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J. W. COX

2,455,295

CELLULAR CARTON

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Fig. 1.

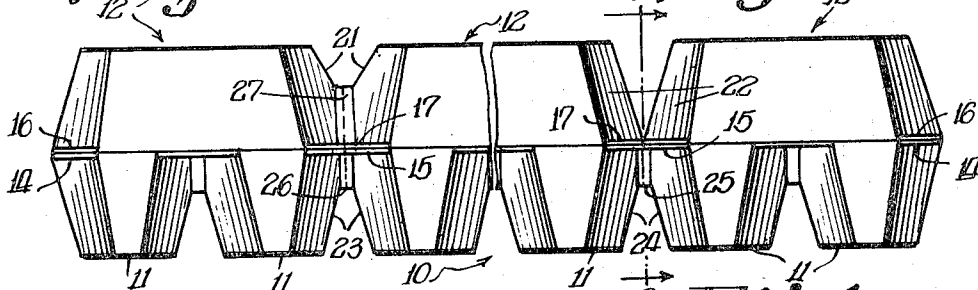


Fig. 2.

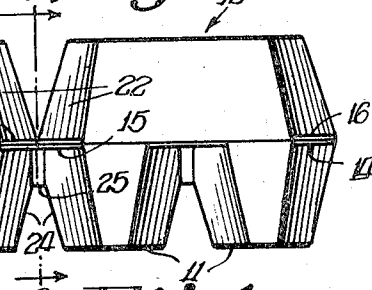


Fig. 3.

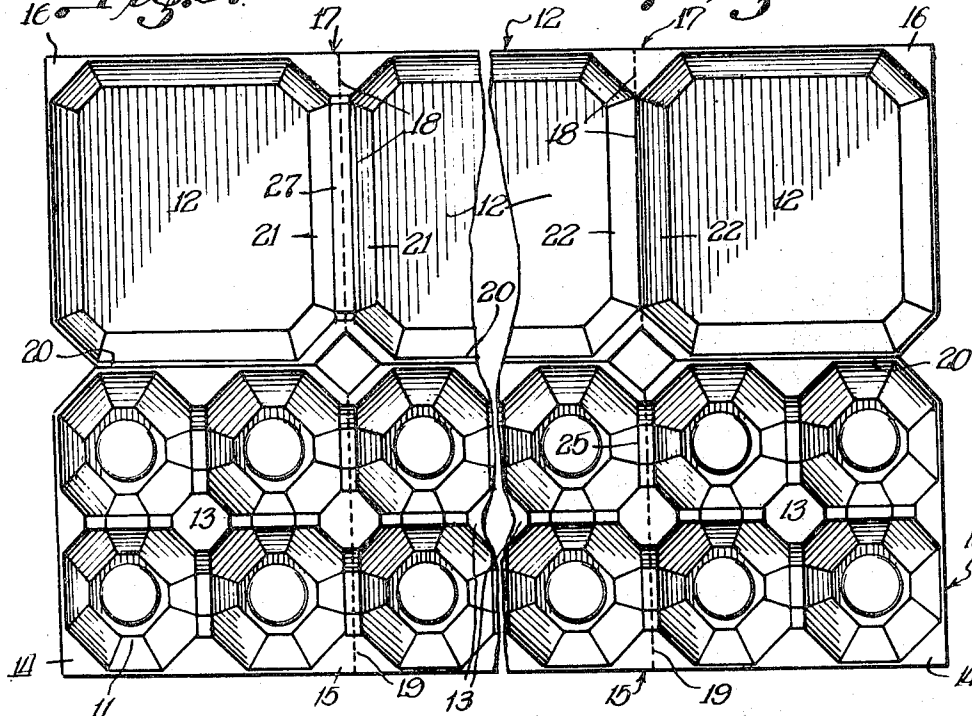


Fig. 4.

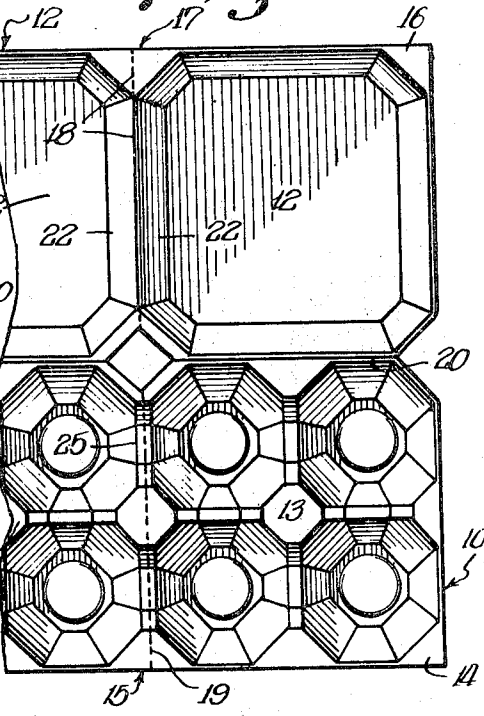


Fig. 5.

