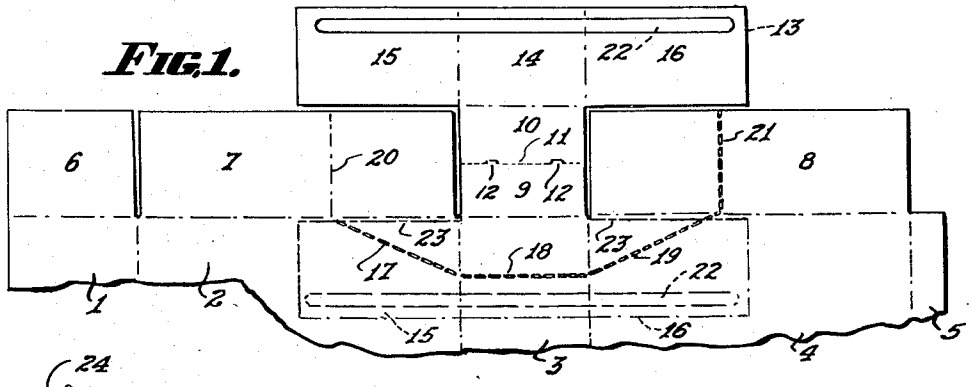
April 14, 1959 W. A. RINGLER 2,881,967

RECLOSABLE DISPENSING CARTON

Filed April 7, 1958

FIG. 1.



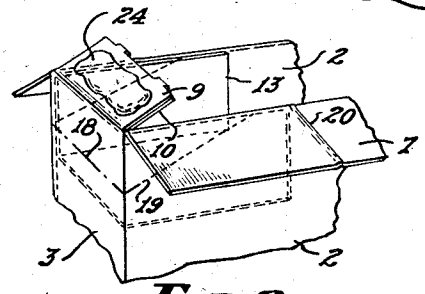


FIG. 2.

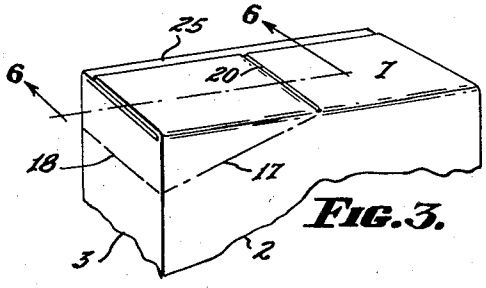


FIG. 3.

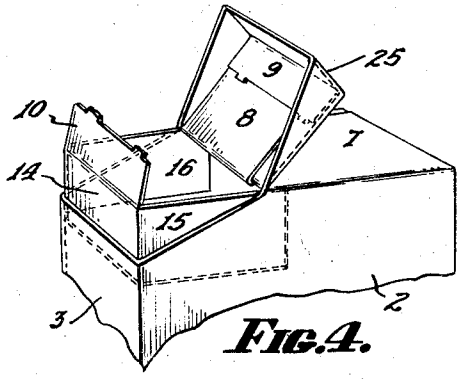


FIG. 4.

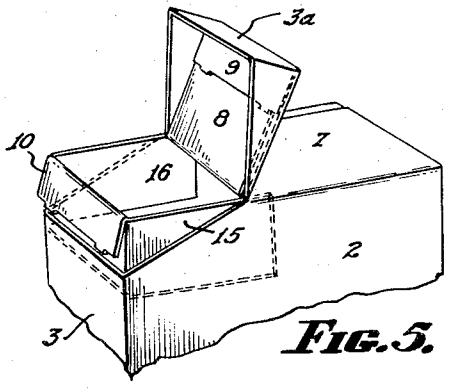


FIG. 5.

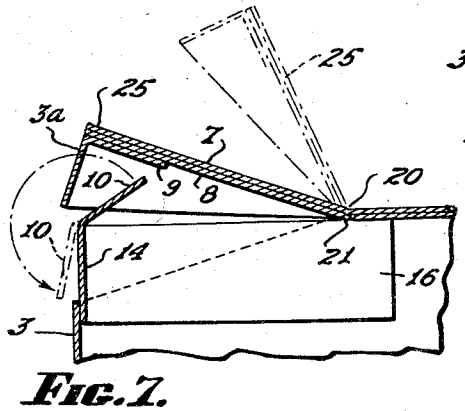


FIG. 7.

