Dec. 24, 1940. F. G. CHAMBLISS ET AL 2,226,050

EGG CRATE

Filed Nov. 5, 1937 3 Sheets-Sheet 1

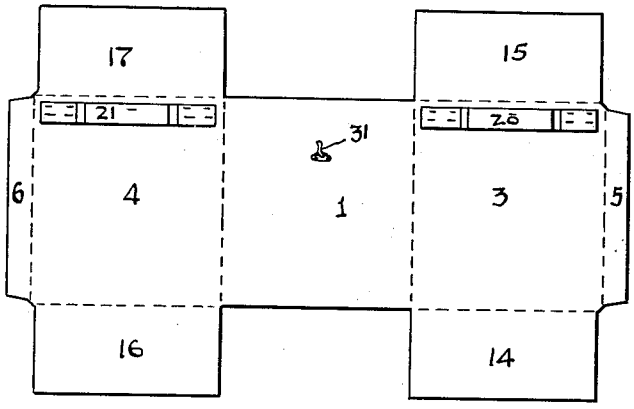


Fig. 1

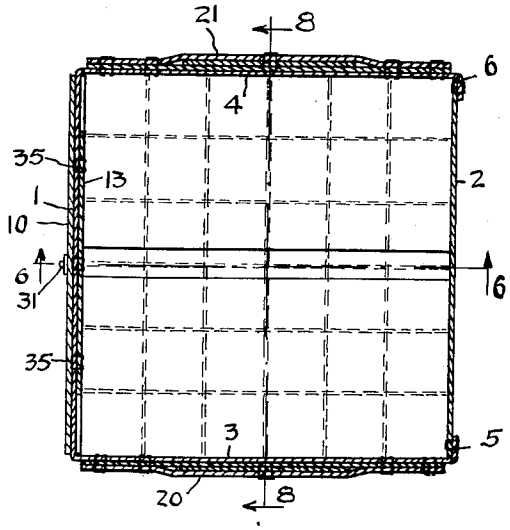


Fig. 7

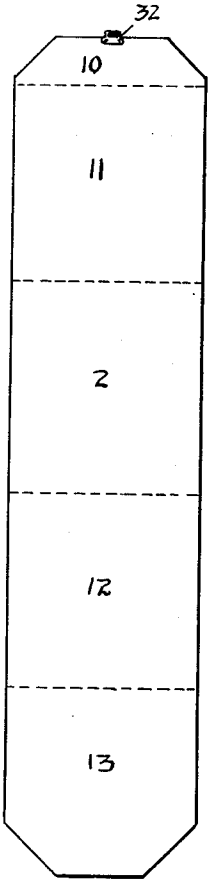


Fig. 1A

INVENTORS
Frank G. Chambliss &
Carl M. Schott.
BY Fay, Oberlin & Fay
ATTORNEYS.

