Oct. 11, 1938. D. BENSEL 2,132,925

DISPENSING SPOUT CARTON

Filed Jan. 24, 1935

Fig. 1.

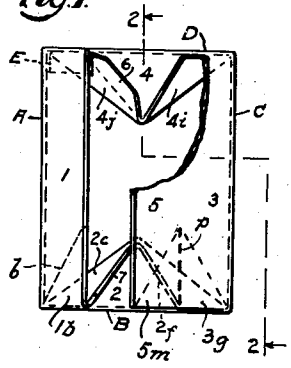


Fig. 2.

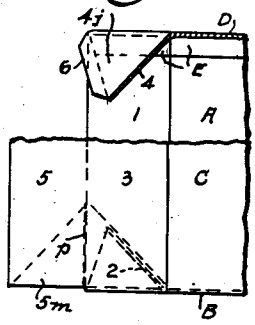


Fig. 12.

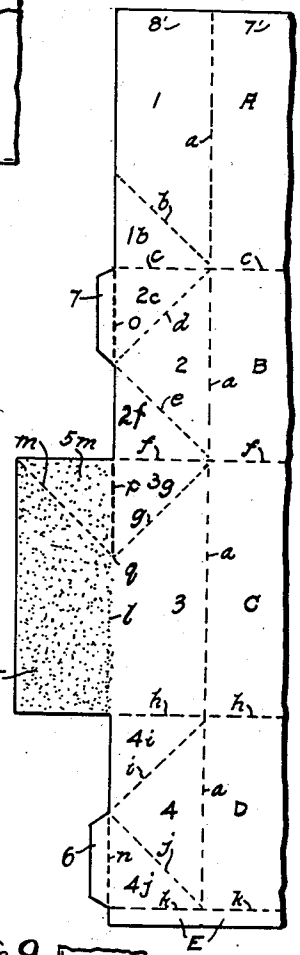


Fig. 3.

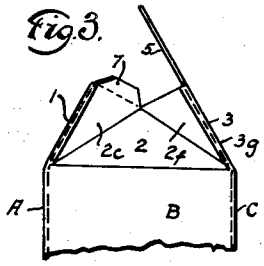


Fig. 11.

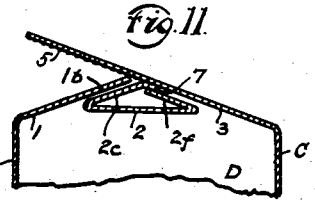


Fig. 4.

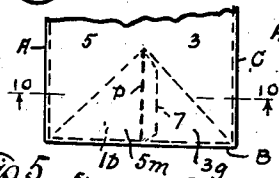


Fig. 10.

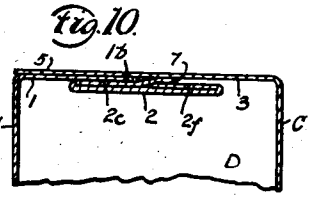


Fig. 5.

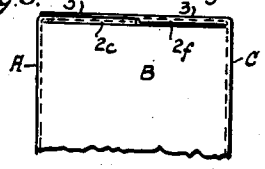


Fig. 6

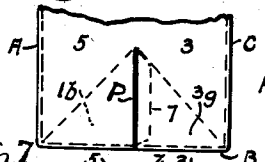


Fig. 8.

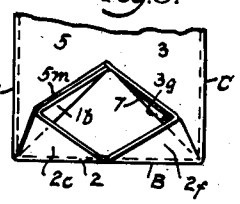


Fig. 9.

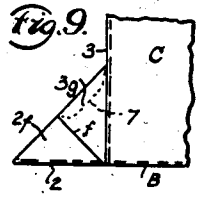
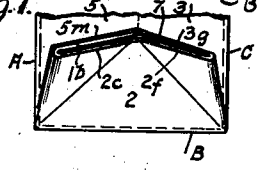


Fig. 7.



INVENTOR;
Duryea Bensel;
BY
Harold D. Penner,
ATTORNEY.

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DISPENSING SPOUT CARTON

Duryea Bensel, New York, N. Y., assignor, by mesne assignments, to Albert Borden, New York, N. Y.

Application January 24, 1935, Serial No. 3,246

11 Claims, (Cl. 229—17)

The present invention relates to cartons, made of paper or box-board, and has for its principal use, the packaging of pourable dry materials, such as soap powder, cereals, sugar and the like, and further, the dispensing of such pourable materials through the means of a self-formed pouring spout developed in said carton which is closable when not in use, and is flat topped.

