Abstract

A molded egg carton of the type having a cover which has depending sidewalls with egg viewing windows in the exterior facets to provide a view into all the egg pockets when the carton is viewed from above, as when the carton is the top one in a stack or is held in the hand, and in addition to provide a view into each egg pocket in the row of pockets along one side of the carton when the carton is viewed from that side, as when a number of cartons are stacked one on top of another for display purposes in retail stores and it is thus impossible to view any but the top carton from above. At least the upper part of each window is framed by a portion of the carton cover which is recessed with respect to both the top portion and the sidewalls of the cover, and the carton cover has inwardly recessed buttress structure in the sidewalls and additional support structure extending downwardly from the flat top portion to increase the strength of the carton despite the provision of viewing windows for every egg pocket in the carton.

1 Claims, 6 Drawing Figures
EGG CARTON WITH EXTERIOR WINDOWS

BACKGROUND OF THE INVENTION

The claimed invention relates to the field of articles molded to final shape from materials such as wood and paper pulp, plastics such as thermoplastics, and the like, for the retail packaging and merchandising of fragile articles such as eggs, and more particularly to the style of egg carton having a pocketed bottom section and a cover which has a top portion and front and rear side walls integrally connected therewith and extending downwardly and outwardly therefrom.

Prior to the present invention, egg cartons of the foregoing variety molded of non-transparent material such as pulp or thermoplastic have been beset with the significant drawback that the contents of the carton is not readily visible to the prospective purchaser. With most cartons of this type, it is necessary for the prospective purchaser to take the carton from the stack on the retail shelf, manipulate the lock to disengage the locking mechanism, and fold back the cover to view the contents of the carton and ascertain, for instance, the condition of the eggs in the carton and that there is an egg in every pocket, and then close the carton.

As a result, designers of egg cartons for many years have attempted to overcome this drawback and devise a carton which meets the demands of modern merchandising concepts and affords an immediate and favorable view of the carton contents without sacrificing the well-recognized protective features afforded by the carton. In cartons where the cover is formed of the same nontransparent material as the pocketed bottom of the carton, the provision of visibility windows in the cover has resulted in a carton where the contents can be seen when the carton is viewed from above but, prior to the present invention, not when the carton is viewed from the side. For instance, in White U.S. Pat. No. 3,327,918 (1967) and Bixler U.S. Pat. No. 3,362,605 (1968) the visibility windows are not on exterior facets but are confined to an internal trough provided in the center of the carton cover, and the windows in this carton are rendered useless when another carton is stacked on top of it spanning and burying the central trough. Similarly, Bixler U.S. Pat. No. 3,129,866 (1964), Van Dyke, U.S. Pat. Des. 168,664 (1953), Cauley, U.S. Pat. No. 2,009,874 (1935) and Sherman U.S. Pat. No. 1,991,424 (1935) all provide windows in the flat top portion of the cover of different types of cartons, but here again these windows permit a view of the carton contents only when the carton is viewed from above but not when it is viewed from the side.

Egg cartons with openings for one purpose or another in the side of the carton, which may inherently permit a view into the carton when it is viewed from the side, are illustrated in publications typified by Reifels U.S. Pat. No. 3,145,896 (1964) and Mosse U.S. Pat. No. 3,088,644 (1963), but side openings such as these certainly do not afford a view of the contents when the carton is viewed from above, and they are not really intended to provide a favorable view of the carton contents even when viewed from the side.

Egg visibility when the carton is viewed from the top as well as from the side is successfully achieved by the scalloped egg carton covered with transparent material as in Figs. 5 and 6 of Crabtree, U.S. Pat. No. 3,755,966 (1968), but this involves a full depth style, as opposed to the foldable cover style, of molded egg carton and provides no useful teaching of how a similar desirable result can be achieved in the latter style of carton.

Thus, the problem which has been long recognized but heretofore unsolved, as outlined above, is the provision of a molded egg carton of the type having a nontransparent cover which has depending side walls and will somehow permit a view into all the egg pockets when the carton is held in the hand and convey to the consumer an integrated view into every egg pocket along the side of the carton when it is viewed from the side only, as occurs when the cartons are stacked one on top of another, all without sacrificing the strength of the carton.

