April 19, 1960 M. YEZEK 2,933,230

CARTON

Filed Feb. 20, 1957 2 Sheets-Sheet 1

FIG. 1.

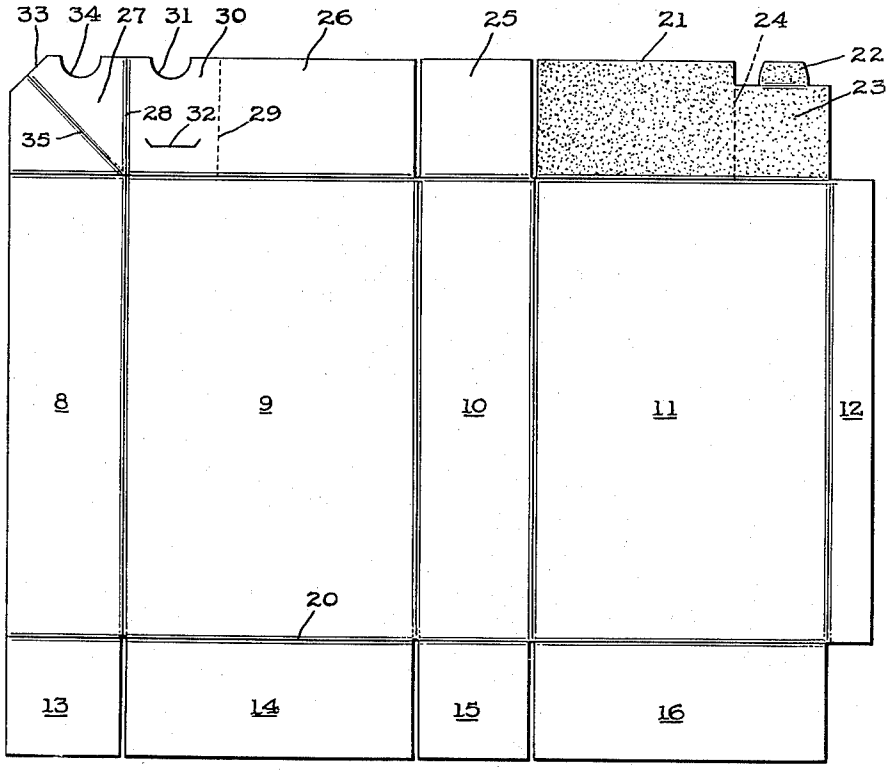


FIG. 2.

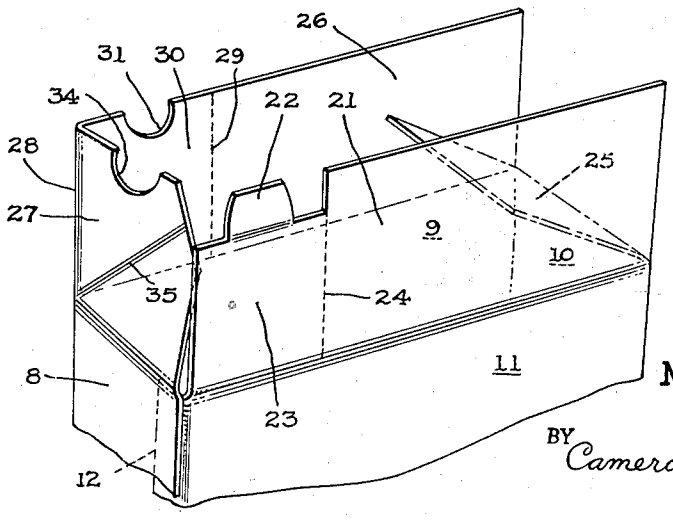
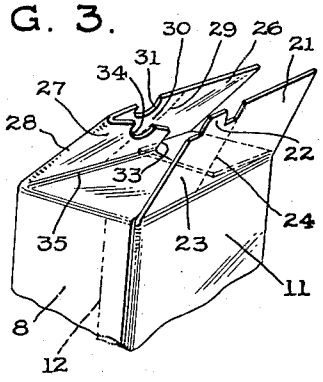


FIG. 3.



