April 6, 1965 P. C. COLLURA 3,176,904

CARTON WITH TEAR STRIP CLOSURE

Filed Oct. 22, 1963

Fig. 1

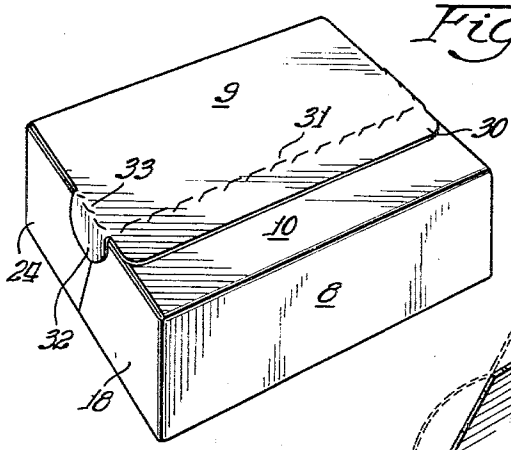


Fig. 2

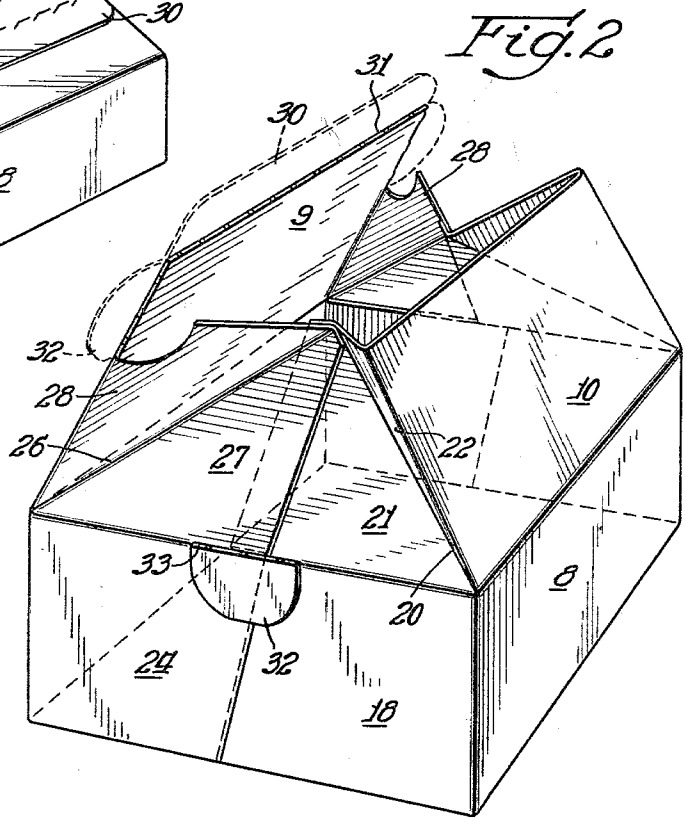
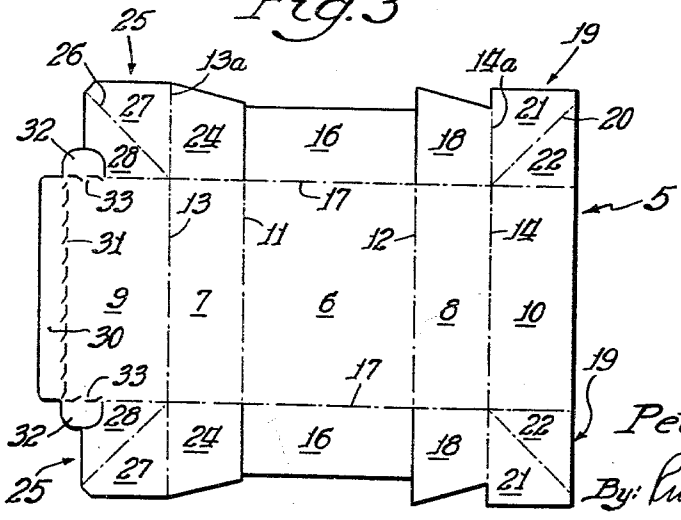


Fig. 3



Inventor:
Peter C. Collura
By: Richard W. Carpenter
Atty

United States Patent Office

3,176,904
Patented Apr. 6, 1965

3,176,904

CARTON WITH TEAR STRIP CLOSURE

Peter C. Collura, Waltham, Mass., assignor to Container Corporation of America, Chicago, Ill., a corporation of Delaware

Filed Oct. 22, 1963, Ser. No. 318,034
1 Claim. (Cl. 229—51)

The present invention relates to foldable paperboard cartons and more particularly to cartons designed for retention of wet or moist food products which are to be frozen after being packaged.

