

[54] **RECLOSABLE COMPOSITE PACKAGE**

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[58] Field of Search **229/44 R, 51 TS, 51 TC, 51 D**

[56] **References Cited**

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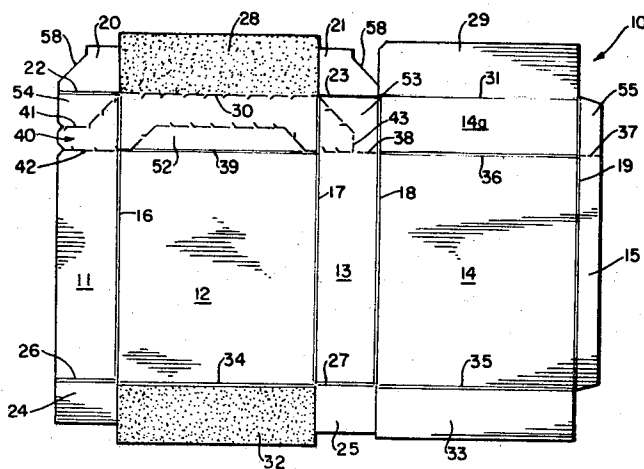
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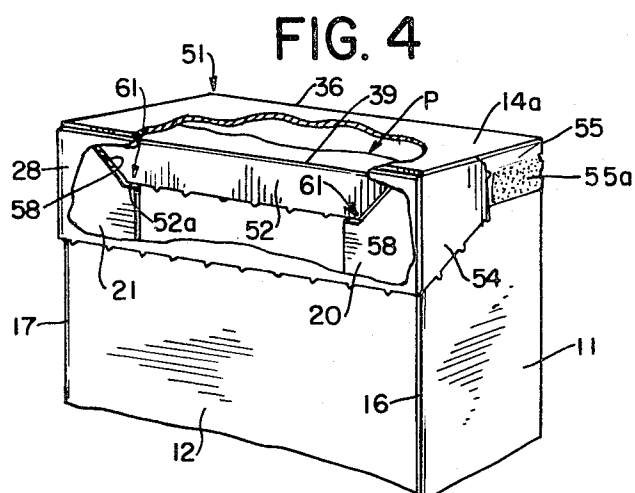
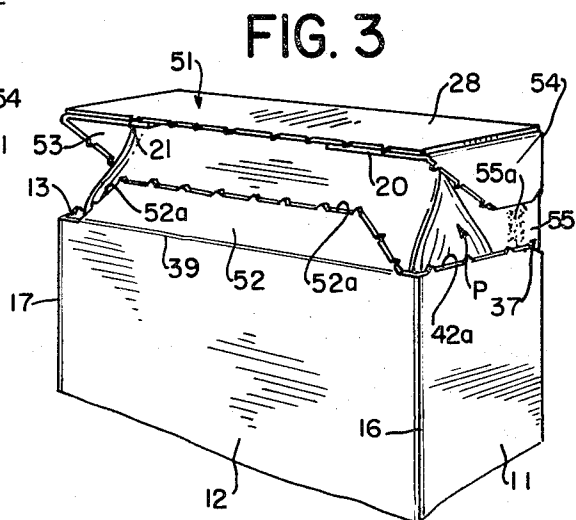
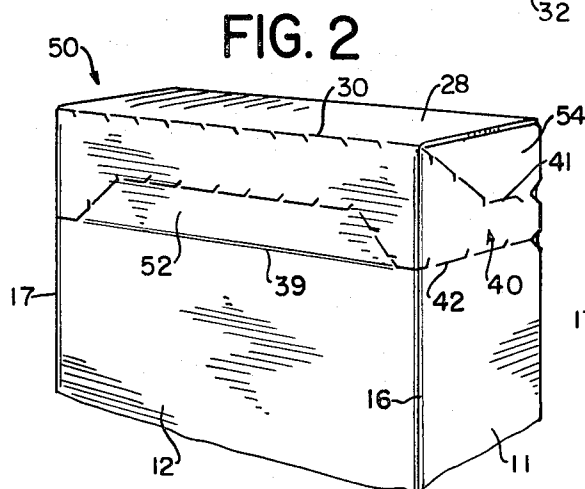
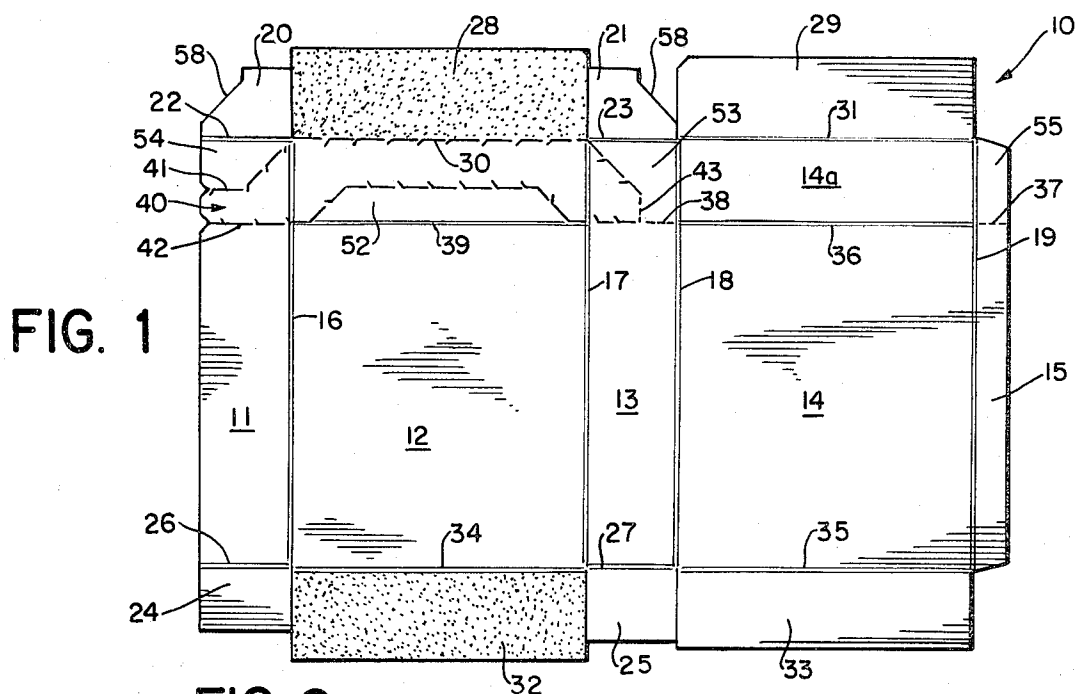
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[57] **ABSTRACT**

