

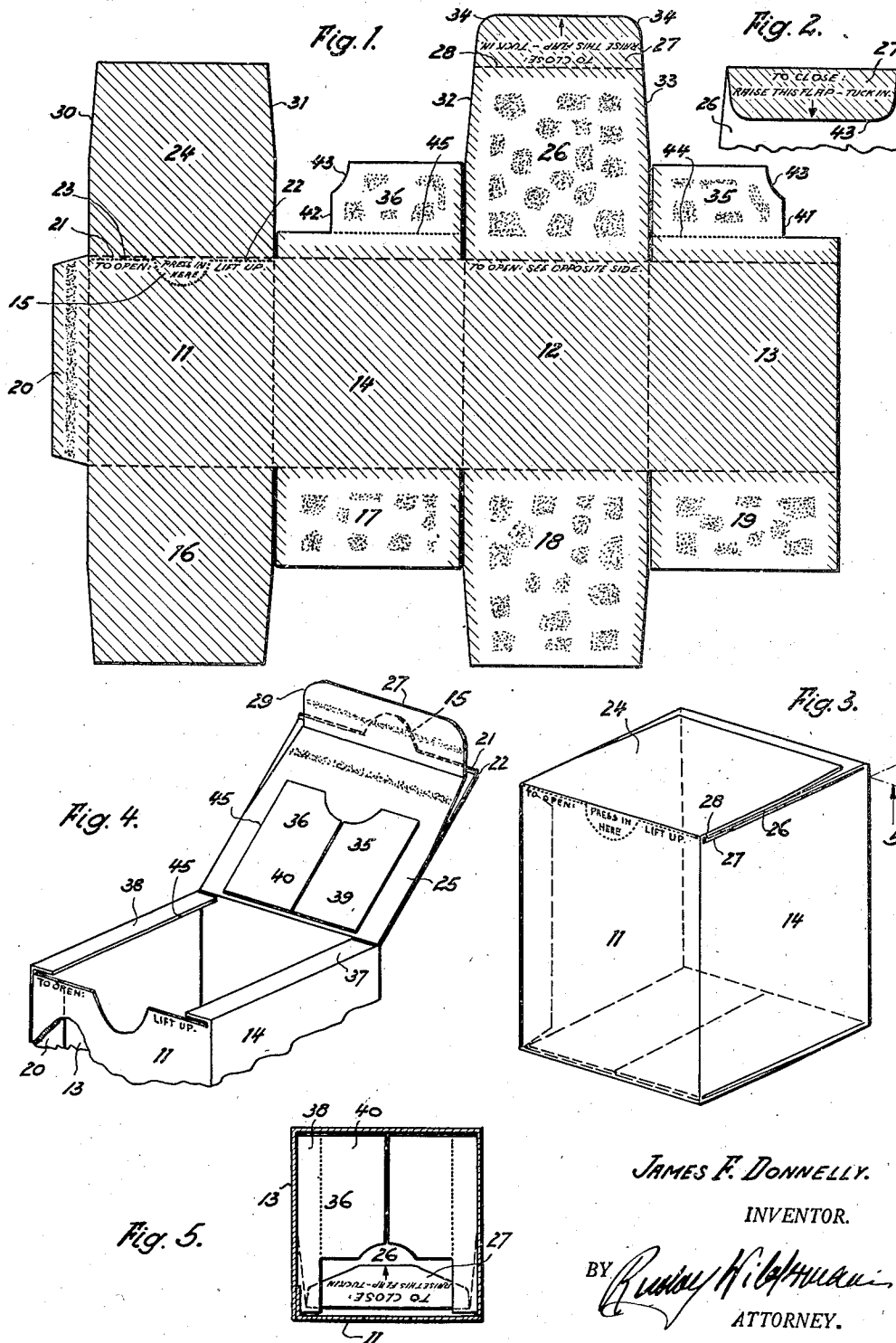
Oct. 21, 1941.

