Aug. 15, 1967 R. S. MILLER 3,335,924

CARTON WITH A CORNER CUTOUT SPOUT AND A CLOSURE CAP FOR SAME

Filed July 26, 1965

2 Sheets-Sheet 1

FIG. 1.

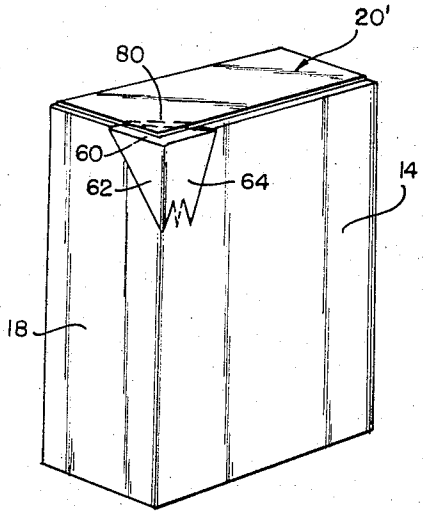


FIG. 2.

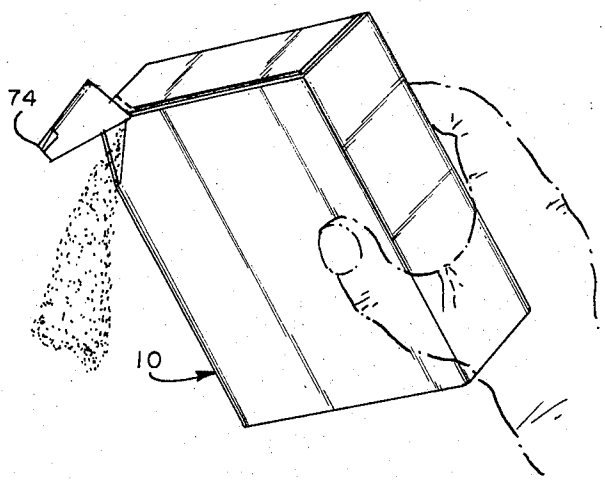


FIG. 4.

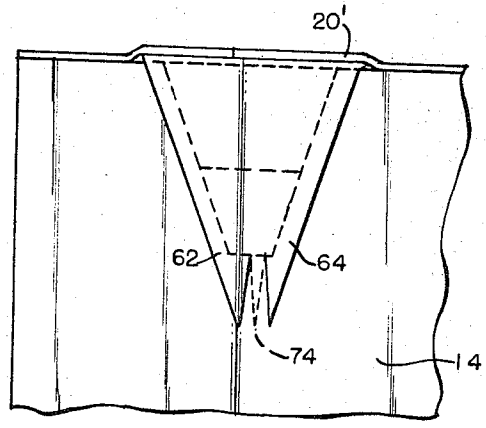


FIG. 3.

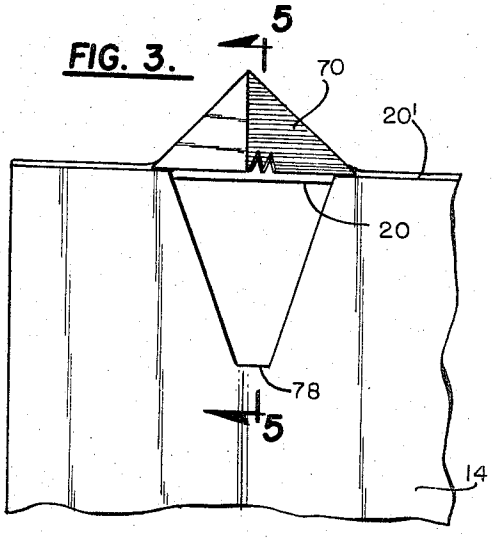
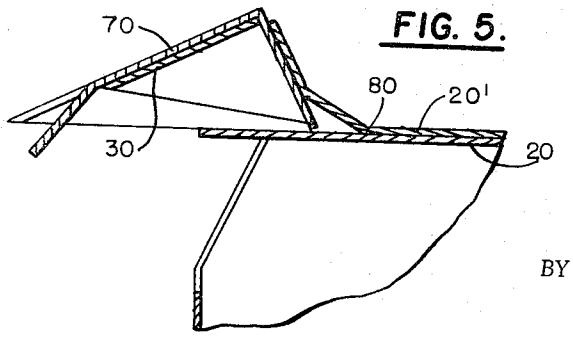


FIG. 5.



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FIG. 6.

