This invention relates in general to new and useful improvements in container construction, and more specifically to a container having a reclosable pour opening.

It is well known to provide containers, particularly those formed of paperboard, with portions which may be readily torn loose to form a pour opening. However, containers of this type are either lacking as to effective closure means or when closure means are provided, the closure means are too complicated to be economically feasible. It is obvious that many products are packaged in paperboard containers and the like, wherein pour openings are formed by removing a portion of the container and wherein it is desired to securely close the pour opening. This is particularly true of edibles where contamination must be avoided.

In view of the foregoing, it is the primary object of this invention to provide a novel pour opening structure for a container wherein the material removed in the opening of the container to define the pour opening is repositionable within the pour opening to effectively close the same, and there is associated with the pour opening closure locking means for retaining the closure within the pour opening.

Another object of this invention is to provide a novel pour opening reclosure structure which includes a hingedly mounted flap overlying the pour opening and having secured thereto a panel which corresponds in outline and size to the pour opening for reception within the pour opening to close the pour opening, and the flap having locking means associated therewith for movement through the pour opening and locking behind the container wall in which the pour opening is formed so as to retain the panel within the pour opening and the flap in overlying relation with respect to the pour opening to effectively seal the container.

Still another object of this invention is to provide a novel container having a pour opening structure formed therein, the pour opening structure including a readily removable part of a container wall which is normally disposed beneath a flap and wherein the removable portion is secured to the flap for movement therewith so that when the flap is lifted, the removable portion is lifted with the flap and removed from the container wall to define the pour opening, and there being provided on the flap suitable locking means which may be engaged with the container wall by merely pressing on the flap in overlying relation to the pour opening to effectively reseal the container.

A further object of this invention is to provide a novel carton blank wherein the carton is of the type having a readily reclosable pour opening in accordance with this invention.

With the above and other objects in view that will hereinafter appear, the nature of the invention will be more clearly understood by reference to the following detailed description, the appended claims and the several views illustrated in the accompanying drawings:

In the drawings:
FIGURE 1 is a perspective view of a container incorporating a pour opening structure in accordance with this invention.

FIGURE 2 is an enlarged transverse vertical sectional view taken along the line 2—2 of FIGURE 1, and shows the structure of the pour opening from the interior of the container.

FIGURE 3 is an enlarged fragmentary vertical sectional view taken along the line 3—3 of FIGURE 2, and shows more specifically the details of the pour opening prior to the opening of the container.

FIGURE 4 is a fragmentary perspective view showing the upper part of the container of FIGURE 1 with the container open and ready for the contents thereof to be poured therefrom.

FIGURE 5 is an enlarged fragmentary vertical sectional view taken along the line 5—5 of FIGURE 4, and shows more specifically the details of the pour opening structure when the pour opening is open.

FIGURE 6 is a fragmentary perspective view of the upper portion of the container of FIGURE 1 and shows the pour opening reclosed in accordance with this invention.

FIGURE 7 is an enlarged vertical sectional view taken along the line 7—7 of FIGURE 6 for the full height of the container and with an intermediate portion of the container being omitted, the view showing the specific structure of the reclosed pour opening structure from the interior of the container.

FIGURE 8 is an enlarged fragmentary vertical sectional view taken along the line 8—8 of FIGURE 7 and shows more specifically the construction of the reclosed pour opening.

FIGURE 9 is a plan view of a blank from which the container is formed.

Referring now to the drawings in detail, it will be seen that there is illustrated in FIGURE 1 a container formed in accordance with this invention. The container illustrated in FIGURE 1 is merely an example of a container which may incorporate the invention, and is generally referred to by the numeral 10. In order to fully understand the details of construction of the container 10, reference is made to FIGURE 9 wherein there is illustrated a blank 11 from which the container 10 is formed.

