CLOSURE FOR THE OUTER CARRIER IN A COMBINATION PACKAGE

Fig. 1

Fig. 2

Fig. 3

Fig. 4

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Fig. 5

Fig. 6

Fig. 7

Fig. 8

Fig. 9

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ABSTRACT OF THE DISCLOSURE

Packages combining an inner container and an outer carrier in which the outer carrier has two extension flaps at one end and the inner container is joined to the carrier along these two flaps.

This invention relates generally to the art of packaging, and more specifically, to combination packages of the type including an outer carrier of relatively stiff packaging material, such as a carton of paperboard, and an inner container of flexible packaging film, such as a pouch or bag of plastic film, in which the packaged commodity is contained, wherein one end of the outer carrier is closed by a unique arrangement of flaps and a closed end of the inner container is arranged in a particular manner relative to such flaps.

One of the main objects of this invention is to provide a new combination package, particularly one incorporating an outer carrier and an inner container in which one end of the outer carrier can be closed by a pair of flaps adapted to receive between them the closed end of a container to be carried inside the carrier so as to thereby hold the container in a fixed position relative to the carrier. Another related main object is to provide, in a carrier of the foregoing construction, effective means at said closure end of the carrier which will permit simultaneous opening of the outer carrier and at least part of an end of the inner container. These features will provide for facile opening of the inner container in a combination package of the general type and also provide for effective protection of the material packaged therein.

Another principal object of this invention is to provide a combination package including an outer carrier and an inner container in which the inner pouch has one end held in place between panels of the carrier and said panels are adapted to provide for simultaneous opening of the carrier and the inner container.

A more specific object is to provide a carton for the packaging of filled pouches which has at least two carton walls meeting along an end of the carton and each such wall has an extension flap joined thereto that are arranged in face-to-face relationship and adapted to receive the end of an inner pouch between them to hold it in position and which flaps, furthermore, include defined zones along which at least portions of said flaps can be severed and simultaneously enable the inner pouch to be opened along a closed end. Another related objects is to provide a carton of this nature which can receive several inner pouches as well as only one. Another main object is to incorporate a closure of the specified type in an outer carton which has two walls which taper towards one another and may have a third wall included between them which can be folded into a spout-like position after the carton and the inner pouch have been opened in order to provide a pour spout dispenser action. Another main object is to provide a carton enclosure of the specified type in a carton which has two walls that are horizontal or in the same plane in order to provide a square-ended box or carton having the desired closure. A further object is to provide carriers of the foregoing types which are adapted to hold more than one inner container.

These objects and others will become apparent in the following description which sets forth several embodiments of this invention in order to fully explain it to those skilled in the art of carton-making and packaging. It is stressed, however, that the description and the examples are for the purpose of illustration and not of limitation, and that it is intended that many words of description used herein shall be construed in a broad sense and not given narrow, restrictive meanings. Thus, for example, what may be referred to as a "top" can as well be a bottom or side and the term "pouch" is intended to mean any type of bag or bag-like container. In this respect, therefore, words which may imply a structural connotation, relative position or type of object should be construed broadly.

Though the description, reference is made to the following drawings in which, insofar as possible, the same reference numeral refers to the same or similar part throughout the various views:

FIG. 1 is a perspective view, with a portion broken away, of a carton construction embodying the present invention;

FIG. 2 is an end view of the carton of FIG. 1 with portions broken away to expose some interior details;

FIG. 3 is a perspective view of the upper portion of the carton of FIG. 1 showing an intermediate stage in the opening of the carton and the pouch carried inside the carton;

FIG. 4 is a perspective view of the upper portion of the carton of FIG. 1 showing the carton being used to dispense materials carried in the opened inner pouch;

FIGS. 5–8 are partial views of alternate constructions of the carton closure of the present invention;

FIG. 9 is a perspective view of the upper portion of a carton incorporating the present invention in which the two walls with the closure lie in the same plane.

FIG. 1 illustrates a carton 1 holding an inner pouch 2 in which the carton construction and the arrangement of the pouch relative the carton are in accordance with the principals of this invention. The carton 1 is of a well-known gable top construction having a rectangular body portion defined by side panels 3 and 4 connected by end panels 5 and 6, end panel 6 being hidden from view in FIGS. 1–4, and a closed bottom 13. The upper end of the carton body is closed by spaced wall panels 7 and 8, which are inclined toward each other, and upper end panels 9 and 10 which connect the wall panels 7 and 8 in the finished carton; panel 10 is also hidden from view in FIGS. 1–4. Hidden end panels 6 and 10 are of the same construction as the visible panels 5 and 9, respectively. The panels are joined to one another in any conventional manner to form a carton of the finished type shown in FIG. 1 and fold lines, glued joints, and interlocking tabs and slits can be used. The carton may be made from a single blank of material appropriately cut and scored to define the various panels. As best shown in FIG. 4, a pair of fold lines 11 and 12 are defined in the upper end panel 9, with each fold line having its lower end in a corner of the panel and with the upper end of each line meeting in the center of the top of the panel to form an inverted V-fold so that when the carton is assembled, the upper end panel 9 can be folded or tucked in to lie between the upper wall panels 7 and 8. Upper end panel 10 has the
same configuration and action. The carton as described to this point is of a well-known construction and represents one form of carrier with which the closure arrangement of the present invention can be advantageously incorporated, but the specific shape of the carton does not form a part of this invention.

