

[54] **CARTON OPENER**
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 [22] Filed: **Mar. 1, 1971**
 [21] Appl. No.: **119,622**

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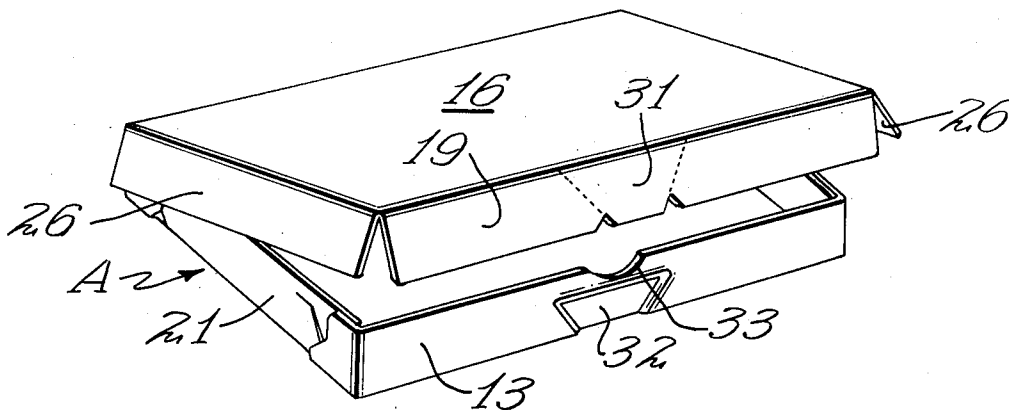
[52] U.S. Cl. **229/51 WB**, 229/36, 229/48 R,
 229/48 SA, 229/51 TS
 [51] Int. Cl. **B65d 5/54**
 [58] Field of Search 229/51 TS, 51 TC, 51 R, 51 SC,
 229/51 WB, 48 R, 48 SA, 48 SB, 33, 36

[57] **ABSTRACT**

Two layers of paperboard are sealed together. An intermediate area of one layer is embossed outwardly away from the other so that the other layer is out of contact with the one layer when the layers are sealed. This leaves the embossed area free of adhesion to the other layer so that it may be grasped for removal.