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2,260,137

CLOSURE FOR BOXES AND WRAPPERS

Filed Sept. 28, 1934



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UNITED STATES PATENT OFFICE

2,260,137

CLOSURE FOR BOXES AND WRAPPERS

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Application September 28, 1934, Serial No. 745,972

12 Claims. (Cl. 229—51)

This invention concerns a closure for boxes and wrappers, which protect articles of merchandise. Such a box or wrapper together with an article of merchandise forms a package prepared by the manufacturer, or by a merchant, said package being suitably closed and possibly sealed, so that the buyer is assured of receiving original goods or merchandise in a well protected and preserved state.

After such a package is opened by the ultimate user, or he has broken its seal, he may desire to make further use of the box or wrapper. The user may want to return the goods to the box or wrapper when said goods are not in use, or he may desire to withdraw the contents of the box or wrapper in small portions, leaving and preserving the balance in the box or wrapper, so that they are well protected.

The art of packaging merchandise has developed to such a state that standardized packages are provided for and the manufacturer or merchant provide special means facilitating the opening of such a package without destroying the box or spoiling the contents thereof. The manufacturer or merchant may for instance provide means facilitating the lifting off or the swinging back of the top of the packing, so that the said top forms a cover or lid.

The invention more particularly relates to means facilitating the orderly closing of a box or wrapper, after it has been opened or its seal has been broken. When there is a lid or cover, or when such a lid or cover is formed after the seal of a package has been broken by opening it in accordance with directions, this invention provides for a supplementary closing tuck or other means reengaging such a lid or cover upon the package, when it is returned to a closed position on said package.

This invention concerns the method of manufacturing or of preparing such a package as well as the box or wrapper itself, during manufacture as well as in the finished package and in connection with the package when it is being used by the consumer. In the prior art tucks or flaps have been known, which extend from the top of the sealed package into more or less secure engagement with the remaining parts thereof, and which may be used to facilitate closing of the package, after the seal has been broken. Since necessarily the seal must be broken at or near the point where the supplementary closing means are disposed and are engaged between the top and the rest of the package, because there a lid or cover is being formed, such supplementary closing means

interfere or may make difficult the breaking of the seal, and the user must be extremely cautious in breaking the seal lest he should damage the supplementary closing means.

It is therefore one object of my invention to remove the supplementary closing means from the point or line where the seal is broken, to such an extent, that they do not interfere with the breaking of the seal or may not be damaged during that operation.

A further object of this invention is to provide a package in which the seal is broken by severing or tearing the wrapper in a predetermined way, for instance upon the sides, or along one edge, the remaining parts being preferably reenforced to resist kinking or bending while pressure is being applied for breaking the seal.

It is another object of my invention to provide on a package supplementary closing means, which predeterminedly reenforce certain parts of the package in the sealed state, so that the said parts do not readily yield, when the seal is being broken adjacent thereto. Supplementary closing means for boxes and wrappers known in the prior art were invariably complicated and were frequently so intricate that the ultimate user did not understand their intended use and found it so difficult and cumbersome to put the supplementary closing means into use that he preferred not to use them at all.

Whereas the packaging of the prior art was encumbered by the operation of actually tucking in a supplementary closing means or tuck, I avoid such a complex operation by providing such tuck, but in an inactive folded back position in the package, but ready to be put to use by the user after he has broken the seal of the package, at which time, only the tuck becomes useful.

In the prior art the use of supplementary closing means frequently require reorganization manufacturing routine, or costly reconstruction or elaboration of the automatic machinery, used in packaging. Intricate dies had to be devised for blanking the material of the boxes or covers, and the original investment as well as the cost of maintenance involved in preparing boxes or wrappers were excessive, when supplementary closing means were provided for.

I have succeeded in overcoming these difficulties by the present invention; as a matter of fact, the automatic packaging machinery used by manufacturers before may be used substantially without changes in providing packages with enclosures comprising the supplementary closing means of my invention.

Thus the flap or tuck which forms the supplementary, ultimate closing means of my invention is prepared and incorporated in the folding box blank before it enters upon the packaging machinery, and remains thus inactively allocated, until the user eventually puts it to use.

