TEAR STRIP MEANS FOR OPENING CARTONS AND THE LIKE


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2 Claims. (Cl. 229—17)

This invention relates generally to packages such as cartons, cigarette packs and wrappers made from aluminum foil, plastic or any other fibrous sheet material such as disclastic in my Patent No. 2,333,255 and my copending applications Serial No. 456,324 filed September 27, 1954, now Patent No. 2,789,752, and Serial No. 469,689 filed October 6, 1954, and now abandoned.

A principal object of the present invention is to provide new and improved means for opening the carton or the like.

Another object of the invention is to provide a carton having a tear tape partly encircling the body thereof for disconnecting a part of the carton or the like.

A further object is to provide a modified carton construction having a tear tape removable to form a pouring spout for the carton.

A specific object of the invention is the construction of an improved cut line cut tear tape for cartons and the like which can easily and inexpensively be provided in a carton to open the carton by merely pulling the tear tape.

It is also an object of the invention to provide a carton having a body of fibrous or any other suitable sheet material with a pair of parallel spaced broken or continuous weakened lines or "line cuts," that is, grooves, recesses, or other indentations that do not penetrate the material of the body of the carton, adjacent the top end thereof, and a tear tape secured to the inner surface of the body between the weakened lines and having one end extending outside of the body of the carton.

It is also proposed to provide a carton of this kind with a weakened line along one side of the carton whereby a hinged cover is formed simultaneously with the operation of the tear tape.

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 plan view of a cutout blank used in forming a carton embodying one form of the present invention.

Fig. 2 is a perspective view of my improved carton in assembled condition except for the top flaps thereof.

Fig. 3 is a view similar to Fig. 2 but showing the carton in fully assembled condition.

Fig. 4 is a perspective view showing the appearance of the carton during the operation of the tear tape and the opening which has been produced by that operation.

Fig. 5 is a view similar to Fig. 4 but showing the carton completely opened.

Fig. 6 is a transverse sectional view taken on the plane of the line 6—6 of Fig. 4.

Fig. 7 is an enlarged vertical sectional view taken on the plane of the line 7—7 of Fig. 4.

Fig. 8 is a perspective view of a carton embodying a modified form of my invention.

Fig. 9 is a fragmentary perspective view showing the appearance of the top of the carton of Fig. 8 during the operation of the cutter-tape and the opening which has been produced by that operation.

Fig. 10 is a side elevational view showing a modified manner of protecting the cutter-tape tab.

Fig. 11 is a similar view showing another modified manner of protecting the cutter-tape tab.

Referring in detail to Figs. 1 to 7, inclusive, the first form of the invention is shown embodied in a carton made from a single blank of fibrous sheet material, such as cardboard or the like, shown in detail in Fig. 1. The carton comprises hinged panels 15, 16, 17 and 18 hingedly joined to each other in the usual manner by lines 19, 20, and 21, respectively. Panel 15 is the rear panel and has smaller panels 22 and 23 hingedly connected to the respective top and bottom edges thereof. Panel 16 is one of the side panels and has flaps 24 and 25 hingedly connected to the respective top and bottom edges thereof, said flaps having tapered side edges to the front panel and has hingedly connected thereto at its top edge a smaller panel 26 and at its lower edge a smaller panel 27. Similarly, panel 18, the other side panel, is hingedly connected to a top flap 28 and to a bottom flap 29. A flap 30 is formed with a transverse cut 31 adjacent the top thereof forming a smaller flap 32 thereabove.

In accordance with the present invention, the outer surfaces of the panels 16, 17, 18 are formed with spaced upper and lower parallel weakened or tearable lines 33 and 34, respectively, formed by spaced broken line grooved indentations that do not penetrate the material of the carton so that the lines extend across only three sides of the carton, namely, the front panel 17 and the adjacent side panels 16 and 18. At its free edge panel 18 is formed with cuts 33' and 34' which intersect said free edge and are aligned with the weakened lines 33 and 34, respectively, serving as starting cuts. A weakly scored line 35 is also formed across the rear panel 15, adjacent its top end, in line with the transverse cut 31 in the flap 30 and disposed centrally of the space between the weakened lines 33 and 34 so that a portion of the rear panel 15 extends above the lower line 34.

The space between the weakened lines 33 and 34 is approximately the width of the tape or band of plastic or other suitable material which is to be employed as a cutter-tape or cutter-band and this tape may be of any desired width. This tape or band 37 is next laid over the inner surface of the material of the panels 16, 17 and 18, at a point thereon between the weakened lines 33 and 34 and is preferably secured thereto by a coating of adhesive 38, the adhesive serving as a reinforcement. The tape or band extends along the whole length of the space or weakened zone between said lines and projects a short distance beyond the free edge of the side panel 18 as viewed in Fig. 1 so that when the panels and flaps are folded in completely assembled condition to form the carton as shown in Fig. 3, the tape or band projects a short distance beyond the rear panel 15 so as to provide a tab 39 which can readily be gripped by the fingers.

