

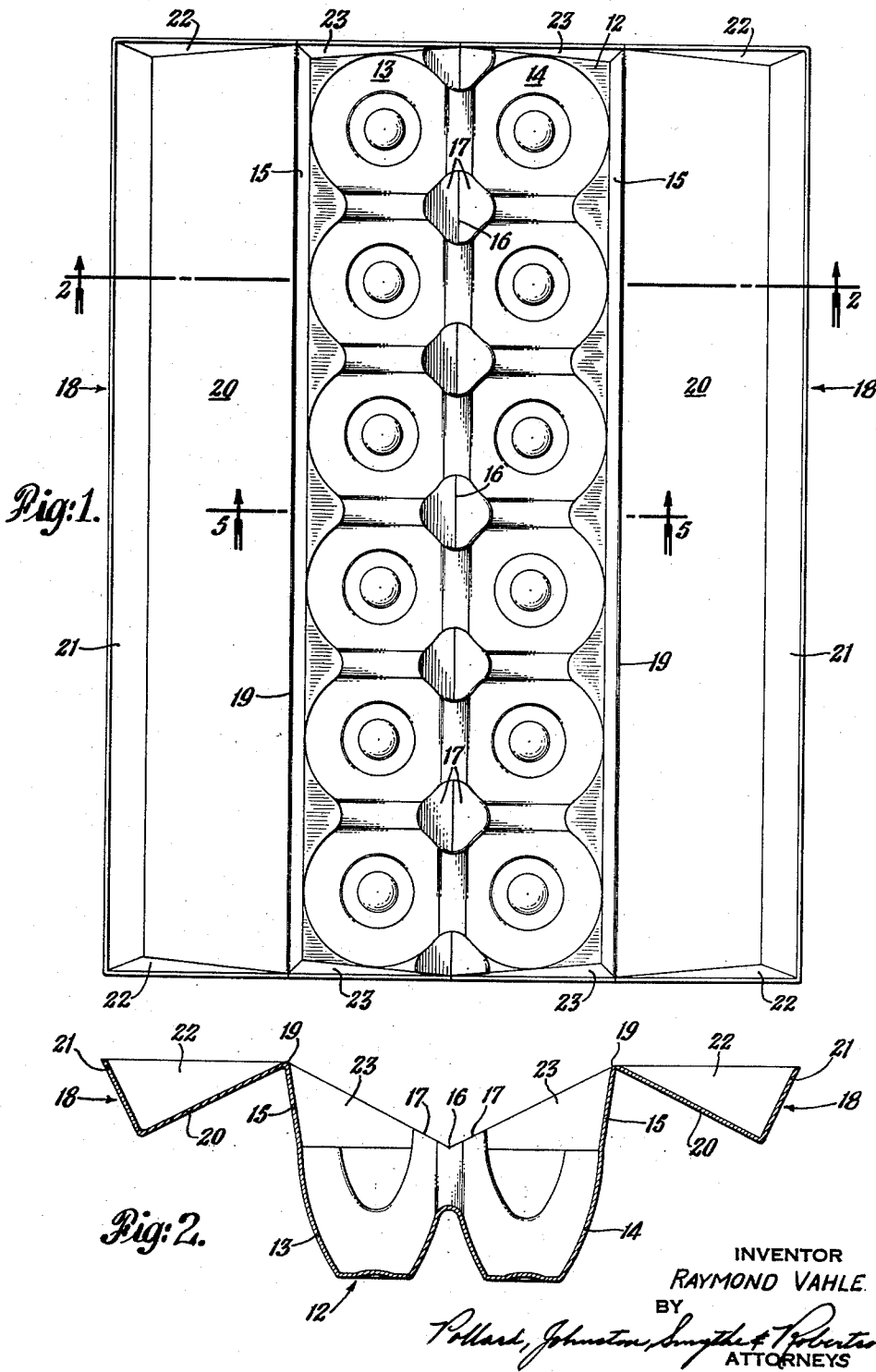
April 19, 1960

R. VAHLE
MOLDED EGG CARTON

2,933,227

Filed Sept. 25, 1956

3 Sheets-Sheet 1



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3 Sheets-Sheet 2

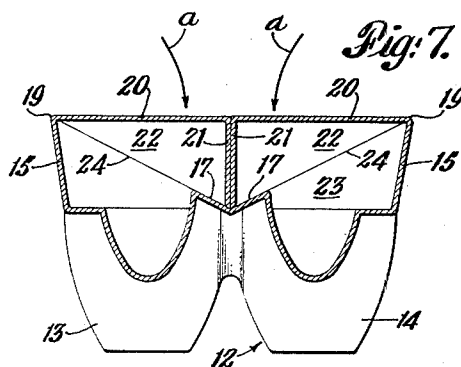
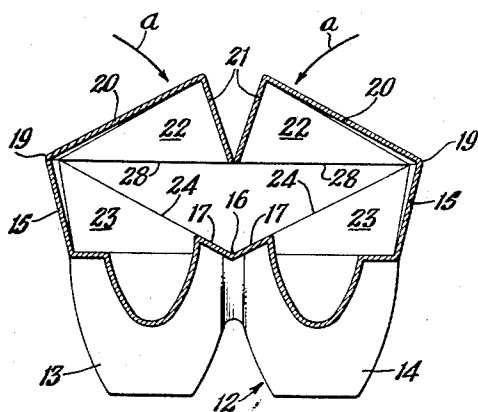