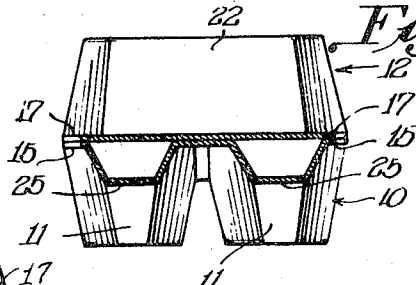
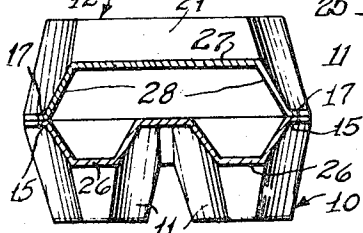


Fig. 6.



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CELLULAR CARTON

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5 Claims. (Cl. 229—29)

1

The present invention relates to an improved type of molded pulp carton and has particular reference to improvements in molded pulp egg cartons of a two-by-six type to be employed in packaging eggs.

A principal object of the invention is to provide a molded pulp carton, preferably of the two-by-six type, which is divisible into two or more portions along a transverse line or lines of severance and which has integrally molded bracing members adjacent said line or lines, whereby the carton prior to and after being divided has desired rigidity at all points.

A further object is the provision of a divisible two-by-six type molded pulp egg carton having a cover including side and end walls and a top panel, the latter being subdivided by a depressed portion extending across the carton and defining a transverse line of severance aligned vertically with a line of severance in the carton bottom, thereby forming a rigidity-imparting brace, the depressed portion of the cover also stiffening the cover against spreading.

Other objects of the invention will be evident upon a consideration of the following specification and by reference to the accompanying drawings, in which:

Fig. 1 is a front elevational view illustrating a portion of a preferred form of molded pulp cellular carton divided into a plurality of sections;

Fig. 2 is a view similar to Fig. 1 illustrating a modification thereof;

Fig. 3 is a plan view depicting the container of Fig. 1 in open position further illustrating the invention;

Fig. 4 is a view similar to Fig. 3 depicting the container of Fig. 2 in open position;

Fig. 5 is an end elevation partly in section taken along the line 5—5 of Fig. 2 and looking in the direction of the arrows; and

Fig. 6 is a view similar to Fig. 5 taken along the lines 6—6 of Fig. 1 and looking in the direction of the arrows.

Referring more particularly to Fig. 1 and Fig. 2 of the drawing there is shown generally at 10 body members divided into sections each of which has transversely and longitudinally arranged rows of egg-receiving compartments 11 and sectional cover members indicated generally at 12. The particular cartons herein described are largely used for purposes of illustration merely and for this reason specifically are shown divided into a lesser number of sections than that favored by conventional practice. Conventional practice favors dividing along a line of severance into two

2

equal two-by-three sections. However, the particular type shown more readily and more clearly illustrates two different modifications of construction through which such a severance may most desirably be accomplished.

In each modification the cells of the bottom member are shown as being of octagonal shape and are in part formed by a series of upstanding hollow upwardly tapered separator members 13 of generally quadrilateral section positioned in spaced relation along the center of the carton. This type of construction is shown in Sherman Patent No. 1,975,129. The wall sections of the bottom formed by the compartments or cells extend upwardly and outwardly, and terminate adjacent the side of the carton without the pronounced flange shown in the Sherman patent.

At the front of the generally rectangular carton bottom 10 the right angle margins thereof coact with adjacent sides of the octagonal inwardly tapering cell walls in defining triangular abutments 14. Similar abutments designated by the reference numeral 15 are similarly formed along the front edge or margin of bottom 10. At opposite rear corners of the bottom, like abutments may be provided, if desired, although they are not shown in the illustrated embodiments.

