Oct. 16, 1934. M. BURGER 1,977,427

CARTON

Filed Sept. 26, 1932

Fig. 1.

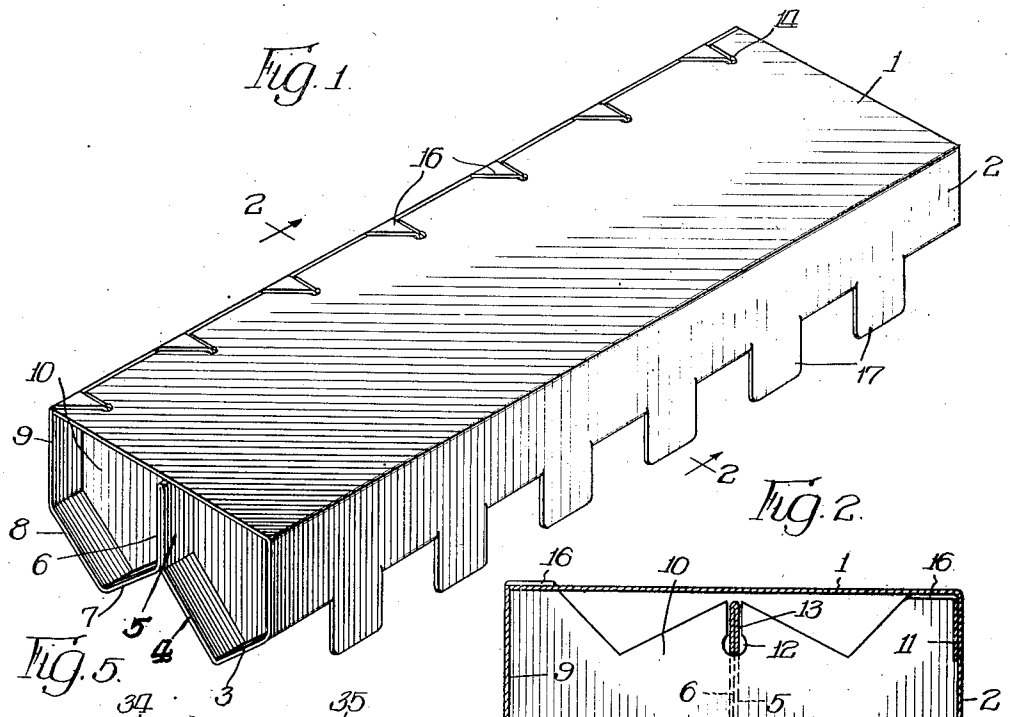


Fig. 2.

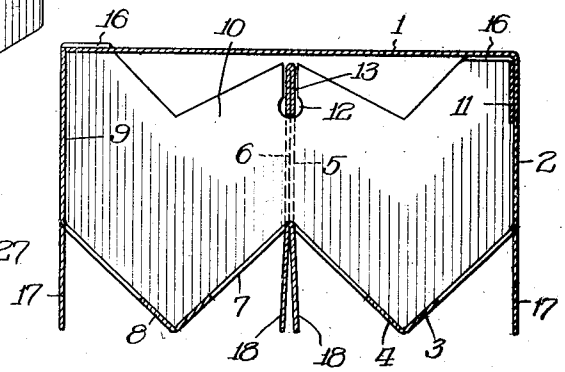


Fig. 5.

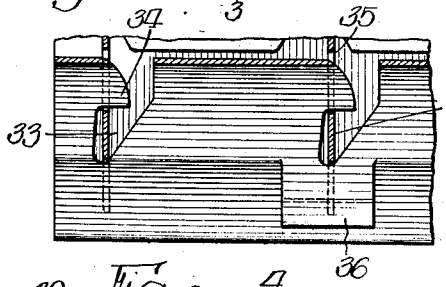
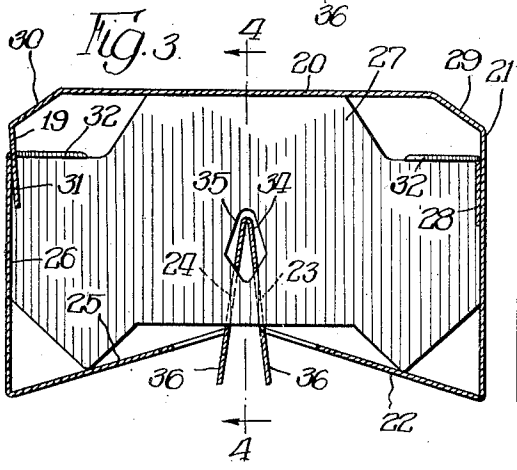
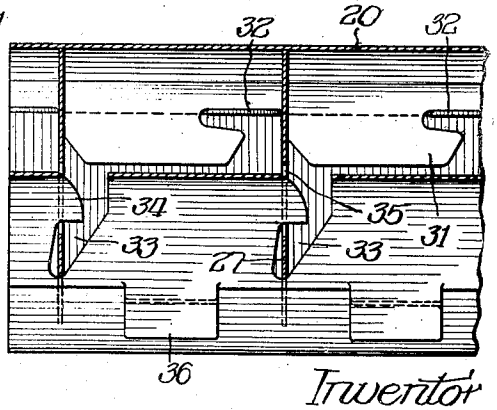


Fig. 4.