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April 19, 1960 M. YEZEK 2,933,230

CARTON

Filed Feb. 20, 1957 2 Sheets-Sheet 2

FIG. 4.

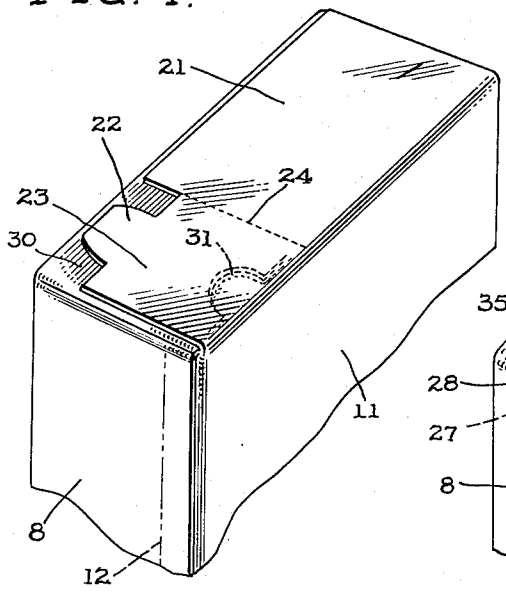


FIG. 5.

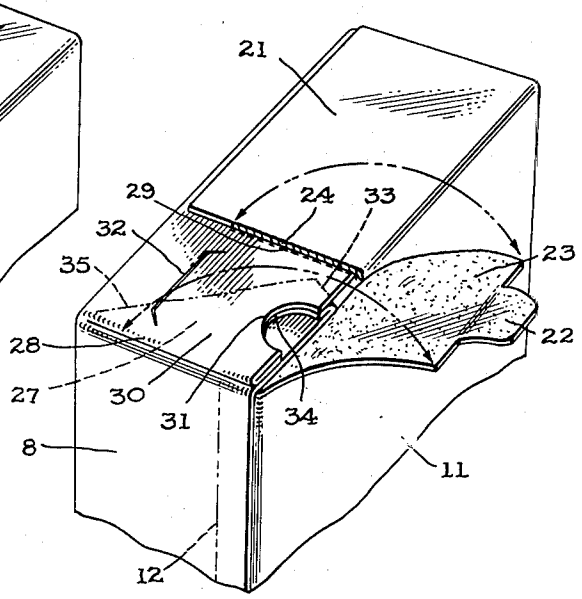


FIG. 6.

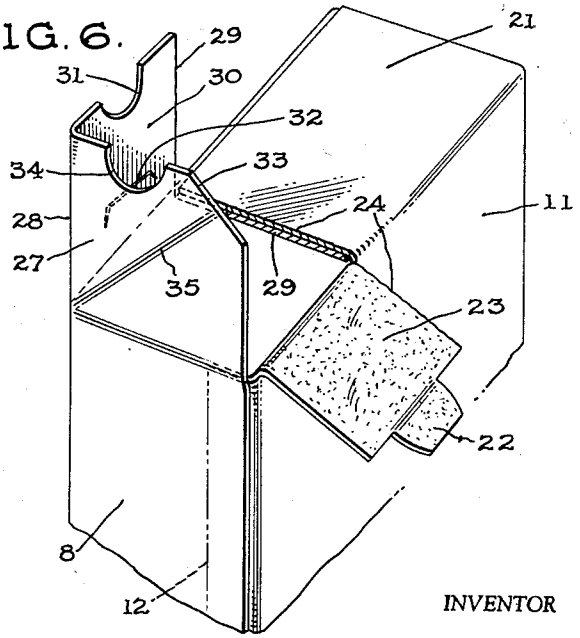
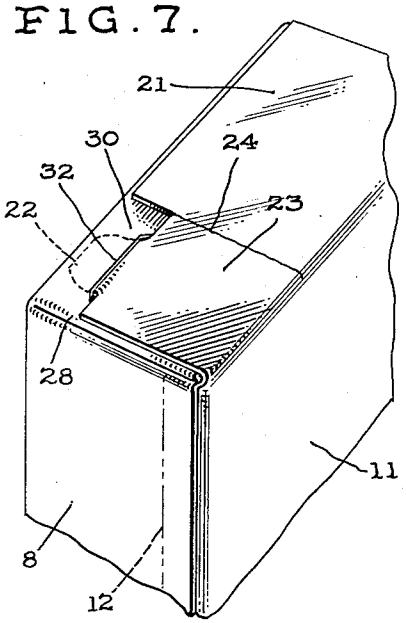


