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Collura et al.

[11] **3,735,914**

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[54] **SIFT-PROOF DISPENSING CARTON**

[75] Inventors: **Peter C. Collura**, Stamford, Conn.; **John D. Desmond**, Philadelphia, Pa.

[73] Assignee: **Container Corporation of America**, Chicago, Ill.

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[52] **U.S. Cl.** .....**229/17 R**
[51] **Int. Cl.** **B65d 5/72**
[58] **Field of Search** .....229/17 R

[56] **References Cited**

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Primary Examiner—Davis T. Moorhead
Attorney—Richard W. Carpenter

[57] **ABSTRACT**

A seal-end, sift-proof, paperboard dispensing carton having a top closure arrangement including overlapping top closure flaps, extending from the upper edges of the side walls, and a removable portion in an upper area of one of the side walls which is separable from the side wall and connected to certain of the top closure flaps for removal therewith to open the carton.

1 Claim, 4 Drawing Figures

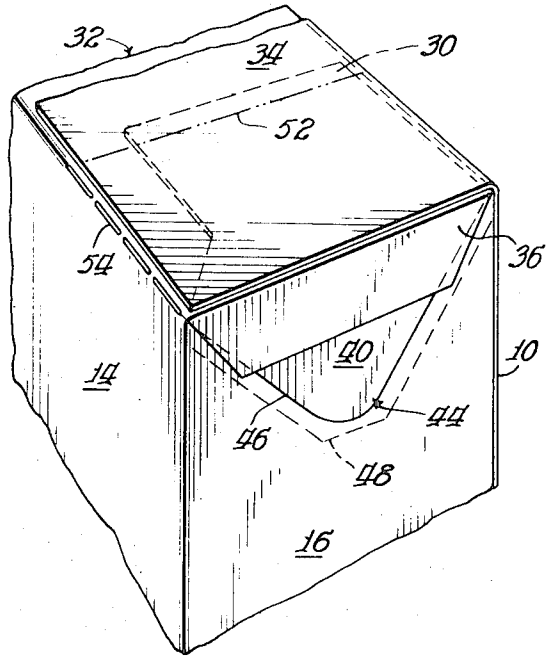
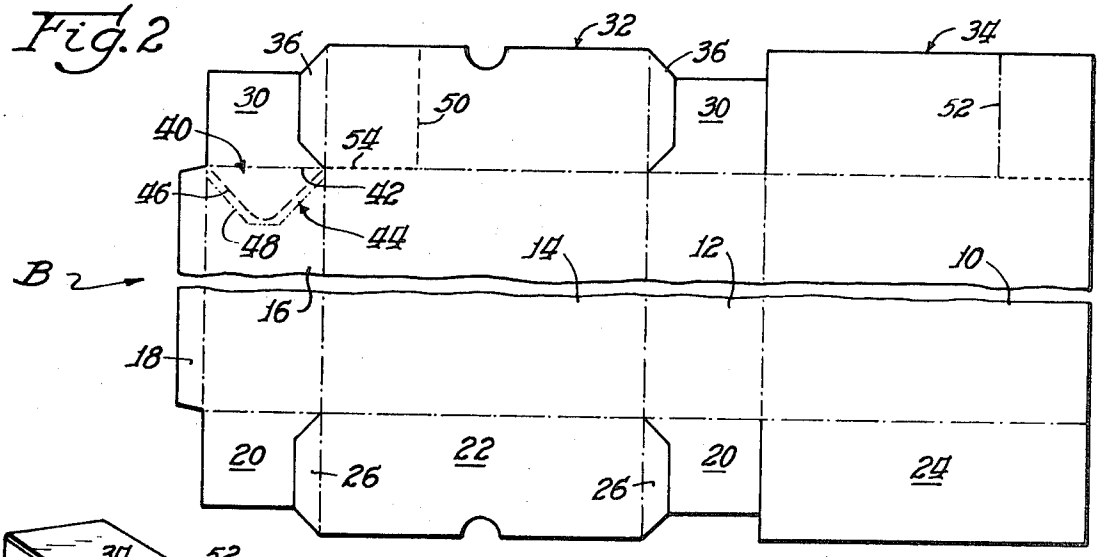


