Dec. 29, 1959 W. P. DANIELS 2,919,060

CARTON

Filed April 21, 1954 2 Sheets-Sheet 1

Fig. 1

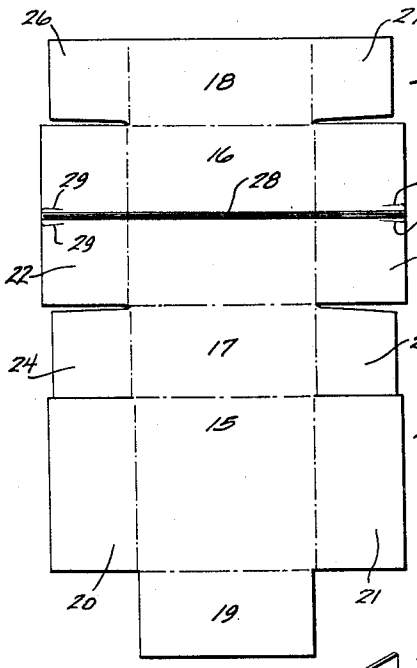


Fig. 2

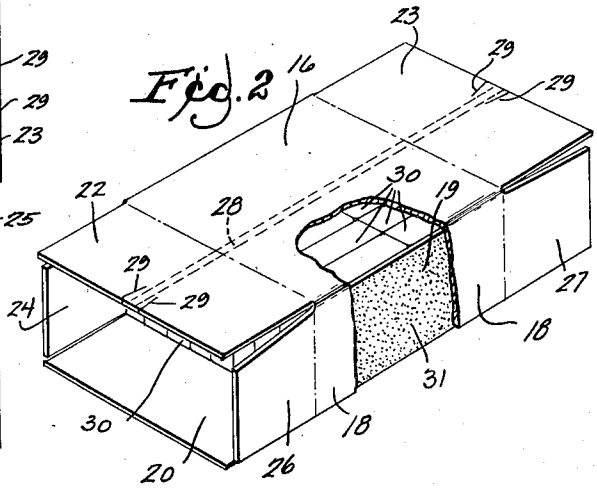


Fig. 3

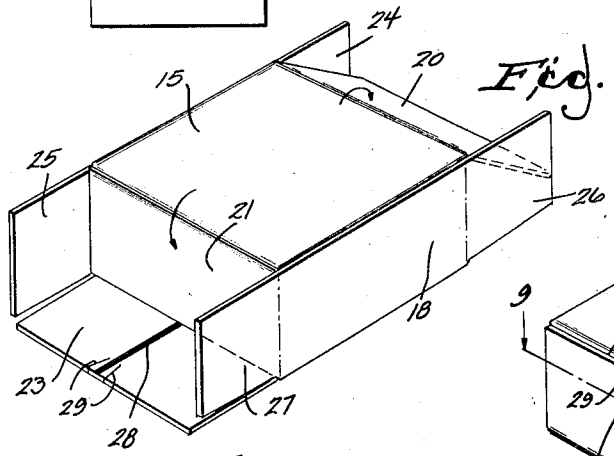


Fig. 5

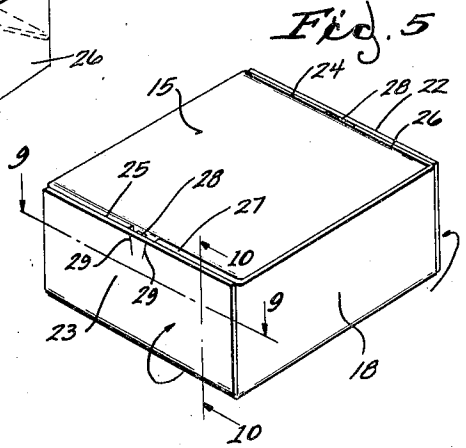
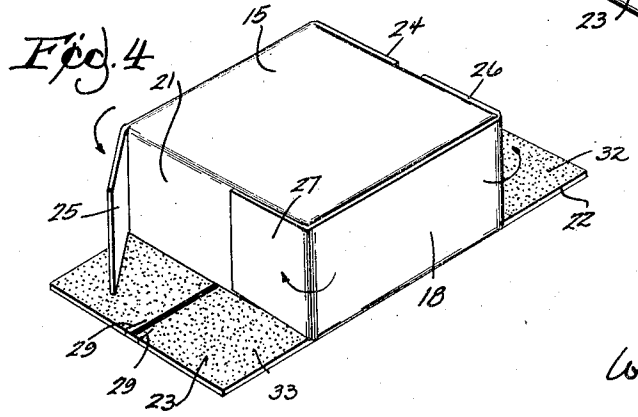


