Sept. 8, 1942. B. J. DAVIDSON 2,294,964

CARTON

Filed June 9, 1939

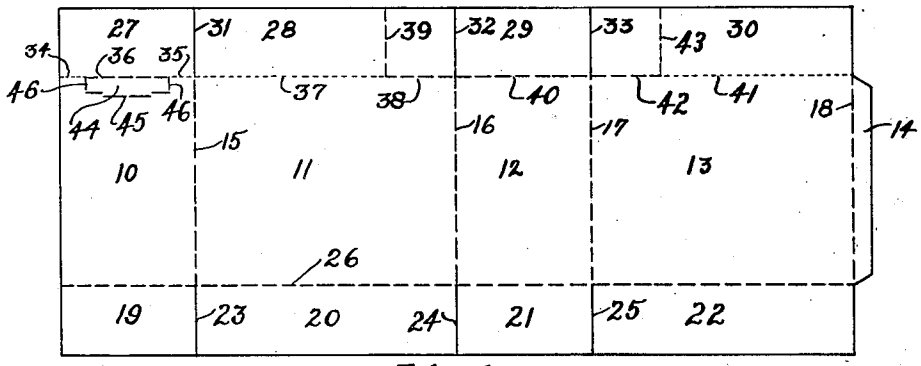


Fig. 1

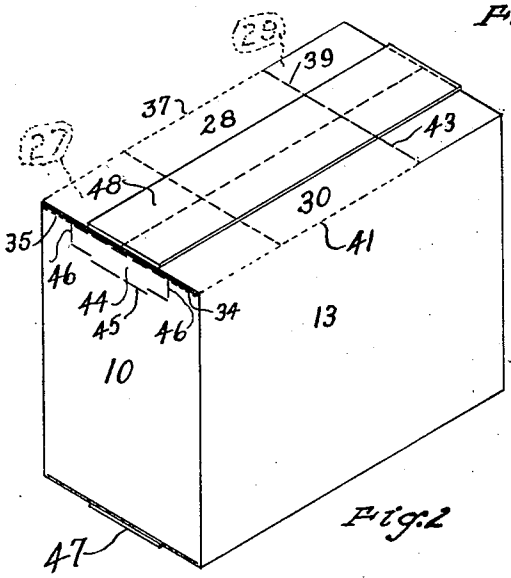


Fig. 2

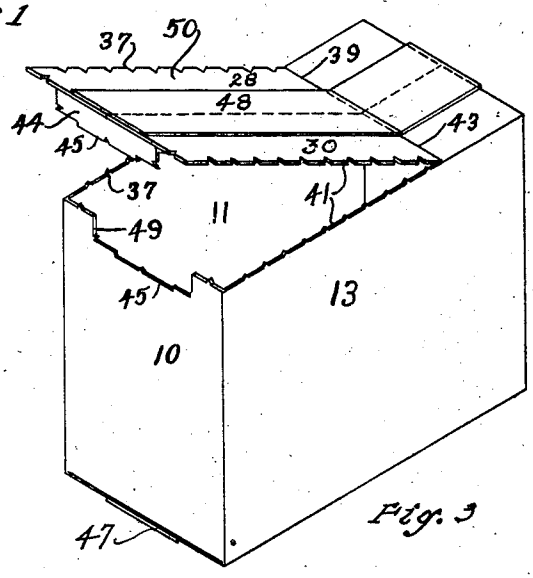


Fig. 3

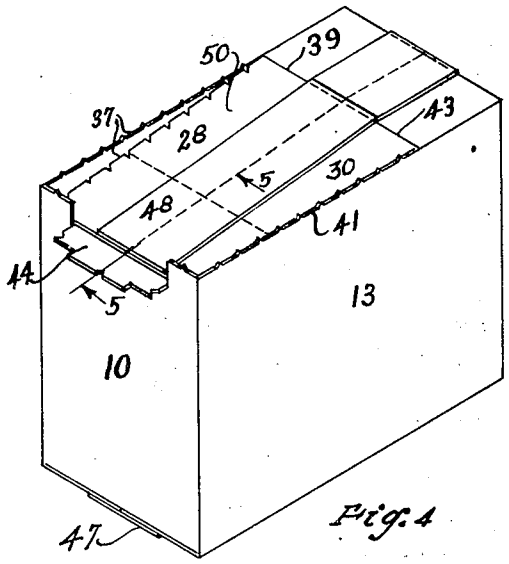


Fig. 4

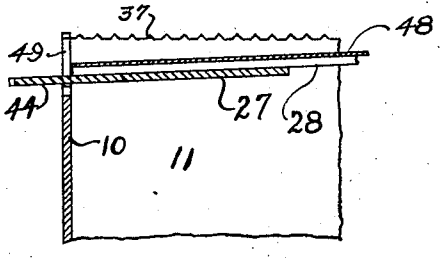


Fig. 5

BRUCE J. DAVIDSON
INVENTOR.