Dec. 24, 1940. F. G. CHAMBLISS ET AL 2,226,050

EGG CRATE

Filed Nov. 5, 1937 3 Sheets-Sheet 2

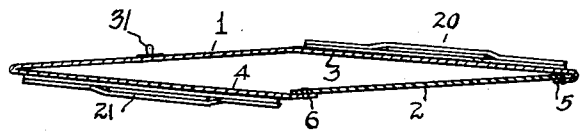


Fig. 3

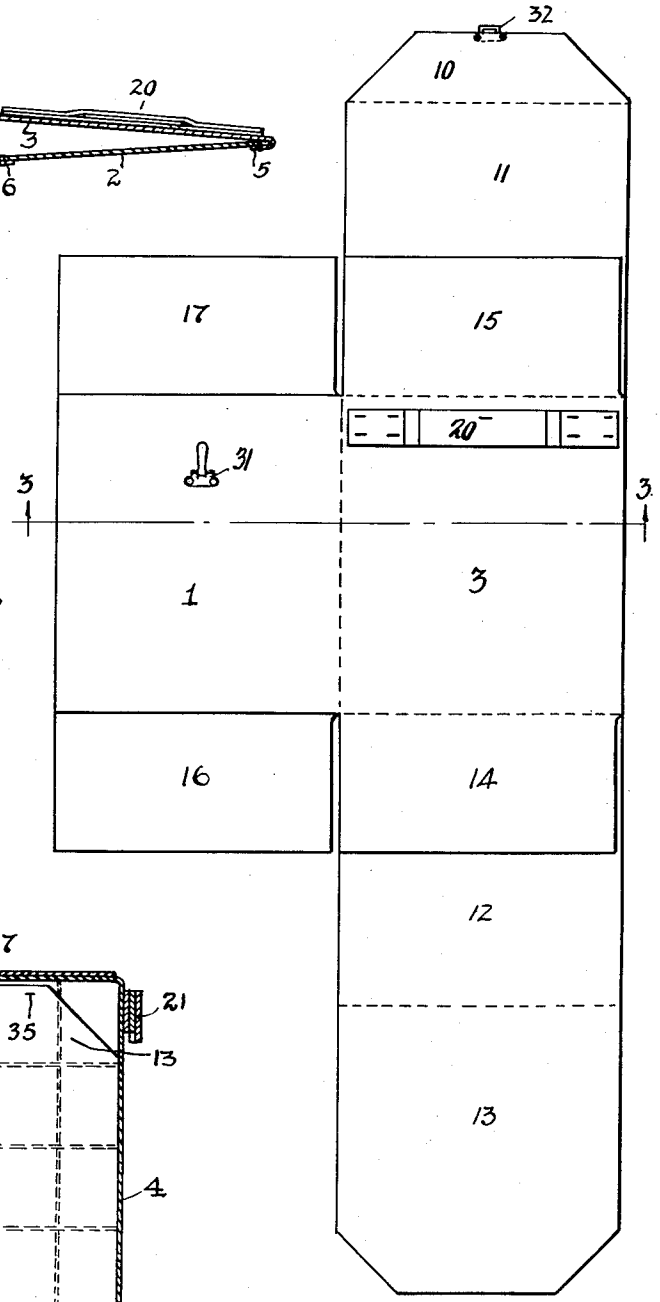


Fig. 2

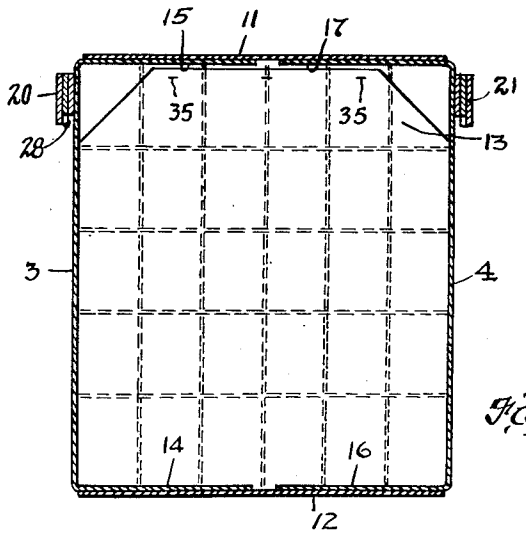


Fig. 8

INVENTORS
Frank G. Chambliss &
Carl M. Schoff.
BY Fay, Oberlin & Fay
ATTORNEYS.

Dec. 24, 1940. F. G. CHAMBLISS ET AL 2,226,050

EGG CRATE

Filed Nov. 5, 1937 3 Sheets-Sheet 3

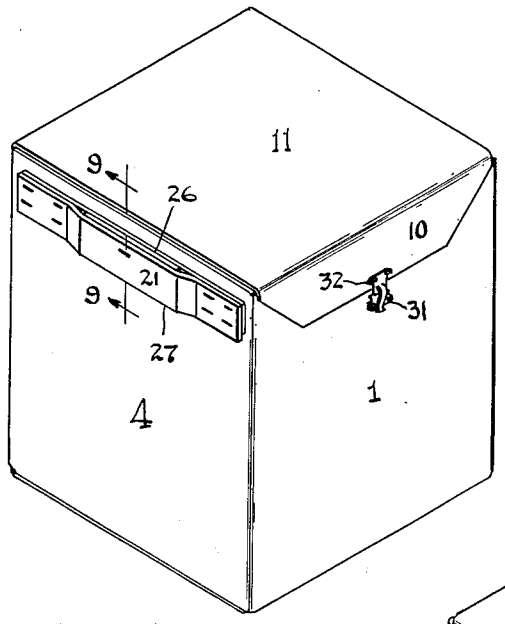


Fig. 4.

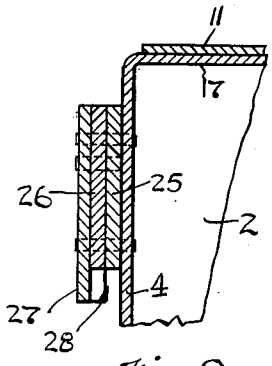


Fig. 9.