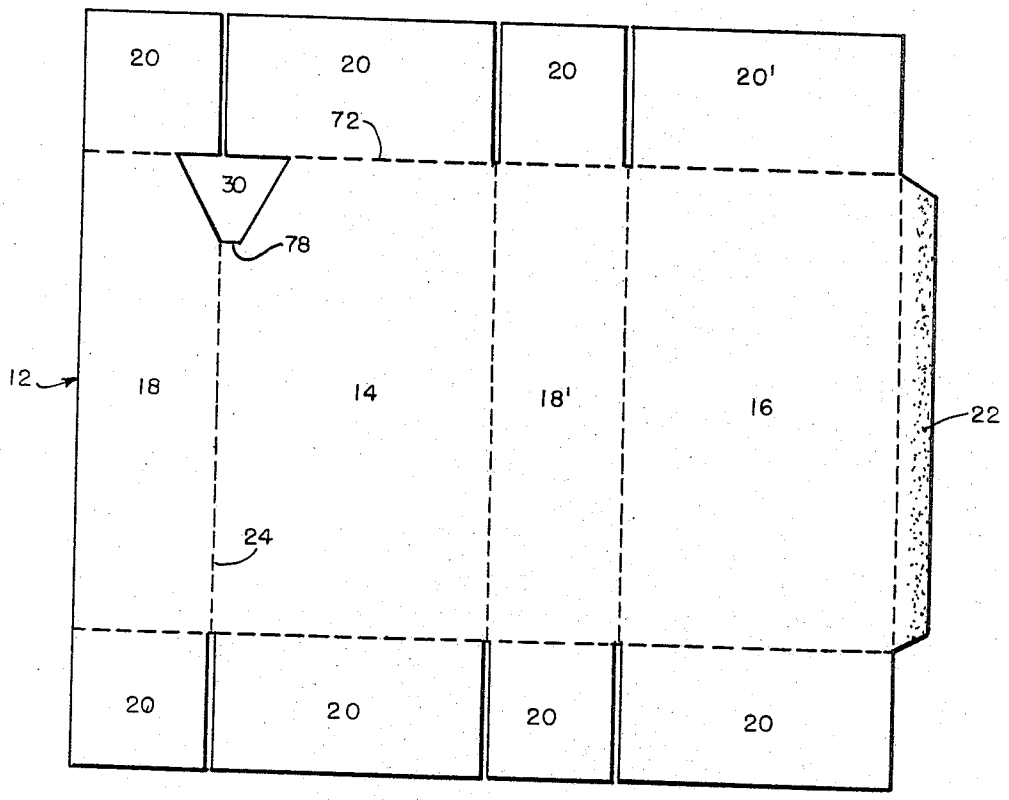


FIG. 7.

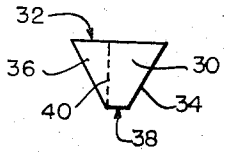


FIG. 8.

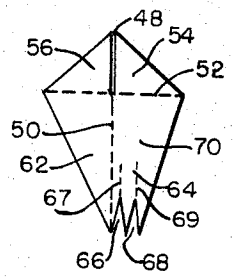


FIG. 10.

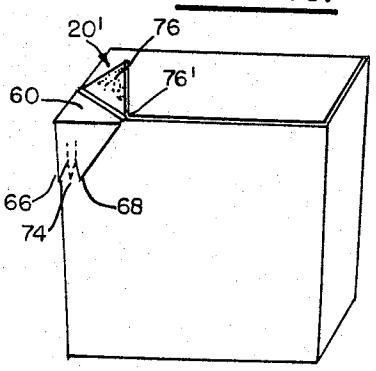
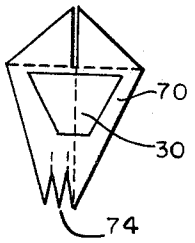


FIG. 9.



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3,335,924

CARTON WITH A CORNER CUTOUT SPOUT AND A CLOSURE CAP FOR SAME

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Filed July 26, 1965, Ser. No. 474,887
2 Claims. (Cl. 222—556)

This invention relates to cardboard cartons, such as those used to dispense materials such as dry cereals, sugar, soap powders and other materials which may be poured from such cartons. More particularly, it relates to a corner opening on such cartons and to a cap for covering the opening when it is not being used to pour the contents from the carton.

The cardboard cartons presently being used for the packaging of dry cereals and detergents exhibit a variety of means providing access to the contents of the box.

The simplest and perhaps the oldest method of obtaining access to the contents of a cardboard carton is to cut off the top cover with a sharp knife but such a method is only effective when the entire contentts are to be used at once and hence there will be no likelihood of spillage or spoilage when the box is stored on a shelf or in a cupboard.

Another design is characterized by score lines which are intended to be sprung by pressure of the thumb or fingers but which in actual practice often require the use of a sharp tool to effect the desired severing along the score lines. Like the first method, the result is objectionable since it leaves an open box in which the contents are exposed to the atmosphere and hence may lose freshness and taste appeal, or may cake due to moisture pickup.

