

May 27, 1958

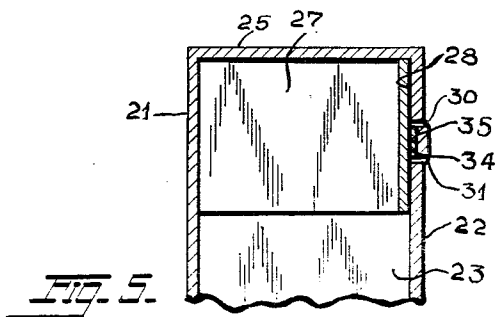
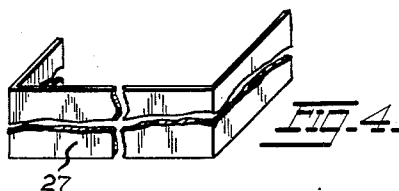
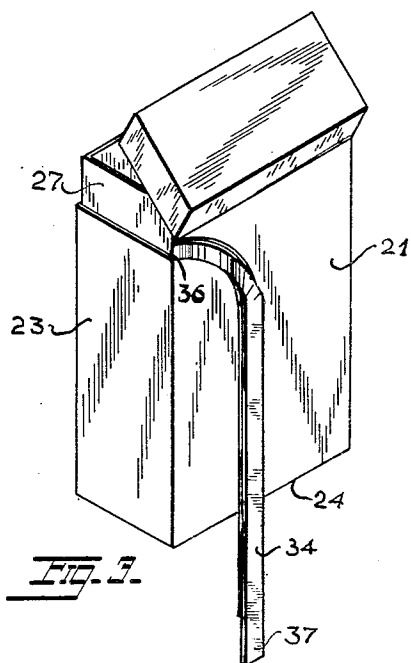
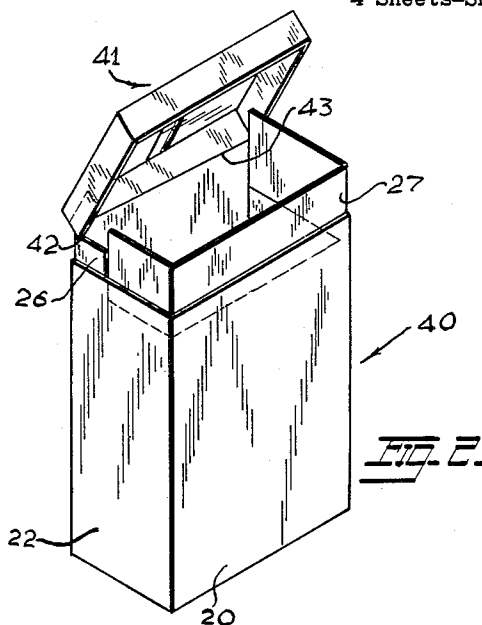
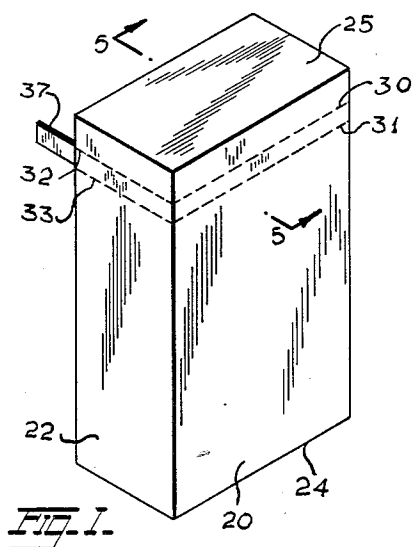
T. WILL

2,836,343

TEAR STRIP MEANS FOR OPENING CARTONS AND THE LIKE

Filed May 28, 1956.