Fig. 3.





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1,977,427

CARTON

Martin Burger, Morris, Ill., assignor to Self-Locking Carton Co., Chicago, Ill., a corporation of Illinois

Application September 26, 1932, Serial No. 634,840

1 Claim. (Cl. 229—29)

The present invention relates to cartons of the cellular type and has particular reference to improvements by which the utility of egg cartons of the so-called cushion type is facilitated.

The cushion style cartons, such as disclosed in Troyk Patent No. 1,766,155, generally are formed of a single blank properly cut, scored and folded to form front and rear walls, partition sections between the walls and bottom sections which are inclined in order to space the egg-carrying section from a surface upon which the carton is resting, and thereby to prevent breakage. In certain instances, only the central portion of the bottom section is of inverted V-shape, the outer portions of the bottom sections being turned upwardly so that the entire bottom section is of substantially W-shape.

The principal object of the present invention is to provide a cushion style carton which is of stable structure and which affords added protection to the bottom of the carton.

This and other objects will become apparent from the following specifications with reference to the accompanying drawing, in which

Fig. 1 is a perspective view of a carton having a W-shaped bottom and constructed in accordance with my invention;

Fig. 2 is a sectional view taken along line 2—2 of Fig. 1;

Fig. 3 is a sectional view of a cushion style carton having a bottom section of substantially inverted V-shape and constructed in accordance with my invention;

Fig. 4 is a sectional view taken along line 4—4 of Fig. 3; and

Fig. 5 is a fragmentary sectional view similar to Fig. 4 and showing a modified form of my invention.

In the carton disclosed in Figs. 1 and 2 a single blank of paper or other suitable material is properly cut, scored and folded to form, in the order named, a top section 1, a rear wall 2, a bottom and longitudinal partition-forming section of W-shape and composed of a rear downwardly sloping section 3, a rear upwardly sloping section 4, a rear longitudinal partition section 5, a front longitudinal partition section 6, a front downwardly sloping section 7, a front upwardly sloping section 8, a front wall 9, cross partitions 10, and an attaching strip 11.

The cross partitions 10 are provided with slots 12 extending downwardly from the central portion of their upper edge, as shown in Fig. 2. The longitudinal partition sections are slotted to receive the transverse or cross partitions and at the top of these slots is provided hook portions 13 which engage the shoulders on the cross partitions formed by the slots 12, thereby maintaining the carton in erect condition and suspending the bottom section above a surface upon which the carton is placed. It will be noted that the carton rests upon the score lines between sections 3 and 4 on the rear side of the carton and between the sections 7 and 8 on the front side of the carton. From the lines of contact with the surface upon which the carton is positioned the bottom sections extend upwardly at an inclination of substantially 45°. The top of the carton is pivoted to the rear wall and has a plurality of slots 14 along its free edge which are of keyhole formation and provide means for locking the cover in closed condition. The cross partitions 10 are integral with the triangular hinged portions 16 and these hinged portions are integral with the front and rear walls, thereby providing means whereby the cross partitions may be rotated from their collapsed horizontal position into the erect position shown in the drawing.

The distance between the two lines of contact of the bottom of the carton with the surface upon which the carton is positioned is substantially less than the width of the carton and cartons of this type have had the objection heretofore of being easily rotated and upset, which has resulted in breakage of eggs held in the carton. Also, when force is exerted on the top of the carton the front and rear walls spread outwardly along the scoring between sections 8 and 9 on the front wall and sections 2 and 3 on the rear wall.

In accordance with the present invention a plurality of projections 17 are provided on the front and rear walls and extend downwardly in the plane of these walls to a point adjacent the lowest portion of the carton whereby the carton is supported along four lines instead of along the two somewhat closely spaced lines as heretofore. Downward projections have been provided on cartons of the prior art, for example, on Carter Patent No. 927,448, but in such cases the projections were employed as cushioning means. In the present case the bottom section of the carton is employed as cushioning means and the downward projections perform additional functions. When force is applied to the top of the cartons, shown in Figs. 1 and 2, the walls cannot spread outwardly and cause breakage, due to the contact of the projection 17 with the surface upon which the carton is positioned; also, the projections, being widely spaced, prevent rotation of the carton. In addition to the downward projections 17

on the front and rear walls there is provided a series of similar projections 18 which extend downwardly from the longitudinal partition sections, as shown in Fig. 2. It is preferred that the projections 17 and 18 be in somewhat staggered relation.