BY Henry J. Savage
ATTORNEY

Patented Sept. 8, 1942

2,294,964

UNITED STATES PATENT OFFICE

2,294,964

CARTON

Bruce J. Davidson, Manhasset, N. Y., assignor to National Biscuit Company, New York, N. Y., a corporation of New Jersey

Application June 9, 1939, Serial No. 278,227

2 Claims. (Cl. 229—17)

My invention relates to cartons and has for its principal object to produce a carton that can be opened easily without the use of tools of any kind and may be reclosed tightly along the edges that have been broken or severed after some of the contents have been used and will remain reclosed until the consumer again opens it. Another object of the invention is to provide a reclosable carton that can be opened and reclosed many times and will stay tightly closed each time. Still another object is to provide a reclosable carton wherein a part or all of one panel of the carton may be broken away along three sides and opened by flexing the material along the fourth side, and in reclosing the hinged portion will be returned within and bind against at least two of the three sides or panels of the carton, from which it was torn or broken loose, to hold it securely closed.

Another object is to provide a reclosable carton wherein the top may be freed for its entire width from two opposite sides of the carton and freed along a third edge except for a portion of the adjacent third side that adheres to the top as a tab, and remain hinged along the fourth side so that the top may be depressed below and within the top of the carton upon reclosing.

In the accompanying drawing I have illustrated a carton made according to my invention, which attains the above and other objects and advantages, and is but illustrative of one of the many forms in which it may be embodied.

Fig. 1 shows a blank from which the carton may be formed.

Fig. 2 is an isometric view of the carton closed and sealed.

Fig. 3 shows the carton opened.

Fig. 4 shows the carton reclosed.

Fig. 5 is a section taken substantially on the line 5—5 of Fig. 4.

Referring to Fig. 1, I have shown a single piece blank which may be folded to form a carton made according to the present invention. This blank has formed thereon a front panel 10, side panel 11, rear panel 12, side panel 13 and sealing flap 14, which are separated by score lines 15, 16, 17 and 18 along which the material is folded to form the carton. At the bottom of the blank are sealing flaps, 19, 20, 21 and 22 separated by cuts or slits 23, 24, and 25 and joined to the side panels of the carton along a score line 26 which extends the full length of the blank.

At the top the blank is formed with sealing flaps 27, 28, 29 and 30, which are separated by cuts 31, 32, and 33.

The end flap 27 is joined to the end panel 10 by two short weakened or tear lines 34, 35 and an intermediate score line 36. The side flap 28 is joined to the side panel 11 by a weakened line 37 and a score line 38. The weakened line 37 is shown as extending only part of the length of the flap 28 and the score line 38 extends for the remainder of this distance. At the junction of these two lines there is a score line 39 extending across the flap 28. In some instances this score line 39 is omitted, in which case the tear line 37 may extend for the full length of the flap 28.

The flap 29 is joined to the rear panel 12 by the usual score line 40.

The side sealing flap 30 is joined to the side panel 13 along a weakened line 41 and a short score line 42, similar to the weakened line 37 and score line 38. A score line 43 may extend across the flap 30 in cases where tear line 41 does not extend the full length of the flap.

When the material of the carton is not too stiff or heavy to flex easily, the score lines 39, 43 may be omitted and the material will bend sufficiently, yet retain its resiliency, at the ends of the tear lines 37, 41 so that the top can be opened to get at the contents.

On the front panel 10 a finger tab 44 is outlined by a weakened or readily fracturable line 45 which may be the usual perforated line, such as shown at 34, 35, 37 or it may be formed from a series of spaced cuts as illustrated. The cuts or perforations 46 at the ends of the tabs are perpendicular, or substantially so, with respect to the top edge of the panel 10, and the cuts or perforations at the bottom lie in substantially a straight line but are very slightly offset when long cuts are used, the spaced relation of these cuts being somewhat exaggerated in the drawing owing to the small scale to which they are drawn. The relatively long cuts are preferable to the small perforations because this prevents irregular tearing of the material as might occur in the case of very short cuts or perforations.

Fig. 2 shows a carton which has been filled, closed and sealed. In closing the carton, the bottom is sealed first by turning in the end flaps 19, 21 and then the two side flaps 20, 22 which are secured by glue or otherwise to the end flaps 19, 21. As shown in this drawing the flaps 20, 22 do not overlap but there is a narrow space between them when they are in closed position. A strip of sealing tape 47 or other material may be used to close the crack or opening between these two flaps.

The top of the carton is sealed in the same

manner by first turning in the end flaps 27, 29 and then the side flaps 28, 30 over them and sealing the crack with strip 48. When the flaps 28, 30 are turned in, the two score lines 39, 43 come into alignment and form a hinge about which a portion of the top may be turned when the carton is opened. The weakened line 41 joins the weakened line 34 and forms a continuation of it along one corner of the carton as does the weakened line 37 with respect to the weakened line 35.