4 Sheets-Sheet 1



INVENTOR.  
THEODORE WILL  
BY *Goldman Polachuk*  
ATTORNEY

May 27, 1958

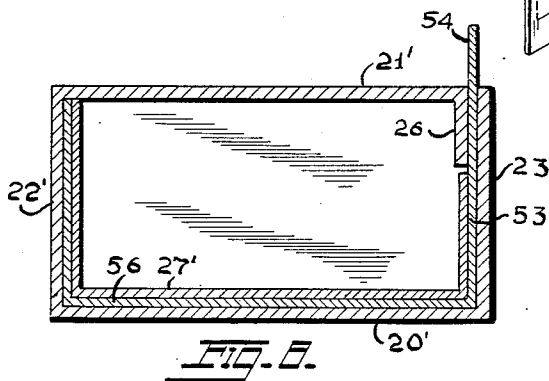
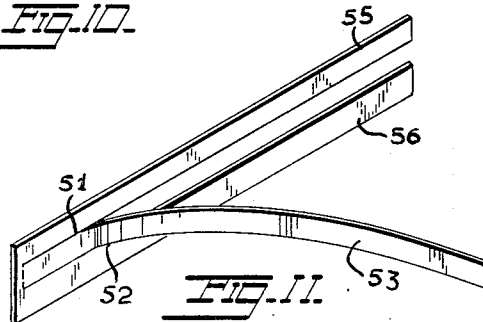
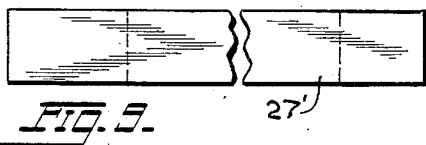
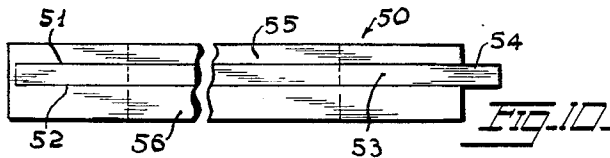
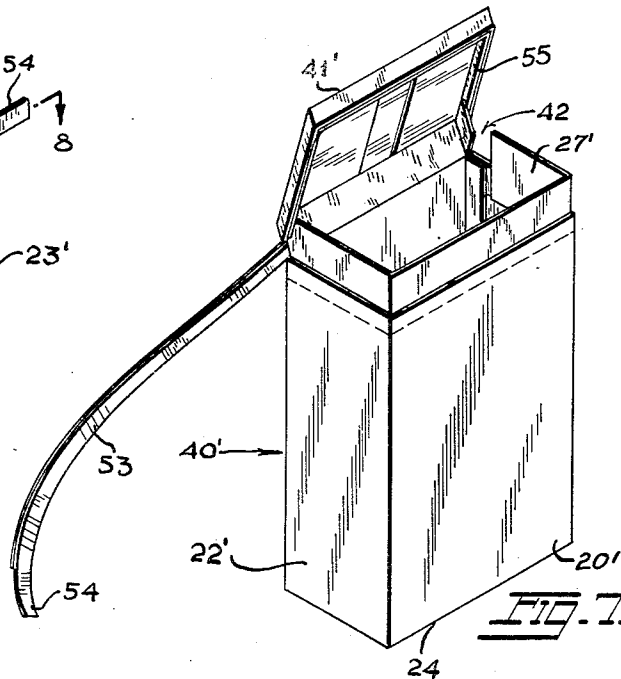
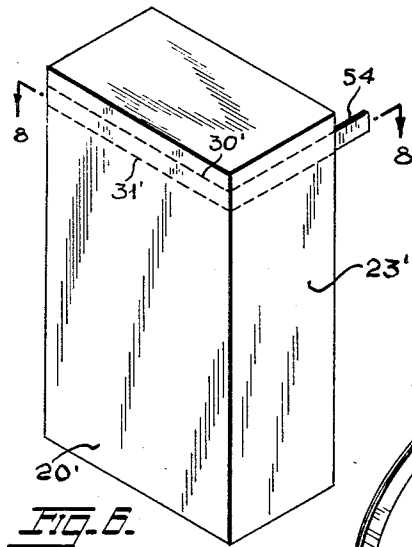
T. WILL

