June 29, 1943. J. O'REILLY 2,322,876

EGG CARTON

Filed March 17, 1941

Fig. 1

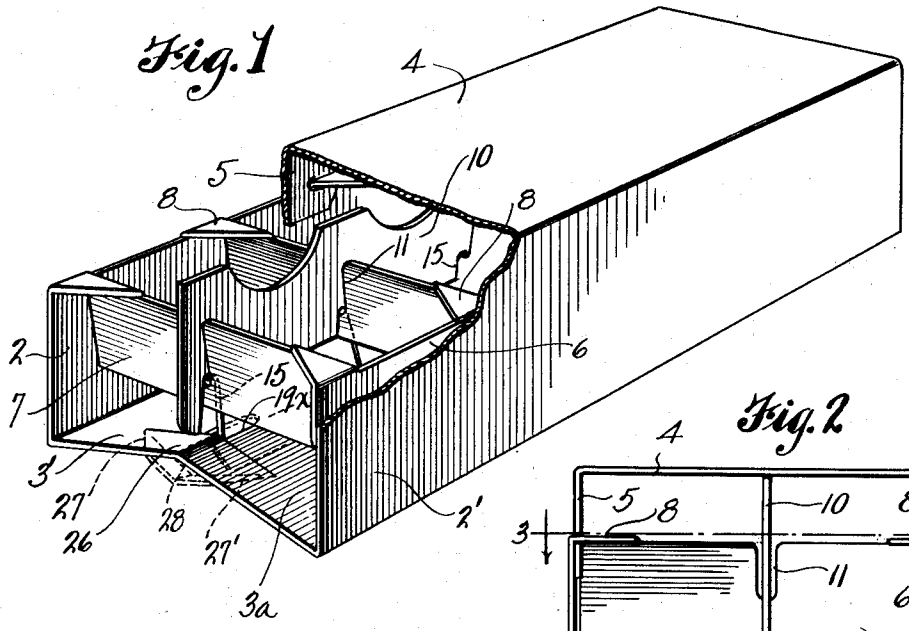


Fig. 2

Fig. 3

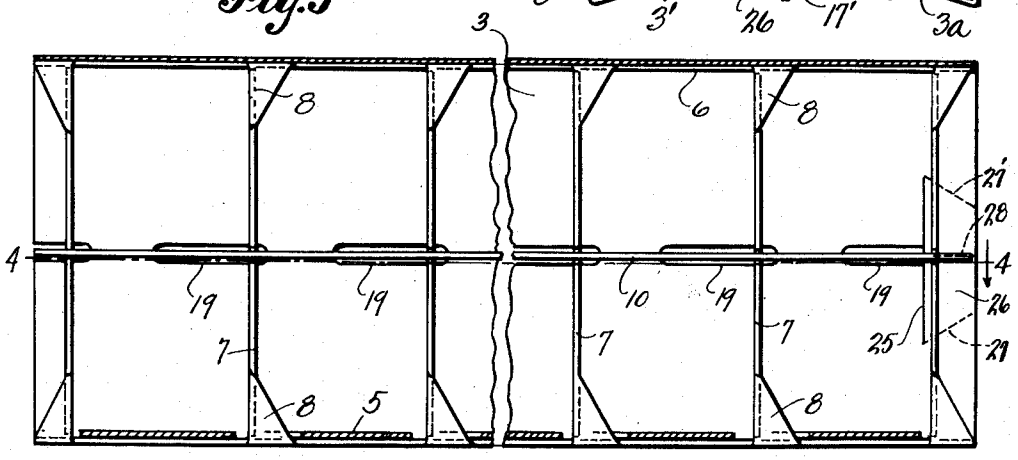
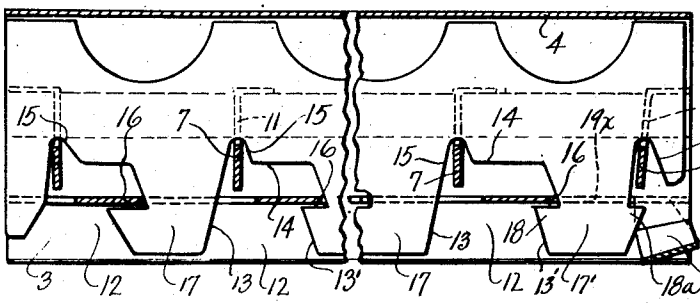