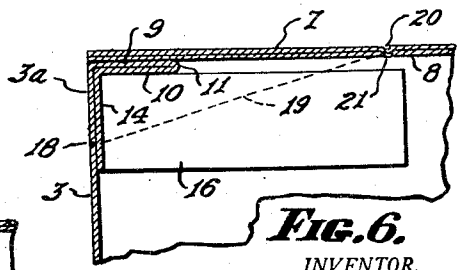


FIG. 6.

INVENTOR.
WILLIAM A. RINGLER.
BY Allen & Allen
ATTORNEYS.

United States Patent Office 2,881,967 Patented Apr. 14, 1959

2,881,967

RECLOSABLE DISPENSING CARTON

William A. Ringler, Wayne, Pa., assignor to Diamond Gardner Corporation, Middletown, Ohio, a corporation of Ohio

Application April 7, 1958, Serial No. 726,866

16 Claims. (Cl. 229—17)

This invention relates to paper cartons and more particularly to a reclosable dispensing carton having an integral liftable part which, when raised, provides a dispensing opening for the contents of the carton.

A principal object of the invention is the provision of a one-piece carton structure having a tubular body and seal end flaps which may be erected and secured in conventional fashion, the structure incorporating as a part thereof a hinged cover member which, when separated from the remainder of the carton, provides a reclosable dispensing opening.

A further object of the invention is the provision of an integral friction lock by means of which the liftable cover may be maintained in closed position subsequent to its initial separation from the carton.

Still a further object of the invention is the provision of a reclosable dispensing carton in which a liftable cover member is formed in part from the top closure of the carton and in part from three contiguous body walls, the body wall parts being separable from the remainder of the body walls along lines for severance, the structure including an inner liner forming part which lines the carton body walls throughout the areas which have been removed to form the liftable cover, the liner forming part defining a rim portion over which the cover part is fitted when it is returned to closed position.

Yet a further object of the invention is the provision of a dispensing carton of the character described wherein the liftable cover part is frictionally retained in closed position by means of a reversely folded flap hingedly connected to the upper edge of the liner forming part, the said flap being initially connected to a second flap forming a portion of the liftable cover, the two flaps being automatically severable upon initial opening of the carton.

The foregoing together with other objects of the invention which will appear hereinafter or which will be apparent to the skilled worker in the art upon reading these specifications, I accomplish by that construction and arrangement of parts of which I shall now describe an exemplary embodiment.

Reference is now made to the accompanying drawings wherein:

Figure 1 is a fragmentary plan view of a carton blank formed in accordance with the invention, the dotted lines indicating the position of the infolded parts prior to being infolded.

Figure 2 is a fragmentary perspective view of the upper end of the erected carton illustrating the manner in which the top closure is formed.

Figure 3 is a fragmentary perspective view similar to Figure 2 but illustrating the parts in folded and glued condition.

Figures 4 and 5 are fragmentary perspective views similar to Figure 3 but illustrating the cover part as it is opened, the figures illustrating the manner in which the two flap parts are separated and the one reversely folded to form a friction lock.

Figure 6 is a vertical sectional view taken along the lines 6—6 of Figure 3.

Figure 7 is a vertical sectional view similar to Figure 6 but illustrating the manner in which the parts separate when the cover is raised.

Referring first to Figure 1 of the drawings, I have therein illustrated a one-piece paperboard blank cut and scored to provide body walls 1, 2, 3 and 4 in articulation in the order named, the wall 4 having a glue flap 5 connected thereto in the usual fashion. At their upper ends, the body walls 1, 2 and 4 are provided with conventional seal and closure flaps 6, 7 and 8. In the embodiment illustrated, the flaps 7 and 8 are of full width so as to overlap throughout substantially their entire extent in the erected structure, although it will be understood that the width of the flaps may be reduced to provide an "economy seal" in which only their outer portions overlap to provide a glue seam extending centrally of the top closure. The body wall 3 is provided at its uper end with a pair of flap parts 9 and 10, the flap part 9 being hingedly connected to the upper edge of the body wall 3 with the flap part 10 articulated to the flap 9 along a line for severance 11. This line may taken the form of a line of cut broken by several narrow connecting portions 12 serving to connect the two flaps together. A rim forming extension 13 is connected to the outer edge of flap part 10, the extension comprising a central portion 14 lying in prolongation of the flap parts 9 and 10, and wing portions 15 and 16 which are hingedly connected to the opposite side edges of the central portion 14 and overlie the closure flaps 7 and 8.