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TEAR STRIP MEANS FOR OPENING CARTONS AND THE LIKE

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4 Sheets-Sheet 2



INVENTOR.  
THEODORE WILL  
BY *John P. Polach*  
ATTORNEY

May 27, 1958

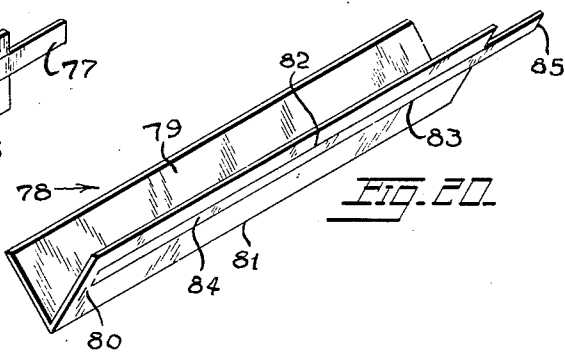
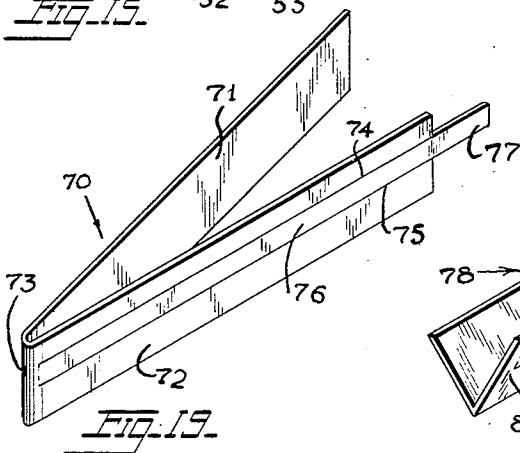
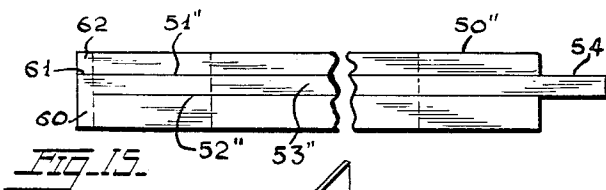
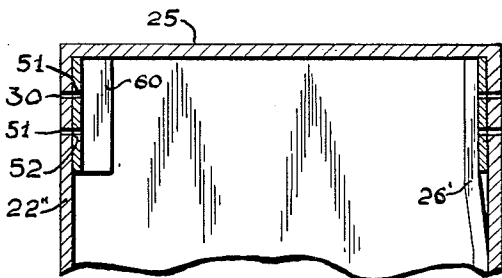
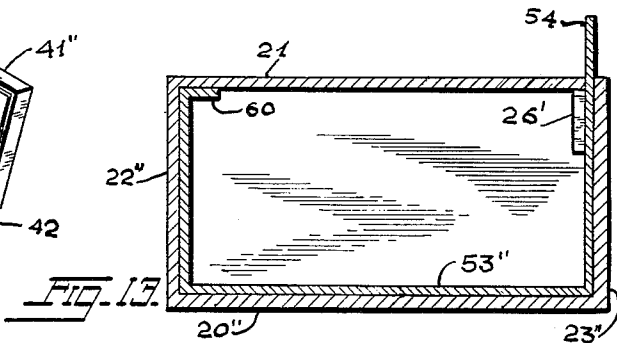
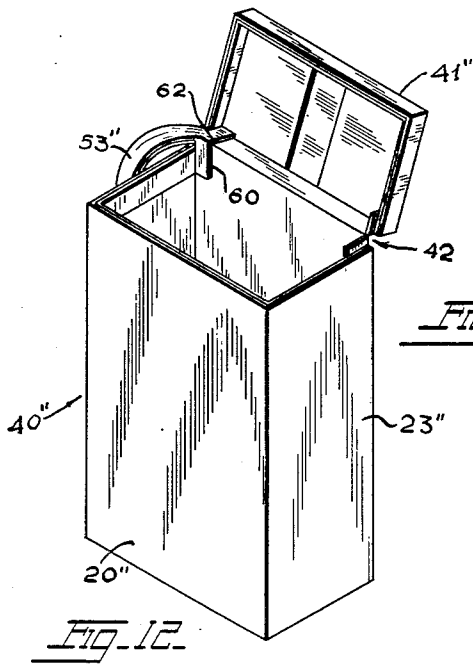
T. WILL