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2 Claims, 5 Drawing Figures



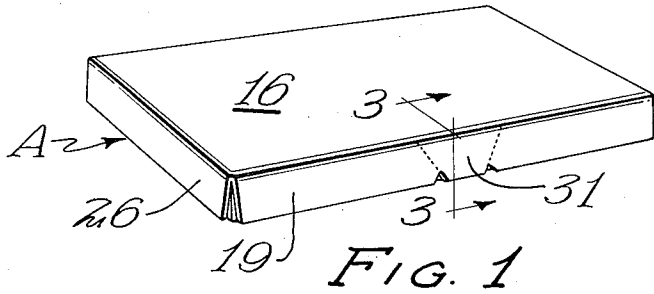


FIG. 1

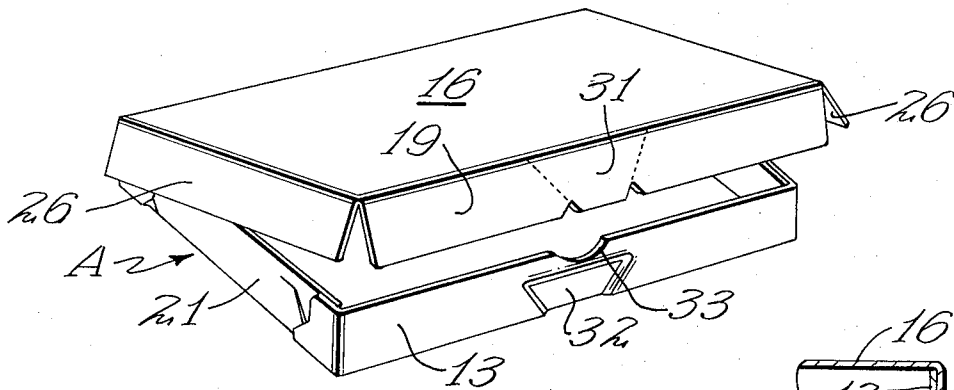


FIG. 2

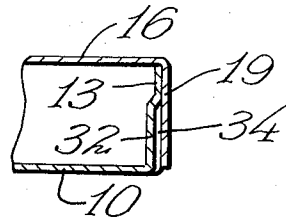


FIG. 3

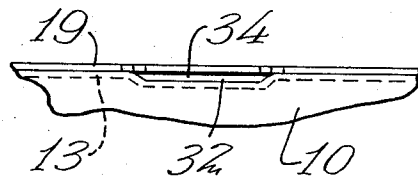


FIG. 4

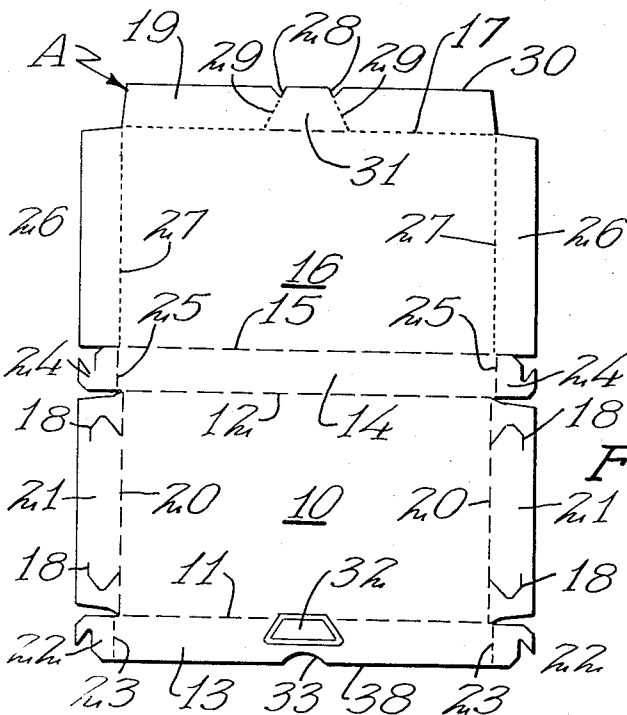


FIG. 5

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CARTON OPENER

This invention relates to an improvement in carton opener and deals particularly with a means of simplifying the opening of a sealed carton.

BACKGROUND OF THE INVENTION

It is a well known fact that tightly sealed cartons are often a source of exasperation to housewives and other consumers. The producers of food products often insist on employing a tightly sealed carton for the perishable food therein. However, the more tightly the carton is sealed, the harder it is to open. The difficulty has been emphasized by the improvement in adhesives. Perishable food products are often packaged in cartons coated with wax or other protective material. If hot melt adhesive is used in sealing the cartons, it is almost impossible to tear the carton open without tearing the surface of the paperboard itself. Even when the wax surfaces of the carton are sealed together, the layers of paperboard are so closely bonded that it is difficult to insert a blade or fingernail between the paperboard layers to pull them apart.

One method commonly used to weaken the adhesive bond between two paperboard surfaces is to print at least one of the surfaces with ink or a repellent to which the adhesive coating will not readily adhere. However, it is difficult to provide a uniform bond by this method in view of the fact that the release qualities of the printed surface varies quite substantially. Because of the difficulties experienced in opening the packages, many housewives will often select a brand of product which is contained in the carton most convenient to use.

SUMMARY OF THE INVENTION

An object of the present invention resides in the provision of a means of simplifying the opening of a carton or the like, which includes embossing an area of one of a pair of overlapping layers in a direction away from the surface of the other layer so that when pressure is applied to seal the two layers together, this pressure will not cause contact between the two layers at the embossed area. As a result, the two layers are not adhered in this area. By providing weakened lines of separation extending across one of the layers on opposite sides of the embossed area, the portion of the layer between the weakened lines may be grasped and readily separated.

A feature of the present invention resides in the provision of a construction which is particularly effective in sealing coated cartons which are sealed by heat and pressure. This heat and pressure is normally sufficient to penetrate the outer layer and to soften the coating between the two layers until it becomes adhesive. Where the one layer is provided with an area which is embossed away from the surface of the other layer so that the two layers do not contact in the embossed area, no adhesion will result, and the layers may be readily separated.

A feature of the preferred form of construction of the invention resides in the provision of a carton having overlapping panels including an outer panel and an inner panel. The inner panel is offset inwardly in an embossed area, preferably intermediate the ends of the panel. The outer layer is flat, and is normally provided with weakened lines of separation on opposite sides of

the embossed area of the inner layer. As a result, there is actually an open area between the two layers at the point of embossment so that a thin blade or fingernail may be inserted between the two layers, and the outer layer may be split along the weakened lines of separation.

A further feature of the present invention resides in the provision of a carton of the type described in which a detachable area is provided in the panel foldably connected to the outer layer and which is connected to the removable portion of the outer layer, this detachable area being normally defined by weakened lines of separation in the panel. When the detachable area of the outer layer is detached, this area may be used to separate the detachable portion of the adjoining panel so as to provide access to the interior of the carton.

These and other objects and novel features of the present invention will be more clearly and fully set forth in the following specification and claims.

In the drawings forming a part of the specification:

FIG. 1 is a perspective view of a sealed carton showing the finished form thereof.

FIG. 2 is a perspective view of a partially closed carton.

FIG. 3 is a sectional view through the carton, the position of the section being indicated by the line 3—3 of FIG. 1.

FIG. 4 is a bottom planned view of a detailed portion of the carton showing the embossed inwardly offset area thereof.

FIG. 5 is a diagrammatic view of the blank from which the carton is formed.

In view of the fact that the specific form of the cartons may be widely varied, the details of construction are usually not of great importance. The carton illustrated is of a type used to contain a series of side by side sausage links, and the purpose of the arrangement is to provide a means of opening the cover of the package so that some of the links may be removed and the cover reclosed.