Fig. 2



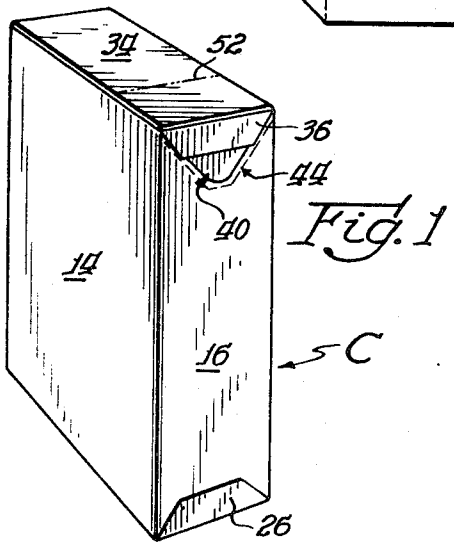


Fig. 1

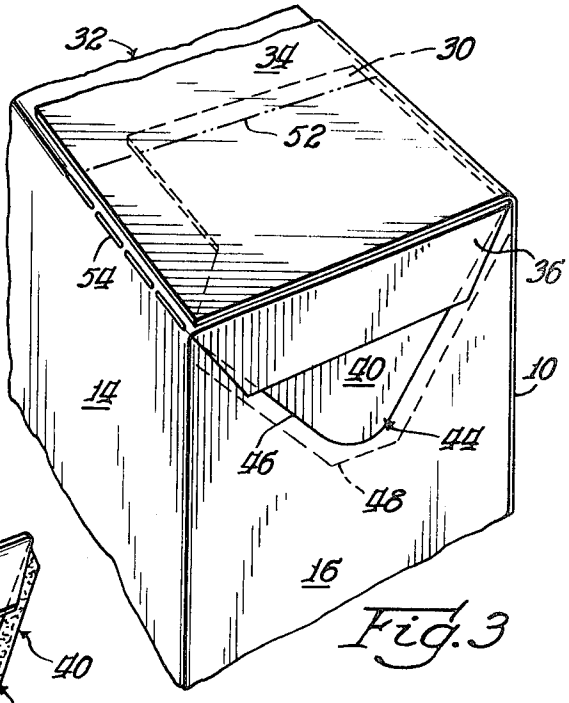


Fig. 3

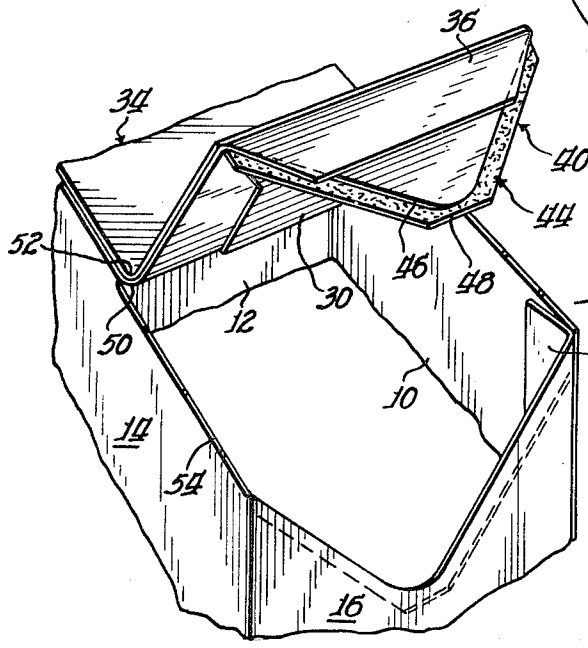


Fig. 4

SIFT-PROOF DISPENSING CARTON

It is an object of the invention to provide in a carton of the type described, a top closure arrangement including interconnected flaps arranged to prevent loss of contents when the carton is sealed, but which may be readily opened for dispensing of the packaged material in powder or granular form.