SUMMARY OF THE INVENTION

This invention solves the foregoing problems and provides a molded stackable "see-thru" egg carton of the type comprising a pocketed bottom member having front and rear rows of individual egg pockets, a closure cover member having a top portion with front and rear sidewalls extending downwardly and outwardly therefrom, and egg viewing windows on exterior facets so positioned and arranged to provide a view into each egg pocket in both the front and rear rows when the carton is viewed from above and also to provide a view into each egg pocket in the front row when the carton is viewed from the front and into each egg pocket in the rear row when the carton is viewed from the rear. In the preferred embodiment, one window is located directly above each egg pocket in both the front and rear parallel rows to give the most favorable view of the contents, and at least the upper part of each window is framed by a portion of the cover member which is recessed with respect to both the top portion and the sidewalls of the cover member to provide additional protection. In addition, the bottom member includes upwardly extending support structure between the front and rear rows of egg pockets which contacts support structure extending down from the top portion of the cover member, and the bottom member includes inwardly recessed half-post structure between at least two adjacent egg pockets in one of the rows of pockets which contacts inwardly recessed buttress structure between at least two adjacent windows in one sidewall of the cover member.

BRIEF DESCRIPTION OF THE DRAWINGS

Numerous advantages of the present invention will become apparent to one skilled in the art from a reading of the detailed description in conjunction with the accompanying drawings, wherein similar reference characters refer to similar parts, and in which:

FIG. 1 is a side elevational view of a stack of egg cartons with exterior windows according to this invention;
FIG. 2 is a plan view of an egg carton according to this invention;
FIG. 3 is a transverse sectional elevational view on line 3-3 of FIG. 2;
FIG. 4 is a transverse sectional elevational view on line 4-4 of FIG. 2;
FIG. 5 is a longitudinal sectional elevational view on line 5-5 of FIG. 2; and
FIG. 6 is an enlarged fragmentary view illustrating further details of the egg viewing window of the carton of this invention.

DETAILED DESCRIPTION

The egg carton 10 illustrated in the drawings includes a pocketed bottom member 12 and a closable cover member 14. The carton may be molded to final shape from fibrous pulp material, or plastics such as thermoplastic either injection molded or vacuum formed from extruded or foamed sheets, all according to known techniques.

The pocketed bottom member 12 includes an upper front margin 16 and an opposed, parallel upper rear margin 18, as well as opposed upper end margins 20. The upper margins define a rectangle within which are a plurality of downwardly dished egg pockets arranged in at least two parallel rows. The front row of egg pockets 22 is positioned along the front margin 16 and the rear row of pockets 24 is positioned along the rear margin 18 of the egg carton. In the carton illustrated, the front row includes six pockets and the rear row which is parallel therewith also includes six pockets, defining what is known as a 2x6 carton for packaging one dozen eggs for the retail market, but this invention of course has applicability to cartons having other pocket arrangements.

The egg pockets are defined in part by inwardly recessed half-post structure 26 the tops of which extend to the upper margins 16, 18, along the front and rear, respectively, of the carton. The egg pockets are further defined by upwardly ex-
tending support structure taking the form of upwardly tapering posts 28 located between the front and rear rows of egg pockets. Inverted "V" or "D" shaped rib structure 30 connects the posts 28 with each other and with the half-posts 26 to further define the pockets and rigidly the bottom member of the egg carton.

The closable cover member 14 includes a top portion 32 which is essentially flat and provides a smooth surface for direct printing advertisement or other messages, or for receiving labels containing the same. Integraly connected with the top portion 32 is a front sidewall 34, a rear sidewall 36 and opposed end walls 38. The front, rear and end sidewalls are connected to each other and they extend downwardly and outwardly from the top portion 32 of the cover member to enclose the upper halves of the eggs in the closed carton condition. The front sidewall 34 includes a lower margin 40 which cooperates with the upper front margin 16 of the bottom member, the rear sidewall 36 includes a lower margin 42 which cooperates with the upper rear margin 18 of the bottom member, and the end sidewalls 38 include lower margins 44 which cooperate with the upper end margins 20 of the bottom member when the cover member 14 is positioned thereover in the closed carton condition.

The cover member may also include inwardly recessed buttress structure 46 in the front and rear sidewalls 34 and 36 between adjacent viewing windows 26 to 28. In the closed carton condition, the inwardly recessed bottom of the buttress structure 46 contacts the top of the half-post structure 26 to resist forces in a vertical direction.

The cover member 14 may also include support structure 48 extending downwardly from the center portion of the flat top 32. The support structure may take the form of down-posts 50 connected by shallower ribs 52, the bottom of the down-posts 50 contacting the support post structure 28 in the closed carton condition into each egg pocket in the front row when the carton is viewed from the front forces in a vertical direction. The cover member according to this invention includes a plurality of egg viewing windows 54 located on the exterior facets of the cover member to provide a view into each egg pocket in both the front and rear rows when the carton is viewed from above and also to provide a view into the front and into each egg pocket in the rear row when the carton is viewed from the front rear. The upper part of each window is 58 rounded or domed as at 58, and is framed by a portion 58 of the cover member which is recessed with respect to both the top portion 32 and the sidewalls 34 or 36, respectively, of the cover member. The frame portion 58, for instance, is recessed slightly below the main plane of the top portion 32, and is recessed slightly below the main plane of the main plane on its sidewall. At least the upper part 56 of each window curves smoothly inwardly in "egg hugging" fashion from the main plane of the sidewalk in which it is located to a position slightly below the main plane of the top portion 32. The windows have straight bottom edges parallel with the front and rear lower margins of the cover member sidewall.