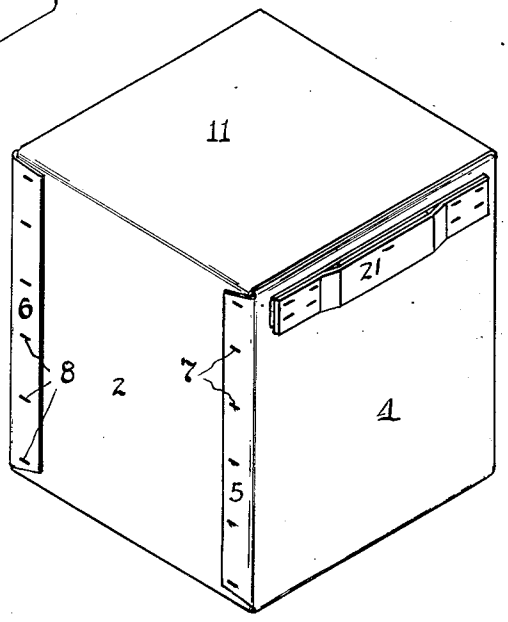


Fig. 5

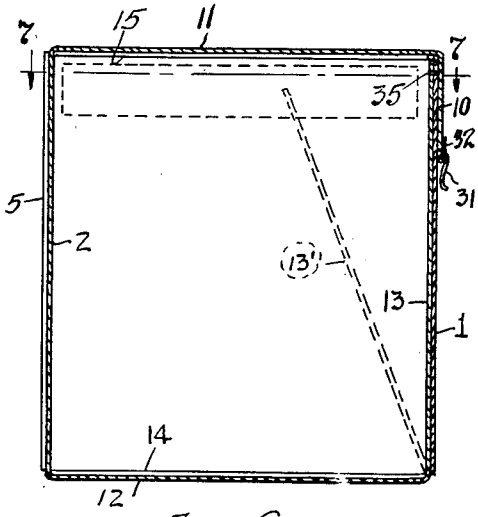


Fig. 6.

INVENTORS
Frank G. Chambliss & Carl M. Shott.
BY Fay, Oberlin & Fay
ATTORNEYS.

Patented Dec. 24, 1940

2,226,050

UNITED STATES PATENT OFFICE

2,226,050

EGG CRATE

Frank G. Chambliss, Kansas City, Mo., and Carl M. Schott, Sandusky, Ohio, assignors to The Hinde & Dauch Paper Company, Sandusky, Ohio, a corporation of Ohio

Application November 5, 1937, Serial No. 172,984

2 Claims. (Cl. 229—52)

This invention relates to a carton generally known in the trade as a "crate" which is particularly designed for shipping eggs in wholesale quantities, the illustration herein being specifically taken from a carton of fifteen dozen capacity. The purposes of the invention include so forming a carton that it can be completed at the factory except for one final step, can be shipped knocked down, so disposing the parts that the setting up can easily be accomplished by the user performing the final step of completion with a slight and inexpensive specialized equipment producing a carton of this kind which can be made of paper but approaching wood in strength under conditions of moisture, which will not absorb liquids, which can be knocked down for storage or shipment after use without destroying the assembly, and which can again be readily set up by the user as in the first instance.

Another purpose is to produce a box which can be fastened securely without tape, for the reason that tape will not adhere to moisture-proofed paper material.

A further purpose is to have a one-piece bottom permanently held in place when the carton is assembled, and which cannot open so long as the material remains intact.

To the accomplishment of the foregoing and related ends, said invention, then, consists of the means hereinafter fully described and particularly pointed out in the claims.

The annexed drawings and the following description set forth in detail certain structure embodying the invention, such disclosed means constituting, however, but one of various structural forms in which the principle of the invention may be used.

In the accompanying drawings:

Figs. 1 and 1A show the separate blanks of which the carton is made;

Fig. 2 illustrates the carton assembled except for the last step, and knocked down for shipping;

Fig. 3 is a section on the plane 3—3, Fig. 2, illustrating the method of collapsing for shipment;

Figs. 4 and 5 are respectively front and rear perspectives of the assembled and closed carton;

Fig. 6 is a longitudinal vertical section through the assembled carton, taken on the plane 6—6 of Fig. 7;

Fig. 7 is a horizontal section on the plane 7—7 of Fig. 6 looking down;

Fig. 8 is a transverse vertical section on the plane 8—8 of Fig. 7, looking from the inside towards the front of the box; and

Fig. 9 is an enlarged detail on the plane 9—9, Fig. 4.

The carton is designed to hold eggs in cross-partitioned cells with pads between, or other suitable interior arrangements, as customary in the art, and as lightly indicated in Figs. 7 and 8, diagrammatically.

The crate is preferably formed from two separate blanks, Figs. 1 and 2, one of which consists of front 1, sides 3 and 4, and some additional flaps; the other consists of back 2, top 11, bottom 12, inner front 13, and front overlap 10, all defined by fold lines in the respective blanks. In order to make a moisture-proof fastening, and also to give additional vertical stiffness in the rear, the sides 3 and 4 include tabs 5 and 6 which fold over the edges of the back 2, Fig. 5, from top to bottom of the back, and are stitched thereto by rows of staples 7 and 8. This stitching, which requires a stapler having a long reach, is performed at the factory, and the result is that when the box is knocked down it is not opened out flat but collapsed sideways, as shown in Figs. 2 and 3. Inner top laps 15, 17 and inner bottom laps 14, 16 are attached to sides 3 and 4 respectively.