Referring now to the sectional cover members 12 it will be seen that they have abutments 16 and 17, corresponding to and opposed to the abutments 14, 15 respectively on the carton bottom 10. Preferably the cover is perforated as at 18 as is also the body portion, as indicated at 19, as more fully explained hereinafter. It will be noted that the corners opposite the cover abutments or supports are also omitted as in the case of the bottom, the sides of the cover extending downwardly, outwardly and terminating similarly to the bottom member and adjacent thereto. The body member 10 and the cover member 12 at the back of the carton are integral with each other, having a common edge and hinge line defined only by a score line 20. When the cover is swung into closed position around the score line 20 it will be seen that a container or carton is provided free of a surrounding flange, the respective edges of the body member and the cover member coming in adjacent supporting contact with each other. The cover and the body members maintain their respective position and do not telescope within each other because the bottom and cover corner abutments 14, 16 respectively, together with the corresponding intermediate abutments 15, 17 respectively, are brought into registering abutting relation. Lateral shifting of the cover

3

relative to the bottom is not accompanied by telescoping and resultant rupture, due to this provision. Likewise by reason of these abutments on the cover and body members areas are provided which are suited to receive clips or any other suitable fastening means adapted to hold the cover and bottom members in continuously closed condition.

Referring to Figs. 1, 3 and 6, it will be noted that the perforations defining the line of severance 18 are co-incident longitudinally of the vertically extending angular sided depressions 21 in the cover 12 and similar depressions 23 in the bottom or receptacle 10, said transverse line of perforations being located medially of the apexes of said respective depressions. Reference to Figs. 1 and 6 indicates that the depression 21 extends downwardly only a portion of the vertical dimension of the cover, terminating in a transverse bridge surface 27 of substantial width between the adjacent sections of the cover defined by said depression, said bridge surface being connected forwardly and rearwardly of the cover with the marginal portions of the latter by the legs or struts 28. This provides a cover subdividing area of reduced cross section, in which the perforations 18 are conveniently located, notwithstanding which, a strong bracing action is exerted on the cover, consequently reinforcing the carton as a whole against vertical collapse or rupture.

Immediately beneath the above described arch, the carton bottom is provided with similar arches or bridges, 26 between adjacent cells or compartments 11 longitudinally of the carton, these bridges having the above mentioned line of perforations 19 extending thereacross in vertical alignment with the line of perforations 18 of the cover. It will be understood that these lines of perforations 18, 19 therefore extend entirely about the girth of the carton at the above described bridging areas to define a continuous line of subdivision around the carton. Reference to Figs. 1 and 6 indicates that the bridges 26 are located sufficiently close to the bottom of the receptacle 10 to strongly brace the latter. The reentrant abutments 15 on the receptacle are engageable by the corresponding abutments 17 of the cover in the closed position of the carton, thus affording a substantial area of support for a subdivided section at the newly constituted margin thereof and preventing telescoping of the cover and bottom even though some relative lateral displacement thereof should occur.

The above construction provides a carton of 2 x 6 capacity which is readily subdivisible along the perforation lines of severance 18, 19 into sections of lesser capacity, yet which is in no substantial degree weakened by the provision of such line of severance. This is made possible by the carton bracing bridge or arches 26, 27 in the bottom and cover, respectively. Moreover, following severance, the subdivided section continues to possess desired strength and rigidity as a result of the arching and bracing action referred to.

In Figs. 2, 4 and 5 I illustrate a further modification of the invention, which differs from that described in that the subdivisive depression in the cover defined by the downwardly extending angular compartment walls 22 extends the full vertical dimension of the cover to the edge of the latter. This eliminates the necessity for a line of perforation at this point. The arches in the bottom section, designated by the reference numeral 25, which extend downwardly a portion of the vertical dimension of the inclined compart-

4

ment walls 24, are in all respects similar to the arches 26 of the preceding embodiment. They afford desired rigidifying action for the bottom and the carton as a whole and are severable along the line of perforations 19, as in the preceding embodiment. This last described modification is more easily broken into sections in use, but on the whole is adequately braced against accidental collapse or rupture. It will be appreciated that in either of the embodiments, subdivided sections are provided with means in the form of the supports of substantial area at or on the line of perforation thereof, whereby telescoping of the cover and bottom is prevented, notwithstanding some relative lateral displacement of the cover and bottom.

It will also be recognized that many changes may be made in the invention as described herein without departing from the scope of the invention as defined in the appended claims.

I claim:

1. A molded pulp egg carton comprising a bottom having integral upstanding marginal walls, a two-walled partition integral with the bottom extending upwardly therefrom, said partition being disposed transversely of an opposed pair of the walls to define longitudinally spaced egg receiving pockets, there being an abutment on one of said opposed walls intermediate said pockets, and a cover integrally hinged to the other of said opposed walls having a paneled top and a front wall depending therefrom, said front wall being recessed and provided with an abutment adjoining the recess which is engageable with the first named abutment in the closed position of the cover, said cover top having a transverse two-walled panel-defining depression therein in line with said bottom partition which extends downwardly a portion only of the height of the cover, said partition and depression being weakened intermediate the walls thereof to enable severance of the carton into sections, the respective partition and depression walls of the thus divided sections constituting end walls for the bottom and cover thereof, said partition and depression extending vertically of the respective bottom and cover a distance sufficient to define an egg retaining and protecting wall at the severed end of each of the sections.