FIG. 7.



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CARTON

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Application February 20, 1957, Serial No. 641,351

3 Claims. (Cl. 229—17)

This invention relates to an improved carton for dried, comminuted material and to an improved blank from which the carton may be formed. The carton is of the so-called "pouring-spout" type, the top end and side flaps thereof being of novel configuration and appropriately scored and cut so that when the said top flaps are broken upon the indicated weakened lines and the carton opened, one of the top end flaps and the adjacent end of one top side flap together form a pouring spout at one corner for ready removal of the contents of the package, said spout being foldable to reclose the carton. Provision is made in the opposite top side flap for a closure flap which may be folded downwardly over the pouring spout section when it is collapsed to provide a more positive closure for the carton and also a means for securing the flaps in closed position.

The invention contemplates a simplified and highly efficient opening and reclosure structure at one extremity of the carton top which may be readily opened by the consumer for the removal of the desired quantity of the contents and which may then be tightly reclosed after the desired quantity has been removed.

The reclosure feature of the carton is most important to maintain good moisture protection once the carton is opened. In the case of non-moisture protective cartons, the reclosure feature prevents spilling of the contents after opening and reclosure of the carton.

It is therefore an object of this invention to evolve a novel and improved readily openable carton structure which will provide a pouring spout for the removal of the contents after the upper closure flap thereof has been raised.

It is a further object of this invention to provide novel reclosure means for the carton whereby it can be tightly reclosed after removal of the desired quantity of the contents.

Other and further objects of this invention will become apparent as this specification proceeds.

Referring to the drawings,

Fig. 1 is a plan view of the novel blank from which the carton is formed;

Fig. 2 is a perspective view of the top portion of the carton showing the end flaps partially folded inwardly with the side flaps still in substantially vertical position;

Fig. 3 is a further perspective view of the carton top in partially closed position with the free end flap in horizontal position and the other end flap together with its associated side flap in partially collapsed position;

Fig. 4 is a perspective view of the carton top in fully closed and sealed position;

Fig. 5 is a perspective view of the carton top showing the first step of opening the carton;

Fig. 6 is a perspective view of the completely opened carton showing the pouring spout completely extended; and

Fig. 7 is a perspective view of the top of the carton showing the pouring spout refolded back over the carton opening and the carton reclosed.

In the drawings, Fig. 1, the carton blank is shown wherein 8 indicates an end panel, 9 a side panel, 10 the other end panel, 11 the opposed side panel and 12 a small flap extension of side panel 11 utilized for the initial formation of the carton, as will hereinafter be discussed at more length. As shown in Fig. 1, the carton blank is roughly rectangular over all, end panels 8 and 10 and side panels 9 and 11 and auxiliary end flap 12 being formed therein by vertically scoring the blank to provide fold lines between the adjacent panels. The bottom end and side flaps 13, 14, 15 and 16 respectively extend downwardly from end panel 8, side panel 9, end panel 10 and side panel 11 of the blank and are separated by cuts in extension of the three vertical fold lines. As shown, horizontal score line 20 is provided across the lower extremities of the end and side panels of the blank and forms the fold lines along which the bottom flaps are joined to the end and side panels.