Among the important objects of the invention are to provide an efficient and economical form of carton which may readily be filled with the desired quantity of food or other product, which has effective closure and closure sealing means to enable the filled carton to be securely closed, and which may easily be opened to give access to the contents.

Another object of the invention is to provide a carton particularly designed for the packaging of wet or moist food to be frozen, such carton having oppositely hinged top closure panels carried by two of the carton walls, and such walls carrying at their ends inwardly foldable flaps having closure sections connected to the first mentioned walls by web corner connections.

Additional and more specific objects and advantages of the invention will become apparent as the description proceeds.

In the drawings:

FIGURE 1 is a perspective view of the carton showing it in closed and sealed condition;

FIGURE 2 is a perspective view on an enlarged scale showing the carton after it has been opened for removal of contents; and

FIGURE 3 is a plan view of the carton blank.

The carton of the present invention is intended particularly for use in connection with carton filling machines adapted to deposit a measured quantity of wet foods, such as spinach, string beans and other types of relatively bulky products, that may be loaded into a carton more efficiently if it has relatively smooth interior wall surfaces. For example, in the employment of cartons having inturned web corner folds exposed inside the carton, the inserted material frequently tends to catch on the interior parts and this prevents the material from entering effectively into and completely filling the available space within the carton. Thus, by forming the carton with web corner connections between the inwardly foldable closure panels, the carton retains the advantages of this type of construction to minimize leakage and, at the same time, the carton has the advantage accruing to the smooth interior of the main body of the carton which allows the contents to find their way completely into the carton.

Referring to FIGURE 3, the carton is conveniently formed from a one-piece blank indicated as a whole at 5, the blank being cut and scored to provide a rectangular bottom panel 6, side wall panels 7 and 8, and top closure panels 9 and 10 hingedly connected along fold lines 11, 12, 13 and 14. While the bottom panel could be square, it is preferably formed somewhat elongated in the direction transversely to the length of the blank.

End wall panels 16, 16 are hinged at the ends of the bottom panel along fold lines 17, 17 extending lengthwise of the blank.

On the outer ends of the walls 8 and 10 at each side of the blank there are formed unitary extended portions each comprising an end wall forming flap 18 and a corner flap indicated as a whole at 19, hinged to the flap 18 along fold line 14*a* which is an extension of fold line 14. The parts 18 and 19 are also hinged along the score line 17 to the

ends of the side wall and closure panels 8 and 10. Each corner flap 19 is divided by an angular fold line 20 into first and second gusset sections 21 and 22, respectively.

The opposite end of the blank is somewhat similarly constructed. On the outer ends of the walls 7 and 9 at each side of the blank there are formed unitary extended portions each comprising an end wall forming flap 24 and a corner flap indicated as a whole at 25, hinged to the flap 24 along fold line 13*a* which is an extension of fold line 13. The parts 24 and 25 are also hinged along the score line 17 to the ends of the side wall and closure panels 7 and 9. Each corner flap 25 is divided by an angular fold line 26 into first and second gusset sections 27 and 28, respectively.

As shown in FIGURE 2, the gusset sections 21 and 27 extend outwardly sufficiently to enable them to overlap when the carton is set up. The adjacent edges of the end wall forming flaps 18 and 24 are preferably made to conform to each other and, in the present instance, they are cut so as to meet approximately along an inclined line located centrally of the end wall, such flaps being disposed outside of the upfolded end wall panel 16.

In the present instance the cover panel 10 is formed with a width one-half that of the width of the bottom panel and the cover panel 9 is made wide enough to overlap the free edge of panel 10. Panel 9 is also provided with an extended flap 30 serving as a securing means whereby the panels 9 and 10 may be secured together. The flap 30 is designed to be severed from the main body of the panel 9 by forming a weakened line 31 between such panel main body and the flap 30. This may conveniently be accomplished by a series of short slits interrupted by small nicks between them. When the carton is sealed closed by securing the flap 30 on the outer surface of the closure panel 10, the closure panels may readily be released from each other by disrupting the paperboard along the weakened line by suitable means, such as a knife or other sharp or pointed instrument. It is to be understood that only the flap 30 will be secured to cover panel 10 and that the main body of the panel 9 is left unsecured to panel 10.