One of the features of the present improvement is in the provision of dual, auxiliary glue laps, to coact with the main, end closing glue cover flap, for providing a sift proof closure for the flat-topped, dispensing end of the carton, when it is initially closed and sealed, and whereby said glue laps are of themselves glue-sealed to one of the top closing flaps, thus sealing opposed, normally open edges against the loss of material therefrom or the entrance of undesirable material to the interior thereof.

The foregoing and other features of advantage will appear as the herein disclosure proceeds, and it is obvious that modifications may be made in the structure herein without departing from the spirit hereof or the scope of the appended claims.

In the drawing,

Fig. 1 is a plan view of the carton showing the dispensing end partly closed;

Fig. 2 is a sectional view thereof taken on the line 2—2, Fig. 1, looking in the direction of the arrows;

Fig. 3 is a fragmentary side elevation of Fig. 1;

Fig. 4 is an end view showing the pouring end sealed;

Fig. 5 is a fragmentary side view of Fig. 4;

Fig. 6 is a fragmented plan view showing the temporary spout seal broken;

Fig. 7 is a fragmented plan view showing the first step of opening the pouring spout;

Fig. 8 is a fragmented plan view showing spout opened;

Fig. 9 is a fragmentary side view of Fig. 8;

Fig. 10 is a section taken on line 10—10, Fig. 4, looking in the direction of the arrows;

Fig. 11 is a view, like Fig. 10, showing the act of closing and sealing the carton; and

Fig. 12 is a fragmentary view of the carton blank at one end.

The carton as shown in the blank, in Fig. 12, comprises four main, carton body forming panels A, B, C and D, and a panel-engaging glue lap E. The panels A to D inclusive are defined from each other by parallel score lines *c*, *f*, and *h* respectively, while panel glue lap E is defined from its associate panel D by a score link *k*, the said lap E being attached to the inside side edges 1' of panel A and the inside side edge 2' of main end closing panel 1.

The infoldable end closing members, forming the complete carton end closing means comprise a main closing flap 1—1*b*, of substantially rectangular outline, defined and scored from body-forming panel A by a score line *a*, score line *a* being a common score line by which all of the other end closing flaps are defined from their associate body-forming panels and panel glue lap E.

Main closing flap 1 and its triangular auxiliary sub-flap 1*b* are defined from each other by an angularly positioned score line *b*, 1*b* being further defined by an extension of body-defining score line *c*.

The next associate enclosing minor end closing flap, 2*c*, 2, 2*f*, is substantially rectangular in outline and is defined from its associate body-forming panel B by common score line *a*, and is defined from its auxiliary, triangular sub-flaps 2*c* and 2*f*, by divergent, angularly disposed score lines *d* and *e*, respectively. The outer edge of auxiliary triangular sub-flap 2*c* is provided with a glue lap 7, which is defined along its connecting edge by a perforated line *o*, of weakened resistance.

A main closing cover flap, comprising scored and connected parts 3, 5, 3*g* and 5*m*, are of such combined dimension as to overlay to completely cover the carton end and the other under-folded, end closing flaps. The main closing cover is comprised of the following defined flaps, flap 3, defined and scored from its body panel C by common score line *a*, and being defined from its triangular auxiliary sub-flap 3*g* by angularly disposed score line *g*, triangular sub-flap 3*g*, being in turn defined from its next immediate triangular sub-flap 2*f*, by an extension of body panel score line *f*. A second flap 5, extending outwardly and defined from flap 3 by a score line *l*, has a triangular auxiliary sub-flap 5*m* defined therefrom by an angular score line *m*, the said latter score line and the adjacent score line *g* converging from the opposed edges or corners inwardly to a point *q* on score line *l*, and a perforated line of weakened resistance *p*, runs from score line *f* to said point or apex *q*.

A fourth enclosing flap denoted by 4, 4*i*, 4*j* is defined from the main body-forming panel D by common score line *a*, flap 4 having two triangular, auxiliary sub-flaps 4*i*, and 4*j* defined from opposite corners by angularly disposed

score lines *i* and *j* respectively. Body panel glue lap E is defined from flap 4*j* by score line *k*.

Auxiliary sub-flap 4*j* has at its outer edge, a glue lap 6, which is defined therefrom by a score line *n*.

As thus described all angularly disposed score lines are divergent to their associate angular score lines by 90 degrees, and at an angle of 45 degrees from the associate common score lines *c*, *f*, *h*, *k* and *a*. Triangular sub-flap 5*m* is disposed at an angle of 45 degrees to its line of weakened resistance *p* and at an included angle of 90 degrees to score line *g*.

As is obvious, both ends of the carton may have the above described closing flap arrangement, or the other end of the carton not shown, may have any other conventional carton closing end.