Referring now to the upper extremity of the carton blank, it is in the upper side and end flaps of the blank that the present invention resides, as follows:

The top flap structure of the carton comprises broadly a side flap 21 having a portion of its outer edge adjacent one end cut away to form a tab 22 extending outwardly from an end section 23 thereof, a weakened line 24 being provided between the body of side flap 21 and its section 23. Free end flap 25 extends upwardly from end panel 10, and integral side and end flaps 26 and 27 extend upwardly, respectively, from side panel 9 and end panel 8, these flaps 26 and 27 being divided by a fold line 28. Side flap 26 is also provided with a weakened line 29 which together with the line 28 defines a segment 30 of said flap 26 that is cut away at its outer edge to provide a finger recess 31 and is further provided with reclosure slit 32. End flap 27, as shown, is cut away at its outer corner to provide cutaway corner portion 33 for a purpose hereinafter to be discussed in more detail. End flap 27 is further cut away at its outer edge to provide finger recess 34, and is diagonally scored from the cutaway outer corner 33 to the diagonally opposite inner corner to provide bellows fold score line 35 thereacross. Side flap 26 and contiguous end flap 27 are designed to form the inner end flap structure of the carton upon closure thereof, as will hereinafter be discussed at more length.

The manner of formation of the carton is as follows: the blank is first folded along the four fold lines into a rectangular body, the outer surface of end flap 12 being glued to the inner surface of end panel 8, as shown in Fig. 2. Bottom end flaps 13 and 15 are then folded inwardly, bottom side flap 14 is then folded inwardly, and bottom side flap 16 is then folded inwardly over and glued to bottom side flap 14 to complete the bottom closure. With the carton structure thus partially formed, the contents are placed in the carton, in a waterproof inner container, if desired, and with the contents in place upper end flap 25 is then folded downwardly into a horizontal position over the contents. Pressure is then applied to bellows fold score line 35 in top end flap 27, forcing it inwardly as shown in Fig. 3, and top side flap 26 with its integral section 30 is thus folded downwardly over end flap 25 and over the bellows fold in end flap 27.

It will be seen that in these folded positions the cutaway finger recesses 31 and 34 register with one another. With side flap 26 and end flaps 25 and 27 thus folded upper side flap 21, the interior surface of which is glue-spread, is then folded downwardly over and glued to the outer surface of side flap 26. It will be noted that tab 22 lies over the upper surface of the section 30 of inner side flap 26 so that it may be grasped by the fingers to initiate the opening of the carton, but

that it overlies the reclosure slit 32. The completely closed upper end of the carton is shown in Fig. 4 of the drawing.

The method of opening the carton is shown in Figs. 5 and 6 and is as follows: with the carton fully closed and sealed as described above, when it is desired to open the carton, tab 22 of end section 23 of top side flap 21 is grasped by the fingers and is pulled upwardly, tearing flap section 23 free along weakened line 24 and raising it upwardly into the position shown in Fig. 5. With outer flap section 23 thus pulled clear of the upper surface of section 30 of inner side flap 26, a finger is inserted into registering finger recesses 31 of section 30 and 34 of end flap 27 and upward pressure is exerted to break away section 30 from side flap 26 along weakened line 29. When this occurs the entire corner structure is pulled upwardly, as shown in Fig. 6, to extend bellows fold end flap 27 into unfolded flat position and to form the pouring spout structure at the corner of the carton top.

When the desired amount of the contents of the carton has been poured out, the bellows fold structure is reclosed, as shown in Fig. 7. It will be seen that in open position section 30 of top side flap 26 and bellows fold end flap 27 are rectangularly disposed with respect to each other to form the rectangular pouring spout structure. In reclosing the structure, as shown in Fig. 6, pressure in applied inwardly to bellows fold score line 35 of end flap 27, folding it inwardly under section 30. Section 30 is then folded downwardly into horizontal position over end flap 27 and top closure flap 23 is then forced downwardly over section 30 and tab 22 is inserted into reclosure slit 32 of section 30 and forced fully thereinto, as shown in Fig. 7, to provide a tight and substantially moistureproof reclosure for the carton opening. Since the end panel 8 and its extending top end flap 27 are wider than the breakaway section 30, the corner at the extremity of bellows fold 35 is cut away at 33 to permit opening and closing of the spout structure.