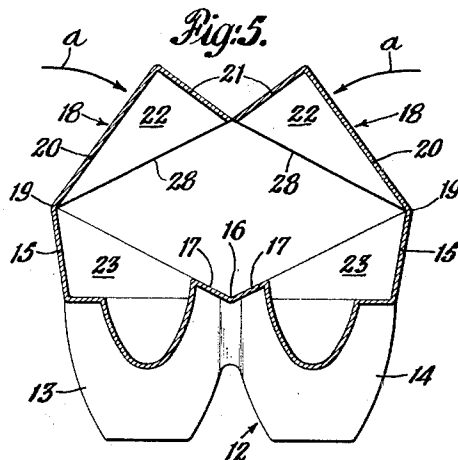
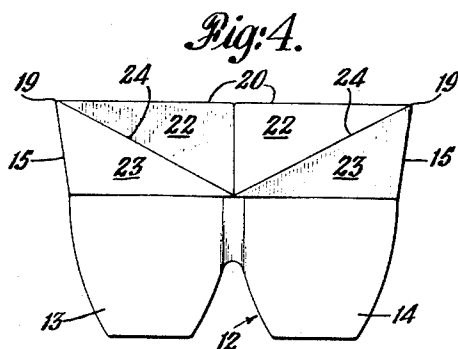
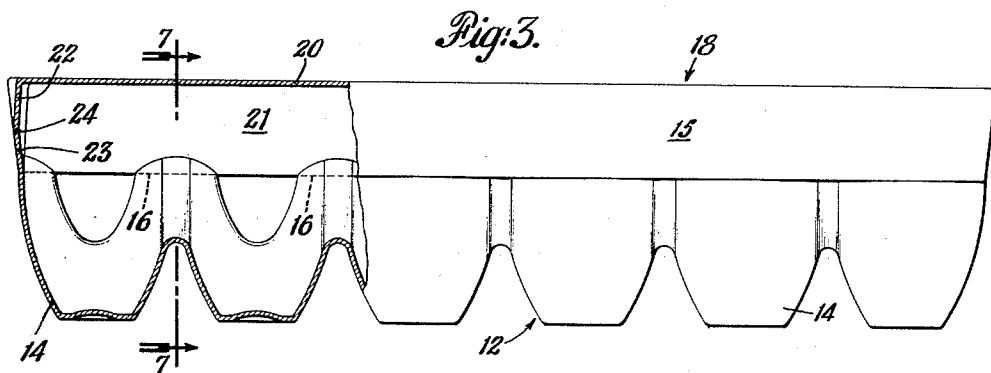


Fig. 6.

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Fig. 8.

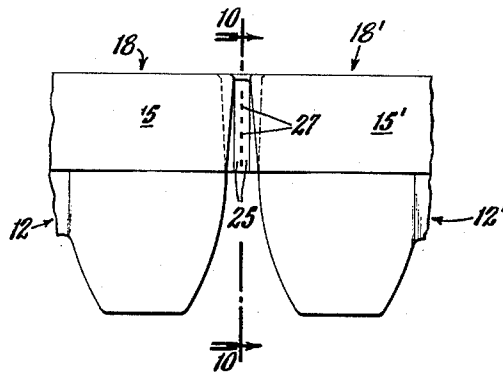


Fig. 9.

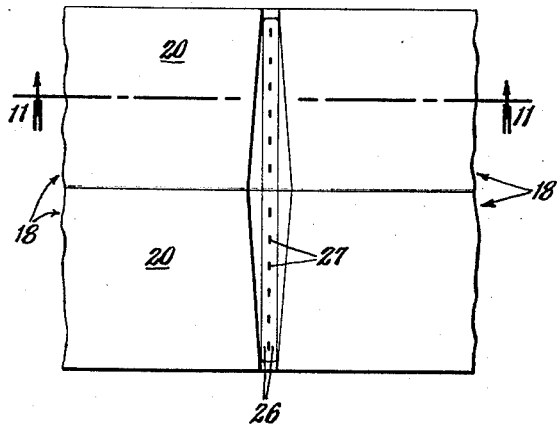


Fig. 10.