As above described in the making of the blank, the blank is first cut out, scored as shown, and the glue lap E is bent upwardly and over on its score line *k* until it rests on panel D and flaps 4 and 4*j*. Then glue is placed on the exposed face of E, and the blank is bent up and over on score line *f* until the glue lap portion 1'—8' of panel A and flap 1 are in contact, and thus the blank is machine glued and it comes from the machine flat, is packed and shipped flat, in bundles, to the user. When the user receives the cartons, they are set up, one by one in a set-up machine by first being opened or bending on the score lines *c*, *f*, *h* and *k*, into rectangular position, and the bottoms glue sealed.

Then the packages are filled from their upper open ends, and after filling are glued, closed, and glue sealed. This operation may be reversed, and the pouring spout end may be first sealed, the package filled from the bottom and then the bottom may be sealed.

In sealing the dispensing end, the entire surface of flap 5—5*m* is glued, as indicated in Fig. 12 by stippling, and, in sequence, with all of the score lines of the end closing flaps properly broken, with opposed triangular flaps 2 and 4 inwardly bent, as in Figs. 1, 3 and 11, downward pressure upon flaps 1 and 3 causes the triangular flaps 2 and 4 to go down to closing position, being so forced by the triangular auxiliary sub-flaps 4*i*, 4*j* and 2*f*, 2*c*, that the whole series of end flaps are laid down in orderly sequence to closing position, as in Figs. 5 and 10.

During the act of closing the end flaps the perforated and scored glue laps 6 and 7 carried by auxiliary sub-flaps 4*j* and 2*c*, respectively are drawn along the glued surface of flap 5—5*m* with their outer edges in scraping contact with said glued surface as in Fig. 11, thus accumulating some glue therefrom, and in the final act of closing, as in Fig. 11, said laps 6 and 7 pass over the outer edges of auxiliary sub-flaps 4*i* and 2*f*, and finally rest between the adjacent inner faces of said auxiliary sub-flaps and the inner face of flap 3—3*g*, as in Fig. 10.

As thus described, the final closing, which is accomplished very rapidly leaves the laps 6 and 7 glued, in flat contact, between sub-flaps 4*i* and 2*f* and the face of flap 3—3*g*, with cover flap 5—5*m* glued to the outer face of flap 1, as in Fig. 10, as a permanent carton seal.

To open the carton into final pouring spout condition, as shown in Figs. 8 and 9, the perforated line of weakened resistance P which lays directly over triangular flap 2, and forms a temporary seal therefor, is broken or cut, Fig. 6, as shown by the straight line P, and the two pairs of flattened sub-flaps 5*m*—2*c* and 3*g*—2*f* are bent backwardly, as in Fig. 7, then the outer edges of sub-flaps 2*c* and 2*f* are pulled out, as in Fig. 8, leaving the two sub-flaps 5*m* and 3*g* in the rearward position as viewed in Fig. 8, thus forming a diamond-shaped open spout extending from the flap top 3—5, as in Figs. 8 and 9.

As a result of this opening action the glue lap 7 is torn from its associate sub-flaps 2*c* at its weakened line *o*, and the lap remains adhered to sub-flap 3*g* of cover 3, as in Figs. 8 and 9.

It is the function of the glue laps 6 and 7 to seal the open edges between sub-flaps *j* and 2*c* and the contacting cover portions 3 and 3*g* to render them sift proof at their points of contact, best shown in Fig. 10.

To close the carton spout from its open position of Figs. 8 and 9, it is merely necessary to push triangular panel 2 back to position shown in Fig. 7, and refold the flaps 5*m*—2*c* and 3*g*—2*f* back to the position, as shown in Fig. 6.

Having thus described the invention what is claimed is:

1. A packaging and spout dispensing carton having an end closing portion formed by opposite and adjacent scored extensions of the walls of said carton, said extensions being united to form a carton seal with a glued cover-forming extension from one wall of said carton uniting all of said extensions and forming an infolded, flattened and inverted pouring spout beneath said cover, a perforated line of weakened resistance on said cover extending over, and the length of said inverted spout, whereby to temporarily seal said spout until said temporary seal is broken, thereby to release said spout, and adapt it to be folded outwardly to form a pouring spout and auxiliary glue laps on some of said extensions forming points of sealing attachment to others of said extensions.

2. A packaging and spout dispensing carton having an end closing portion formed by opposite and adjacent scored extensions of the walls of said carton, said extensions being united to form a carton seal with a glued cover-forming extension from one wall of said carton uniting all of said opposite extensions and forming an infolded, flattened and inverted pouring spout beneath said cover, a perforated line of weakened resistance on said cover extending over, and the length of said inverted spout, whereby to temporarily seal said spout until said temporary seal is broken, thereby to release said spout, and adapt it to be folded outwardly to form a pouring spout, auxiliary glue laps on some of said extensions forming points of attachment to others of said extensions, and a perforated and weakened line of resistance between one of said auxiliary glue laps and its respective flap.