The body walls 2, 3 and 4 are provided with lines for severance 17, 18 and 19, respectively, and the end closure flap 7 is provided with a score line 20 the inner end of which meets the end of line for severance 17. Similarly, end closure flap 8 is provided with line for severance 21 the inner end of which meets the end of line for severance 19. In a preferred embodiment, the line 17, 19 and 21 are lines of perforation, whereas the line 18 may be a cut line to facilitate the initial opening of the structure.

While not illustrated, it will be understood that the opposite ends of the body walls will be provided with suitable bottom closure flaps which may be folded and glued in conventional fashion.

In the erection and assembly of the structure, the rim forming extension 13 will be first infolded to the position illustrated in dotted line in Figure 1, a stripe of adhesive 22 being first applied to the outer edge of the extension, whereupon it is infolded along the line for servance 11, thereby juxtaposing the central portion 14 to body wall 3, with wing portions 15 and 16 juxtaposed to body walls 2 and 4, respectively. The dimensioning of the parts is such that the glue stripe 22 will lie beyond the lines for severance 17, 18 and 19, as will be apparent from the drawings, and the width of the flaps 9 and 10 is such that the edges 23 of wing portions 15 and 16 will be spaced inwardly with respect to the lines of articulation connecting the end closure flaps 7 and 8 to their respective body walls. The amount of spacing involved is simply enough to clear the lines of articulation between the body walls and end closure flaps so that the end closure flaps may be freely infolded without interference from the extension. It will be noted also that the length of the extension is such that the outer ends of the wing portions 15 and 16 extend beyond the outermost ends of the lines for severance 17 and 19; and similarly, the width of the extension is such that the parts extend inwardly beyond the lines for severance 17, 18 and 19 by a distance such that they may be adhesively secured to portions of the container body walls lying below the lines for severance.

Subsequent to the infolding and adhesive attachment of the extension 13 to the body walls 2, 3, and 4, the carton blank will be tubed in conventional manner, with

the free side edge of body wall **1** secured to attachment flap **5**, whereupon the tubular body will be erected and the end closure flaps infolded and secured together.

As seen in Figure 2, the formation of the top end closure is effected by infolding the juxtaposed flaps **9** and **10** with the application of adhesive to the upper surface of flap **9**, such adhesive being indicated at **24**, whereupon the end closure flaps **7** and **8** are infolded with the interposition of adhesive therebetween. Preferably the flap **7** which contains the score line **21** will lie outermost so that the liftable cover member will be hinged to the outermost part making up the end closure. While the liftable part also folds along the line **21**, I prefer to cut-score or perforate the line **21** to facilitate the folding of the cover part. It will be understood, of course, that the lines **20** and **21** coincide in the assembled structure. Upon being folded and glued, the top closure assumes the condition illustrated in Figure 3. The contents will have, of course, been placed within the container prior to the sealing of one of the end closures.

In the hands of the user, the liftable cover part, which is designated by the reference numeral **25**, will be separated from the remainder of the carton along the lines for severance **17**, **18** and **19**, thereby permitting the cover part to swing upwardly in the manner illustrated, in Figure 4. At such time as the cover part is initially opened, the act of swinging the part upwardly will cause the flaps **9** and **10** to separate along the line for severance **11**. As will be apparent from Figure 4, the flap **9** is secured to the inner surface of the liftable cover part whereas the flap **10** will remain articulated to the upper edge of the central portion **14** of rim forming extension **13**. Thereafter, as seen in Figure 5 the flap **10** will be folded outwardly in the manner illustrated. In this position it serves both as a pouring lip for the contents and, when the cover part is reclosed to fit over the exposed areas of the rim forming extension, the reversely folded flap serves a friction lock acting to maintain the cover part in tightly closed condition. In this connection, and as best seen in Figure 7, the width of flap **10** will be substantially equal to or slightly less than the width of the front wall **3***a* of the cover part.

The arrangement just described provides an economical and easy to make one-piece reclosable carton. At the same time, the construction provides an integral friction lock which will maintain the reclosable cover in the closed position. Without such lock the natural resiliency of the board tends to partially open the cover, thereby exposing the contents and permitting it to readily spill from the carton should the carton be tipped over.

Modifications may be made in my invention without departing from the spirit of it and, consequently, I do not intend to be limited excepting in the manner set forth in the claims which follow.