Other objects of this invention relate to the adaptation of the side flaps for additionally reinforcing the lid or cover; to arrangements removing all flaps together with a cover when the cover is opened; to a coordination of the various flaps of the container with the supplementary closing flap, so that they are suitably accommodated in the sealed box, and removed or disposed for use on the open box; to a temporary attachment of the flap in a sealed box in a neutral or inactive position; to the provision of an additional flap closing over the outside, whereas the supplementary flap engages upon the inside; to means suitably tensioning and engaging the supplementary flap when in use; and to other provisions, which will hereinafter be more definitely disclosed and explained.

My invention may be used with many types of containers. But since the box, wrapper, carton, or packaging art provides at its present state of development such an infinite number of modifications and variations of containers, that it would be impossible to go into detail as to all containers, and since such an adaptation is well within the skill of those acquainted with this art, I have limited myself hereinafter to a careful description of an exemplary execution of my invention, and to a description of the methods involved, as illustrated by the accompanying drawing, in which

Fig. 1 shows the developed folding box blank; the view shows the faces which mostly form the outer sides of the finished package.

Fig. 2 shows the reverse side of a section of the same blank, the supplementary flap being folded under and suitably attached in the folded-under position.

Fig. 3 shows a sealed box in a perspective view.

Fig. 4 shows the same box in a similar view after the seal has been broken and the cover has been swung up for use as a temporary closure.

Fig. 5 shows a separate view of the top of the sealed package, taken in an upward direction. The view shows a cross-section at the level of the dot-dashed lines indicated in Fig. 3 and is taken in the direction of the arrow marked 5.

Similar numerals refer to similar parts throughout the various views:

Inasmuch as it is customary in the folding box art to print certain faces for various purposes, e. g., of decoration or to convey legends, and to print other faces which overlap, so as to prevent adhesive material from engaging upon such faces, I have applied shading to faces which may be printed for one or the other purposes, such shading being slanted diagonally down from the left top in the instance of Fig 1 (indicating green, for instance according to Patent Office practice) and such shading being analogously provided in the other views.

Legends which are not pertinent are of course not indicated; but legends which pertain to the breaking of the seal in order to convert the top as a cover or lid for supplementary closing, are exemplarily inserted in the manner in which they may be affixed to the ordinary product.

Scoring along which the blank is eventually folded is included in dashed lines. Scoring along which the carton is torn or serrated when the

seal is broken—and which will be hereinafter referred to as perforated scoring for purposes of differentiation and identification, but not in a limiting sense—is indicated in dotted lines.

Where the blank is cut, as between adjacent flaps, such adjacent flaps are shown to be slightly spaced apart in order to indicate clearly that there is a cut, whereas such adjacent flaps may actually abut upon each other.

It will not be necessary to explain the parts pertaining to the sides and bottom in detail, since they are arranged substantially in agreement with standard practice. There are the front wall 11, the back wall 12, the left and right side walls 13 and 14, each of which is comprised in one of the interconnected portions of the enclosure. Each portion comprises flaps, e. g. the flaps 16, 17, 18, 19 and 20, which cooperate to form the enclosure of the package on the bottom and all sides.

Whereas the various phases of the package are herein identified as bottom, sides, front, back and top, and they are shown to apply to a substantially cubic container, such specific reference as to dimensions, direction or relative allocation is not to be interpreted in a limiting sense but is merely intended for a clear and succinct disclosure of my invention.

Horizontally across the front wall, near the top thereof, is applied a perforated scoring 21, providing a depending flap 22 near the top of the container, after said wall has been severed along said perforated line. If the said perforated line 21 coincides with the crease or scoring 23 separating the outermost top wall 24 from the front wall 11, then the said flap 22 disappears; but in either instance I may provide a tongue 15 depending from scoring 23 or from flap 22, which facilitates the severance along the perforated scoring 21, and which also may be used as a handle facilitating manipulation of the lid or cover 25 (Fig. 4) which is eventually formed by several of the top flaps, after the seal of the package has been broken.

From the rear wall 12 extends a top flap 26, and from the said flap in turn extends the supplementary closing flap or tuck 27, said flaps being connected with each other at a crease or scoring 28 along which the supplementary flap 27 is folded under the flap 26, as shown in Fig. 2. During manufacture of the blank, before the blank is adduced to the packaging machine, I may fold under the supplementary flap 27 into the position of Fig. 2, and attach it to the flap 26, so that it adheres thereto.