A more specific object of the invention is to provide a dispensing carton having a removable dispensing portion in a side wall of the carton, which is defined by a fold line and a line of weakness comprising a pair of generally parallel cuts extending only partially through a carton side wall panel from opposite faces thereof, and which may be removed with adjacent portions of top closure flaps.

These and other objects of the invention will be apparent from an examination of the following description and drawing, wherein:

FIG. 1 is a perspective view of an unopened carton, indicated generally at C, embodying features of the invention;

FIG. 2 is a plan view of a blank, indicated generally at B, of foldable paperboard from which the carton of the other views may be formed;

FIG. 3 is an enlarged view of a portion of the structure of FIG. 1, illustrating the carton prior to its being opened; and

FIG. 4 is a view similar to FIG. 3 but illustrating the carton after it has been opened.

It will be understood that, for purposes of clarity, certain elements have been intentionally omitted from certain views where they are believed to be illustrated to better advantage in other views.

Referring now to the drawing for a better understanding of the invention, and particularly to FIGS. 1 and 2, it will be seen that the carton indicated generally at C in FIG. 1 is a seal-end, sift-proof, dispensing carton which may be formed from the blank B illustrated in FIG. 2. Still referring to FIG. 2, it will be seen that the central portion of blank B, which comprises the body of the carton includes, looking from right to left at the drawing: a major side wall panel **10**, a minor side wall panel **12**, a major side wall panel **14**, a minor side wall panel **16**, and a glue flap **18**. The major and minor side wall panels and the glue flap are hingedly attached to each other along parallel vertical fold lines and secured to form a tubular sleeve or body of the carton open at the upper and lower ends.

In order to close the lower end of the carton a bottom closure arrangement is provided which includes a pair of inner closure flaps **20**, hingedly attached to the minor side wall panels **12** and **16**, and a pair of first and second outer closure flaps **22** and **24** which are hingedly attached to the lower edges of major side wall panels **14** and **10**, respectively. Outer closure flap **22** is provided at its opposite ends with a pair of hingedly attached Van Buren ears **26**.

In forming the bottom closure of the carton, inner closure flaps **20** are first folded inwardly at right angles to the minor side wall panels **12** and **16** of the carton, first outer closure flap **22** is then folded inwardly at right angles to the major side wall panel **14** of the carton to overlie the inner closure flaps **20** and with the Van Buren ears **26** folded downwardly at right angles to flap **22** so as to overlie and be adhesively secured to lower portions of related minor side wall panels **12** and **16**. Second outer closure flap **24** is then folded inwardly at right angle to the major side wall panel **10** so as to overlie and be adhesively secured to first outer closure flap **22**. The construction of the bottom closure arrangement may be varied and does not relate particularly to this invention wherein the novelty resides in the top closure arrangement hereinafter described.

The top closure arrangement includes a pair of inner closure flaps **30** hingedly attached to the upper edges of minor side wall panels **12** and **16** and a pair of underlying and overlying outer closure flaps **32** and **34** which are hingedly attached to the upper edges of major side wall panels **14** and **10**, respectively. Underlying top closure flap **32** may also be provided with a pair of Van Buren ears **36** hingedly attached to opposite end edges thereof and adapted to be adhesively secured against upper portions of related minor side wall panels **12** and **16**. It will be understood that the folding and gluing sequence of the top closure is similar to that previously described in connection with the bottom closure flaps.

Referring now to FIGS. 3 and 4, as well as FIG. 1, it will be seen that a dispensing opening is provided at the upper corner of the carton by means of a removable portion, indicated generally at **40**, formed in the upper area of minor side wall panel **16**. Removable portion **40** is defined at its upper edge by fold line **42**, which interconnects minor side wall panel **16** with its related inner closure flap **30**, and is defined at its lower portion by a generally V-shaped line of weakness, indicated generally at **44**, which extends from one end of fold line **42** downwardly into minor side wall panel **16** and then upwardly back to the opposite end of fold line **42**.