Fig. 4



INVENTOR.
WILBERT P. DANIELS
BY
Wheeler, Wheeler & Wheeler
ATTORNEYS

Dec. 29, 1959 W. P. DANIELS 2,919,060

CARTON

Filed April 21, 1954 2 Sheets-Sheet 2

Fig. 6

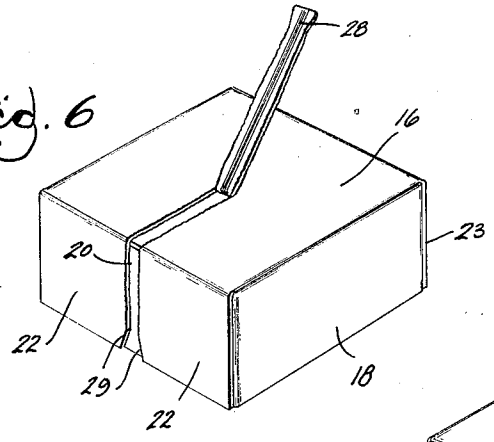


Fig. 7

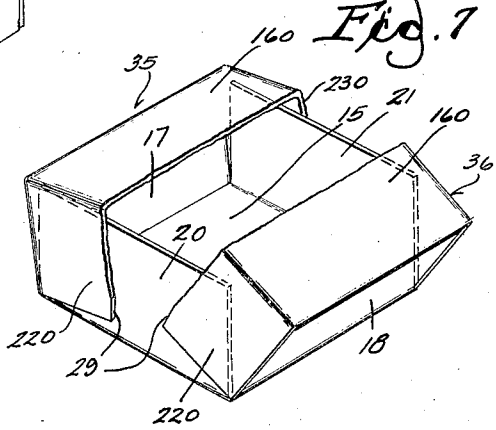
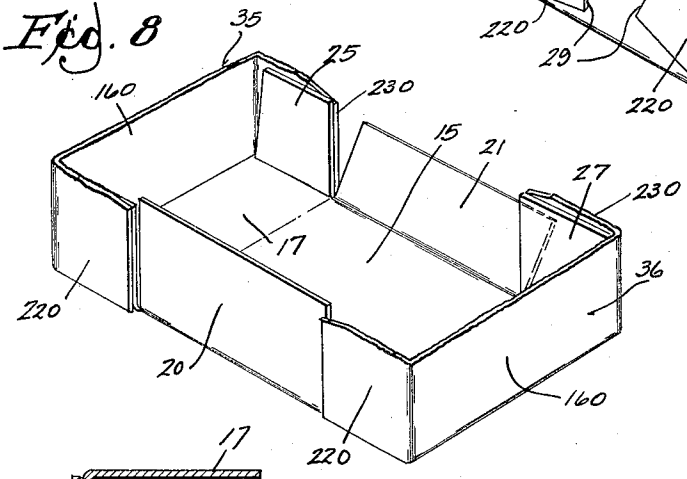