Here, as well as elsewhere in this patent the expression "folded under" always refers to an upright position of the package, in which the supplementary closing flap extends from a layer of the top wall of the package.

Such attachment may be brought about by a pressing operation and/or by a small daub of adhesive material applied between said flap. An adhesive for that purpose is indicated at 29, being disposed for instance as a narrow strip across the flaps, such a narrow strip being most suitable in quantity manufacture. But such attachment is not to be made permanent and is to be made secure only to such a degree, that the supplementary closing flap remains folded under only after the seal of the package has been broken open. On the other hand the extent to which the said flaps 26 and 27 are attached to each other in their flat abutment, is to be limited, so

that by manipulation, the flap 27 may readily be pulled up from the flap 26, remaining however hinged thereupon along the crease or scoring 28.

In the finished package the perforated scoring 21 is preferable at or below the level of the folded back flap 27, so that severance along scoring 21 is facilitated.

The flaps 24 and 26 are slightly tapered along the outer ends of their lateral edges 30 and 31, and 32 and 33, respectively, as customary in this art. The free corners 34 of the flap 27 may be chamfered or suitably rounded off for purposes which will be hereinafter more specifically discussed.

As seen from the various drawings, the method of making a package of my invention consists in first preparing a folding box blank like that of Fig. 1; then the flap 27 is folded under, a sharp crease being formed at 28, so that the flap 27 is folded flat onto the reverse side of flap 26. Any temporary means of attachment may be used to retain the flap 27 in abutment upon flap 26, for instance the adhesive 29 was applied prior to the folding under, so that flap 27 is engaged thereby upon the reverse side of the blank.

Now this blank, with the flap 27 folded back and attached in the folded back position, is folded in the customary manner, e. g. in a packaging machine; the contents are filled into the box and the box is sealed, the folding operations on the top proceeding as follows: The side top flaps 35 and 36 which will be discussed hereafter, are preferably folded in first, then the flap 26 with the folded-under flap 27 adhering thereto is folded over the flaps 35 and 36. (Of course under certain circumstances, and in analogy with certain modifications of the prior art, the flap 26 might be folded in first and then the flaps 35 and 36 are folded and glued thereonto, which would be just the converse of first folding in flaps 35 and 36 and then gluing the flap 26 onto the top thereof.)

The flap 24 is glued on top of all the other priorly folded-in flaps 35, 36 and 26, more particularly in accordance with the drawing onto the flap 26. Thus the package is completed.

The user will tear open the package along the perforated scoring 21 and will swing back in hinge fashion all the flaps assembled in layers in the cover or lid 25, except the bases 37 and 38 of flaps 35 and 36, the wing parts 39 and 40 of said flaps 35 and 36 adhering to the cover just formed and being swung up therewith, after they have been severed along a perforated scoring by the opening operation from the bases 37 and 38. Following the instructions, marked on the tuck of supplementary closing flap 27, "To close, raise this flap—tuck in," the user after having opened the seal and broken the box and if he intends to close it again, will pull out the flap 27 into the position of Fig. 4, for instance by inserting his nail underneath the said folded-under flap 27 and pulling up the said flap, so that the bond of adhesive 29 is severed. Thereafter the container may be closed at any time by swinging the lid or cover 25 down, inserting the flap 27 along the inside of front wall 11, the slightly protruding front edge of the cover and possibly the turned-over flap 22 thereof, extending over the top edge of front wall 11. It will be noticed that the bases 37 and 38 of the side flaps 35 and 36 are more or less in the way of inserting flap 27 in the manner just described. But they will be pushed in and

eventually tensionally engage upon the inside of flap 27 when said flap is tucked-in in the manner just described, flap 27 being disposed in the temporarily closed position substantially in parallelism to the front wall 11 of the package.

The side flaps 35 and 36, may have any shape if they are folded on top of flap 24 and underneath flap 26 in the modified method, which was suggested above. Or they may be complementary, each extending over exactly half of the top of the package, as frequently used in this art. Or they may be shaped in the manner disclosed in the drawing—substantially clearing the tuck 27—if they are first folded over the top, before flaps 24 and 26 are folded over.

