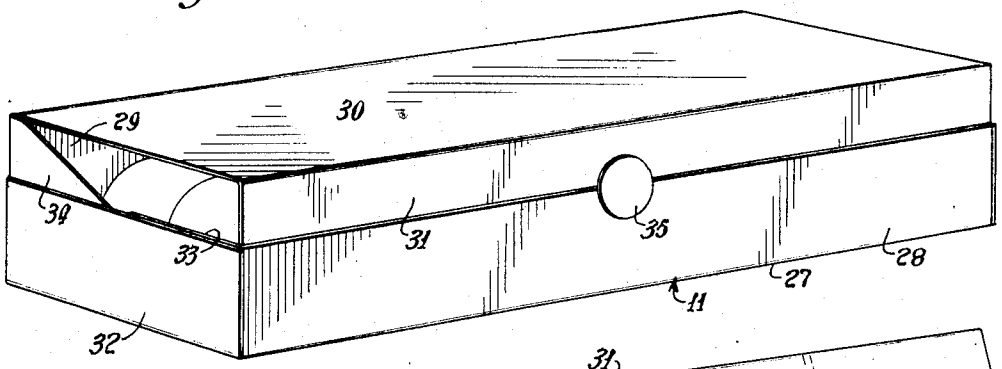


Fig. 2.

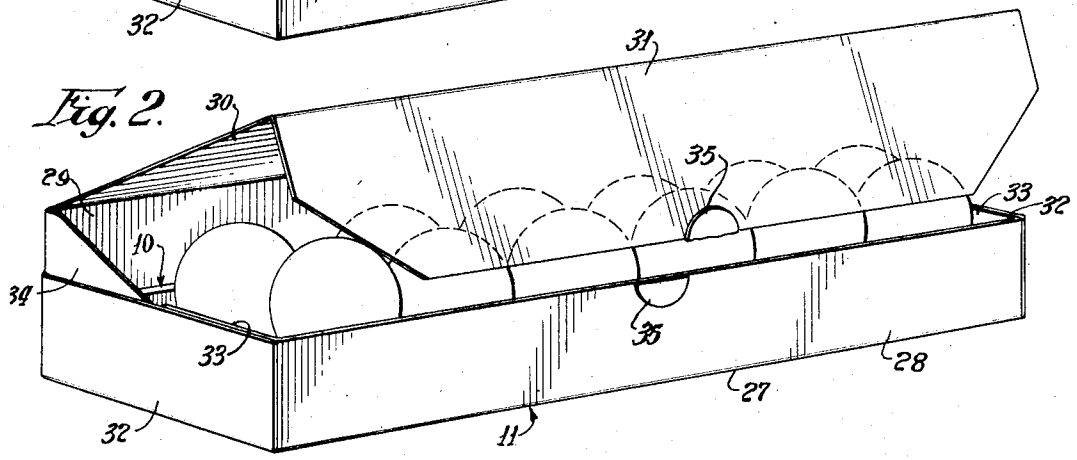
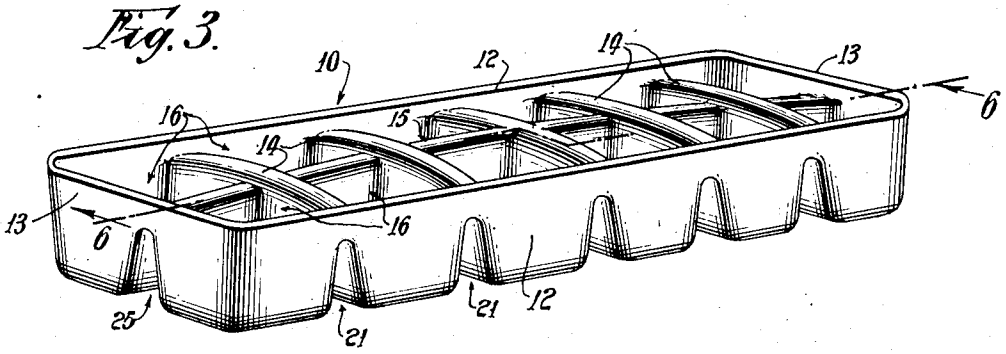


Fig. 3.