The disclosure relates to a package for foodstuffs and the like including a sealed, reclosable pouch or bag carried by a sealed parallelepiped carton structure. The carton is opened by the removal of a tear strip and is so configured that the tear strip removal forms a telescopically reclosable, lockable chest-type cover, i.e., a cover which is adapted to completely overlap and be securely "locked" to the side and front walls of the opened carton upon hinging movement about a horizontal axis in the carton rear wall.

4 Claims, 4 Drawing Figures





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RECLOSABLE COMPOSITE PACKAGE

BACKGROUND OF THE INVENTION

A plethora of "bag-in-box" constructions, telescoping carton constructions, tear strip opening cartons and the like have been developed in the packaging arts. The present invention is specifically directed to an improvement in a "bag-in-box" construction whose overall size is reduced after opening, partial dispensing of the packaged contents, and reclosing.

SUMMARY OF THE INVENTION

The package of the invention includes a sealed, reclosable pouch of comestibles or a like product which is intended for consumption over a period of time and, therefore, which requires protection "on the shelf" after the initial opening of the pouch. To that end, the pouch is, itself, disposed in a new reclosable, lockable, "shrinkable" carton structure.

The new carton structure is formed in accordance with the principles of the invention, from a conventional parallelepiped, end-sealed carton, which has been modified by the inclusion of hinge lines in the rear wall spaced below the upper edge of the rear wall and by the inclusion of specially configured upper dust flaps and a specially configured tear strip. The new tear strip extends completely across the free side wall (the wall which cooperates with the glue flap to form the manufacturer's joint), then completely across the front wall and then approximately halfway across the other side wall. More specifically, the tear strip is generally defined by spaced upper and lower tear lines, the upper one of which extends from the free edge side wall below the upper edge, thereof, obliquely upwardly to the upper front corner of the carton, then straight across the carton along the upper edge to the other upper front corner, and then obliquely downwardly to approximately the center of the other side wall panel. The lower tear line extends from the edge of the free side wall completely thereacross and partially across the front wall in the horizontal plane in which the aforementioned hinge line is disposed. The lower tear line then extends generally parallel to the upper tear line (i.e., obliquely upwardly, straight across, obliquely downwardly) terminating in horizontal portion, colinear with the initial portion, and extending approximately halfway across the other side wall. A vertical tear line connects the upper and lower tear lines to define completely the special tear strip. Additionally, a hinge line extends across the front wall of the carton in the horizontal plane of the rear wall hinge line.