The blank 11 is of a generally rectangular configuration and is provided with a pair of longitudinal fold lines 12 and 13 which divide the blank 11 into a central portion and two other portions. The central portion of the blank 11 has projecting from one end thereof a flap 14 which is hingedly connected to the remainder of the blank along a fold line 15. A transverse fold line 16, which is disposed parallel to the fold line 15, extends between the fold lines 12 and 13 and, together with the fold line 15, sets off an end wall panel 17. Another fold line 18 extends transversely between the fold lines 12 and 13 and together with the fold line 16 sets off a side wall panel 19. Still another fold line 20 extends transversely between the fold lines 12 and 13 and together with the fold line 19 sets off a second end wall panel 21. The fold line 18 also sets off a second side wall panel 22.

It is to be noted that the side edges of the blank 11 are configured to define flaps of different widths. In addition, the blank 11 is provided with cut lines 23 and 24 which are aligned with the fold lines 15 and extend outwardly from the fold lines 12 and 13, respectively, and set off end flaps 25 and 26 which are hingedly connected to the end wall panel 17 along the fold lines 12 and 13, respectively. A pair of cut lines 27 and 28 extend outwardly from the fold lines 12 and 13, respectively, in alignment with the fold line 18. The cut lines 27 and 28 combine with the cut lines 23 and 24, respectively, to define end flaps 29 and 30 which are hingedly connected to
the side wall panel 19 along the fold lines 12 and 13, respectively.

The blank 11 is also provided with a pair of cut lines 31 and 32 which are aligned with the fold line 20 and extend outwardly from the fold lines 12 and 13, respectively. The cut line 31 combines with the cut line 27 to define an end flap 31 which is hingedly connected to the panel 21 along the fold line 12. The cut line 32 combines with the cut line 28 to define an end flap 32 which is hingedly connected to the end wall panel 22 along the fold line 13.

The cut line 31 also sets off an end flap 35 which is hingedly connected to the side wall panel 22 along the fold line 12. Another end flap 36 is set off by the cut line 32. The end flap 35 is hingedly connected to the side wall panel 22 along the fold line 13. At this time, it is pointed out that the end flaps 25, 26, 29, 30, 35 and 36 are all of the same outline. Also the end flaps 25, 26, 30, 35 and 36 are all of the same outline. However, the end flaps 29, 30, 35 and 36 are much larger than the end flaps 25, 26, 30, 35 and 36.

Referring now to FIGURE 1, it will be readily apparent that the container or carton 10 is formed from the blank 11 by folding the blank 11 along the fold lines 15, 16, 18 and 20, and by adhering the flap 14 to the inner surface of the free edge portion of the side wall panel 22. The bottom of the container 10 is then formed by folding the end flaps 25 and 26 inwardly followed by the inward folding of the end flap 35 and then the end flap 29. The end flaps 25 and 35 may be adhesively secured to the end flap 35, and the end flap 29 adhesively secured to the end flap 35. After the container 10 has been filled, the top thereof is closed by inwardly folding the end flaps 26 and 34, followed by the inward folding of the end flap 36. The end flap 30 is then folded into overlying relation to the end flap 36. It is to be understood that the end flap 36 may be adhesively secured to the end flaps 26 and 34, and the end flap 30 adhesively secured to the end flap 36.

The container 10 as described above is a conventional type container. However, in accordance with this invention, the blank 11 is also provided with a flap 37 which is hingedly connected to the end flap 36 along a transversely extending fold line 38 which is disposed in alignment with the free edge of the side wall panel 22. The flap 37, when the container 10 is formed, overlies an upper portion 39 of the side wall panel 17, as is clearly shown in FIGURE 1.

The side wall panel 17 is modified in accordance with this invention to have a removable portion or panel 39 immediately adjacent the fold line 13. The removable portion 39 is defined by a cut line 40 which extends along the fold line 13 and in effect interrupts the fold line 13, and by interrupted cut lines 41, 42 and 43, as is best shown in FIGURE 9. The interrupted cut lines 41, 42 and 43 leave enough material connecting the removable portion 39 to the remainder of the side wall panel 17 to normally seal the container 10.

The flap 37 has rounded side edges 44 which terminate in a transverse fold line 45 which is disposed parallel to the fold line 38. The fold line 45 sets off a pull tab 46.