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Filed Dec. 6, 1935 2 Sheets-Sheet 2

Fig. 4.

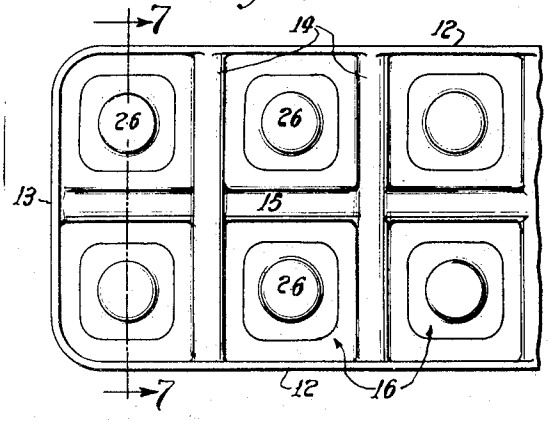


Fig. 5.

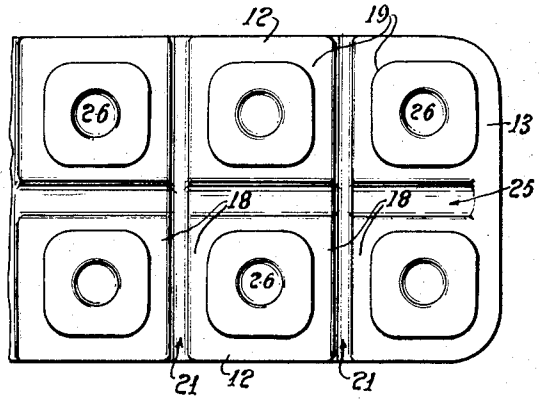


Fig. 6.

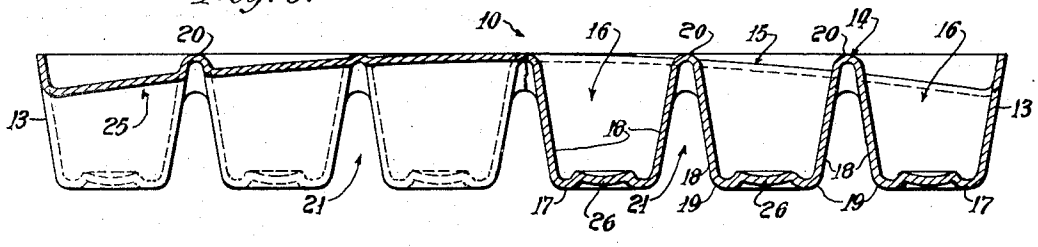


Fig. 7.

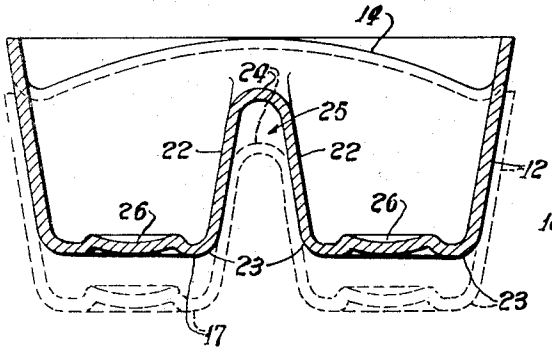
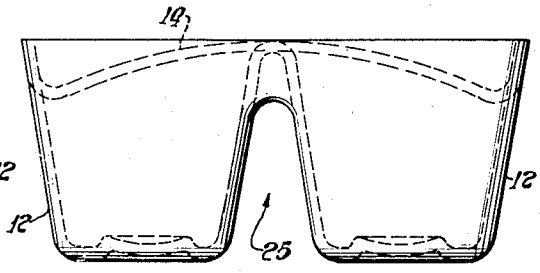


Fig. 8.



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Patented July 14, 1936

2,047,495

UNITED STATES PATENT OFFICE

2,047,495

EGG PACKAGE

William A. Schurmann, Chicago, Ill.

Application December 6, 1935, Serial No. 53,118

10 Claims. (Cl. 229—28)

This invention relates to improvements in egg packages and it consists of the matters hereinafter described and more particularly pointed out in the appended claims.