Still another design provides a movable tab which can be opened part way, e.g. to form a pouring spout and which can be readily reclosed. Such spouts are sometimes located in the carton top where they are subject to bending or on the side of the carton and hence are not at the most convenient location for pouring which is at one of the top corners of the carton.

One object of the present invention is to provide a carton opening and closure which are located on a corner of the carton and which can be tightly closed so as to preserve the freshness of the contents of the carton.

Another object of the invention is to provide a container opening and closure which do not require a sharp knife to effect opening of the container.

Still another object is to provide a carton which is easy to open, is easy to pour from and is easy to close.

These and other objects will be pointed out or will become apparent from the following description taken with the drawings in which

FIGURE 1 is a perspective view of the carton with the closure in place;

FIGURE 2 is a schematic view in perspective showing the pouring of the contents of the carton;

FIGURE 3 is a view showing the carton with the closure in raised position prior to pouring;

FIGURE 4 is a view showing the corner cap back in place after pouring has been completed;

FIGURE 5 is a view taken on plane 5—5 of FIGURE 3;

FIGURE 6 shows a blank from which the box or carton is formed;

FIGURE 7 shows the piece cut out from the blank of FIGURE 6 to provide a pouring opening in the carton of FIGURE 1;

FIGURE 8 illustrates the blank from which the closure cap is produced;

FIGURE 9 shows the underside of the blank of FIGURE 8 after the piece shown in FIGURE 7 has been

pasted on to the underside of the blank of FIGURE 8; and

FIGURE 10 shows the carton with the closure in place before the top flap has been laid over the roof of the closure.

As best seen in FIGURE 6, the carton **10** is made from a conventional box blank **12**. Blank **12** has a front panel **14**, a rear panel **16**, side panels **18**, **18'** and end flaps **20** forming the carton top and bottom. A gummed flap **22** extending from one side of the panel **16** completes the elements found in presently known conventional box blanks.

To produce the box blank utilized in the present invention a piece **30** is cut out of the blank, as shown in FIGURE 6. Cutout **30** is of irregular shape having an upper edge **32**, two side edges **34**, **36** extending towards one another from the ends of the upper edge **32** and a bottom edge **38**. It will be seen that cutting away portion **30** of the blank **12** defines a pouring opening located at one top corner of the carton when the blank is formed into a carton. The cut-away pouring opening in no way modifies the folding and securing of the several flaps to one another in the manufacture of the carton except that the pasting of one of the flaps **20** is postponed until the closure cap is placed on the carton.

As seen in FIGURE 1, closure cap **80** includes a roof **60** which completes the carton top **20'**, and two sides **62** and **64** which complete side panel **18** and front panel **14** of the carton.

FIGURES 8 and 9 illustrate the manner in which the closure cap **80** is formed from the kite shaped blank **70** shown in FIGURE 8. First a cut is made from corner **48** to the intersection of fold lines **50** and **52** and then after folding blank **70** along lines **52** and **50**, triangular flap **54** is positioned over the smaller triangular flap **56** and is secured thereto thus forming the roof **60** of the closure cap, the sides of which are panels **62** and **64** which were drawn toward one another when the roof parts were brought together.

The piece **30** cut out of blank **12** is next folded along line **40** and fitted into the corner formed by panels **62** and **64**, as shown in FIGURE 9, being secured to walls **62** and **64** by any suitable adhesive.

The closure cap is completed by cutting away two triangular pieces from the bottom of the kite **70** so as to form an insertion tab **74**.

It is of course possible to position the cap blank **70** over the opening in blank **12**, i.e. with fold line **50** overlying fold line **24** and with fold line **52** overlying the upper fold line **72** in the carton blank. Before the closure cap blank **70** is pasted over the cut-away, incisions **66** and **68** are made and blank **30** is pasted on one side thereof. Thereafter, the carton blank and attached closure blank are folded as a single unit.

FIGURE 10 shows the closure, or cover, cap in position before the top panel, or flap **20'** is pasted over it. **76** is the corner of the flap **20'** which is to be pasted over the top of the closure cap. The shaded area shows where the paste or glue is to be put. The whole underside of this top is not to be pasted down over the top of the cap as it would prevent the cap when raised from standing upright. (See FIGURE 5.) A bend or fold line **76'** is provided on panel **20'** for easier bending of the corner **76**. FIGURE 10 shows the top of the closure cap with section **54** being folded and pasted down over section **56**. Tab **74** is on the front side of the carton and not on the side fold as it would not be practical to place a small, narrow tab such as **74** on the edge of a carton for insertion into the carton as shown in FIGURE 4.

Tab **74** is the tab which is to be inserted into the opening at **78**, providing a snug, close-fitting cover for the

corner opening. Score lines **67** and **69** extend from incisions **66** and **68** to permit tearing of tab **74** in order to make it easier to insert into the box opening **78**.