Having thus described my invention in an exemplary embodiment, what I desire to secure and protect by Letters Patent is:

1. In a reclosable dispensing carton, a tubular body, end closures at the opposite ends of said body, one of said end closures having a liftable cover part formed therein, said cover part having a top wall hingedly connected to said end closure and depending wall portions formed from contiguous portions of three body walls of said carton, said depending wall portions being defined by lines for severance by means of which said cover part may be separated from the remainder of said body walls and folded upwardly along the line of hinged connection to said end closure, a rim forming extension secured to the inner surfaces of said three body walls immediately below the lines for severance therein, with portions of said extension projecting upwardly beyond the said lines for severance and juxtaposed to the inner surfaces of the depending wall portions of said cover part when said cover part is in the closed position, a first flap member articulated to the upper edge of said extension, and a second flap member connected to said first flap member along a line for severance, said second flap member being secured to said liftable cover part, said two flap members being separable along their said line for severance when said cover part is initially opened, said first flap member, upon being separated, defining a cover securing flap which, when reversely folded to overlie the outer surface of said extension, provides a friction locking element for securing said cover part in closed position.

2. The structure claimed in claim 1 wherein said extension is formed as an integral part of the carton blank from which said carton is formed, and wherein said extension is of substantially lesser depth than the carton body walls to which it is secured.

3. The structure claimed in claim 2 wherein said end closure includes an opposed pair of closure flaps secured together in overlapping relationship, said closure flaps having coinciding, transversely disposed hinge lines therein defining the hinge line connecting said cover part to said end closure.

4. The structure claimed in claim 3 wherein the hinge line in the underlying one of said closure flaps comprises a line of perforation, and wherein the hinge line in the outermost of said closure flaps comprises a scoreline.

5. The structure claimed in claim 4 wherein said second flap member is adhesively secured to the inner surface of said underlying closure flap.

6. In a blank for a one-piece reclosable dispensing carton, four body walls in side-by-side articulation, end closure flaps articulated to the upper edges of the first, second, and fourth body walls, a first flap member articulated to the upper edge of said third body wall, and a second flap member detachably secured to the outer side edge of said first flap member, said two flap members having a combined width substantially equal to the width of said first named closure flaps, a rim forming extension articulated to the outer edge of said second flap member, said extension comprising a central portion lying in prolongation of said flap members, and wing portions articulated to opposite sides of said central portion, said wing portions overlying the end closure flaps secured to said second and fourth body walls, diagonally disposed lines for severance in said second and fourth body walls, said lines for severance having their upper ends terminating at the upper edges of said second and fourth body walls and their lower ends terminating at the side edges of said third body wall at corresponding points spaced downwardly from the upper edge of said third body wall by a distance less than the width of said extension, and a line of separation in said third body wall extending between the lower ends of said lines for severance.

7. In a blank for a one-piece reclosable dispensing carton, four body walls in-side-by-side articulation, end closure flaps articulated to the upper edges of said first, second, and fourth body walls, a first flap member articulated to the upper edge of said third body wall, and a second flap member detachably secured to the outer side edge of said first flap member, said two flap members having a combined width at least as great as the width of the adjacent portions of the closure flaps articulated to said second and fourth body walls, a rim forming extension articulated to the outer edges of said second flap member, said extension having a central portion having a width substantially equal to the width of said third body wall, and wing portions articulated to the opposite side edges of said central portion and lying beyond the closure flaps articulated to said second and fourth body walls, diagonally disposed lines of separation in said second and fourth body walls extending between the upper edges of said body walls and the opposite side edges of said third body wall, said lines of separation contacting the upper edges of said second and fourth body wall at corresponding points intermediate the ends thereof and contacting the opposite side edges of said third body wall at corresponding points spaced downwardly from the upper edges

of said third body wall by a distance at least as great as the width of said first flap member, and hinge lines in the end closure flaps articulated to said second and fourth body walls, said hinge lines extending transversely across the said closure flaps from the ends of the lines for severance in said second and fourth body walls.

8. The carton blank claimed in claim 7 wherein one of said last named hinge lines comprises a scoreline and wherein the other of said hinge lines comprises a line of perforation.

9. The blank claimed in claim 8 wherein the opposite ends of said extension extend outwardly beyond the hinge lines in said closure flaps, and wherein the width of said extension is in excess of the width of said first flap member.