One of the objects of the present invention is to provide an improved egg package including an integral tray preferably of molded pulp or fibrous material and formed to provide a plurality of separate, individual cells, each adapted to receive an egg in a manner precluding breakage in the normal handling the package receives in use.

Another object of the invention is to provide a tray of pulp or fibrous material for an egg package, which is so constructed that the parts thereof coact to give stiffness and rigidity thereto, so that the tray when loaded with eggs, may be handled from either end without breaking under leverage action due to the weight of the eggs contained therein.

A further object of the invention is to provide a tray for this purpose, which is light in weight, cheap to manufacture and which will readily nest with others for shipment and storage.

Again, it is an object of the invention to provide a tray for this purpose, which may be received in a carton-like carrier to provide a package especially adapted for use in the retail trade and which tray when loaded, is admirably adapted for storage in domestic refrigerators, such as found in homes, until the eggs have been removed in normal use.

Still a further object of the invention is to provide a tray molded from fibrous pulp material and including side and end walls and longitudinal and transverse ribs dividing the tray into individual cells or pockets, each bottomed so as to contain an egg, the ribs being arched longitudinally as well as crosswise so as to coact in imparting such a degree of strength to the tray that it may be handled, either empty or loaded, in the ordinary way, without damage, despite the lack of strength in the material itself, of which the tray is made.

The above mentioned objects of the invention, as well as others, together with the several advantages thereof, will more fully appear as I proceed with my specification.

In the drawings:

Fig. 1 is a perspective view of the preferred form of egg package adapted for the retail trade and including a tray and a carton-like carrier therefor, the package being shown in its closed condition.

Fig. 2 is a perspective view of the improved package in its open condition which permits the removal of the loaded or filled tray from the carrier, for convenient storage in the home refrigerator.

Fig. 3 is a perspective view of the tray forming a part of the package, when removed from the carton-like carrier.

Fig. 4 is a top plan view of one end part of the tray shown in Fig. 3.

Fig. 5 is a bottom view of the other end of the tray.

Fig. 6 is a longitudinal vertical sectional view through the tray as taken on the line 6—6 of Fig. 3.

Fig. 7 is a transverse vertical sectional view on an enlarged scale through the tray as taken on the lines 7—7 of Fig. 4.

Fig. 8 is a view in end elevation of the tray on the scale of Fig. 7.

Referring now in detail to that embodiment of the invention, illustrated in the drawings, the improved package includes an egg holding tray 10 and a carton-like carrier 11 of such size as to snugly receive the tray, but from which the tray may be removed when desired.

The tray which is preferably molded from a fibrous pulp or wet laid fibre to provide an integral structure, is substantially rectangular. As shown herein, the tray includes side walls 12 and 12 and end walls 13—13 all of the same height and the same thickness, and all diverging upwardly and outwardly from the bottom at a nesting angle. Extending parallel with the end walls are laterally spaced partitions 14, and extending parallel with the side walls is a central partition 15, the said partitions dividing the tray into individual cells 16, each of a size adapted to receive an egg when stood endwise therein but being of a depth less than the height of said egg. Each cell, of course, is closed at the bottom by a wall 17.

As shown herein, the tray is formed so as to contain one dozen eggs, there being six cells from end to end and two cells from side to side. If desired, this arrangement may be changed so that the tray is four cells wide and three cells deep.

Each partition 14, which is arched lengthwise of the partition, is of an inverted V cross section so as to have diverging sides 18—18, the bottom ends of which merge into the bottoms 17 of adjacent cells by rounded corners 19. The diverging sides 18—18 join at the top by means of a rounded ridge 20 that curves longitudinally downwardly from its mid portion toward each side wall to join the same at points slightly below their top edges, the mid portion of said ribs

being disposed in the plane of such edges. The ends of the diverging walls 18 of each partition 14, merge into the front and rear walls by means of suitably rounded corners.

The partitions 14 define inverted V shaped channels 21 in the underside of the tray, which open at their ends through side walls.