The end of the carton defined by the panels 7 and 8 is closed by a pair of flaps in the following manner. The upper wall panel 7 has an extension flap 15 connected to it along a fold line 16 and the similar flap 17 connected to it along a fold line 18. When the carton 1 is assembled, walls 7 and 8 have their outer edges adjacent each other and the flaps 15 and 17 are arranged so that they are opposite one another with their inner surfaces in face-to-face relationship. In each flap 15 and 17, there is formed a vertical tear line 19 and a horizontal tear line 20. Any desired configuration can be used for these tear lines in order to provide zones along which the flaps 15 and 17 can be torn, such as spaced slits, perforations, spaced hook-shaped slits, weakened areas, etc. In the illustrative form in Figs. 1-4, each vertical tear line 19 is shown as comprising a series of hook-shaped slits cut into the flap and having a starting notch 22 at its outer end, and each tear line 20 is shown as being formed of a series of perforated straight line slits; in each instance, the hooks or slits extend through the flap panels. Also, each flap 15 and 17 can include an aperture 21 which mate with one another to form a handle by which the carton can be lifted.

The inner pouch 2 has opposed walls 25 and 26 which are joined together along their marginal edges to define a commodity-receiving cavity which can be filled with any desired commodity 28. The edges can be joined by heat-seal seams, folds, adhesive seams, etc. In Figs. 1-4, the top edge of the pouch 2 is shown as being closed by a heat-seal seam 27. When placed inside the carton 1, the pouch 2 is joined to each flap 15 and 17. This joining can be accomplished in a number of ways, one being to apply a strip of heat-seal adhesive to each portion of the flaps 15 and 17 which it is desired to join to the pouch and then heat-sealing the pouch in its final position; another would be to use any suitable adhesive and apply it in either strip or spot form to selected areas of the flaps 15 and 17. In an appropriate instance, the carton 1 could be made of material which was heat-sealable either by reason of its inherent characteristics or by reason of having a heat-sealable coating applied to its inner surfaces. Thus the pouch can be attached to each flap by a variety of modes available to the converting art. In Figs. 1-4, the flaps 15 and 17 are shown with a strip 29 forming a heat-sealable seal 27 which extends across the flap and after the pouch is inserted into the erected carton, it is joined to the flaps along each strip 29, as best shown in Figs. 2-4.

In the form illustrated, the top edge of the bag 22 is shown as spaced below the upper edge of the flaps 15 and 17 in order that the apertures 21 can be positioned to provide a handle; however, in an appropriate instance, if the handle is not desired, the top edge of the bag can extend as far up the flaps as may be desired. In either instance, it is essential for the purposes of this invention that the top edge of the carton be positioned in a particular manner with reference to the horizontal tear lines 20 in each flap 15 and 17. To this end, the pouch 2 is positioned so that the lower-most edge of heat-seal 27 is above each tear line 20, which arrangement is best shown in Figs. 1 and 2; this provides a closed marginal edge of the pouch on one side of the tear lines 20 and an uncombined portion of the bag walls underneath the tear lines 20.

The foregoing closure for the carton 1 and the arrangement of the pouch 2 with respect to the closure flaps, enables the user of the combination package to open it in the manner illustrated in Figs. 3 and 4. Beginning with Fig. 3, the user tears the flaps 15 and 17 along their vertical tear lines 19, which are in registry with one another when the carton is assembled, down to the horizontal tear lines 20 and then tears the flaps along their lines 20 until the corner portion 28 is separated from the rest of the carton, but being in registry with each other. While tearing along the flaps 15 and 17 in this manner, the inner pouch 2 will be torn vertically as the flaps are severed along the tear lines 19 and then horizontally when the flaps are severed along the tear lines 20. When the flaps 15 and 17 are torn along the horizontal tear lines 20, the carton is opened by folding the entire marginal end wall 33 being torn at a position just below the heat-seal seam 27 due to the relative positioning of the seam and the tear lines 20. Hence, when the corner portion 28 of the two flaps 15 and 17 is separated from the carton, a corner of the inner pouch will also be removed and an opening will be provided in the pouch. In the condition illustrated in Fig. 4, the upper end panel 9 of the carton has been folded to an outward position to expose the opened corner of the inner pouch. The user can then tilt the carton to pour the commodity packaged in the inner pouch out though the open corner. If the user desires to dispense only part of the contents of the pouch, the upper end wall panel 9 can be folded inwardly to the position shown in Fig. 1 and at the same time the inner pouch will be closed to a certain degree. If the inner pouch has gussets along the side, the reclosure obtained in this fashion will be sufficient to afford some protection to the contents of the pouch.