When it is desired to open the carton as shown in Fig. 3, the purchaser will break the tab 44 loose along the cut or perforated lines 45, 46 by pressure of his thumb. This forces the tab inward and enables him to grasp the tab and top of the carton between his thumb and finger and lift up on them. This upward lift breaks the lines 34, 35 and continued upward pull raises the top by breaking or tearing along the lines 37, 41 up to the score or hinge lines 39, 43 so that the top swings up to open the carton as shown in Fig. 3. This opens the carton throughout its entire width, as shown, so that the contents are readily accessible.

When the carton is to be reclosed, the operator takes the tab 44 between his thumb and finger and pulls the top or cover down so that it falls within the side walls 11 and 13 and inside of the end wall 10, as shown in Fig. 4. The tab 44 passes down within the notch 49 that was formed in the front wall 10 when the tab was broken away. It will be noted that the side walls of this notch are parallel and at right angles or substantially so to the top edge of the end panel 10. The tab 44 fills this notch and binds against the sides of it sufficiently to help retain the lid or cover in closed position. It will also be noted that the sides of the hinged portion 50 (Figs. 3 and 4) bind against the sides 11 and 13 and the end 10 with sufficient pressure to hold the cover tightly closed. The cover 50 fits tightly at its edges and the tab 44 rests on the bottom of notch 49 so that there is substantially no crack or opening into the carton after it is reclosed.

In many cartons, particularly those where the flaps 28, 30 are wide enough to overlap or extend the full width of the top of the carton, the score or hinge lines 39, 43 are omitted and the weakened lines 37, 41 extend the full length of the sides 11, 13. In such cases when the carton is opened the top edges are torn or opened for the full length of the carton and the top hinges about the score line 40 at the end of the carton.

While I have referred to the several sides or panels of the carton as front, rear, side, top and bottom, it is to be understood that these terms are only relative and that any one of the six sides of the carton may be considered to be the top, bottom, or end. Also the tab 44 need not be formed in the end panel 10 as shown, but may be formed in one of the longer sides or the opposite end if desired. In fact, when the weakened lines 37, 41 extend the full length of the carton it is usually preferable to form the tab 44 in the panel corresponding to the one marked 12 in the drawing so that there will be no interference by the sealing flap 14 which is glued inside of the edge of the panel 10 when the carton is formed.

I have shown the tab 44 as being of less length than the width of the panel in which it is formed, but I may form this tab as long as the full width of the panel, in which case it preferably is formed on one of the intermediate panels as 11 or 12 and the cuts or perforations 46 will coincide with the score lines 15, 16 or 16, 17, as the case may be, and the weakened lines 34, 35 are omitted.

My invention obviously may be embodied in many other forms and modifications and I claim all such that come within the scope or spirit of my claims.

What I claim is:

1. A carton having front, rear and two side walls and four top sealing flaps each integral with one of said walls along a fold line at its top edge, said flaps being folded inwardly and secured together to form a top wall of the carton, the front wall having a rectangular potential opening and closing tab formed therein by a readily fracturable line along three sides of the tab, the fourth side of the tab being a part of the integral fold line between said front wall and its top flap, the fracturable lines at the ends of the tab being substantially parallel to each other and perpendicular to said fourth side, tear lines extending from the ends of the top edge of the tab along the fold line joining said front wall and its top flap to the opposite edges thereof, tear lines extending from the ends of said first tear lines along the fold lines joining the top edges of the two adjacent side walls to their top sealing flaps, said tear lines terminating at a score line extending across the carton and adapted to form a hinge, said tab and that part of the top defined by said tear lines being adapted to be turned about said hinge upon breaking said fracturable line and tear lines to open the carton, said part of the top upon closing the carton passing within and binding against said three walls from which it has been detached, and said tab extending through the opening and outward beyond the wall from which it was formed to provide a means for reopening and reclosing the carton, said tab bearing on the bottom of said opening to provide a closure.

2. A carton blank divided by score lines into front, rear and two side panels, end sealing flaps attached along fold lines to the top and bottom edges respectively of said panels, said sealing flaps being adapted to be turned inwardly on said fold lines and secured together to form the top and bottom walls of a carton, the front panel having a potential parallel sided tab formed thereon by two parallel cut-lines perpendicular to the top edge of the panel and a cut-line lying within the front panel and joining the lower ends of said two parallel cut-lines, the top edge of the tab being part of the fold line joining the front panel to its sealing flap, there being weakened lines extending from the top corners of said tab along said fold line at the top of said front panel to its side edges, the sealing flaps attached to the top edges of said side panels having transverse score lines so located as to come into alignment when the flaps are turned inward and secured to form the top wall of the carton, there being weakened lines formed in the fold lines joining the said sealing flap to the side panels extending from the front edges of the side panels to said transverse score lines.

BRUCE J. DAVIDSON.