3. A packaging and spout dispensing carton having an end closing portion formed by opposite and adjacent scored extensions of the walls of said carton, said extensions being united to form a carton seal with a glued cover-forming extension from one wall of said carton uniting all of said opposite extensions and forming an infolded, flattened and inverted pouring spout beneath said cover, a perforated line of weakened resistance on said cover extending over, and the length of said inverted spout, whereby to temporarily seal said spout until said temporary seal is broken, thereby to release said spout, and adapt it to be folded outwardly to form a pouring spout, auxiliary glue laps on some of said extensions forming points of at-

tachment to others of said extensions, and a perforated, weakened line of resistance between one of said auxiliary glue laps and its respective flap whereby, when the pouring spout is folded inwardly it is temporarily sealed beneath said cover, but when said spout is folded outwardly said lap is automatically broken.

4. A packaging and dispensing carton comprising plural body-forming panels, each panel having an extension thereon to form end closing flaps and a cover, all said flaps and cover being united by score lines, said score lines defining said flaps into a permanent and a temporary seal and a fluted pouring spout, said pouring spout being located beneath the temporary seal, a line of weakening in said temporary seal which when broken exposes the fluted pouring spout for operation and an auxiliary glue lap carried by one of the flaps forming said pouring spout adapted to be glue-sealed to said cover.

5. A packaging and dispensing carton comprising plural body-forming panels, each panel having an extension thereon to form end closing flaps and a glue-sealed cover, all said flaps and cover being united by score lines, said score lines defining said flaps into a permanent and a temporary seal and a fluted pouring spout, said pouring spout being located beneath the temporary seal, a line of weakening in said temporary seal which when broken exposes the fluted pouring spout for operation, an auxiliary glue lap carried by one of the flaps forming said pouring spout and adapted to be glue sealed to said cover and a line of weakening between said flap and glue lap whereby when the spout is opened the lap is automatically broken from said spout flap.

6. A packaging and dispensing carton comprising plural body-forming panels, each panel having an extension thereon to form end closing flaps and a glue-sealed cover, all said flaps and cover being united by score lines, said score lines defining said flaps into a permanent and a temporary seal and a fluted pouring spout, said pouring spout being located beneath the temporary seal, a line of weakening in said temporary seal which when broken exposes the fluted pouring spout for operation, an auxiliary cover-engaging glue lap carried by one of said flaps, a second auxiliary cover-engaging glue lap carried by one of said flaps forming said pouring spout and a line of weakening between said last flap and glue lap, whereby, when the spout is opened, said lap is automatically broken from said spout flap.

7. A blank for a carton comprising four body folds and a continuous extension including four substantially rectangular panels for forming an end closure, there being a score line between said folds and the extension and coextensive score lines between the respective folds and panels, said panels having therein score lines which provide triangular sub-panels to render the extension foldable into the closing position, and glue laps extending from two members of the sub-panels and being attachable to two other members of said sub-panels for holding the extension in said position.

8. In a container comprising a closure including a continuous band which is scored to provide rectangular panels and coacting triangular sub-panels, said lap being attachable to another said panels foldable into the closing position, a glue lap extending from one member of said sub-panels, said lap being attachable to another member of said sub-panels, whereby to hold the closure in said position.

9. A packaging and dispensing carton comprising body-forming panels having an end closure extending therefrom in the form of flaps, said flaps being united to form a main seal and a fluted pouring spout located under said seal, said main seal having a temporary severable portion over said spout and a permanent non-severable portion and closure-attaching auxiliary glue laps on certain of said flaps, one of said laps being severably attached to its associated flap.

10. A blank for a packaging and dispensing carton comprising body-forming panels and a glue lap all defined from one another by parallel score lines; end flaps adapted to form a closure and being defined from each other by score lines which are continuous with the first lines, triangular sub-flaps scored from said end flaps; and closure-attaching glue laps extending from two of said triangular sub-flaps, one of said glue laps being severably attached to its associated triangular sub-flap.

11. A closure for a carton having four coacting body panels, comprising four united inwardly foldable end flaps which extend from said panels, said flaps including an inner side member which extends half of the way across the end of the carton; an outer opposite side member extending completely across said end and having on one half thereof glue for attachment to the inner member, the other or base half of the outer member being unglued; two opposed members foldable in fluted form under the ends of the side members; two portions of the flutings being foldable under said inner side member, two other portions of said flutings being foldable under said unglued half, and auxiliary glue laps extending from the first-mentioned portions, said laps being adapted to collect glue off said glued half during the inward folding, so that said laps may become adhesively sealed between said unglued half and the second-mentioned portions.

DURYEA BENSEL.