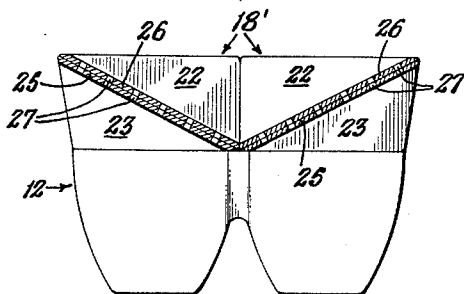
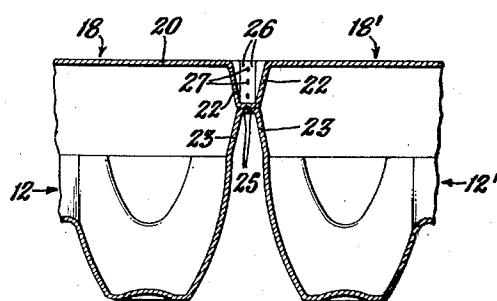


Fig. 11.



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MOLDED EGG CARTON

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3 Claims. (Cl. 229—2.5)

The invention relates to a molded egg carton, made of paper pulp, plastics and the like.

Summary

The features of my invention include an improved toggle action of "snap lock" cover, an improved cover supporting structure for strengthening the carton and better protecting the eggs, and an improved center construction of the type which permits tearing the carton apart into two half dozen packages. As to the latter feature, while severable egg cartons are not new in themselves, my construction has the particular advantage that after separation each of the two packages has complete end walls adjacent the line of severance, including complete flanges at both ends of each cover part for full protection of the eggs in each package.

In its general arrangement my improved carton comprises a body having two rows of cells and upwardly extending side walls. A ridge between the two rows of cells includes surfaces which extend lengthwise of the carton and are located below the tops of the side walls. The cover has two parts hinged to the tops of the respective side walls. The cover parts have top walls with flanges which come together at the center of the carton and rest upon the aforesaid ridge surfaces when the cover parts are closed. Also the cover parts have end walls which extend between the flanges and top walls and support the cover flanges at substantially right angles to the top walls. As so constructed the cover parts have a toggle action which tends, once they have been shut, to hold them so.

In my preferred construction the ridge surfaces between the two rows of cells comprise inclined planes intersecting to form a V-shaped guide. This positions the lower edges of the flanges of the closed cover parts and in combination with the other structure I have described makes the carton particularly strong. Also the end walls of the body of the carton slope upwardly and outwardly, whereas the end walls of the cover parts slope downwardly and outwardly bringing them into abutting relation along a V-shaped line; and in case of the severable carton the end walls which are adjacent at the center of the carton terminate in flanges by which the sections are severably annexed. As these flanges extend in the form of a V, the initial attachment of the sections is quite rigid and strong.

Description

In the drawings, wherein I have illustrated the best mode contemplated by me for carrying out my invention:

Fig. 1 is a top plan view looking into the inside of the carton as it appears when the covers are opened to the position they assume during the molding of the carton.

Fig. 2 is a transverse sectional view taken at the line 2—2 of Fig. 1.

Fig. 3 is a side view of the carton, covers closed, partly

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broken away in section at the center line of the nearest row of cells.

Fig. 4 is an end view of the same.

Fig. 5 is a transverse sectional view taken at line 5—5 of Fig. 1 but with the covers partly closed.

Figs. 6 and 7 illustrate the closing action of the covers,

Fig. 6 showing the position of the covers at the moment they pass "dead center" with respect to the toggle action, and

Fig. 7 showing the cover parts fully closed.

Fig. 8 is a side view of the center portion of a modified construction in which the carton is designed to be torn apart into two separate packages.

Fig. 9 is a top plan view of the same.

Fig. 10 is a transverse sectional view taken at line 10—10 of Fig. 8.

Fig. 11 is a longitudinal sectional view taken at line 11—11 of Fig. 9.

Referring to Figs. 1—3, my carton comprises a body 12 having two rows of cells 13, 14 and upwardly extending side walls 15. A ridge 16 between the two rows of cells includes surfaces 17 extending lengthwise of the carton and located below the tops of the side walls.

The cover of the carton has two parts 18 hinged to the tops 19 of the respective side walls. The cover parts have top walls 20 with flanges 21 which come together at the center of the carton and rest upon the ridge surfaces 17 when the cover parts are closed, as in Fig. 7. The cover parts have end walls 22 which extend between the flanges 21 and top walls 20 and support the cover flanges at substantially right angles to the top walls.