In accordance with the invention, removal of the aforementioned special tear strip will form a chest-type, telescopically reclosable cover and a reversibly foldable, trapezoidal locking element. Forward hinging of the locking element and the cover will effectively reclose and lock the carton through the cooperation of the trapezoidal locking element with the upper dust flaps. In addition, reclosure of the carton will shorten its original length. As will be appreciated, the pouch itself may be shortened before reclosing by rolling, or otherwise folding its upper edges.

For a more complete understanding of the present invention and its attendant advantages, reference should be made to the following detailed description taken in conjunction with the accompanying drawing, in which:

DESCRIPTION OF THE DRAWINGS

FIG. 1 is a plan view of a blank for a carton embodying the principles of the invention;

FIG. 2 is a fragmentary, perspective view of the top structure of a carton of the invention before opening;

FIG. 3 is a fragmentary, perspective view of the top structure of a carton of the invention after opening; and

FIG. 4 is a fragmentary, perspective view of the top structure of a carton of the invention after reclosing, with portions removed to illustrate the new locking arrangement.

DESCRIPTION OF PREFERRED EMBODIMENT

Referring now to FIG. 1, a paperboard blank 10 for the carton of the new "bag-in-box" package comprises a free side wall panel 11, a front wall panel 12, a side wall panel 13, a rear wall panel 14, and a glue flap 15, consecutively articulated along parallel vertical score lines 16, 17, 18, 19, respectively.

Specially configured upper dust flaps 20, 21 are articulated to the upper edges of the side wall panels 11, 13 along upper horizontal score lines 22, 23, while lower dust flaps 24, 25 are articulated to the bottom edges of said panels along score lines 26, 27, respectively, as shown. In accordance with the invention, the free edges 58 of the dust flaps 20, 21 are generally shaped to make them abutable with the tapered ends of the locking member 52, to be described hereinafter. Upper end flaps 28, 29 are articulated to the upper edges of the front and rear wall panels 12, 14 along colinear lines of weakness 30, 31, respectively, while bottom end flaps 32, 33 are articulated to the bottom edges of the panels 12, 14 along colinear score lines 34, 35, respectively, as shown in FIG. 1. Line of weakness 31 is a score line while line of weakness 30 is formed by a series of cuts defining part of one edge of a tear strip 40, to be described more completely hereinafter. With the exceptions of the shape of the free edges 58 of the upper dust flaps and the formation of the line of weakness 30 by a series of cuts, the blank described thus far is similar to those widely employed in the art in the formation of end sealed cartons.

In accordance with the principles of the invention, a full, chest-type, reclosable cover is latently formed at the uppermost portions of the wall panels 11-14 and glue flap 15. To that end, a cover hinge line 36, defining a latent cover top wall 14a, is formed in the rear wall panel 14, and a cover-forming specially configured tear strip 40 extends fully across the side wall 11, the front wall 12, and substantially halfway across the side wall 13. Specifically, the tear strip 40 is defined by an upper tear line 41 which extends from the free edge of the panel 11 parallel to the score line 22 and then upwardly and obliquely to the upper corner of the front wall 12. From this point, the tear line 41 is coincident with the upper edge 30 of the front wall panel 12 until it reaches the other upper corner thereof, at which point it extends obliquely downwardly towards the center line of the side wall panel 13. A lower tear line 42 extends, as shown, from the upper edge of the side wall panel 11 thereacross and into the front wall panel 12, at which point it extends obliquely upwardly parallel to the upper score line 41, then generally across the front wall portion 12, before extending obliquely downwardly parallel to the tear line 41 and finally extending across the score line 17 and into the side wall panel 13. A vertical tear line 43 connects the ends of the score lines 41, 42 to complete the definition of the tear strip 40. Additionally, lines of weakness 37, 38, defined by short cuts, are formed in the glue flap 15 and in the side wall panel 13, respectively. A score line 39 extends across the front wall panel 12. As shown in FIG. 1, the lines 36-39 are all colinear.

In accordance with the principles of the invention, the new carton may be erected and filled with sealed pouches P on conventional packaging machines. As will be understood, the completed carton 50 will have a conventional manufacturer's joint formed by gluing the glue flap 15 to the side wall 11, and sealed ends formed by adhering upper end flaps 28, 32 to underlying end flaps 29, 33 after the upper and lower dust flaps have been infolded, by heat sealing or like established carton-making techniques. Since the free end of the tear strip 40 is adhered to the glue flap portion 55, a carton opening is facilitated by partially cutting the surface of the flap portion to define a delaminable, tear away zone 55a thereon.