In order to avoid unnecessary bulging on account of a plurality of flaps overlapping, the flaps 35 and 36 are spared out at 41 and 42, clearing the lower edge 43, of the supplementary closing flap or tuck 27, when the box is sealed. The amount of clearance may vary, it may be chosen to be about $\frac{1}{8}$ of an inch, if the folding is to be brought about without excessive care. I also show parts 43 of adjacent corners of the wings 39 and 40 to be concavely recessed, so that additional clearance is offered on the box—after the seal has been broken and the lid folded back—for insertion of the user's finger for the purpose of tearing the supplementary closing flap or tuck 27 from the folded-under and attached position into the extended position of Fig. 4.

In order to facilitate the swinging back of the top cover or lid 25, I provide perforated scoring 44 and 45 between the bases 37 and 38 and the wings 39 and 40 of the top side flaps 35 and 36, respectively. When the top is swung back to form lid or cover 25, the side flaps 35 and 36 will obviously tear along the perforated lines scorings 44 and 45, the bases 37 and 38 remaining in the position in which they are shown in Fig. 4 so that they later on provide engaging means for the tucked under supplementary closing flap 27, whereas the wings 39 and 40 which are glued onto the inside of flap 26 will remain upon said flap and will reinforce it.

The supplementary closing flap 27 may of course assume various shapes, but it should be slanted where its edge engages and pushes away bases 37 and 38, in the tucking operation. Thus in Fig. 5, the said flap is shown to be bevelled to a greater extent, almost to the center thereof, which modification may facilitate a tighter packing, when desired.

Although I have shown and described one form of embodiment of my invention in detail, yet I do not wish to be limited thereby, except as to the state of the art and the appended claims may require, for it is obvious that various modifications and changes may be made in the form of embodiment of my invention, without departing from the spirit and scope thereof.

What I claim is:

1. In a package, a body part and a closure part forming said package, a seal connecting said parts, a supplementary closing flap folded under and onto one of said parts but extensible from said part for engagement upon the other one of said parts after said seal has been broken and said parts have been parted, and an adhesive normally engaging said flap upon said one part.

2. A folding box blank comprising wall sections forming the sides of said box, inner and

outer flaps extending at scorings from some of said sections and extending over the ends of the assembled box, and a flap serving as a tuck, extending from an edge of one of said inner flaps, and folded under onto said one inner flap in the assembled box, one of said outer flaps being wholly attached to said one inner flap, and a perforated scoring substantially at the scoring between said one outer flap and the one of said sections from which said one outer flap extends.

3. A folding box blank comprising wall sections forming the sides of said box, inner and outer flaps extending at scorings from some of said sections and extending over the ends of the assembled box, and a flap serving as a tuck, extending from an edge of one of said inner flaps, and folded under onto said one inner flap in the assembled box, one of said outer flaps substantially overlapping said one inner flap and being connected on its whole bottom side to said one inner flap, and a perforated scoring extending along the outline of the tab in the one of said sections from which said one outer flap extends and near the scoring between said one outer flap and said one of said sections.

4. A folding box blank comprising wall sections forming the sides of said box, flaps extending from some of said sections and extending over the ends of the assembled box, and a flap serving as a tuck, extending from an edge of one of said flaps, and folded under and glued onto said one flap.

5. In a folding box with a plurality of sides and with flaps extending from said sides and folded over to form the layers of a cover for said box, an outer flap forming part of the front one of said sides, an inner flap forming part of the rear one of said sides, said inner flap extending underneath said outer flap and being connected and comprised in said cover with said outer flap, and a supplementary closing flap at the end of said inner flap, sharply creased and folded back upon said inner flap and forming part of said cover, and a perforated scoring in said front side adjacent to but substantially below the crease between said inner flap and said closing flap, said crease reinforcing the edge of said cover against a pushing in of said front side for purposes of tearing said front side along said scoring, said supplementary closing flap being swingable down from abutment upon said cover and adapted to be tucked into said box when thus swung down.