The carton A is formed of the blank illustrated in FIG. 5 of the drawings. As indicated, the carton shown includes a bottom panel 10 hingedly connected along parallel fold lines 11 and 12 to a front wall 13 and a rear wall 14. The rear wall 14 is connected along a fold line 15 to a cover panel 16. This cover panel 16 is foldably connected along a fold line 17 to a front flange 19 which is designed to extend to overlapping relation with the front wall or panel 13. The fold lines which have been described are in parallel relation.

The bottom panel 10 is foldably connected along parallel fold lines 20 to side walls or side wall panels 21. Corner flaps 22 are foldably connected to the sides of the front wall panel 13 along parallel fold lines 23. Similar corner flaps 24 are hingedly connected to the sides of the rear wall panel 14 along parallel fold lines 25. The corner flaps 22 and 24 are generally hook-shaped in form and are designed to engage in slots 18 in the side walls 21. In view of the fact that the corner locks are well known in the art, they are not described in detail. It is only necessarily to know that the corner flaps connect the side walls 21 in in right angular relation to the front wall 13 and rear wall 14 when the carton is set up.

Side flanges 26 are hingedly connected to opposite sides of the cover panel 16 along parallel fold lines 27. The side flanges 26 are designed to overlies the side

walls 21 and are adhered in surface contact therewith when the carton is sealed.

A pair of diverging weakened lines on the separation 29 extend across the flange 19 from the edge 30 of the flange to the fold line 17. The portions of the fold line 17 on opposite sides of the weakened line of separation 29 are in themselves weakened lines of separation such as perforations which permit the flange to fold into face contact with the front wall panel 13, but also which permit the top to be separated from the flange 19. The fold lines 27 are also preferably weakened lines of separation such as perforated lines, which permit the sides of the top panel 16 to tear away from the flanges 26. Notches 28 are provided at the juncture between the weakened lines 27 and the edge 30 of the flange 19 in order to simplify the task of grasping the trapezoidal tab 31 which is between the weakened lines 29.

A generally trapezoidal area 32 in front of the wall 13 adjoining the fold line 11 is inwardly embossed or offset from the plane of the remainder of the wall 13. This trapezoidal area 32 generally corresponds to the shape of the narrower end of the trapezoidal tab 31. As a result the major portion of this tab is spaced outwardly from the front wall 13 when the flange 19 is sealed in face contact with the front wall 13. A notch 33 is provided in the edge 38 of the front wall 13 above the offset portion 32 to simplify the reopening of the cover panel 16 after the cover panel has been reclosed.

After the carton has been filled, it is closed by folding the cover panel 16 down over the erected walls of the tray-shaped bottom, the flanges 26 are folded outwardly of the side walls 21 and the flange 19 is folded outwardly of the front wall 13. Normally, the surfaces of the carton are coated with a coating which is adhesive when heat and pressure are applied. Alternatively, adhesive may be applied between the flanges 19 and 26 and the corresponding walls of the tray-shaped bottom. Heat and pressure are applied to seal the flanges which they overlie.

When it is desired to open the carton, a thin blade or a finger nail is inserted between the tab 31 and the embossed area 32 of the front wall 13. This is readily possible because of the space 34 there between caused by the embossment 32. The tab 31 is pulled outwardly to separate the tab from the remainder of the flange 19. An upward pull upon the tab then causes the separation of the top panel 16 along the perforated portion of the fold line 17 and then along the perforated lines 27. The cover panel 16 may then be hinged upwardly along the fold line 15 to remove any portion of the contents. If it is desired to reclose the carton, the top panel 16 is

merely folded down and the tab 31 inserted inwardly of the front wall 13. The notch 33 permits the engagement with this tab if it is desired to reopen the carton.

In accordance with the patent statutes, I have described the principles of construction and operation of my improvement in CARTON OPENER; and while I have endeavored to set forth the best embodiment thereof, I desire to have it understood that obvious changes may be made within the scope of the following claims without departing from the spirit of my invention. I claim:

1. A carton including:
 - a tray-shaped body including a rectangular base panel and wall panels extending upwardly therefrom in right angular relation to said base panel and connected together to form a wall structure comprising front, rear and side walls,
 - a cover panel hingedly secured to the upper edge of said rear wall,
 - a flange connected to the cover panel and overlying the front wall and terminating in a free edge, said front wall including an inwardly embossed area extending upwardly from the lower edge thereof and inwardly of the central portion of said flange, means adhesively securing said flange in face contact with all of the outer surface of said front wall with the exception of said embossed area,
 - weakened lines of separation extending across said flange on opposite sides of said embossed area and adjacent thereto, said weakened lines extending from said free edge to the upper edge thereof, said flange being secured to said cover panel along a fold line which includes second weakened lines of separation extending from the upper ends of said first named weakened lines to the opposite sides of said flange and cover panel,
 - whereby when said flange is grasped between said first named weakened lines of separation, the portion of said flange between said first named weakened lines of separation may be torn away, leaving the adhered areas of said flange and front wall adhered together, and whereby these adhered areas may be separated from said cover panel along said second weakened lines of separation.
2. The structure of claim 1 and including side flanges connected to said cover along opposite sides thereof along weakened lines of separation, said side flanges being adhered to the outer surfaces of said side walls.

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