Figs. 1-4, 5-7 are illustrative of a simple form of closure incorporating the present invention. In the form shown in Fig. 5, the horizontal tear line 20 extends entirely across each flap 15 and 17 and the vertical tear line 19 is positioned between the ends thereof so that the user has the entire length of the tear line portion of the inner pouch 2 below the seam 27 or removing a corner portion of the inner pouch as was shown in Figs. 1-4.

In the form of Fig. 6, the outer carton 1 is shown as being used to package two pouches in a "twin-pack" arrangement. Each flap 15 and 17 has a horizontal tear line 20 extending across the flaps with a vertical tear line 19 at each corner thereof in order to provide for separate access to each bag upon severance of a corner portion in the manner shown in Figs. 1-4. In the pouches 2a and 2b in Fig. 6, the marginal portions of the pouches which are positioned between the flaps 15 and 17 are joined by means of fold lines 30 instead of the heat-seal seams 27 used in the pouches illustrated in the preceding figures; the marginal edge of the pouch utilized in any of the carriers incorporating this invention can be joined in any suitable manner, such as fold line, heat-seal seam, glued seam, and even mechanical fasteners such as staples in an appropriate instance.

The carton 1 shown in Fig. 7 is also adapted for the packaging of two inner containers and in this instance the horizontal tear line 20 extends entirely across each flap 15 and 17 and there is a vertical tear line 19 positioned near each end thereof in order to provide for severance of each corner of the carton and a corner of each of the pouches.

The carton 1 shown in Fig. 8 represents probably the simplest embodiment of the present invention and incorporates only a horizontal tear line 20 which extends along each flap 15 and 17 in order to provide severance zones along which each flap can be completely separated from the main body of the carton in order to expose and open inner pouch 2. This form is of value where the reclosure capability of the other cartons illustrated herein is not necessary or desired with respect to the particular articles packaged in the pouch 2.

Fig. 9 illustrates the use of the present carton construction on a flat-top carton 31 as distinguished from the gable-top carton shown in Figs. 1-4. The carton 31 is defined by side walls 32 and 33 (side wall 33 being hidden from view in the drawing) interconnected by end walls 34 and 35 (end wall 35 also being hidden from
said walls being joined together in any desired manner to form a rectangular carton body with a closed bottom. The hidden walls are the same as their respective visible walls. A wall portion 7 is connected to side wall 3 along fold line 36 and a wall portion 8 is connected to side wall 3 along fold line 37. Portion 7 and 8 extend towards one another and have their outermost edges adjacent each other along the approximate center of the carton end. Flaps 15 and 17, respectively, are joined to wall portions 7 and 8 along fold lines 16 and 18, respectively, with the flaps 15 and 17 extending approximately perpendicular portions 7 and 8. Again, each flap 15 and 17 has superimposed tear lines 19 and 20 defining severance zones along which the respective flaps can be ruptured and the pouch 2 is positioned inside the carton with a marginal portion arranged between the flaps 15 and 17 and part of the pouch walls joined to each flap. The pouch 2 in this instance has its marginal portions between the two flaps joined by fold line 39 and fold line 30 is positioned to one side of the horizontal tear line 20 so that an unjoined portion of the bag walls will be in between the two tear lines 20 in order to enable opening of pouch 2 upon severance of the flaps 15 and 17. Any of the tear line configurations shown in FIGS. 5-8 can be utilized in the carton 2 shown in FIG. 9.

An advantage of the flat-top carton 31 is that it allows some space-saving when a group of the cartons are stacked in a single container for storage or shipment. Since it has a flat top, one carton can be stacked on top of another in an end-to-end relationship inside the larger container. It has been found that the carton 31 can be made so that the flaps 15 and 17 will fold over and lie flat against either of the walls 7 or 8 in a filled package; if desired, the flaps 15 or 17 could be strengthened to part of the carton wall during shipping and storage and then be easily raised by breaking the spot-glued seal when it is desired to use the carton in the prescribed manner.