Fig. 8



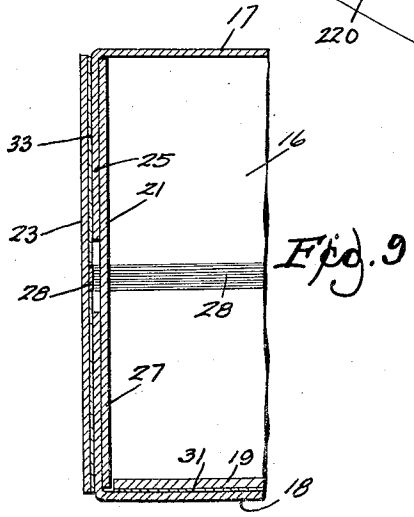


Fig. 9

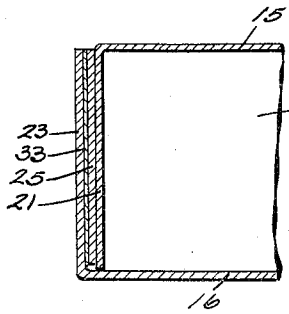


Fig. 10

INVENTOR.
WILBERT P. DANIELS
BY
Wheeler, Wheeler & Wheeler
ATTORNEYS

United States Patent Office 2,919,060 Patented Dec. 29, 1959

2,919,060

CARTON

Wilbert P. Daniels, Green Bay, Wis., assignor to Green Bay Box Company, Green Bay, Wis., a corporation of Wisconsin

Application April 21, 1954, Serial No. 424,586

4 Claims. (Cl. 229—51)

This invention relates to an improved carton blank, carton, and packaging method.

The blank is of a type which provides multiple ply end closures comprising, as an inner ply, flaps connected with one face panel, over which are folded flaps connected with the side panels of the carton, the free ends of which do not quite abut. It is important to the invention that the side panel flaps are not adhesively connected to the inner ply. Thereupon the outer ply, comprising a flap connected with the opposite face of the box, is folded over the side paneling flaps and adhesively connected thereto. The outer plies at the two ends of the box have a tear strip which is continuous across the blank and is normally disposed between the free ends of the intermediate side panel flaps. The arrangement is such that when the box is opened, by means of the tear strip, two half closures are formed which are left free for hinged movement with respect to the first mentioned face panel whereby the contents of the carton may be completely exposed, and may thereafter be re-enclosed. Desirably at least one of the outer ply flaps of the end closures has short slits at opposite sides of the tear strip to facilitate initiation of tear strip operation.

In the drawings:

Fig. 1 is a plan view of a blank for a carton embodying the invention.

Fig. 2 is a view in perspective showing the preliminary wrapping of the contents with the carton blank.

Fig. 3 is a view in perspective showing the partially wrapped package inverted and subjected to further package operations.

Fig. 4 is a view in perspective showing additional package operations performed following the stage illustrated in Fig. 3.

Fig. 5 is a view in perspective showing the completed package.

Fig. 6 is a view in perspective showing initiation of the package opening operation.

Fig. 7 is a view in perspective showing a subsequent stage in the opening operation.

Fig. 8 is a view in perspective showing the package completely opened.

Fig. 9 is a fragmentary detailed view on an enlarged scale taken in section on the line 9—9 of Fig. 5.

Fig. 10 is a fragmentary detailed view on an enlarged scale taken in section on the line 10—10 of Fig. 5.

The carton blank shown in Fig. 1 comprises, desirably in one piece, face panels 15 and 16, side panels 17 and 18, and a side sealing flap 19. The material to be packaged is normally placed on face panel 15 and the blank is wrapped around it. For end closure purposes, the face panel 15 is provided with inner ply flaps 20 and 21. End panel 16 is provided with outer ply flaps 22 and 23. Side panel 17 has intermediate ply flaps 24 and 25. Side panel 18 has intermediate ply flaps 26 and 27.