In accordance with the principles of the invention, the sealed "bag-in-box" package 50 may be readily opened by removal of the tear strip 40, which action, along with the severing of the tear lines 37, 38, forms a reclosable, chest-type cover 51 and a trapezoidal, wedge-shaped locking panel 52. As shown best in FIG. 3, the reclosable cover 51 has generally

L-shaped cover side walls which include cover portions 53, 54 which are derived from upper portions of the original side wall panels 13, 11, respectively. In accordance with the invention, the portion 54 is adhered to the uppermost portion 55 of the glue flap 15 in a manner whereby the combination of the portions 54, 55 forms a compound cover side wall element similar in shape to the one-piece L-shaped cover side wall portion 53. As will be appreciated, both of the L-shaped cover side walls extend for the full carton width and completely close off the top of the carton, as shown in FIG. 4.

After removal of the tear strip, access to the packaged contents may be had by pivoting the newly formed cover backwardly about the hinge line 36, an action which will sever tear lines 37, 38. The pouch P may advantageously be made of metal foil or a foil laminate and may readily be opened and then reclosed by rolling or folding. Thereafter, in accordance with the principles of the invention, the cover 51 of the carton 50 may be reclosed and locked in a novel manner, which tightly closes off the upper end of the carton while simultaneously shortening the length of the carton by an increment equal to the width of the carton side walls 11, 13 (i.e., depth of the carton).

As shown best in FIG. 4, when the cover is hinged forwardly about the hinge line 36, that hinge line becomes the upper rear edge of a shortened carton 60. The L-shaped cover side walls, as well as the cover front wall (the original top end of the carton comprising dust flaps 20, 21 sandwiched between sealed end flaps 28, 29), all telescope the remaining uppermost carton edge portions, which are the raw edge portions 42a (FIG. 3) defined by the tear strip removal and the score line 39.

In accordance with the principles of the invention, the reverse folding of the wedge-shaped locking member 52 will enable its free edges 52a to abuttingly engage angular notches or recesses 61 defined by the free edges 58 of the dust flaps to hold the chest-type cover 51 in its closed position, as shown best in FIG. 4. Thereafter, the carton can again be reopened, if desired, by simple manipulation to clear the dust flaps 20, 21 from the angular notches 61 and the rearward pivoting of the cover about the hinge line 36.

It should that the new carton construction herein illustrated and described is intended to be representative only, as certain changes may be made therein without departing from the clear teachings of the disclosure. Accordingly, reference should be made to the following appended claims in determining the full scope of the invention.

I claim:

1. A parallelepiped carton structure having a rectangular bottom; consecutively articulated, upstanding first side, front, second side and rear walls; a glue flap connecting said first side and rear walls, and a top closing structure including

- a. upper end flaps articulated to the upper edges of said front and rear walls;

- b. upper dust flaps articulated to the upper edges of said side walls;
 - c. said upper dust flaps having recessed, angular notch-forming, front corner portions;
 - d. a cover hinge line spaced below the upper edge of the rear wall and extending across the rear wall;
 - e. a locking element in said front wall and articulated along a hinge line in the front wall in the plane of said cover hinge line;
 - f. a horizontal tear line in said glue flap in the plane of said cover hinge line;
 - g. a tear strip extending completely across said first side wall and completely across said front wall and across said second side wall;
 - h. said tear strip being generally defined by spaced upper and lower tear lines;
 - i. the upper one of said tear lines extending from the free edge of said first side wall below the upper edge thereof, obliquely upwardly to the upper front corner of the carton, then straight across the entire upper edge of the front wall and then obliquely downwardly to approximately the center of the second side wall panel;
 - j. the lower tear line defining in part said locking element and extending from the edge of the first side wall completely thereacross and partially across the front wall in the horizontal plane of said cover hinge line and then extending generally parallel to the upper tear line and finally terminating in a horizontal portion, colinear with the initial portion, extending approximately halfway across the second side wall;
 - k. a vertical tear line connecting said upper and lower tear lines;
 - l. whereby the removal of said tear strip exposes said locking element and forms a telescopically reclosable, lockable chest-type cover which is adapted to completely overlap and be securely locked to the upper raw edges of the said and front walls of the carton upon hinging movement of said cover about said cover hinge line and the folding of said locking element.
2. The carton construction of claim 1, which further includes
- a. reclosable pouch means disposed within said walls.
3. The carton of claim 1, further characterized in that
- a. said cover hinge line is spaced below the upper edge of said rear wall a distance equal to the depth of said carton.
4. The carton of claim 1, in which
- a. said locking element is generally trapezoidal in shape;
 - b. the angular notches of said upper dust flaps are similar in shape to the oblique corners of said trapezoidal locking element and are abutable therewith to lock telescopically said cover to said front wall after tear strip removal, locking element folding, and carton cover reclosing.

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