Preferably, one window is located directly adjacent or above each egg pocket 22 in the front row and each egg pocket 24 in the rear row when the cover member is positioned over the bottom member in the closed carton condition. Thus there are six such windows in the front sidewall 34, six more in the rear sidewall 36, but none on the end sidewalls 38 in the preferred embodiment illustrated in the drawings. The windows may be formed in the cover member during the molding operation, and if the carton is molded for instance of fibrous pulp material the edges of the windows may be formed with a smooth, attractive, nonfeathery edge in the manner disclosed in Crabtree, U.S. Pat. No. 3,215,327 (1965).

In the preferred embodiment illustrated in the drawings, the lower margin 42 of the cover member rear wall is operatively hinged as at 60 in known manner to the upper rear margin 18 of the bottom member. The front of the bottom member may also include a locking mechanism, such as a locking flap

2 operatively hinged as at 64 in known manner to the upper front margin 16 and carrying a pair of protruding locking buttons 66. In the closed carton condition, the locking buttons cooperate with the bottom edges of a pair of egg viewing windows 54 in the cover member front wall to secure the carton closed. The locking flap 62 may be narrower than the ones illustrated, for instance, in the aforesaid Crabtree, U.S. Pat. No. 3,215,327 to permit a view through the windows 54 which cooperate with the two locking buttons despite the presence of the locking buttons 66 occupying the lower part of these windows. Similarly, the locking flap 62 may be made even narrower adjacent the other front windows which do not cooperate with the locking buttons 66 to permit full visibility through these windows.

In FIG. 1 is illustrated a stack of egg cartons with viewing windows according to this invention. While it is possible to see into each egg pocket in both the front and rear rows when the top carton D in the stack is viewed from above, as illustrated in FIG. 2, this is not possible with cartons such as C, B or A farther down in the stack. But as can be seen in FIG. 1, the windows also provide a view into each egg pocket in the front row when the carton is viewed from the front, such as carton C in the stack. Also, carton B is shown stacked backwards as sometimes occurs so that the rear is visible, and the viewing windows according to this invention permit a view into each egg pocket in the rear row when the carton is viewed from the rear.

Thus there has been described a molded egg carton of the type having a nontransparent cover which has depending sidewalls and which permits a view into all the egg pockets when the carton is held in the hand and conveniently viewed from the above and also provides a view into every egg pocket along the side of the carton when it is viewed from the side only, as occurs when the cartons are stacked one on top of another, all without sacrificing the strength of the carton.

While the above described embodiment constitutes the presently preferred mode of practicing the invention, other embodiments and equivalents are within the scope of the actual invention, which is claimed as follows:

1. A molded stackable egg carton comprising a pocketed bottom member including an upper front margin and an upper rear margin, a plurality of downwardly dished egg pockets arranged in at least two parallel rows, a front row along the front margin and a rear row along the rear margin of the bottom member, a closable cover member including a top portion having front and rear sidewalks integrally connected therewith and extending downwardly and outwardly therefrom, the lower margin of the cover member front sidewalk and the lower margin of the cover member rear sidewalk cooperating with the front margin and the rear margin, respectively, of the bottom member when the cover member is positioned thereover in the closed carton condition, the bottom member including upwardly extending support structure located between the front row of egg pockets and the rear row of egg pockets, the cover member including support structure extending downwardly from the top portion to contact the support structure of the bottom member in the closed carton condition, and a plurality of egg-viewing windows through the front and rear sidewalks of the cover member, the windows so positioned and arranged to provide a view into each egg pocket in both the front and rear rows when the carton is viewed from above and also to provide a view into each egg pocket in the front row when the carton is viewed from the front and into each egg pocket in the rear row when the carton is viewed from the rear, at least the upper part of each window being framed by a portion of the cover member which is recessed with respect to both the top portion and the side walls of the cover member, and the recessed portion curving smoothly inwardly in egg hugging fashion from the main plane of the sidewalks to a location slightly below the main plane of the top portion.

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UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 3,647,132 Dated March 7, 1972

Inventor(s) Kenneth L. Crabtree

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Column 3, lines 35 and 36, delete "into each egg pocket in the front row when the carton is viewed from the front forces in a vertical direction" and insert -- to further resist forces in a vertical direction. --

Signed and sealed this 13th day of June 1972.

(SEAL)
Attest:

EDWARD M. FLETCHER, JR. ROBERT GOTTSCHALK
Attesting Officer Commissioner of Patents