2. A molded pulp egg carton comprising a bottom having integral upstanding marginal walls, a two-walled partition integral with the bottom extending upwardly therefrom, said partition being disposed transversely of an opposed pair of the walls to define longitudinally spaced egg receiving pockets, there being an abutment on one of said opposed walls intermediate said pockets which extends inwardly of the outer confines of the carton, and a cover integrally hinged to the other of said opposed walls having a paneled top and a front wall depending therefrom, said front wall being recessed and provided with an abutment adjoining the recess which is engageable with the first named abutment in the closed position of the cover, said cover top having a transverse two-walled panel-defining depression therein in line with said bottom partition which extends downwardly the full height of the cover, said partition and depression being weakened intermediate the walls thereof to enable severance of the carton into sections, the respective partition and depression walls of the thus divided sections constituting end walls for the bottom and cover thereof, said partition and depression extending vertically of the respective bottom and

5

cover a distance sufficient to define an egg retaining and protecting wall at the severed end of each of the sections.

3. A molded pulp egg carton comprising a bottom having integral upstanding marginal walls, a two-walled partition integral with the bottom extending upwardly therefrom, said partition being disposed transversely of an opposed pair of the walls to define longitudinally spaced egg receiving pockets, there being an abutment on one of said opposed walls intermediate said pockets, and a cover integrally hinged to the other of said opposed walls having a paneled top and a front wall depending therefrom, said front wall being recessed and provided with an abutment adjoining the recess which is engageable with the first named abutment in the closed position of the cover, said cover top having a transverse two-walled panel-defining depression therein in line with said bottom partition which extends downwardly a portion only of the height of the cover, said partition and depression being weakened intermediate the walls thereof to enable severance of the carton into sections, the respective partition and depression walls of the thus divided sections constituting end walls for the bottom and cover thereof, said bottom section being substantially W-shaped in cross section through said partition between the walls thereof, said partition and depression extending vertically of the respective bottom and cover a distance sufficient to define an egg retaining and protecting wall at the severed end of each of the sections.

4. A molded pulp egg carton comprising a bottom having integral upstanding marginal walls, a two-walled partition integral with the bottom extending upwardly therefrom, said partition being disposed transversely of an opposed pair of the walls to define longitudinally spaced egg receiving pockets, there being an abutment on one of said opposed walls intermediate said pockets, and a cover integrally hinged to the other of said opposed walls having a paneled top and a front wall depending therefrom, said front wall being recessed and provided with an abutment adjoining the recess which is engageable with the first named abutment in the closed position of the cover, said cover top having a transverse two-walled panel-defining depression therein in line with said bottom partition which extends downwardly a substantial portion of the height of the cover sufficient to constitute article restraining walls on adjacent sides of a pair of panels in the cover, said partition and depression being weakened intermediate the walls thereof to enable sev-

6

erance of the carton into sections, the respective partition and depression walls of the thus divided sections constituting end walls for the bottom and cover thereof, said bottom section being substantially W-shaped in cross section through said partition between the walls thereof, said partition and depression extending vertically of the respective bottom and cover a distance sufficient to define an egg retaining and protecting wall at the severed end of each of the sections.

5. A molded pulp egg carton comprising a bottom section having a bottom, upstanding marginal walls integrally connected thereto and a two-walled partition integral with the bottom extending upwardly therefrom and disposed transversely between a pair of said walls to define egg pockets spaced longitudinally of said walls, said pair of walls having recesses set therein in alignment with said partition and extending from the bottom to points adjacent the upper edge of said walls, the partition walls merging with said recesses substantially above said bottom, at least one of said walls having an abutment on its upper edge spanning the recess therein, and a cover section integrally hinged to the bottom section along one of said pair of walls, said cover section having a top and integral marginal walls, an opposed pair of which are recessed in alignment with the bottom wall recesses, said top having a two-walled depression of substantial depth therein extending transversely of said pair of cover walls in vertical alignment with said partition, the depression intersecting and opening to said cover wall recesses and being of uninterrupted linear configuration between said recesses, at least one of said pair of cover walls having an abutment on its lower edge spanning a cover wall recess, said partition and depression being weakened intermediate the walls thereof to enable severance of the carton into sections, the respective partitions and depression walls of the thus divided elements constituting end walls for the bottom and cover section subdivisions.

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The following references are of record in the file of this patent:

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