Fig. 4



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EGG CARTON

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2 Claims. (Cl. 229—29)

This invention relates to cartons, and has reference more particularly to cartons of the multicellular types such as those designed for the packaging of eggs, and which are most generally made from a single strip of cardboard, or the like, that is cut, scored, folded and joined in such manner that the carton body may be maintained in a flatly collapsed condition until its time of use, and may then easily and quickly be opened to box-like form for reception of eggs in the cells thereof; it being an object of this invention to provide a carton of the above character having a succession of spaced, transverse partition forming parts with which a separate, longitudinal divider, or partition strip may be assembled, after the carton has been opened up, thus to divide each of those spaces that are set off between the successive transverse partitions, into two cells, and which divider or partition strip, when so assembled in the carton, interlocks both with the transverse partitions and with the bottom wall of the carton for the support of the latter and for the positive holding of the carton against possible collapse while in use.

It is also an object of this invention to provide an improved feature of construction, more particularly in the slitting and scoring of a certain portion of the bottom wall of the body, to make possible the downward displacement of that part for an easier and quicker assembly of the longitudinal divider with the transverse partitions and bottom wall, and then for return of this displaced part to normal position to serve as a means for the securement of the divider in place after it has thus been assembled with the carton.

More specifically stated, the present invention resides in the combination of the divider strip with the transverse partitions and the bottom wall and in those details of construction embodied therein that provide for the easy assembling and the secure holding of the divider strip in place.

In accomplishing the above stated and other objects of the invention, I have provided the improved details of construction, the preferred forms of which are illustrated in the accompanying drawing, wherein—

Fig. 1 is a perspective view of an egg carton embodying the present invention; a part of the cover portion being broken away for better illustration of the interlocked parts of the transverse partitions, the longitudinal divider strip, and the bottom wall.

Fig. 2 is an end view of the carton.

Fig. 3 is a horizontal, sectional view of the carton as seen on the line 3—3 in Fig. 2.

Fig. 4 is a vertical section, longitudinally of the carton, on the line 4—4 in Fig. 3.

Referring more in detail to the drawing—

In Fig. 1, I have shown a carton, designated in its entirety by reference numeral 1, which embodies the present invention. As herein shown, a part of the cover portion has been broken away for better illustration of the divider strip and the cross partitions. In this particular structure, it is anticipated that the carton be made from a continuous strip of flexible material, such as cardboard, that is scored or creased while in the flat, and later is folded in such manner as to define the opposite side walls 2 and 2', a bottom wall 3, and a cover portion 4, equipped at its free edge with a locking flap 5. At the other end of the blank, a score line also sets off a narrow attachment strip 6 which is adhesively attached to the side wall 2' in such manner as to provide for a rectangular box-like enclosure. That section of the blank that is next adjacent the attachment strip 6 is punched, notched and cut in a manner whereby to set off a plurality of transverse partition forming portions 7, and in the assembled carton, these partitions extend transversely of the body and may be folded downwardly from the plane of the section from which they are formed, to receive the eggs between them for support on the bottom wall. Since this feature is not a part of the present invention, it will not herein be described in detail. The partition members 7 have supporting connections 8 at their ends with the opposite side walls 2 and 2' and the connections are such that the partitions may all be folded into a common plane for flat collapse of the carton body.

The bottom wall 3 of the carton is provided with a central, longitudinal crease or score line permitting it to be easily bent into a sort of inverted V-shaped ridge, with oppositely inclined side portions 3' and 3a.