The flap 37 is provided with an arcuate cut line 47 which may be considered a thumb cut. The cut line 47 intersects and interrupts the fold line 45. The cut line 47 is spaced from the fold line 45 so as to be aligned with the removable portion 39 when the flap 37 overlies the upper portion of the side wall panel 17 in the manner illustrated in FIGURE 1 and with the ends of the cut line 47 terminating substantially in alignment with the cut line 42.

The underside of the flap 37 is provided with adhesive 48 which will be aligned with the removable portion 39. The flap 37 is also provided with spots of adhesive 49 on opposite sides of the adhesive 48. In the final closing of the container 10, the flap 37 is brought down into overlying relation to the upper portion of the side wall panel 17 with the adhesive 48 completely bonding the removable portion 39 to the inner face of the flap 37 and with the adhesive spots 49 releasably bonding the flap 37 to the side wall panel 17 on opposite sides of the removable portion 39. The pull tab 46 is free to be lifted upwardly to facilitate the opening of the container 10.

In the use of the invention, as shown in FIGURE 1, it appears as it is illustrated in FIGURE 1. It is in this condition that the container 10 is received by the ultimate consumer. When it is desired to open the container 10 for the purpose of dispensing the contents thereof, the pull tab 46 is grasped, and the flap 37 is lifted upwardly. Since the removable portion or panel 39 is adhesively secured to the underside of the flap 37 by means of the adhesive 48, when the flap 37 is lifted, the removable portion 39 will be torn from the end wall panel 17 to form a pour opening 50 therein, as is best shown in FIGURE 4.

When the desired quantity of the contents of the container 10 has been dispensed, the pour opening 50 is closed by swinging the flap 37 down into overlying relation with respect to the pour opening 50 and pressing inwardly thereon in generally overlying relation to the removable portion 39. This results in the movement of the removable portion 39 into the pour opening 50 and a slight flexing of the flap 37 to the extent that a portion of the flap 37 generally defined by the cut line 47 is deflected out of the plane of the flap 37 and through the pour opening 50. This portion is in the form of a locking tab, which is referred to by the numeral 51, and passes behind the end wall panel 17 at the lower end of the pour opening 50 in the manner best shown in FIGURES 6, 7 and 8. The pour opening 50 is now again closed, and the closure therefore is locked in place.

When it is desired to again dispense a portion of the contents of the container 10 after it has been reclosed, it is merely necessary to again grasp the pull tab 46 to move the flap 37 away from the end wall panel 17. The movement of the flap 37 will result in the snapping of the locking tab 51 through the pour opening 50 with the resultant opening of the container 10 for the further dispensing of the contents thereof. After the contents of the container 10 have again been partially dispensed, the container 10 may again be reclosed in the manner previously described.

It is to be understood that the container 10 illustrated and described herein is merely an example of a container in which the pour opening structure of this invention may be incorporated.

Although a preferred embodiment of the invention has been illustrated and described herein, it is to be understood that minor modifications may be made within the spirit and scope of the invention as defined in the appended claims.

1. An improved container of the type including adjacent panels, a removable portion defined by a weakening line in one of said panels and removable therefrom to provide a pour opening, a flap attached to a panel adjacent to said one of said panels and being adhesively secured to said removable portion, said flap being larger in area than said removable portion and having a portion thereof defining a pull tab at one end, the improvement comprising: a cut line within the area of said flap to define a locking tab therein, said locking tab extending toward said pull tab and being delectable through said pour opening to lock said flap over said pour opening.

2. A carton blank for forming a carton, said carton blank having longitudinal fold lines dividing said blank into a central portion and outer portions and transverse fold lines dividing said central portion into side panels and said outer portions into rectangular end panels, a weakening line in one of said side panels at one end of said central portion adjacent one of said longitudinal fold lines setting off a removable por-
tion, a flap extending from an end panel at one end of the one outer portion set off by said one longitudinal fold line, said flap being adapted to overlie said removable portion, said flap having a locking tab for locking engagement with said one side wall, a cut-line within the area of said flap to define said locking tab therein, a pull tab on said flap and extending outwardly from said end panel, said locking tab extending in the same direction as said pull tab.

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