In order to form the projections 17 and 18 the blank from which the carton is formed is cut so that the projections are taken from the adjacent downwardly sloping bottom sections. When the box is in collapsed condition these projections or legs 17 and 18 are in the plane of the sections from which they are struck, but when the carton is erected and the bottom sections are placed in the position shown in Fig. 2 the projections remain in the plane of the wall structure to which they are attached, the longitudinal partition sections being considered as wall structures in this respect, and as there is no scoring between the projection and the walls to which they are attached the projections provide a rigid supporting means.

In the embodiment of my invention, shown in Figs. 3 and 4, a carton is produced by suitably cutting, scoring and folding a blank of paper to form a cover locking strip 19, top 20, rear wall 21, rear bottom section 22, rear longitudinal partition section 23, front longitudinal partition section 24, front bottom section 25, front wall 26, transverse partition sections 27, and an attaching strip 28 which is folded over and secured to the rear wall 21. The top section is joined to the rear wall by an inclined section 29 and the top is secured to the cover locking strip by a similar inclined section 30, whereby when the cover is closed by engaging the hooks 31 on the free edge of the cover locking strip beneath the triangular hinges 32 by which the cross partitions are secured to the front and rear wall, the box has the appearance of having its upper edges beveled, as shown in Fig. 3.

This beveled edge is of particular importance in that it allows the cartons to be stacked one upon the other so that less space is occupied than if the top of the carton is horizontal, this being due to the V-shaped bottom fitting over the beveled edges. In this manner larger cartons can be employed in the same egg cases which are now used and, as a consequence, larger eggs can be carried.

The bottom sections 22 and 25 are integral with the longitudinal partition sections 23 and 24 and the latter are provided with a series of slots 33, as shown in Fig. 4, which receive the transverse or cross partitions 27. Extending outwardly into the slots are hooks 34 which engage the shoulders formed by the openings or windows 35 in the cross partitions. The bottom is thereby drawn upward in substantially inverted V-shape and suspended to the cross partitions. It will be noted that the longitudinal partition sections 23 and 24 are substantially vertical while the inclined bottom sections 22 and 25 are inclined more toward the horizontal. In the cartons of this type and known heretofore it has been possible for projections to be thrust upwardly along the center of the bottom section to the damage of eggs held in the carton. In accordance with the present invention downward projections 36 extend from the longitudinal partition sections toward the level adjacent the bottom of the carton.

In the modification shown in the drawing the projections 36 do not extend to the level of the bottom of the carton. The purpose of this is that when one carton is positioned above another the beveled edges press the bottom sections 22 and 25 upwardly. However, the projections 36 of the one carton engage the top 20 of the next lower carton and thereby prevent the top of the lower carton from being pressed up too far. It is desirable that the projections 36 be of such length that they contact the top 20 of the carton simultaneously with the contact of the sections 22 and 25 with the beveled edges 29 and 30, respectively.

To provide the projections 36 the blank from which the carton is produced is cut so that these projections are struck from the sections 22 and 25. Since the projections are not scored along the line of their attachment to the longitudinal partition sections the projections offer a stable support for the protection of the carton and eggs held therein.

In the modified form of my invention shown in Fig. 5, the blank from which the carton is produced is cut in such a manner as to locate the projections or legs 36 immediately adjacent the cross partitions, rather than intermediate the cross partitions, as in Fig. 4. By providing the projections adjacent the cross partition, a better suspension of the bottom section is had. Also, the central portions of the cells, upon which the eggs rest, do not have sharp edges of cardboard, resulting from the cutting out of the projections, which edges tend to cut through the egg shells.

The specific structures shown in the drawing have been described for purpose of illustration and explanation, and are not to be taken as limiting my invention beyond the scope of the appended claim.

I claim:

A carton of the type described comprising front and rear walls, a bottom section having its central portion in the shape of an inverted V, substantially vertical longitudinal partition sections connected to the inner portion of said bottom section, cross partitions, releasable hooks and shoulders on said longitudinal partition sections and said cross partitions, and projections on said longitudinal partition sections extending downwardly in the plane thereof, said projections being cut from the material of the inclined bottom section and joining the longitudinal partition sections along a line between the longitudinal partition sections and the bottom section.

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