While a carton has been shown as the outer carrier in the illustrative embodiments of this invention, the carrier need not be a complete enclosure having walls which entirely surround the inner container. As long as the carrier has at least two walls extending about the inner container, the closure of this invention can be incorporated therewith. Thus, the use of the term "carrier" herein and in the claims is intended to convey a broader meaning than "carton" and the invention is not limited to practice with carton-type enclosures. The outer carrier can be made of relatively stiff packaging material ordinarily used for cartons such as paperboard, corrugated cardboard, multi-wall or laminated materials, and lightweight plastics. In general, the material of the outer carrier when made of paperboard could be between .009 to .036 inch thick and have a basis weight of about 250 to 300 pounds per ream; however, materials on either side of these two ranges can be used. Whichever material is used, it should be one which lends itself to creasing, folding and die-cutting operations such as are normal to the converting art. The outer carrier should be of rigid enough material to afford protection to the contents of the inner container, and it may be printed or unprinted as desired. The inner container can comprise a pouch or bag-type of container, which terms are herein used interchangeably, and can be of any flexible packaging material which can be torn by hand so that it can be opened upon severance of the flaps in the closure on the outer carrier. For this purpose, materials such as cellophane, paper, metal foil, folk-paper laminates, acetate, fabric or plastic-coated fabric mesh are illustrative examples. Polyethylene and oriented polyolefin films, as well as other plastic films used in packaging, may also be used, particularly the linear varieties which have directional tearing capabilities, and plastic film-paper combinations are effective, such as polyethylene-paper. In general, the materials for the inner container will be those thin sheet materials which are normally used in flexible bags or pouches and will be on the order of \( \frac{1}{4} \) to 4 or 5 mils thick, although, here again, materials having a thickness outside this range may be used. So-called 300 gauge cellophane, .0012 inch thick, has proved a particularly useful material. The inner container can be formed of two sheets joined together at their edges or formed from a tube, can be flat or have gussets, and can be of any other construction used in the packaging art. The combination packages incorporating this invention can be used to package edible articles, such as frozen vegetables, dry cereals, dehydrated potatoes, bread products, and also non-edible articles of any desired type.

It is to be understood that it is intended to cover all changes and modifications of the examples of this invention herein chosen for the purpose of illustration which do not constitute a departure from the spirit and scope of this invention.

I claim:

1. A combination package comprising an outer carrier and an inner container wherein the carrier has at least two opposed wall portions with outer edges defining an end of the carrier, the combination therewith of:

(a) a closure for said end of the carrier formed by (a) a flap connected to the outer edge of two of said wall portions which oppose each other, there being only two such flaps at the end of the carrier and the flaps being arranged with the inner surface of one facing the inner surface of the other,

(b) a severance zone defined in each flap along which at least part of the flap can be severed, the severance zone in one flap being in registry with the severance zone in the other flap;

2. The outer carrier being of rectangular cross-section, and said said two flaps being no wider than the wall portions to which they are connected;

3. The inner container including opposed walls defining a commodity-receiving cavity and having a marginal edge portion joined together along a closure area, the said marginal edge portion being disposed between the two flaps with all of said closure area between the flaps and with the edge portion entirely covered by the flaps;

4. Each flap being joined to the inner container along its said marginal edge portion disposed therebetween;

5. The inner container having an unjoined portion of its walls between at least part of the severance zones in the flaps whereby upon tearing of the flaps along the severance zones the container walls will also be torn to enable access to the commodity-receiving cavity thereof for withdrawal of articles packaged therein.

2. A package according to claim 1 wherein:

part of the severance zone in each flap extends across the closed area of the marginal edge portion of the inner container disposed between the two flaps.

3. A package as defined in claim 1 wherein the two wall portions of the outer carrier from which the flaps extend are inclined towards each other.

4. A package as defined in claim 1 wherein the two wall portions of the outer carrier from which the flaps extend are in the same plane.

5. A closure for an end of an outer carrier adapted to hold an inner container of the type having opposed walls closed at their marginal edges to define a commodity-receiving cavity in which articles can be packaged, the carrier including at least two opposed wall portions with outer edges along said end, said closure comprising:

(a) a flap connected to the outer edge of two of said wall portions which oppose each other, there being only two such flaps at the end of the carrier and the flaps being arranged with the inner surface of one facing the inner surface of the other;

(b) a severance zone defined in each flap along which at least part of the flap can be severed, the severance
zone in one flap being in registry with the severance zone in the other flap; said flaps arranged to receive a closed edge of an inner container between them with an unjoined portion of the container's walls between at least part of the severance zones so as to be torn upon tearing of the flaps along the severance zones, said outer carrier being of rectangular cross-section and the two flaps being no wider than the wall portions to which they are connected.

6. A package as defined in claim 5 wherein the two wall portions of the outer carrier from which the flaps extend are inclined towards each other.

7. A package as defined in claim 5 wherein the two wall portions of the outer carrier from which the flaps extend are in the same plane.