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TEAR STRIP MEANS FOR OPENING CARTONS AND THE LIKE

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4 Sheets-Sheet 3



INVENTOR.  
THEODORE WILL  
BY *John H. Blackley*  
ATTORNEY

May 27, 1958

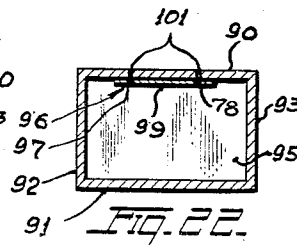
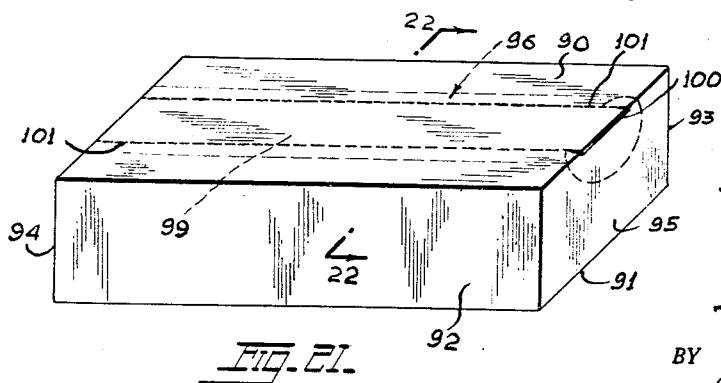
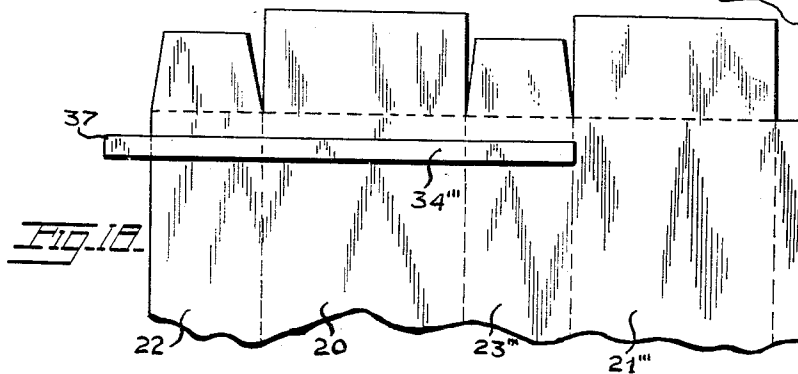
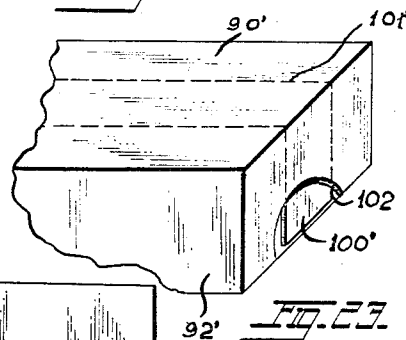
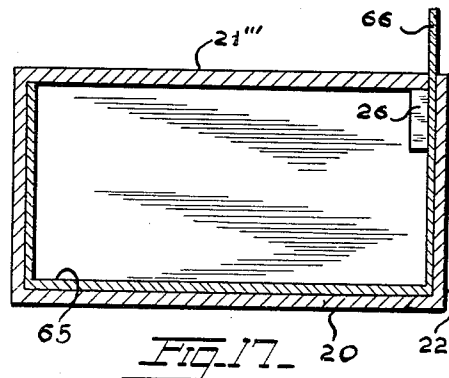
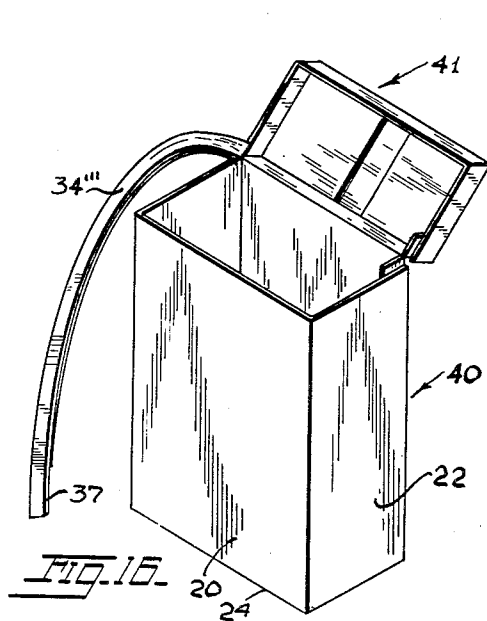
T. WILL

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TEAR STRIP MEANS FOR OPENING CARTONS AND THE LIKE

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4 Sheets-Sheet 4



INVENTOR.  
THEODORE WILL  
BY  
*John H. Polach*  
ATTORNEY

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2,836,343

## TEAR STRIP MEANS FOR OPENING CARTONS AND THE LIKE

Theodore Will, Syosset, N. Y., assignor to Fund-Del Inc.,  
Syosset, N. Y., a corporation of New York

Application May 28, 1956, Serial No. 587,576

2 Claims. (Cl. 229—51)

This invention relates generally to quick opening packages such as cartons, cigarette packs and wrappers made from cardboard, aluminum foil, tin foil, plastic or any other fibrous sheet material such as disclosed in my patent No. 2,533,255 and my copending applications Serial No. 458,324 filed September 27, 1954, now Patent No. 2,789,752 Serial No. 469,689 filed October 6, 1954, now abandoned and Serial No. 557,578 filed January 5, 1956.

