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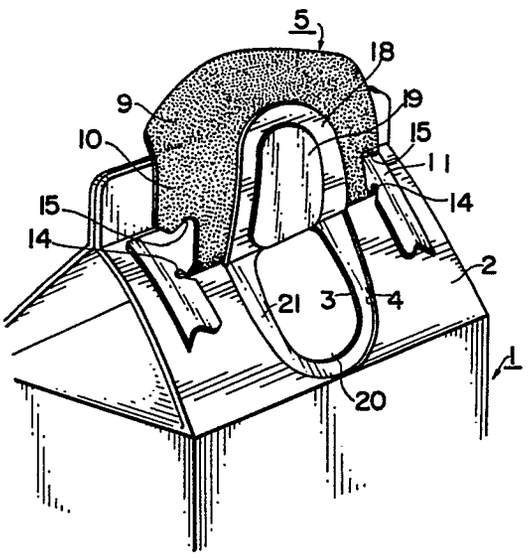
(54) Carton.

(57) A carton whose opening part can be covered airtightly after it is opened. A carton body is provided with an inner half notched line (3) cut as deep as half the thickness of a wall plate of the carton body in the inner surface of the wall plate in the form of an opening and an outer half notched line (4) cut as deep as half the thickness of the wall plate in the outer surface thereof so as to surround the outer periphery of the inner half notched line. A pull tab (5) is stuck onto the side of the wall plate in such a manner as to cover the outer half notched line and also provided with a peelable portion (10) and an unpeelable portion (11). When the peelable portion is peeled off, the outer portion (18) enclosed with the outer half notched line and the inner portion (19) enclosed with inner half notched line are torn off the wall plate to form the opening part (20). The opening part is airtightly covered by sticking the pull tab to the wall plate again.

FIG. 7



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Carton

Background of the Invention

The present invention relates to cartons and more particularly to a carton whose opening part can be covered airtightly again after it is opened once.

There is a known carton folding back the gabled top portion of a carton for containing milk, juice, (Japanese) sake or any other beverages for heat-sealing,or otherwise a carton providing the gabled top portion of such a carton with a tap while fitting a cap to the tap. In the case of a carton having a heat-sealed top portion, it has to be opened by snapping the sealed portion and this snapping work is very troublesome. Moreover, such a carton is unsanitary because it is not resealable in case the contents are not emptied at once. As for the carton equipped with a cap, it tends to become not only complicated in structure but also uneconomical, though it is resealable, and beside the jutted tap makes the carton hardly convenient to handle. Although there have been proposed varieties of cartons, they are invariably complicated in structure and not reliably sealable.

Summary of the Invention

An object of the present invention is therefore to provide a less bulky, easy-to-handle carton that can be opened simply and resealed after it is opened.

In order to remedy the above disadvantages, a carton according to the present invention comprises a partitioned opening part having an inner half notched line and an outer half notched line respectively formed in the surface and undersurface of the wallplate of the carton body so that the opening part can be torn off, and a pull tab stuck thereto to cover an area slightly larger than what is enclosed with the outer half notched line, and the pull tab has a peelable portion and unpeelable portion. When the peelable portion of the pull tab is pulled up, the portion enclosed with the outer half notched line is peeled off to provide an opening. Then the carton can be resealed by putting the pull tab back to the original position.

Accordingly, it is only necessary to heat-seal the carton after it is filled with the intended contents as in the case of an ordinary carton. In operation, the outer surface of the wall plate enclosed with the outer half notched line and the inner surface enclosed with the inner half notched line are torn off to join the pull tab if the peelable portion thereof is peeled off. The contents of the carton can be poured out through the opening thus formed. Since the pull tab is stopped by the unpeelable portion from being peeled off, the opening can be covered with the pull tab when it is put back again after the required amount of contents is taken out.

Other features and advantages of the present invention will be apparent from the following description taken in connection with the accompanying drawings.

Brief description of the drawings

Fig. 1 is a perspective view of a carton embodying the present invention.

Fig. 2 is a partial perspective view of the carton embodying the present invention without the pull tab.

Fig. 3 is a partial sectional view of the wall plate with the pull tab stuck thereto.