The central partition 15 extends from one end wall 14 to the other thereof and is arched longitudinally as best appears in Fig. 6. This partition is also of an inverted V shaped cross section and includes diverging sides 22—22 the bottom ends of which merge into the bottoms 17 of the various cells by rounded corners 23. These diverging sides join at the top by means of a rounded ridge 24 which is curved downwardly from the middle toward each end wall 13, the mid portion of said ridge being flush with the mid portion of the mid rib 14. The channel 25 provided by the underside of the partition 15 intersects the various channels 21 which are provided by the undersides of the partitions 14. Centrally in the bottom wall of each cell is an upward embossment 26 forming a convexed cushioned seat for engagement by the bottom end of the egg when placed in the cell.

It is to be understood that the inner surfaces of the various rounded corners are filleted to avoid such sharpness as makes withdrawal of the tray from the forming dies difficult, and to avoid possibility of cracking at these points. Even though the trays are made of molded pulp and are light in weight, the various walls and arched partitions mentioned are so formed and connected as to coact in making a rigid structure capable of withstanding such crushing and bending strains developed during the handling which the tray receives in use.

As before mentioned, the tray is associated with the container or carrier 11 to provide the completed package. Such a container is preferably made from a blank of relatively stiff paper board, cut and scored to provide the various parts thereof which are folded and secured together to produce the completed carton.

The carton or carrier which is of a plan area to snugly receive the tray 10, is of a height greater than that of the tray to be used therewith and which height is sufficient to accommodate the eggs which stand endwise in the various cells.

As shown herein, the container includes a bottom wall 27, front wall 28 and rear wall 29. The front wall is of a height approximating that of the associated tray 10 while the rear wall is of a greater height, slightly greater than the major dimension of the ordinary egg. This rear wall has the cover 30 connected thereto and integral therewith is a flap 31 of the same height as the rear wall. The bottom wall includes upturned flaps 32 of the same height as the front wall and this latter wall includes end flaps 33 that are turned in and are secured to the inner surface of the flaps 32. The rear wall 29 includes end flaps 34 that are turned in and are secured to the inner surface of the end flaps 32.

When a tray is disposed in the body of the container or carrier, the top edges of the tray are substantially flush with the top edges of the front and end walls and the eggs reposing in the cells thereof project substantially into the plane of the top of the rear wall 29, i. e. into a plane just below the same.

When the filled tray is within the container-like carrier, the lid or cover 30 is swung into the closed position wherein the same is substantially close to the top ends of the eggs in the respective cells and the flap 31 is inserted between the front wall of the container and the tray. To lock the parts in this position a paper or like seal 35 is applied as in Fig. 1. It is to be noted that with the tray fitted into the container as described, the tray acts to stiffen the container against inward collapse and the container acts to hold the tray against outward collapse. They thus coact mutually to reinforce each other. This makes it possible to provide a very substantial package even with relatively thin and frail material.

It is apparent from Fig. 1 that the package is partly open at its ends for ventilation therethrough. This also permits a view of the endmost eggs in the package without breaking the seal. It is, of course, understood that the container may be provided with suitable advertising matter which can be readily applied as by printing because the container-like carrier is made of flat smooth stock.

When a package of eggs such as above described is sold at retail, it may or may not be wrapped for the purchasers as no egg can escape therefrom. When the purchaser desired to use some of the eggs, the seal 35 is broken by the thumb nail and the cover swung into open position. When certain of the eggs have been withdrawn and others remain, they, of course, should be stored in a cool place, such as the home refrigerator. Under such conditions the tray with the remaining eggs therein, is removed from the container and placed in the refrigerator and the carton discarded.

In this respect, it is pointed out that the tray is usually inserted endwise into the refrigerator. This is naturally done with one hand grasping one end of the tray. Thus the tray may tend to act as a weighted lever to flex in the plane of the partitions 14. However, due to the arrangement of the arched partitions and their connection with the side and end walls, the flexing tendency is counteracted so that the tray cannot bend in any direction and therefore, holds its shape without damage or injury. As the bottom of all cells are disposed in the same plane, there is no tendency of the tray to catch on the refrigerator shelves usually made of open wire fabric.

The trays are strong and rigid for their weight, they may be made at low cost, and they will nest with others for storage purposes. Such trays will also coact with the container to amply protect the eggs against breakage under all ordinary handling conditions.