A principal object of the present invention is to provide a carton originally sealed but openable to form a reclosable container, with means for guarding the contents of the container after it has been opened.

Another object of the invention is to provide a carton or the like having overlapping glued flaps which carton may be easily opened and which may have the top thereof folded back for discharging or displaying the contents.

A further object of the invention is to provide a carton or the like with an inner closure or liner and with a tear strip between the closure and the carton, said tear strip being separate from the material of the carton.

Still another object of the invention is to provide a carton or the like with an inner closure or liner and with a separate tear tape interposed between said closure or liner and the inner surface of the material of the carton and being removable to form a hinged cover.

It is also an object of the invention to provide in conjunction with the openings means, a reinforcement for the margins of the slotted areas of the carton when opened.

Yet another object of the invention is to provide a carton or the like having a tear strip for opening the carton which remains attached to the carton when the carton is open.

It is also proposed to produce a readily openable carton which is simple in construction and which can be manufactured and sold at a reasonable cost.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawings forming a material part of this disclosure:

Fig. 1 is a front perspective view of a carton in closed condition embodying one form of the invention.

Fig. 2 is a similar view but showing the carton in open condition.

Fig. 3 is a rear perspective view in open condition.

Fig. 4 is a detail perspective view of the closure or liner.

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Fig. 5 is an enlarged vertical sectional view taken on the plane of the line 5—5 of Fig. 1.

Fig. 6 is a front perspective view of a carton in closed condition, embodying a modified form of the invention.

Fig. 7 is a similar view showing the carton in open condition.

Fig. 8 is a horizontal sectional view taken on the plane of the line 8—8 of Fig. 6.

Fig. 9 is a top plan view of the reinforcing closure or liner spread out flatwise.

Fig. 10 is a top plan view of the tear tape spread out flatwise.

Fig. 11 is a perspective view of the tape spread out but showing the tear strip partly pulled out.

Fig. 12 is a front perspective view of a carton in open condition, embodying another modified form of the invention.

Fig. 13 is an enlarged horizontal sectional view taken through the top of the carton along the tear strip.

Fig. 14 is a fragmentary longitudinal vertical sectional view taken through the center of the carton in closed condition.

Fig. 15 is a top plan view of the tear tape spread out.

Fig. 16 is a front perspective view of a carton in open condition, embodying a still further modified form of the invention.

Fig. 17 is an enlarged horizontal sectional view taken through the top of the carton along the tear strip.

Fig. 18 is a fragmentary top plan view in flatwise condition of the blank from which the carton of Fig. 16 is formed.

Fig. 19 is a perspective view of a modified form of combined reinforcing liner and tear tape in partly opened condition.

Fig. 20 is a perspective view of a further modified form of combined reinforcing liner and tear tape in partly opened condition.

Fig. 21 is a perspective view of a carton embodying a still further modification of the invention.

Fig. 22 is a cross-sectional view taken on the plane of the line 22—22 of Fig. 21.

Fig. 23 is a similar view of Fig. 21, but illustrating a still further modification of the invention.

Referring in detail to the drawings, in Figs. 1 to 5, inclusive, the first form of the invention is shown embodied in a carton made from fibrous sheet material, such as cardboard or the like. The carton may conveniently be formed from a single blank scored and cut to form the front wall 20, rear wall 21, side walls 22 and 23, bottom wall 24, top wall 25 and a flap 26 for joining the rear wall and adjacent side wall 22 together as disclosed in my copending application Serial No. 557,578 filed January 5, 1956.

According to the present invention, a reinforcing closure band or liner 27 formed of material similar to the material of the carton or of any other suitable material is superposed on the inner surfaces of the front and side walls of the body of the carton, at the top of the body, one end edge of the closure or liner abutting against the inner surface of the rear wall 21 and the other end thereof abutting against the edge of the flap 26. The top edge of the closure or liner 27 abuts against the inner surface of the top wall 25. The closure or liner 27 is of a width to extend inwardly of the top wall an appreciable distance and said liner is fastened along its inner edge to the inner surface of the front and

side walls by a suitable adhesive as indicated at 28, the remainder of the liner being unattached.