Figs. 4, 5 and 6 are partial elevational views illustrating modified embodiments of the pull tab.

Fig. 7 is a partial perspective view of the carton left open.

Description of the preferred embodiment

Figs. 1 - 3 show a carton having a gabled top portion for heat-sealing. A wall plate 2 of a carton body 1 is made of paper such as kraft paper, both sides of which are coated with wax, polyethylene or any other adequate substance, so that a carton in various configurations may be formed. An inner half notched line 3 is cut as deep as substantially half the plate thickness in a proper portion of the wall plate, i.e., in the side of the top portion of the body, to form an opening, whereas an outer half notched line 4 is cut as deep as substantially half the plate thickness in such a manner as to encircle the outer periphery of the inner half notched line(Figs. 2, 3). The inner and outer half notched lines 3, 4 should be cut in order for the notches to have predeteremined depth from the inner and outer surfaces of the plate,or for the deepest point of each half notched line to be disposed adjacent to the inner and outer surfaces of the plate, i.e., deeply enough to be over the deepest point of each half notched line. With this arrangement, the areas enclosed with the inner and outer half notched lines 3, 4 are readily torn off. The gap between the inner and outer half notched lines 3, 4 may be changed with the kind of contents, the shape of the carton body, the strength of the paper material and the like. Althogh the inner and outer

half notched lines 3, 4 are made annular to make the area enclosed therewith join a pull tab 5 when they are torn off, they may be substantially U-shaped so as to be partially coupled to the wall plate when opened.

The pull tab 5 is stuck to the wall plate in such a manner as to cover the whole perimeter of the outer half notched line 4. The pull tab 5 may be made of any composite film, comprising a plastic laminated layer 8 glued via an adhesive layer 7 to metal foil 6 such as aluminum foil as shown in Fig. 3. An adhesive layer 9 is provided on the undersurface of the laminated layer 8 so that the pull tab 5 is peelably stuck to the wall plate. The plastic laminated layer 8 is prepared by stretching a plurality of plastic films (two sheets of such films in this embodiment) in the diagonal direction and integrally joining them so as to make the direction of stretch cross each other. The plastic laminated layer 8 is superior in tear strength, impact strength, etc. to paper or any other plastic material. The aluminum foil 6 acts on the pull tab so that it curves away from the opening part when the pull tab is peeled off. The pull tab 5 is provided with a peelable portion 10 and an unpeelable portion 11 which stops the peeling action. The free end of the peelable portion 10 may be formed with a non-adhesive layer and a peeling guide 12 having a tip to make it readily peelable. Notched lines 13, 13 are provided in both sides of the peelable portion 10 toward the unpeelable portion 11 and there is further formed a notched portion 14 communicating with each notched line 13 to disperse the force applied in the peeling direction. As shown in Fig. 1, each notched line 13 is curved from the side to the inside of the pull tab, linearly extended from the inner end of the curved portion 15 substantially along the side of the pull tab to form an outwardly-directed portion 17 inclined from the end of the inner portion 16 toward the side thereof, and is provided with an arcuate notch 14 at the end of the outwardly- directed portion. However, the notched lines 13 are not limited to those shown as above, but may have various configurations, e.g., as shwon in Figs. 4-6, substantially L-shaped notched lines 13, 13 are formed, each having a line curved in a direction different from the direction in which the notched line is provided at its inner end, i.e., an arcuate notch 14 similar to a keyhole (Fig. 4). Notched lines 13, 13 are otherwise formed in the diagonal direction, each having a small circular notch 14 at its inner end (Fgi. 5). Further, notched lines 13, 13 are linearly cut along the respective sides of the peelable portion 10, each having a small circular notch 14 within the unpeelable portion 11 wider than the peelable portion (Fgi. 6). Thus, the notched lines may be so shaped as to facilitate the peeling action, whereas the notches may be so structured as to effectively stop the peeling action. Moreover, the unpeelable portion may be provided on both sides or outer periphery of the peelable portion and the pull tab may be peeled off from the outside of one of the peelable portions, whereas the peeling action may be stopped on the boundry of the opposite unpeelable portion (not shown).