The closure cap is pasted to the side panels of the box only under the edge of the cap to the depth of ⅛ or 3/16 of an inch, depending upon the size of the box and the cover cap. The lower part of this cover which holds the tab **74** should be coated with wax. This will make the tab sturdier and also keep it from bending out of shape. The whole outer edge of the closure cap or the entire interior of the carton may be wax coated to keep cereals crisp and fresh, if desired.

To open this carton one can slide the fingernail all along the slanting edges of sides **62** and **64** of the closure cap, lift up the closure and bend back the top at the score line **76'**. To close, the tab **74** is lifted gently away from the slits **66** and **68** possibly tearing along lines **67** and **69** and the tip of tab **74** is then inserted in the small square opening **78** at the foot of the cutaway portion of the carton.

FIGURE 5 shows the box with the cover standing up and away from the contents. This is a worthwhile feature as with so many of the box openings now in use, particularly those on soap powder, the cover of the opening tends to "clam up" or close down when the contents are being poured out. Also, such openings cannot be securely closed; thus the contents are more easily accidentally spilled.

FIGURE 5 also shows the small "free" section of the cover cap that is not pasted to the underside of the corner. This unpasted area provides the cap with a leg to stand on, so to speak.

FIGURE 4 shows the corner closure cap put back in place after the box has been opened. The broken lines show where the box has been cut away. The tip of tab **74** is inserted in the carton at opening **78** behind panel **14**.

It will be seen that I have provided a corner shaped closure cap for a carton or container in which a pouring opening has been formed by cutting away a portion of one side panel and the next adjacent front or rear panel. Since the closure cap is larger than the cut-away portions the cap is readily secured to the carton to provide a well sealed package.

Having now described a preferred embodiment of my invention it is not intended that it be limited except as may be required by the appended claims.

I claim:

1. A carton or container having a top and bottom, front, rear and side panels joining the top with the bottom and including:

(1) a dispensing opening having the top of said carton or container as its upper boundary, said dispensing opening being formed by removal of a trapezoidal shaped piece from one side panel and the front or rear panel adjacent to said side panel, said trapezoid consisting of a triangular shaped portion cut from one panel and a trapezoid shaped portion cut from the next adjacent panel of said carton, said trapezoidal shaped portion and said triangular shaped portion having a common boundary so that there is now a dispensing opening through which the contents of the carton may be poured, said opening including a short horizontal lip portion extending from the edge joining said side panel and said front or rear panel at substantially right angles thereto and parallel with the top of said carton and further including upwardly inclined edges extending divergently from the ends of said lip to the top of said carton, said container top including a lowermost panel and an outermost flap overlying said lowermost panel;

(2) a corner shaped closure cap for said dispensing opening, said closure cap including a roof and two sides, each of said sides of said closure cap being sufficiently larger than the cut-away portion of the panel which it overlies so that when the overlying portions of the sides of said closure are adhesively secured to said panels, said container will be effectively sealed against the ingress of air, wherein the roof of said closure is disposed between the lowermost panel of said top and the outermost flap of said top and a portion of the upper surface of the roof of said closure is adhesively secured to said outermost flap and the edge portion of said roof is free of adhesive.

2. A carton or container having a top and bottom, front, rear and side panels joining the top with the bottom and including:

(1) a dispensing opening having the top of said carton or container as its upper boundary, said dispensing opening being formed by removal of a trapezoidal shaped piece from one side panel and the front or rear panel adjacent to said side panel, said trapezoid consisting of a triangular shaped portion cut from one panel and a trapezoid shaped portion cut from the next adjacent panel of said carton, said trapezoidal shaped portion and said triangular shaped portion having a common boundary so that there is now a dispensing opening through which the contents of the carton may be poured, said opening including a short horizontal lip portion extending from the edge joining said side panel and said front or rear panel at substantially right angles thereto and parallel with the top of said carton and further including upwardly inclined edges extending divergently from the ends of said lip to the top of said carton;

(2) a corner shaped closure cap for said dispensing opening, said closure cap including a roof and two sides, each of said sides of said closure cap being sufficiently larger than the cut-away portion of the panel which it overlies so that when the overlying portions of the sides of said closure are adhesively secured to said panels, said container will be effectively sealed against the ingress of air, there being an insertion tab formed in one of the sides of said closure adjacent to the lowermost edge thereof, said tab having the shape of a trident having three downwardly directed triangular prongs, the two outermost triangular prongs being adapted to be disposed on the outside of said short horizontal lip portion and the innermost triangular prong being adapted to be disposed on the inside of said short lip when the cap is inserted into the dispensing opening to secure the closure cap when it is restored to its closed position.

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