The tear strip 28 is adhesively connected with panel 16 to extend substantially on the center line of this panel transversely of the blank clear to the free ends of flaps

22 and 23. Slits at 29 extend inwardly for a short distance from the free ends of flaps 22 and 23 at opposite sides of the tear strip to facilitate operation thereof. Desirably these slits are slightly convergent toward the tear strip.

While any product may be enclosed in such a carton, the invention is particularly designed to facilitate wrapping the contents with the blank under substantial tension so that the contents are tightly packaged. Assuming the contents to be something on the order of consumer size wrapped blocks of cheese, as indicated at 30 in Fig. 2, the contents may be placed on panel 15. The gluing flap 19 is then turned up at one side of the contents and the rest of the blank is wrapped around the cheese, as shown in Fig. 2. The side wall panel 18 will lap flap 19 and be connected thereto by adhesive, represented by the stippling at 31 in Fig. 2.

The contents and the blank, as partially wrapped about them, will now be inverted to the position of Fig. 3 and the flaps 20 and 21 constituting the inner plies of the end closures will be folded across the ends of the contents. The intermediate ply end flaps 24, 25, 26, and 27 will next be folded onto the inner ply flaps 20 and 21 but left free of any connection thereto, this operation being illustrated in Fig. 4.

Finally the outer ply flaps 22 and 23 are folded onto the intermediate ply flaps 24 and 26 at one end of the box and 25 and 27 at the other end, and connected thereto by the adhesive represented by stippling at 32, 33 to complete the carton, as shown in Fig. 5.

It will be noted that the ends of the tear strip 28 are now exposed at each end of the carton between the infolded intermediate ply flaps 24, 26 at one end and 25, 27 at the other end. The free ends of the intermediate ply flaps being slightly spaced, the grasping of the exposed ends of the tear strips is facilitated. When it is desired to open the carton, one of these free ends is pulled outwardly. The slits at 29 further facilitate grasping and initiation of tearing movement, as shown in Fig. 6.

With the tear strip completely pulled free, the carton becomes provided with two hingedly movable semi-cover sections which are respectively designated by reference characters 35 and 36 in Fig. 7. Each of these comprises a one-half portion 160 of panel 16. Each of these comprises a one half portion 220 of panel 22 and a one half portion 230 of panel 23. The semi-cover section 35 includes side panel 17, while cover section 36 includes side panel 18. The respective cover sections are hingedly movable on the score lines which originally defined the integral connection between panels. If the outward hinged movement is continued beyond the point represented in Fig. 7, the respective cover sections may be completely opened as shown in Fig. 8, whereby all of the contents will be fully exposed. Obviously, it is possible to re-enclose the contents by simply moving the respective cover sections hingedly back to their original positions.

It will be apparent from the foregoing that despite the tightness with which the contents of the carton are packed therein, the carton may be opened with unusual facility and may be substantially completely reclosed if desired. As above indicated, the freedom of any glued connection of the side wall flaps 24, 25, 26, and 27 to the inner ply end wall flaps 20 and 21 respectively makes possible the hinged movement of the respective cover sections 35 and 36 between their open and closed positions.

While my improved method has been fully outlined in the foregoing description of the carton, a brief resume may be given here. With the carton blank flat, as shown in Fig. 1, the goods to be packaged are placed on panel 15. Flaps 19, 20 and 21 are then erected about three sides of the goods and panels 17, 16 and 18 are suc-

cessively wrapped about the goods to complete the enclosure thereof.

If the flaps **20** and **21** have not already been erected, they are now folded against the ends of the goods preliminary to the inward folding of the side panel flaps **24**, **25**, **26** and **27**. Finally the outer ply flaps **22** and **23** are lapped over the intermediate ply flaps **24**, **25**, **26**, and **27** and permanently connected therewith adhesively or otherwise.

The contents of the package are now completely enclosed and the nature of the blank is such that the contents may be under substantial confining pressure.