When the carton is erected for use and the transverse partition members 7 have been folded downwardly for the reception of eggs between them, their lower edges will terminate slightly above the ridge of the bottom wall, as noted in Fig. 2, and in the present carton, where it is intended that two eggs be disposed between successive transverse partitions, the ridge then serves to provide a sort of separator that cushions as well as holds the eggs apart.

In order to support the bottom wall 3 against flattening out when the weight of eggs is dis-

posed thereon, and to hold the carton in its erected position, as observed in Fig. 2, and the cross partitions 7 in the downwardly folded positions of Fig. 4, for reception of the eggs between them, I have provided the longitudinal divider, or division strip 10. This strip is designed to interlock both with the transverse partitions and with the bottom wall in a manner to hold the carton erected. In order to provide for this interlocking of parts, each of the transverse partitions 7 is provided centrally in its top edge portion with a rather narrow and deep cut notch or slot 11, and the division strip is provided at intervals along its bottom edge with recesses 12 of substantial width and each having converging opposite side edges 13—13' and a flat, straight bottom edge 14. Each of the recesses 12 is formed also at one end of the bottom edge with an upwardly directed notch 15, and at the other end of the bottom edge, with a horizontally continuing notch 16 which opens directly toward the opposite side edge of the recess.

The spacing of the recesses 12 along the bottom edge of the divider strip 10 is in accordance with the spacing of the transverse partitions 7, as will be understood by reference to Fig. 4.

It is intended that the longitudinal divider strip 10 be assembled with the cross partitions and bottom wall of the carton after the carton has been adjusted from collapsed condition to a substantially rectangular condition, as shown in Fig. 2. It will be understood that with the carton body in this rectangular position, and the cover portion in open position, the divider strip may be placed lengthwise of the carton, centrally between its opposite side walls, and then moved downwardly over the cross partitions so that the latter are received in the notches 12 and the bases of the notches 15 of the divider strip seated in the bases of the notches 11 of the transverse partitions. Thus, in their assembled relationship, the cross partitions and the division strip assume the relationship shown best in Figs. 1 and 4.

By reason of the provision of the recesses 12 in the bottom edge of the division strip 10, there will be formed between the recesses, the downwardly projecting supports 17. It is into these supporting portions 17 that the horizontal notches 16 extend. Thus, by reason of the notches extending into the parts 17, each support 17 forms a sort of hook portion 18 at one edge which, as will presently be explained, serve as the supports for the bottom wall.

The bottom wall, as will be understood by reference to Figs. 3 and 4, is provided, in coincidence with the line of the ridge, with a succession of slots 19 so spaced apart that in the assembly of the division strip with the carton, the supporting portions 17, or extensions at the bottom edge of the divider strip, may be projected downwardly through these slots. Each of the extensions 17 is slightly lesser in length, measured lengthwise of the division strip, than the slot 19 through which it is passed, but after the extensions have been projected downwardly through their respective slots, the divider may be moved slightly in a lengthwise direction for the purpose of causing the hooked portions 18 to engage and support the bottom wall at points adjacent the ends of the slots, as has been shown in Fig. 4. Thus, the divided may be locked with the bottom wall for the support of the latter, and so long as it is held in that locked position, the transverse partitions 7 and the bottom wall will be held properly assembled and the carton will be held against collapse. In this assembled relationship of parts, the partitions 7 are held in their downwardly folded positions and, by reason of the interlock of the notches 15 and 11, the carton is held against lateral collapse in either direction.

It will be understood, however, that, unless some means is provided to prevent a releasing longitudinal movement of the divider strip, it will be quite apt to become released from its hooked connections with the bottom wall. Therefore, in order to insure against this releasing movement, I have provided a feature which is set out as one of the objects of this invention, in that it not only provides for an easier assembling of the division strip with the carton, but also operates as a holding latch that insures against the accidental disconnection of parts after the division strip has been applied to the carton.