The carton is assembled by folding the panels along the fold lines, leaving the tab 39 extending rearwardly of the rear panel 15 when thus folded. The flap 30 is then pasted to the inner surface of the panel 18 over the tape 37 in order to hold the carton in tubular form, yet leaving the tab 39 accessible. The panels and flaps at the top and bottom of the carton are then overlapped and pasted together. The tab 39 normally lies in the plane of the rear panel 15 of the carton and is not apt to be dislodged during ordinary handling, yet may readily be lifted out by inserting a fingernail or pointed instrument between the tab and panel.

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 39 and pull the tape or band 37 along its line of anchorage between the weakened lines 33 and 34 in a clockwise direction as viewed in Fig. 3, the cut-outs 33' and 34' facilitating the tearing operation, with the result that the strip of the material of the panels 18, 17 and 16 overlying the tape or band is successively torn off said panels together with the tape or band 37, thereby separating the assembled carton into a body section 40 and a hinged cover section 41, the score line 35 across the rear panel 15 forming a hinge for the cover section. The crosscut 31 at the top of the flap 30 permits this separation of the carton into a body and cover.

In the modification of the invention shown in Fig. 8, a carton is illustrated with means for forming a spout for pouring out the contents of the carton. This spout is formed by providing the outer surface of the front panel 17' of the carton with a tapering and lower weakened lines 33' and 34' in curved formation centrally of the panel, extending from a point at the top of said panel on one side of its longitudinal center to a point at the top of the panel on the opposite side of the longitudinal center thereof. A plastic tape or band 37' is pasted on the inner surface of the panel along the path formed by said weakened lines for its entire length, and extends outwardly of the carton through a slot 42 formed in the overlapped top panels and flaps of the carton forming a tab 43 for grasping by the fingers. The tab 43 normally lies in the plane of the top panel of the carton. It will be understood, of course, that the spout may be formed in any of the other panels instead of panel 17'.

When the tab is pulled clockwise as viewed in Fig. 8, it tears the material of the front panel 17' away therefrom along the weakened lines thereby providing an arcuate-shaped opening 44 therein and also providing a liftable and hinged flap 45 which may readily be lifted to provide a larger opening or spout through which the contents of the carton may be poured. The flap 45 serves to impede the pouring out of the contents which is desirable for some substances.

In all other respects the form of invention shown in Figs. 8 and 9 is the same as the form shown in Figs. 1 to 7, inclusive, and similar reference numerals are used to indicate similar parts.

The modification shown in Fig. 10, differs from the form shown in Figs. 1 to 7, inclusive, merely in that the cutter-tape ends at the edge of the side panel 18' and said side panel is provided with a cutout portion 50 formed with a die or other suitable tool whereby the tabs 39' may be grasped by the fingers.

Fig. 11 differs from Fig. 10 in that the side panel 18'' is formed with a square-shaped cutout portion 51 to permit grasping the tab 39''.

It will be understood, of course, that instead of forming the panels of the carton of a single ply of material, they may be made of material containing a plurality of plies or of laminated material of any suitable kind.

It is to be understood that if desirable for economy of manufacture, the tape may extend along the four inner sides of the carton with a provision of a cutoff at the beginning of the fourth side.

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:

I. A carton or the like formed of flexible fibrous or like sheet material having an enclosed tubular body with front, back, side, top and bottom panels integrally connected along fold lines, said body having a slot opening in said top panel, means at the top of the front panel for forming a pouring spout therein, said means including a pair of parallel weakened lines on the outer surface of said front panel extending in a semicircular path from a point at the top of said panel on one side of its longitudinal center downwardly, across and then upwardly to a point at the top of the panel on the other side of said center, and a flexible tape glued to the inner surface of said front panel between the weakened lines, one end of said tape being unattached and extending through the slot opening in the top panel and beyond said top panel, said unattached end of the tape serving as a projecting tab for tearing the material between the weakened lines and for tearing the tape off of the front panel thereby providing an opening therein and providing a hinged flap thereabove for impeding the pouring out of the contents of the carton.

2. A carton or the like formed of flexible fibrous or like sheet material having an enclosed tubular body with front, back, side, top and bottom panels integrally connected along fold lines, said body having a slot opening in said top panel, means at the top of at least one of said panels for forming a pouring spout therein, said means including a pair of parallel weakened lines on the outer surface of said one panel extending in a semicircular path from a point at the top of said weakened panel on one side of its longitudinal center downwardly, across and then upwardly to a point at the top of the panel on the other side of said center, and a flexible tape glued to the inner surface of said weakened panel between the weakened lines, one end of said tape being unattached and extending through the slot opening in the top panel and beyond said top panel, said unattached end of the tape serving as a projecting tab for tearing the material between the weakened lines and for tearing the tape off of the weakened panel thereby providing an opening therein and providing a hinged flap thereabove for impeding the pouring out of the contents of the carton.

References Cited in the file of this patent

UNITED STATES PATENTS

1,258,062 Tannenbaum Mar. 5, 1918
2,268,970 Tindal Jan. 6, 1942
3,233,255 Will Dec. 12, 1950

FOREIGN PATENTS

264,639 Great Britain Jan. 27, 1927
472,474 Great Britain Sept. 20, 1937
879,504 France Nov. 19, 1942