The front wall 20 and the side walls 22 and 23 are formed with spaced upper and lower parallel weakened or tearable lines 30 and 31, respectively, composed of spaced perforations that penetrate the material of the carton. The lines extend across only three sides of the carton, namely, the front and side walls thereof, leaving the rear wall imperforate.

At its rear edge, the side wall 22 is formed with cuts 32 and 33 which intersect its rear edge and are aligned with the weakened lines 30 and 31, respectively, serving as starting cuts. The lines 30 and 31 are positioned about midway the top and bottom end edges of the closure or liner 27.

Interposed between the inner reinforcing closure or liner 27 and the outer front and side walls of the carton, there is a separate narrow thin tape 34 of plastic or other suitable material which is employed as a tear-tape or cutter-tape. The tape 34 is of approximately the same width as the space or weakened zone between the lines 30 and 31 and is secured to the inner surface of the material of the front and side walls of the carton behind said weakened zone by a coating of adhesive 35, the adhesive serving as a reinforcing agent. Tape 34 has one end secured to one end edge of the closure or liner 27 as indicated at 36, the remainder of the tape being unattached to said closure or liner. Further, tape 34 extends along the whole length of the space or weakened zone between said lines 30 and 31 and projects through an opening between the rear wall 21 and side wall 22, extending a short distance beyond the rear edge of the side wall 22 as shown in Fig. 1 so that the tape projects a short distance beyond the rear wall so as to provide a tab 37 which can be readily gripped between the fingers of the hand of the user. The tab 37 normally lies in the plane of the rear wall 21 of the carton and is not apt to be dislodged during ordinary handling, yet may be readily lifted out by inserting a fingernail or pointed instrument between the tab and rear wall.

It will, of course, be understood by those familiar with the art that the contents to be carried by the carton are introduced therein prior to the complete assembly thereof.

In order to open my novel carton all that need be done is to grasp the tab 37 and pull the tape 34 along its line of anchorage between the weakened lines 30 and 31 in a counterclockwise direction as viewed in Fig. 1, the cutouts 32 and 33 facilitating the tearing operation, with the result that the strip of material of the front and side walls overlying the tape 34 is torn off said walls together with the tape 34, thereby separating the carton into a body section 40 and a hinged cover section 41, the rear wall 21 forming a hinge connection along the fold line 43 for the cover section. The crosscut 42 at the top of the flap 26 permits this separation of the carton into a body section and a cover section.

It will be noted that when the cover section 41 is moved to open position as shown in Fig. 2, the closure or liner 27 extends above the top end edges of the front and side walls of the carton. In order to reclose the carton, the cover section 41 is swung inwardly to a seat over the flanges formed by the upwardly projecting end of the closure or liner 27 so that the cover section 41 overlaps said top end edge of the closure or liner and thereby closes the top of the carton, the closure or liner acting as a closure member to close the gap between the lower end edge of the cover section and the top end edges of the front and side walls of the carton, thereby guarding the contents of the container.

The modified form of carton shown in Figs. 6 to 11, inclusive, differs from the form of invention shown in Figs. 1 to 5, inclusive, in that instead of a narrow tear tape 34, a wide tear tape 50 is interposed between the liner 27' and the front wall 20' and the end walls 22' 75

and 23'. The tape 50 is secured to the inner surface of the material of said walls but is not attached to the liner 27'. The tape is commensurate in dimensions with the liner 27' and overlaps the same. Midway its top and bottom long edges, the tape 50 is formed with upper and lower parallel slits 51 and 52, respectively, extending from a point closely spaced from one end to and through the opposite end thereof, thereby forming a tear strip 53 which extends beyond said opposite end thereby providing a tab 54 for gripping between the fingers. However, the tab 54 need not extend beyond the end wall 23', but may be recessed in a cut-out portion thereof. The tear strip 53 is positioned in register with the weakened zone in the carton formed by the perforated lines 30' and 31' with its tab 54 projecting outwardly through an opening formed between the rear wall 21' and end wall 22' as shown in Fig. 6.

Similarly to the form of Figs. 1 to 5, inclusive, when the tear strip 53 is pulled, in this instance, in a clockwise direction as viewed in Fig. 6, the carton is opened providing a body section 40' and a cover section 41'. However, the portion 55 of the tape 50 above the tear strip 53 adheres to the inner surface of the material of the cover section 41' forming the downwardly extending flanges thereof, and the portion 56 of said tape 50 below the tear strip 53 adheres to the front and side walls of the body section 40', thereby reinforcing said sections, along their marginal edges.