10. In a knocked-down one-piece reclosable dispensing carton, four body walls in side-by-side articulation, end closure flaps articulated to the upper edges of the first, second and fourth body walls, a first flap member articulated to the upper edge of said third body wall, and a second flap member detachably secured to the outer side edge of said first flap member, said two flap members having a combined width at least as great as the widths of the closure flaps articulated to said second and fourth body walls, an extension articulated to the outer edge of said second flap member, said extension comprising a central portion of a length substantially equal to the width of said third body wall, and wing portions articulated to the opposite sides of said central portion, said second flap member lying in infolded condition so as to overlie said first flap member, with the central portion of said extension juxtaposed to the inner surface of said third body wall and said wing portions juxtaposed to underlying portions of said second and fourth body walls, a line of separation extending between the opposite side edges of said third body wall, said line of separation underlying the central portion of said extension, diagonally disposed lines of separation in said second and fourth body walls extending from the ends of said first named line of separation to corresponding points along the upper edges of said second and fourth body walls, the wing portions of said extension being of a size to overlie and cover said diagonally disposed lines of separation, said extension being secured to portions of the carton body walls contacted thereby in areas thereof lying inwardly beyond the said lines of separation.

11. The structure claimed in claim 10 wherein the uppermost edges of said wing portions are spaced inwardly from the lines of articulation between said second and fourth body walls and the closure flaps connected thereto by a distance sufficient to permit the said closure flaps to be infolded without observation by said wing portion.

12. In a reclosable dispensing carton, a tubular body, an end closure at one end of said body having a liftable cover part, said cover part comprising a top wall defined by an end portion of said end closure separated from the remainder of said end closure by a hinge line extending between opposite side edges of said end closure, and depending wall part formed from adjacent wall areas of the carton body walls contiguous the hinged end of said end closure, said depending wall parts being defined by lines of separation in the said carton body walls, the lines of separation in an opposite pair of said body

walls terminating at the ends of the hinge line in said end closure, a rim forming member juxtaposed to the inner surfaces of the carton body walls and positioned to overlie said lines of separation, said rim forming member being secured to the inner surfaces of said body walls below said lines of separation and projecting upwardly therebeyond toward the hinged end of said end closure, a locking flap hingedly connected to the upper edge of said rim forming member, said locking flap being foldable outwardly to overlie the outer surface of said rim forming member subsequent to initial opening of said cover part, whereby to provide a friction lock for retaining said cover part in reclosed position.

13. The structure claimed in claim 12 wherein said locking flap, in the initially closed carton structure, is detachably secured to a second flap member secured to the undersurface of the liftable portion of said end closure.

14. In a reclosable dispensing carton, a side wall, an end wall, and a side wall in articulation, a first flap member hingedly connected to the upper edge of said end wall, end closure flaps hingedly connected to the upper edges of said side walls, said first flap member and said closure flaps lying in infolded condition with said first flap member innermost and adhesively secured to the inner surface of one at least of said closure flaps, a second flap member detachably connected to said first flap member, and a rim-forming extension connected to said second flap, said rim forming extension being juxtaposed to the inner surfaces of said side and end walls and projecting downwardly from the upper edges thereof, a line of separation extending between the opposite side edges of said end wall and spaced downwardly from the upper edge thereof, lines for separation in said side walls extending from the ends of said first named line of separation upwardly to corresponding points at the upper edges of said side walls, said rim forming member being of a size to project downwardly below said lines for severance and being secured to the inner surfaces of said side and end walls in areas below said lines of severance, whereby to provide a liftable cover part separable from said carton along said lines of separation, said second flap member being adapted to separate from said first flap member upon initial lifting of said cover part and thereafter foldable outwardly relative to said rim forming member to provide a friction locking element engageable by said liftable cover part upon reclosure thereof.

15. The structure claimed in claim 14 wherein said rim forming member has a central portion juxtaposed to the inner surface of said end wall, and wing portions juxtaposed to the inner surfaces of said walls, and wherein said second flap member is connected to the upper edge of the central portion of said rim-forming member.

16. The carton structure claimed in claim 15 wherein said second flap member is of a width no greater than the distance between the upper edge of said end wall and the line of separation therein.

References Cited in the file of this patent

UNITED STATES PATENTS

149,889	Smith	Apr. 21, 1874
2,508,193	Ringler	May 16, 1950