In Fig. 2 the top 11, bottom 12, and inner front 13 are shown spread out, but it will be appreciated that these parts could be folded for shipping somewhat more compactly than they are shown in that figure.

The handles 20 and 21 are stitched by wire staples or other stout permanent fastenings to the upper parts of the sides 3 and 4 respectively. The detail of handle construction, shown in Figs. 4 and 9, comprises an inner strip 25 running the entire handle length, but of restricted depth, an intermediate strip 26 of the same depth as 25 but considerably shorter, and applied at mid length of 25, and an outer strip 27 as long as 25 and deeper than 25 and 26, thus affording a finger grip space 28 below and in the mid length of the handle.

The fastener 31, 32, is preferably of a type having a camming action so as to hold the lid snugly, for example an old-fashioned overshoe buckle. The tongue part 31 is fastened to the carton front 1, and the eye part 32 is fastened to the edge of the front overlap 10.

To assemble the carton at the factory for shipping, the tabs 5 and 6 are lapped over the free edges of the back 2, preferably so as to be on the outside when the carton is completed and thus give a smooth inside, and the lines of stitching staples 7 and 8 are applied. The box is now

ready to be collapsed into the form of Fig. 3 for shipping. Some space may be saved by folding the panels 11, 12 and 13 more or less upon one another, but the important feature is that the main body of the box is permanently finished.

To set up the carton the user straightens the front and sides to rectangular form, turns in the bottom flaps 14 and 16, brings the bottom 12 outside them, and tucks the deep inner front 13 up inside the outer front 1 to approximately the unfinished position indicated in dotted lines at 13' in Fig. 6, and straightens the inner front 13 against the inside face of the outer front 1, and then staples the inner and outer fronts together near their upper edges, as at 35, which permanently finishes fastening the carton together.

Unless there is a failure of material at these staples or elsewhere, the box bottom cannot come open with its load. It will be observed that the length of the inner front 13 is such as to come approximately to the top of the outer front 1, so that only a short, and consequently inexpensive, stapling machine is needed to finish the carton, inasmuch as all the long-reach stapling, 7 and 8 and on the handles, was done at the factory.

After use the carton can again be collapsed for storage or shipment by pulling the staples 35 and flattening out to the position of Figs. 2 and 3.

One of the intended uses of this box is for commission merchants in small towns to place in the hands of farmers for collecting eggs for market, and also for shipping the eggs to distributing points. The box must be of a character which will stand storage in barns or other places where not well protected against moisture, it must also be of a character which will not absorb liquids from occasional broken eggs, and should be capable of being cleaned. The box is not intended to go to the retail customer, and hence can be used repeatedly provided it does not become sour from obsorption of liquids or become limp through absorption of moisture.

Although the carton can be made of corrugated board, the preferred material is a cheap but solid grade of chip board heavily treated with paraffine on both sides. Vertical strength to stand weight of piling is provided by the double front and by the rear vertical tabs 5 and 6 which stiffen the corners. The bottom and top are reinforced by the inner flaps 14, 16 and 15, 17. The lid 11 comes down over the flaps 15, 17 and the flap 10 laps over the front. The camming action of the fastener member 31 pulls the cover 11 down firmly and holds it snugly in place so that the eggs are firmly held against movement. Since no tape or other adhesive fastening can be satisfactorily attached to a water-proofed paper surface the blank must be so made that all permanent fastening can be by staples or the like.

It will be seen from the foregoing that we have invented a carton or crate characterized by the adaptibility to a factory construction to a point just short of completion, so that all the difficult fastening is permanently done at the factory, and is then capable of final set-up for complete assembly by an easy operation with a simple and inexpensive tool in the hands of the poultryman. The carton is adapted to be made of materials which need to be fastened with some parts in multiple thickness for stiffness, but such fastening is accomplished without the use of adhesive, so that the waterproofed surface of the material is not detrimental to the fastening of the parts.

Other modes of applying the principle of our invention may be employed instead of the one explained, change being made as regards the structure herein disclosed, provided the means stated by any of the following claims or the equivalent of such stated means be employed.

We therefore particularly point out and distinctly claim as our invention:

1. A handle for a fiber board container, said handle comprising successive plies of strip material, superposed sideways, the outermost of said strips being of greater depth than the others and projecting therebelow, one of said strips being of less length than said outer strip interposed between said outer strip and the box side at a position longitudinally intermediate the ends of said outer strip.

2. A handle for a fiber board container, said handle comprising successive plies of strip material, superposed sideways, the outermost of said strips projecting below the others, one of said strips being of less length than said outer strip and being interposed between said outer strip and the box side at a position longitudinally intermediate the ends of said outer strip.

FRANK G. CHAMBLISS.
CARL M. SCHOTT.