6. In a folding box with four portions which are folded over to form the enclosure of and a cover sealing said box, side walls and a bottom formed by said portions, four overlapping and interconnected flaps forming part of said portions and constituting said cover, overlappingly interconnected parts of three of said flaps being severable from the remainder of the respective portions, so that the seal is broken substantially between said enclosure and said cover, the interconnection of the fourth flap with the side wall of the respective side wall furnishing a hinged connection for said cover, and a supplementary closing flap extending from said fourth flap, folded back under and detachably fastened upon the underside of said cover, said supplementary closing flap depending from said cover and being adapted to be tucked into said enclosure alongside of one of said side walls, when detached from the underside of said cover.

7. In a folding box with four portions which are folded over to form the enclosure of and a cover sealing said box, side walls and a bottom

formed by said portions, four overlapping and interconnected flaps forming part of said portions and a plurality of layers of said cover, overlappingly interconnected parts of three of said flaps being severable from the remainder of the respective portions, so that the seal is broken substantially between said enclosure and said cover, the interconnection of the fourth flap with the side wall of the respective side furnishing a hinged connection for said cover, and a supplementary closing flap extending from said fourth flap, folded back under said cover and abutting thereupon in the sealed box, some of said other flaps being spared out substantially to clear said supplementary closing flap and being substantially disposed on the sealed box in the same layer with said supplementary closing flap.

8. In a folding box with four portions which are folded over to form the enclosure of and a cover sealing said box, side walls and a bottom formed by said portions, four overlapping and interconnected flaps forming part of said portions constituting said cover, overlappingly interconnected parts of three of said flaps being severable from the remainder of the respective portions, so that the seal is broken substantially between said enclosure and said cover, the interconnection of the fourth flap with the side wall of the respective side furnishing a hinged connection for said cover, a supplementary closing flap extending from said fourth flap, folded back upon the underside of said cover in the sealed box, and parts of some of said first three flaps remaining on said enclosure and upwardly closing it near the sides of said box after said cover has been swung open around said hinged connection, said last mentioned parts of flaps substantially bordering at one end upon said enclosure, being pushed aside at the said end by and tensionally engaging upon said supplementary closing flap when said closing flap is swung down and tucked into the enclosure.

9. In a folding box with four portions which are folded over to form the enclosure of and a cover sealing said box, side walls and a bottom formed by said portions, four overlapping and interconnected flaps forming part of said portions constituting said cover, overlappingly interconnected parts of three of said flaps being severable from the remainder of the respective portions, so that the seal is broken substantially between said enclosure and said cover, the interconnection of the fourth flap with the side wall of the respective side furnishing a hinged connection for said cover, a supplementary closing flap extending from said fourth flap, folded back upon the underside of said cover in the sealed box, and parts of some of said first three flaps remaining on said enclosure and upwardly closing it near the sides of said box after said cover has been swung open around said hinged connection, said last mentioned parts of flaps substantially bordering at one end upon said enclosure, being pushed aside at the said end by and tensionally engaging upon said supplementary closing flap when said closing flap is swung down and tucked into the enclosure, the sides of said closing flap being slantedly disposed where said flap engages upon said last mentioned parts when being tucked in.

10. In a folding box, sides of the box, an inner and an outer flap extending from some of said sides, folded and glued onto each other, an unglued section on said inner flap adjacent the line along which it is folded over from one of said sides of said box, and a scoring separating said

section from the part of said inner flap which is glued to the outer flap, so that the said inner flap tears along said scoring when the said outer flap is lifted, the said part of said inner flap remaining attached thereto whereas said section of said inner flap substantially retains its original position and facilitates closing when said outer flap is returned to its original position.

11. In combination with the sides of a box, inner flaps extending from opposite ones of said sides, an outer flap abutting upon and fastened upon the ends of said inner flaps, and scorings in said inner flaps separating the parts of said inner flaps fastened upon said outer flap from the

remainder of said inner flaps, so that said inner flaps tear substantially along said scoring when said outer flap is raised.

12. In a package, a body part and a closure part forming said package, a seal connecting said parts, a supplementary closing flap accommodated in one of said parts but extensible from said part for engagement upon the other one of said parts after said seal has been broken and said parts have been parted, and tacking means by which said flap is manually separably engaged upon said one part in a folded under position.

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