In order to prevent infestation of the carton or shifting of the material out of the carton in the area of the removable portion, line of weakness **44** is formed by a pair of generally parallel cut lines **46** and **48** which extend only partially through the carton minor side wall **16** from the outside and inside faces thereof respectively. Thus, line of weakness **44** does not provide any opening extending completely through the carton side wall which would permit infestation into or sifting out of the carton.

After the carton has been filled with the packaged material the top closure is effected by first folding inner closure flaps **30** inwardly in a direction normal to the minor side walls, then folding underlying outer closure flap **32** inwardly over flaps **30**, with the Van Buren ears **36** being folded over and against minor side wall panels **12** and **16**, and then folding overlying outer closure flaps **34** over flap **32** and at the same time adhesively securing all of the flaps and panels together.

In order to open the carton for dispensing of the packaged material, the removable portion **40** is pushed in and then lifted up along with: related Van Buren ear **36**, related inner closure flap **30**, and the adjacent end portions of outer closure flaps **32** and **34**.

In order to facilitate lifting of outer closure flaps **32** and **34**, they may be provided with transverse score lines **50** and **52**, respectively, so the end portion can be bent upwardly from the remainder.

Also, to facilitate tearing back of the end portions of outer closure flaps **32** and **34**, at least one of the flaps may be provided with a cut score **54** adjacent one end thereof which is aligned with the fold line connecting the flap **32** to the related major side wall panel **14**.

We claim:

1. A seal end, sift-proof, dispensing carton, for granular material or the like, formed from a unitary blank of foldable paperboard and comprising, in combination:

a. opposed pairs of major and minor side wall panels hingedly interconnected along parallel vertical fold lines to form a tubular body open at the upper and lower ends thereof;

b. means for closing the lower end of said carton body including closure flaps hingedly attached to the lower edges of the side wall panels and secured to each other in overlapped relation;

c. means for closing the upper end of said carton body, which includes a reclosable dispensing opening comprising:

i. first and second inner closure flaps hingedly connected to upper edges of said minor side wall panels along horizontal fold lines and folded inwardly in a direction normal thereto;

ii. first and second outer closure panels hingedly connected to upper edges of said major side wall panels along horizontal fold lines and folded inwardly in a direction normal thereto and secured to each other and to said inner closure flaps in overlapped relation;

d. one of said minor side wall panels including a removable portion located adjacent the upper edge thereof defined by:

i. the fold line connecting said one minor side wall panel to a related inner closure flap; and

ii. a line of weakness extending downwardly from one end of said fold line and upwardly to the other end of said fold line;

iii. said line of weakness being defined by a pair of generally parallel cut lines extending partially through said one minor side wall panel from opposite faces thereof;

e. one of said outer closure flaps having hingedly attached to and depending from opposite ends thereof Van Buren ears adhesively secured to adjacent underlying areas of related minor side wall panels;

f. the Van Buren ear at one end of said one outer closure flap being co-extensive with and secured to an upper area of said one minor side wall panel removable portion;

g. said outer closure flaps having transverse score lines, aligned with each other and with the free inner edge of the inner closure flap attached to said one minor side wall panel, to facilitate the lifting and bending upwardly of portions of said outer closure flaps when said minor side wall panel removable portion and attached inner closure flap are separated from the remainder of said one minor side wall panel along said line of weakness to provide a dispensing opening in said carton;

h. certain of said outer closure flaps having therein a line of weakness co-extensive with a portion of the fold line connecting said flap to a related major side wall panel to facilitate separation of said outer closure flap from a related major side wall panel when said carton is opened;

i. said Van Buren ear having side elements overlapping portions of said line of weakness and extending over unremovable portions of said minor side wall panel;

j. said side elements cooperating with said removable portion and enabling said removable portion to be held in position at said minor side wall panel upon reclosing of the carton.

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