Although the adhesive layer 9 to which the pull tab 5 is stuck is provided on the tab side, it may be provided on the wall plate side. Moreover, the adhesive layer stuck to the area enclosed with the outer half notched line 4 is arranged so that its adhesion is set greater than the peeling needed to peel the outer portion 18 enclosed with the outer half notched line 4 and/the inner portion 19 enclosed with the inner half notched line 3 from the wall plate. As indicated, the outer and inner portions 18, 19 are joined to pull tab when the peelable portion thereof is peeled off.

The carton body 1 thus structured is filled with contents and the top portion thereof is sealed as usual. When the contents are taken out, the peelable portion of the pull tab 5 is peeled off. In so doing, the outer portion 18 enclosed with the outer half notched line 4 and the inner portion 19 enclosed with the inner half notched line 3 are torn off the wall plate to join the pull tab. The opening 20 thus formed makes it possible to take out the contents by inclining the carton body (Fig. 7). Since the pull tab is stopped by the unpeelable portion from being peeled off the carton body at this time, the opening part can be covered airtightly, provided the pull tab is put back to the original position after the contents are taken out. The provision of the plastic laminated layer 8 minimizes the trouble caused by the pull tab whose notched lines have been torn off beyond the notches or by the pull tab totally peeled off. On the other hand, the provision of the aluminum foil allows the pull tab to curve, thus preventing the contents from touching the pull tab even though the carton body is tilted. The peripheral edge 21 of the opening part prevents the contents from touching the adhesive and therefore from being contaminated because the peripheral edge 21 of the opening part is torn off, together with the wall plate without the adhesive layer. Moreover, the carton body can be resealed without trouble since the adhesive surface is protected from being wet.

The carton according to the present invention is simple in construction, less bulky, easy-to-handle and readily resealable, whereby it is fit for use in containing various kinds of beverages, viscous substances, powders, solids and the like.

Claims

1. A carton comprising an inner half notched line (3) cut as deep as half the thickness of a wall plate of a carton body (1) in the inner surface of the wall plate in the form of an opening, an outer half notched line (4) cut as deep as half the thickness of the wall plate in the outer surface thereof so as to surround the outer periphery of said inner half notched lines, and a pull tab (5) stuck onto the side of the wall plate in such a manner as to cover said outer half notched line;
said pull tab containing a peelable portion (10) and an unpeelable portion (11);
wherein the adhesive strength adhering between the peelable portion of said pull tab and the portion enclosed with the outer half notched line is larger than the peel strength peeling between the outer portion enclosed with said outer half notched line and the inner portion enclosed with said inner half notched line from the wall plate, so that the outer portion enclosed with said outer half notched line and the inner portion enclosed with said inner half notched line may be torn off from the wall plate to join said bull tab.

2. A carton as claimed in claim 1, wherein notched lines (13) are respectively cut from both sides of the peelable portion (10) up to the unpeelable portion (11) of said pull tab (5) and wherein notches (14) respectively communicating with said notched lines (13) are formed to disperse the force directed to peeling.

3. A carton as claimed in claim 1, wherein the depth of said inner half notched line (3) and that of said outer half notched line (4)are adjacent to the inner and outer surfaces of the plate deeply enough to be over the deepest point of each half notched line.