While in describing the invention, I have referred in detail to the form, arrangement and construction of the parts thereof, the same is to be considered only in the illustrative sense so that I do not wish to be limited thereto except as may be specifically pointed out in the appended claims.

I claim as my invention:

1. An egg package comprising a carton including a body having a bottom wall and upright front, rear and end walls, the rear wall being higher than the front wall and parts of the end wall, and having a cover connected therewith so as to leave air openings at the ends of the container when closed, and an open top tray removably fitting within the body and having its top edge arranged below the like edge of the rear wall of the carton body, said tray being made of molded fibrous material formed to pro-

vide a plurality of individual cells, each adapted to receive an egg.

2. An egg package comprising a carton including a body having a bottom wall and upright front, rear and end walls, the rear wall being higher than the front wall and parts of the end wall, and having a cover connected therewith so as to leave air openings at the ends of the container when closed and an open top tray removably fitting within the body and having its top edge arranged below the like edge of the rear wall of the carton body, said tray being made of molded fibrous material formed to provide a plurality of individual cells, each to receive an egg, and a flap on said cover of the height of said rear wall and adapted to be engaged between the front wall of the carton body and the associated side of the tray.

3. An egg package comprising a carton including a body having a bottom wall and upright front, rear and end walls, the rear wall being higher than the front wall and parts of the end wall, and having a cover connected therewith so as to leave air openings at the ends of the container when closed, and an open top tray removably fitting within the body and having its top edge disposed in substantially the plane of the top edge of the front wall of the carton body, the tray being made of molded fibrous material formed to provide a plurality of individual cells, each to receive an egg.

4. An egg package comprising a carton including a body having a bottom wall and upright front, rear and end walls, the rear wall being higher than the front wall and parts of the end wall, and having a cover connected therewith so as to leave air openings at the ends of the container when closed, and an open top tray removably fitting within the body and having its top edge disposed in substantially the plane of the top edge of the front wall of the carton body, the tray being made of molded fibrous material formed to provide a plurality of individual cells, each adapted to receive an egg, and a flap on said cover of the height of said rear wall and adapted to be engaged between the front wall of the carton body and the associated side of the tray.

5. An egg package comprising a closable carton and an open top egg tray removably fitting therein, said tray being composed of fibrous pulp material formed with a plurality of individual cells each adapted to receive an egg and each of sufficient depth to support the egg therein against falling out or striking the egg in an adjacent cell and also of such depth that substantially half of the height of the egg is displayed above the cell.

6. An open top unitary egg tray of fibrous pulp material formed with a plurality of individual cells each adapted to receive an egg and each of sufficient depth to support the egg therein against falling out or striking the egg in an adjacent cell and also of such depth that substantially half of the height of the egg is displayed above the cell.

7. An open top unitary egg tray of fibrous pulp material including therein side walls and end walls and a plurality of hollow ribs disposed substantially at right angles to certain of said walls, said structure forming a plurality of egg cells each of a depth sufficient to support the eggs against falling or striking one another and such depth that substantially half of the egg extends above the walls of the tray.

8. An open top unitary egg tray of fibrous pulp material including therein side walls and end walls, hollow ribbing extending longitudinally and transversely of the tray and forming a plurality of egg cells each of a depth sufficient to support the egg against falling or striking one another and of such depth that substantially half the egg extends above the walls of the tray.

9. An open top unitary egg tray of fibrous pulp material including therein side walls and end walls, hollow longitudinal ribbing positioned midway between and parallel to the side walls and a plurality of transverse hollow ribs spaced longitudinally of the tray, said structure forming a plurality of egg cells each of a depth sufficient to support the egg against falling or striking one another and of such depth that substantially half the egg extends above the walls of the tray.

10. An open top unitary egg tray of fibrous pulp material including therein side walls and end walls and a plurality of arch-like hollow ribs disposed substantially at right angles to certain of said walls, said structure forming a plurality of egg cells, each of a depth sufficient to support the eggs against falling or striking one another and of such depth that substantially half of the egg extends above the walls of the tray.

WILLIAM A. SCHURMANN.