In all other respects, the form of invention shown in Figs. 6 to 11, inclusive, is the same as the form shown in Figs. 1 to 5, inclusive, and similar reference numerals are used to indicate similar parts.

The modification of the invention shown in Figs. 12 to 15, inclusive, differs from the form shown in Figs. 6 to 11, inclusive, in that the inner closure or liner 27' is omitted. In this form also, the solid or intact end 60 of the tear strip 50' is provided with a weakened line 61 thereacross in line with the upper slit 51' and said solid end 60 is bent inwardly. The bent end 60 is secured to the inner surface of the material of the rear wall 21' at its top, adjacent the side wall 22', so that when the tear tape 53' is torn away from the body of the carton to open the carton and the cover section 41' is swung backwardly, the portion 62 above the line 61 of said solid end 60 adheres to the surface of the material forming the rear flange of the cover section 41'. The portion above the slit 51' adheres to the inner surface of the cover section 41', and the portion below the slit 52' adheres to the inner surface of the material of the front and side walls of the body section 40' as shown in Fig. 12, thus serving as a permanent reinforcement for the margins of both the body and cover sections.

In all other respects, the form of invention shown in Figs. 12 to 15, inclusive, is similar to the form shown in Figs. 6 to 11, inclusive, and similar reference numerals are used to indicate similar parts.

The modification of the invention shown in Figs. 16 to 18, inclusive, differs from the form of invention shown in Figs. 1 to 5, inclusive, in that no inner closure or liner 27 is provided and the inner end of the tear tape 34'' is secured to the inner surface of side wall 23'' at its juncture with the rear wall 21''. In all other respects, it is the same and similar reference numerals are used to indicate similar parts.

It will be understood that instead of providing the carton with separate inner closure or liners and tear tapes such as shown in the form of invention of Figs. 6 to 11, inclusive, integrally formed combined closures or liners and tear tapes may be provided such as shown in the modifications of Figs. 19 and 20. In Fig. 19, a combined closure or liner and tear tape 70 is shown comprising an elongated strip of fibrous material, such as cardboard, or other suitable material. This strip is folded midway its ends dividing the strip into a closure or

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liner member 71 and a tear tape 72 joined at one end along the fold line 73. The tear tape 72 is formed with parallel upper and lower parallel slits 74 and 75, respectively, extending from a point closely spaced from the fold line 73 to and through the opposite end of the section, thereby forming a tear strip 76, said tear strip extending beyond the end of the tape thereby providing a finger grip or tab 77.

In applying this form of combined closure or liner and tear tape 70 to the carton, the lower edge of the closure or liner 71 is secured to the inner surface of the lower edge of the tear tape 72, the remainder of the closure or liner being unattached. The tear tape 72 is secured to the inner surface of the material of the front and side walls of the carton, with the tear strip 76 disposed in alignment with the weakened zone formed by the parallel perforated lines in the front and side walls of the carton, and with its tab 77 protruding outwardly of the carton. In use, when the tear tape strip 76 is pulled across the front and side walls of the carton, the carton will be opened forming a body section and a hinged cover section in the manner of the form of Figs. 6 to 11, inclusive, with the portion of the tear tape above the slit 74 adhering to the cover section and the portion below the slit 75 adhering to the top margin of the body section for reinforcing said sections.

In the modification shown in Fig. 20, the combined closure or liner and tear tape 78 comprises an elongated strip of suitable fibrous material folded longitudinally thereby dividing the strip into a closure or liner member 79 and a tear tape 80 joined along one long edge as indicated at 81. The tear tape 80 is formed with upper and lower parallel slits 82 and 83, respectively extending from a point closely spaced from one end thereof to and through the opposite end of the tape, thereby forming a tear strip 84, said tear strip 84 extending beyond the end of the tape thereby providing a finger grip or tab 85.

In applying the combined closure or liner and tear strip 78 to the carton, the closure or liner 79 and the tear tape 80 are held in face to face relationship by suitable adhesive along the lower edges of their abutting faces. The tear tape 80 is secured to the inner surface of the material forming the front and side walls of the carton, with the tear strip 84 disposed in alignment with the weakened zone formed by the parallel perforated lines in said front and side walls of the carton. In use, when the tear strip 84 is pulled across the front and side walls of the carton, the carton will be opened forming a body section and a hinged cover section in the manner of Figs. 6 to 11, inclusive, the portions above and below the strip adhering to the cover section and body section of the carton, respectively.