FIG. 1

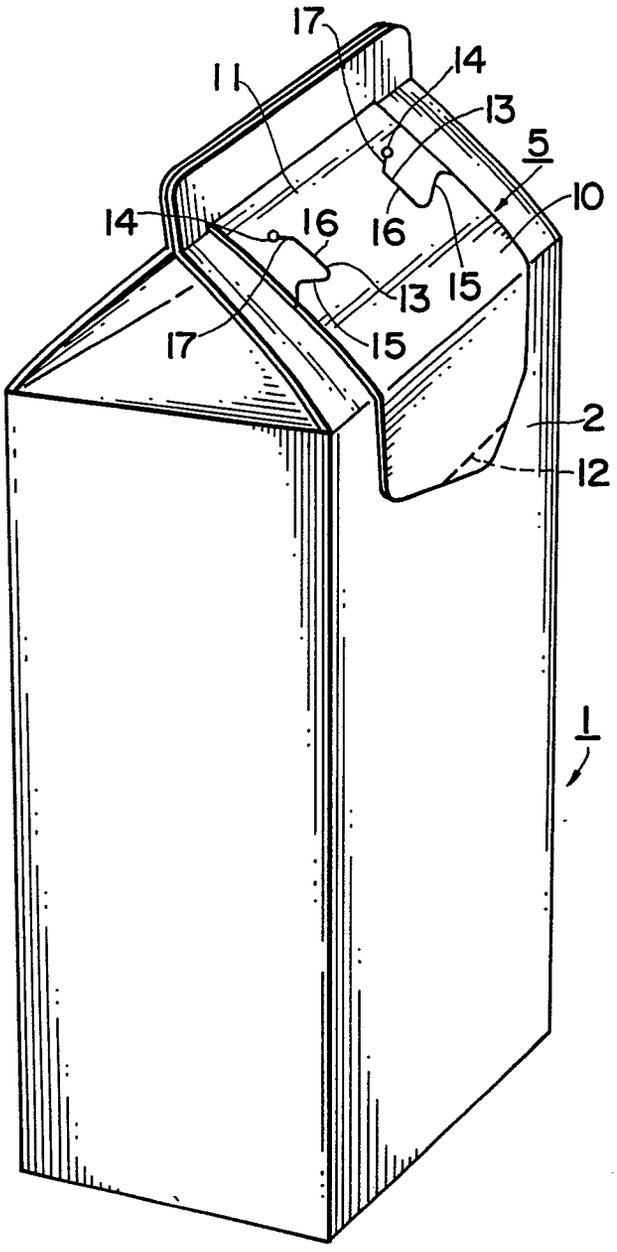


FIG. 2

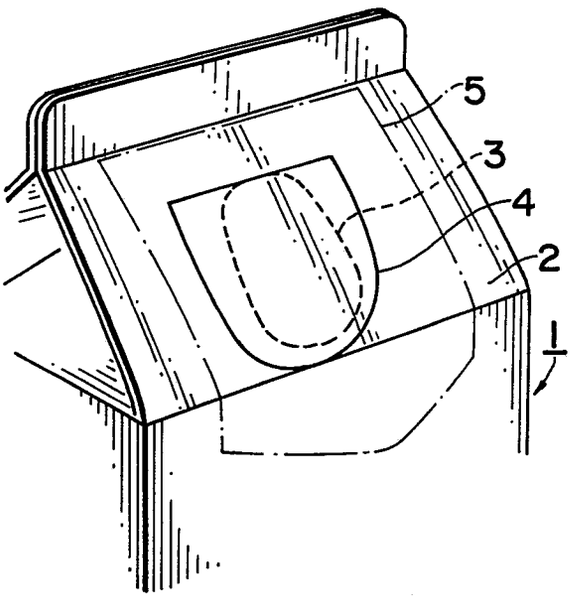


FIG. 3

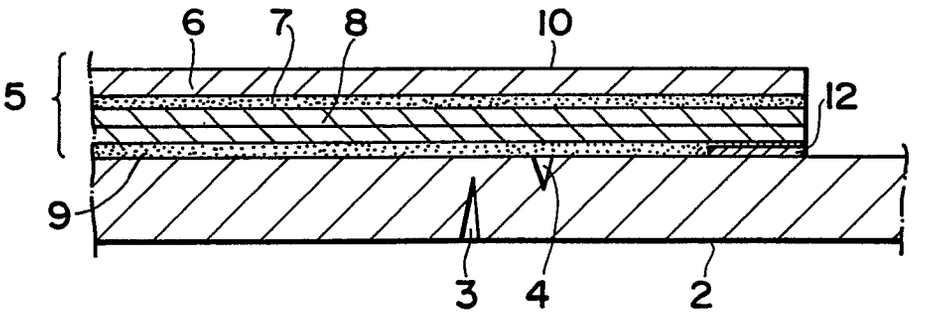


FIG. 4

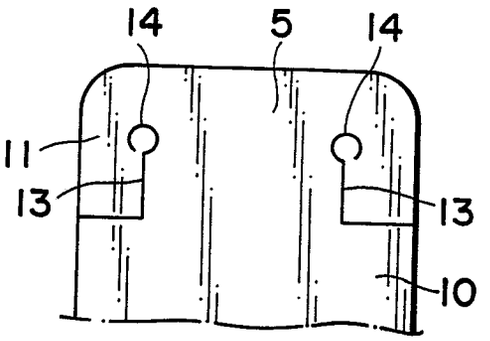


FIG. 5

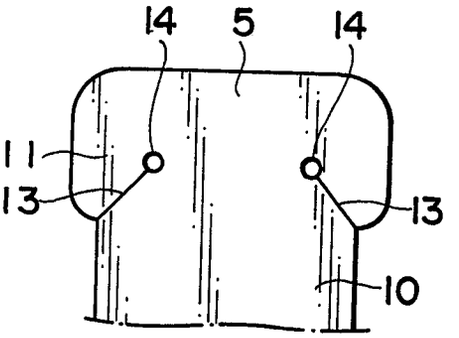


FIG. 6

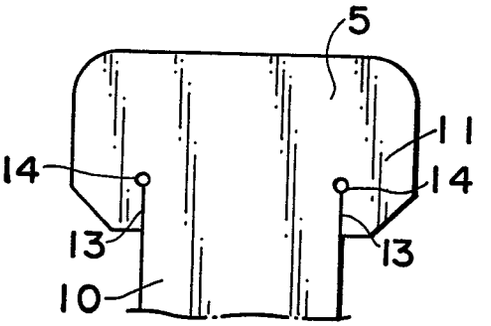
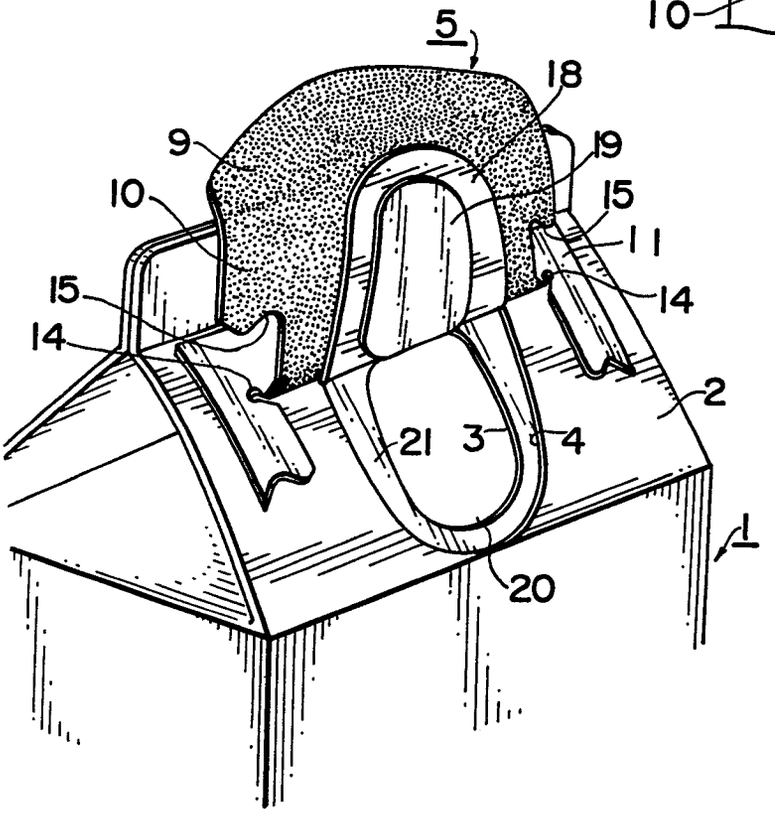


FIG. 7



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EUROPEAN SEARCH REPORT

Application Number

EP 89 11 9828

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
Y	FR-A-2 233 229 (TETRA PAK) * Page 7, lines 10-33; figure 3 *	1-3	B 65 D 5/70
Y	US-A-4 723 301 (CHANG) * Column 2, lines 14-58; column 3, line 48 - column 4, line 6; figures 2,5 *	1-3	

TECHNICAL FIELDS SEARCHED (Int. Cl.5)

B 65 D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	22-01-1990	BRIDAULT A.A.Y.

CATEGORY OF CITED DOCUMENTS

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