Means are preferably provided for securing the cover flaps at their overlapping portions in fixed relation to the end walls. For this purpose foldable tabs 32, 32 are formed on the opposite ends of the closure panel 9. As illustrated in FIGURE 3, each tab 32 is cut partly from the gusset section 28 and the center line of each tab is approximately on the center line of the composite closure formed by panels 9 and 10. The downfolded tabs are suitably secured to the outside surfaces of flaps 18 and 24 so as to cover the joint made by the meeting edges of these flaps.

The tabs 32 are preferably made severable from the edges of panel 9 by forming a suitable weakened line 33 along the hinge line of each tab. Thus, by severing both the tabs and the flap 30 the sealed carton may be opened for access to its contents by merely lifting panels 9 and 10 to swing them to vertical position. This also moves the joined gusset sections 21 and 27 at each end of the carton to vertical position, allowing ready access to the contents.

The overlapping edges of the gusset sections 21 and 27, the severable flap 30 and the severable tabs 32, 32 may be secured by suitable adhesive. Likewise, the end wall forming flaps 18 and 24 may be adhesively secured to the end wall panels 16. As an alternative, the surfaces of the carton may be treated with well known compositions of thermoplastic coating material and the parts to be adhered may be subjected to heat and pressure, causing such parts to be heat sealed.

If desired, gusset or web corner connections may be employed to connect the end wall panels 16 and their adjoining flaps.

While the present description sets forth a preferred embodiment of the invention, various changes may be made in the construction as disclosed without departing from the spirit of the invention, and it is therefore desired that the present embodiment be considered in all respects as illustrative and not restrictive, reference being had to the appended claim rather than to the foregoing description to indicate the scope of the invention.

I claim:

A top opening tray formed from a unitary blank of foldable paperboard, comprising:

(*a*) a rectangular bottom wall having opposed pairs of single-ply side walls and double-ply end walls hinged to opposed pairs of side edges thereof and upstanding therefrom to form a box-like structure open at the top;

(*b*) said end walls each including an inner panel and a pair of outer end wall flaps hinged to corresponding end edges of respective side walls and disposed to overlie said inner panel;

(*c*) means for closing the top of said structure including:

(i) a pair of opposed outer and inner top closure panels having outboard edges hinged to corresponding upper edges of respective side walls and having inboard edges disposed to overlap medially of the tray top to form a top wall;

(ii) generally rectangular corner flaps at each corner of the tray each being divided by a diagonal fold line into a pair generally triangular first and second gussets hinged to an upper edge of a related end closure flap and an end edge of a related top closure flap, respectively;

(iii) the gussets of each corner flap being folded one against the other with the pairs of first gussets at each end of the tray being joined to each other to form a composite, triangular underlying closure member disposed below related pairs of second gussets and adjacent end portions of said top closure flaps; and

(*d*) means for detachably securing said top closing means in closed position, including:

(i) an elongated securing flap removably joined to the inboard edge of said outer top closure flap along a weakened line of tear and overlying and adhesively secured to a marginal inboard edge portion of said inner top closure flap; and

(ii) a pair of securing tabs detachably joined to opposite end edges of said outer top closure flap adjacent said securing flap along weakened lines of tear and overlying and adhesively secured to upper medial portions of respective end walls.

References Cited by the Examiner

UNITED STATES PATENTS

2,680,558	6/54	Mai	229—51
2,736,484	2/56	Vines	229—37 X
2,799,442	7/57	Van Rosen	229—37
2,875,943	3/59	Cooper	229—39
3,016,181	1/62	Desmond	229—29
3,019,959	2/62	Skowronski	229—51 X
3,028,950	4/62	Content	206—41
3,029,997	4/62	Kauffeld	229—37
3,032,251	5/62	Jarund.	
3,050,229	8/62	Neff.	
3,125,280	3/64	Henry	229—51
3,142,432	7/64	Davis	229—38

FOREIGN PATENTS

1,267,978	6/61	France.
421,485	12/34	Great Britain.

FRANKLIN T. GARRETT, *Primary Examiner.*