Referring now to the modification of the invention shown in Figs. 21 and 22, the carton shown herein is formed of fibrous sheet material and is rectangular in horizontal section and rectangular in vertical section, of the type used for packaging paper napkins, tissues and like sanitary articles. The carton may conveniently be formed as usual from a single blank scored and cut to form the top and bottom walls 90 and 91, respectively, side walls 92 and 93 and end walls 94 and 95. The end walls are formed by overlapping flaps secured together by suitable adhesive.

In accordance with the present invention a tear tape 96, similar to tear tape 50, is secured to the inner surface of the top wall for the entire length of the wall along the center thereof by suitable adhesive. Along its center, the tear tape is formed with parallel slits 97 and 98 extending from a point closely spaced from one end to and through the opposite end thereof, thereby forming a tear strip 99 which extends beyond the end wall 95 of the carton to form a tab 100 for gripping between the fingers. The top wall 90 is scored or perforated along both long edges of the tear strip 99 as

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indicated at 101 to ensure that the desired portion of the top wall is removed by the tear strip. After the tear strip is torn and the carton is opened, the material of the tear tape on both sides of the tear strip adhere to the marginal edges of the opening thereby reinforcing said marginal edges.

In Fig. 23 the tab 100' is shown flush with the side of the container, and an arcuate finger opening 102 is shown to facilitate the gripping of the free end of the tab 100'. In other respects this form of the invention is similar to the previous forms and the corresponding parts may be recognized by similar reference numerals with a prime added.

It is to be understood that the length and width of the liners 27 and 27', tape 50, tape portions 53, 55 and 56, strip 50'', tape 70, liner 99 and all parts thereof may be changed as desired.

While I have illustrated and described the preferred embodiments of my invention, it is to be understood that I do not limit myself to the precise constructions herein disclosed and that various changes and modifications may be made within the scope of the invention as defined in the appended claims.

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

1. A carton or the like formed of flexible fibrous or like sheet material having an enclosed hollow body with a front wall, rear wall, side walls, top walls and bottom wall, said body having an opening between the rear wall and one of said side walls, said front and side walls being formed with a pair of parallel weakened continuous lines forming a weakened zone thereacross, a stiff liner member positioned along the inner surface of the material of said front and side walls and extending above and below said parallel weakened lines, the edge of said liner member below the lowermost line being secured to the material of said front and side walls, the remainder of said liner member being unattached, and a tear tape secured to the inner surface of the material of said front and side walls and overlapping said liner member, said tear tape being formed with spaced parallel slits therealong from a point adjacent one end thereof to and through its opposite end, in line with the weakened lines in the walls of the carton, said slits forming a tear strip for opening the carton and providing a body section and a hinged cover section, one end of said strip being unattached and protruding outwardly of the opening in the body for grasping by the fingers, the portions of said tear tape above and below the slits serving to reinforce the slitted marginal edges of the cover section and body section, respectively, upon tearing of the tear strip to open the carton.

2. A carton or the like formed of flexible fibrous or like sheet material having an enclosed hollow body with a front wall, rear wall, side walls, top wall and bottom wall, said body having an opening between the rear wall and one of said side walls, said front and side walls being formed with a pair of parallel weakened continuous lines forming a weakened zone thereacross, a stiff liner member positioned along the inner surface of the material of said front and side walls and extending above and below said parallel weakened lines, the edge of said liner member below the lowermost line being secured to the material of said front and side walls, the remainder of said liner member being unattached, and a tear tape secured to the inner surface of the material of said front and side walls and overlapping said liner member, said tear tape being formed with spaced parallel slits therealong from a point adjacent one end thereof to and through its opposite end, in line with the weakened lines in the walls of the carton, said slits forming a tear strip for opening the carton and providing a body section and a hinged cover section, one end of said strip being unattached and protruding outwardly of the opening in

the body for grasping by the fingers, the portions of said tear tape above and below the slits serving to reinforce the slitted marginal edges of the cover section and body section, respectively, upon tearing of the tear strip to open the carton, said liner member extending above the tear line upon opening of the carton to provide a flange thereabove, said flange being positioned in the path of movement of the hinged cover section upon retraction of said cover section whereby said cover section is adapted to seat on said flange for reclosing the carton.

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