Yet the location of the exposed ends of the tear strip **28** between the spaced ends of the intermediate ply flaps **24** and **26** at one end of the carton and **25** and **27** at the other end thereof renders the tear strip completely accessible so that it may be manipulated with the greatest facility.

It is important that the use of the tear strip does not destroy the carton but divides portions of its end wall plies and portions of panel **16** to operate hingedly as individually movable cover sections which may be opened to partially or completely expose the contents and may then be restored to partially or completely closed position over the entire contents or any remaining portion thereof.

I claim:

1. A carton of the character described comprising face and side panels, flaps connected with one of said face panels and constituting inner closure plies, flaps connected with respective side panels extending toward each other and constituting intermediate end closure plies and flaps connected with the other face panel and secured in face contact with the last mentioned flaps to constitute outer closure plies, the last mentioned flaps and the face panel with which they are connected being provided with a tear strip extending across the face panel and substantially to the free ends of the outer closure plies intermediate the side margins thereof, the flaps constituting the intermediate closure plies having end marginal portions spaced to afford access to the ends of the tear strips, the intermediate end closure plies being free of securing connection with the inner closure plies whereby the inner closure plies and portions of the outer closure plies severed by said tear strip are free for unitary hinged movement with respect to said inner closure plies when the tear strip has severed said outer closure plies and its face panel.

2. The device of claim 1 in which said outer closure plies are provided with marginal slits at opposite sides of the tear strip to facilitate initial tearing.

3. A carton comprising sequentially connected side wall panels and face panels, end closure flaps projecting from the face panels and overlapping for closure of an end of the erected carton, an innermost of said closure flaps constituting a continuous unitary sheet extending

from side to side of the carton to laterally confine carton contents when the carton is open, end spacer flaps projecting from the side wall panels and intervening between the overlapped end closure flaps, said end spacer flaps having opposed margin portions which are spaced adjacent the exposed edge of the outermost lapping end closure flap to provide finger access between the overlapping end closure flaps, and a tear strip extending across the face panel to which the outermost end closure flap is connected and terminating substantially at the exposed edge of the outermost end closure flap whereby to register with the space between the spaced margin portions of the end spacer flaps whereby to provide finger access at both sides of the end of the tear strip, said outermost end closure flap being fixedly secured to said end spacer flaps and said intermediate and outer flaps being free of connection with the innermost flap to permit relative movement therebetween.

4. A carton of the character described comprising face and side panels, flaps connected with one of said face panels and constituting inner closure plies, flaps connected with respective side panels extending toward each other and constituting intermediate end closure plies and flaps connected with the other face panel and secured in face contact with the last mentioned flaps to constitute outer closure plies, the last mentioned flaps and the face panel with which they are connected being provided with a tear strip extending across the face panel and substantially to the free ends of the outer closure plies intermediate the side margins thereof, said tear strip having a tear tab at its end, the intermediate end closure plies being free of securing connection with the inner closure plies whereby the intermediate closure plies and portions of the outer closure plies severed by said tear strip are free for unitary hinged movement with respect to said inner closure plies when the tear strip has severed said outer closure plies and its face panel.

References Cited in the file of this patent

UNITED STATES PATENTS

1,194,492	Fischer	Aug. 15, 1916
1,869,584	Reymond	Aug. 2, 1932
1,882,124	Dienst et al.	Oct. 11, 1932
2,042,073	Rose	May 26, 1936
2,043,419	Robinson	June 9, 1936
2,046,485	Ringler	July 7, 1936
2,138,874	Myers	Dec. 6, 1938
2,160,643	Burel	May 30, 1939
2,290,971	King	July 28, 1942
2,307,667	Cornock	Jan. 5, 1943
2,418,526	Reitman	Apr. 8, 1947
2,622,784	Hammond	Dec. 23, 1952
2,665,834	Anglada	Jan. 12, 1954
2,699,285	Bell et al.	Jan. 11, 1955
2,725,172	McCullough et al.	Nov. 29, 1955