As may be seen in Figs. 6 and 7, the ridge surfaces 17 comprise inclined planes intersecting to form a V-shaped guide which positions the lower edges of the flanges 21 of the closed cover parts. The carton body 12 has V-shaped end walls 23, and the end walls 22 of the cover parts are complementary to them. Thus, the end walls of the carton body and cover parts meet at a V line which extends from the top of each side wall to an intersection in line with the points where the cover flanges 21 rest upon the ridge surfaces. When the cover parts are closed the edges of their end walls 22 close into abutting relation to the edges of the end walls 23 of the body.

End walls 23 of the body slope upwardly and outwardly, whereas the end walls 22 of the cover parts slope downwardly and outwardly to the line of abutment 24, and, in the embodiment shown in Figs. 8—11, the abutting edges of the body and cover parts at one end thereof have flanges 25, 26 severably attached to similar flanges of adjoining similar body and cover parts forming an extension 12', 18' of the carton 12, 18. Spaced cut lines 27 in the flanges 25, 26 form tear lines for separating the carton into separate packages. Reference to Fig. 10 reveals the construction at the ends of the separated packages. Here it will be observed that adjacent the line of separation, each separate package has complete body and end walls 23 and complete cover end walls 22 for full protection of the eggs.

Referring to Figs. 5—7, I shall now describe the toggle action of my "snap lock" cover. As the cover parts are swung in the direction of the arrows *a* for closing, the edges of their flanges 21 first come together as shown in Fig. 5. Then, as they are brought into the position shown in Fig. 6, portions of the body and/or cover of the carton are constrained to yield resiliently, as necessitated by the fact that edges 28 of cover end walls 22 have a combined length which is greater than the normal distance between the tops 19 of the side walls 15 of the body. Consequently the side walls 15 may yield slightly, as may also the cover flanges 21, such yielding action

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being restrained by the respective end walls 23 and 22, so that after the cover parts pass beyond the "dead center" position shown in Fig. 6 they will snap sharply closed into the position shown in Fig. 7 and be resiliently held in that position by the tendency of the body walls 15, cover flanges 21 and end walls 22 and 23 to return to their normal shape and position. The cover parts may be snapped open easily by pressing the forefingers against the end walls thereof, and lifting.

A further advantage of my snap lock cover is that when the loaded carton is picked up by grasping its sides between the thumb and fingers, the pressure so exerted on the side walls tends to lock the cover more securely, whereas in some existing types of carton such pressure may spring the cover open, with risk that the eggs will be spilled and broken.

The particular shape and configuration of the body and end walls as employed at the center of the severable form of carton and which may be seen best in Figs. 4, 9, 10 and 11, has a number of advantages. First, when the carton is molded with the covers open, as shown in Figs. 1-2, it will be observed that all of these end walls slope in the same direction, providing requisite draft for removal of the carton from the mold. Second, and as already stated, the sections designed for separating one from another, each has complete end walls adjacent the line of severance. Third, the provision of such complete end walls results in providing a toggle closing action in each of the separated packages. Thus each separated carton is a fully enclosed carton with its own snap cover.

The terms and expressions which I have employed are used in a descriptive and not a limiting sense, and I have no intention of excluding such equivalents of the invention described, or of portions thereof, as fall within the scope of the claims.

I claim:

1. A molded egg carton comprising a body having upwardly extending side walls and end walls containing two rows of cells therebetween, the top surface of said body end walls being V-shaped, a ridge between the two rows of cells including surfaces extending lengthwise of the carton and located below the tops of said side walls,

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a cover having two parts hinged to the tops of the respective side walls, the cover parts having top walls with downwardly extending flanges which come together at the center of the carton and rest upon said ridge surfaces when the cover parts are closed, and triangular shaped end walls extending between the flanges and top walls of each of said cover parts at each end thereof and supporting the cover flanges at substantially right angles to the respective top wall, said end walls of the cover parts adjoining the flanges at points which, with respect to the closed position of the cover parts, lie below a plane containing the hinge lines of the cover parts, the triangular shaped end walls of the cover parts combining to form a V-shaped lower edge, when the cover parts are in the closed position, which in said closed position rests on the V-shaped top surface of said body end walls, by virtue of all of which the cover parts have a toggle action which tends, once they have been snapped shut, to hold them so.

2. A molded egg carton as defined by claim 1, in which said ridge surfaces comprise inclined planes intersecting to form a V-shaped guide extending lengthwise of the carton positioning the lower edges of the flanges of the closed cover parts.

3. A molded egg carton as defined by claim 1, in which the abutting edges of the body and cover parts at one end thereof have flanges severably attached to the similar flanges of adjoining similar body and cover parts forming an extension of the carton, by virtue of which the carton can be separated into separate sections, each of which has complete end walls at both ends for full protection of the contents, and each of which has its own snap lock cover.

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