It is to be observed, by reference to Fig. 4, that the support and extension portion 17' which is at the right-hand end of the strip, as shown in Fig. 4, is so cut as to form a hook portion 18*a* at that side opposite the hook portion 18, and also, it is to be noted that the strip at the right-hand side of the notch 15 is cut off short of the bottom wall of the carton. It will also be observed that the slot 19*x*, which receives this particular end extension 17', is shorter than the length spanned by the hooked portions 18 and 18*a*. Thus, when the extension is once passed through the slot, it will be held rather secure and also will hold the divider strip against any possible longitudinal movement that would permit releasing the hooked portions from the slot 19*x*. However, provision must be made in accordance with this invention for applying this extension portion 17' through the slot 19*x*, and this has been accomplished as follows:

By reference to Fig. 3, it will be noted that there is a transversely directed slit 25 formed in the bottom wall across the ridge portion and parallel with the adjacent end edge of the carton. This slit sets off a latch portion, which is designated in its entirety by reference numeral 26. This latch portion is bounded by the slit 25 on one side, the edge of the carton on the opposite side, and by score lines 27 and 27' at its opposite ends. These lines of scoring converge in directions from the slit toward the edge of the carton, and are equally spaced from the ridge or center line of the bottom wall. Also, there is a score line 28 through this latch portion coinciding with the ridge.

With this latch portion so defined, it is possible, by pressing downwardly thereon, to cause it to be displaced downwardly to the dotted line position shown in Fig. 1, or to the full line position in which it is shown in Fig. 4. When this latch portion is so displaced, it is possible to easily and quickly apply the divider strip by passing all of the extension portions 17 through their respective slots 19 in the bottom wall and then, after the divider has been shifted endwise to cause the hook portions 18 to properly interlock with the bottom wall, the latch portion 26 is moved back to its normal position, as shown in Fig. 1, and it will then serve as a holding latch that prevents the unlocking of the divider strip. When this latch portion has been moved back to this holding position, it snaps over the hooked portion 18*a* and will be held against accidental downward displacement.

The provision of the latch member, as above described, may be accomplished at the same time the body blank is originally formed, and it per-

mits an easier assembly of the division strip with the carton than has heretofore been possible and provides for a secure, positive locking of parts together.

Having thus described my invention, what I claim as new therein and desire to secure by Letters Patent is:

1. A carton of the character described comprising opposite side walls, a bottom wall joining the side walls, and formed with a central longitudinal ridge, and formed along the ridge with a plurality of longitudinally directed spaced slots, and a longitudinal division strip for the carton, formed along its bottom edge with a plurality of hook-like extensions adapted to be extended down through the said slots and by an endwise shifting of the strip, to be hooked beneath the bottom wall for its support; the slot that is next adjacent the end edge of the bottom away from which the strip is shifted for locking, being of a length whereby to closely confine the strip extension therein and hold the strip against releasing movement, and there being a slit in the bottom wall, transversely of the ridge and passing through the restricted slot at the end that is next to the edge of the bottom wall, and here being scored lines extending from opposite ends of the slit to the edge of the bottom, setting off a latch portion between them which is adapted to be depressed below the level of the ridge for passing of the hook-like portion of the division strip into and from the shortened slot.

2. A carton of the character described having a ridge-like bottom wall of flexible material, formed with longitudinal slots in spaced relationship coincident with the ridge, and a longitudinal division strip for the carton formed along its bottom edge with hook-like extensions projected into the said slots, and by an endwise shifting of the strip to be hooked beneath the bottom wall for its support; the slot that is next adjacent that edge of the bottom wall away from which the division strip is shifted for engaging its hook-like portions with the bottom being of restricted length to closely confine the corresponding hook-like extension therein against movement that would permit disengaging the hook-like portions from the bottom, and there being a slit in the bottom wall transversely through the restricted slot at the end thereof for a partial disconnection of that wall material that lies between the said slit and edge of the wall for the downward deflection of that material for admittance of the corresponding hook-like extension to the slot; said slit extending equally to opposite sides of the ridge and there being lines of scoring in the bottom wall inclined from the ends of the slit in the direction of the ridge whereby in the downward deflection of this material, it is caused to be displaced outwardly for greater clearance in the passing of the hook-like extensions into and from the slot.

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