Once the carton has been opened and reclosed it may obviously be opened and reclosed as many times as desired for the complete removal of the contents.

This novel easy opening and reclosure structure provides for easy opening which may be accomplished without the use of any instrument but the fingers and further provides for a substantially moistureproof reclosure of the carton and one which will positively prevent loss of the contents thereof. Further, due to the fact that two thicknesses of end flap 27, one thickness of section 30 and one thickness of outer flap 23 are provided over the opening in the carton end, a highly improved moistureproof reclosure is evolved which is of considerable mechanical strength and which will maintain the carton in fully closed position until it is desired to reopen it.

The invention disclosed herein is susceptible of numerous embodiments without departing from the spirit thereof. The dimensions of the carton may be changed at will and the disposition of the opening structure may be varied without departure from the spirit of the invention.

Attention is directed to the appended claims for a definition of the scope of this invention.

What is claimed is:

1. In a carton, a carton forming blank having side and end wall panels, extensions on said panels forming top closing flaps for said carton, said top closing flaps including side closing flaps and end closing flaps, one of said side closing flaps including an end section defined therein by a weakened line extending across said flap, an opposed side flap and an end flap made integral and foldably connected with each other, said opposed side flap being provided with an end section opposite said first end section and defined therein by a weakened line, said integral end flap being provided with a diagonal bellows fold line from the corner of the carton to the outer free corner thereof whereby said integral side and end flaps may be folded downwardly under said first side flap, said opposed side flap and end section and said first named side flap and end section extending substantially across the top of the carton in superposed overlapping relation and being secured together substantially throughout the entire area of the top of the carton, the end section of said opposed side flap having a locking slit adjacent its juncture with the associated side wall panel, the free edge of the end section of the first named side flap being cut back to form a tab projecting coextensively with the remainder of said first named side flap and lying flat on the top of the end section of said opposed side flap covering said slit, said weakened lines providing means whereby said carton may be opened by grasping the tab and pulling up the upper end section and then by pulling up the lower end section to form a pouring spout at one of its corners, said lower end section and integral bellows-folded end flap being refoldable downwardly under said upper end section and said tab being insertable in said slit to maintain them in reclosed position.

2. A carton as defined in claim 1, the free edge of the end section of said opposed side flap and the two free edges of the bellows-folded end flap registering in superposed relation, and the free edges of the end section and of the upper bellows fold having registering finger recesses above the margin of the lower bellows fold for pulling up said pouring spout structure.

3. A carton-forming blank having side and end wall panels and extensions of said panels forming top closing flaps, one side closing flap including an end section at one end thereof which is defined by a weakened line extending across said one side flap, the opposed side flap and one end flap being made integral and foldably connected together, said opposed side flap having a second end section which underlies said first named end section when the carton is closed and is defined by a weakened line extending across said opposed side flap, said end sections having equal dimensions in a direction which is parallel to said side wall panels when the carton is closed so that said weakened lines are superposed when said top flaps are closed, and said dimensions being less than the width of said end panel and said integral end flap, said integral end flap having a diagonal bellows fold line extending from that corner which is joined to said side flap and to said end panel outwardly toward its outer free corner, said outer free corner being cut away transversely to said fold line whereby said bellows-folded end flap lies within the area of said end sections when the top flaps of the carton are closed, the width of said first named end section being less than that of its side flap in a direction which is parallel to said end wall panels when the carton is closed, but said first named end section having a closing tab, the combined width of said first named end section and said closing tab being equal to the width of its side flap, said second end section having a tab-receiving slit located substantially parallel to but beyond the outer edge of said first named end section and being covered by said closing tab when the carton is closed.

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