Feb. 23, 1954 F. H. STOWITTS 2,670,128

CARTON

Filed Aug. 15, 1947

2 Sheets-Sheet 1

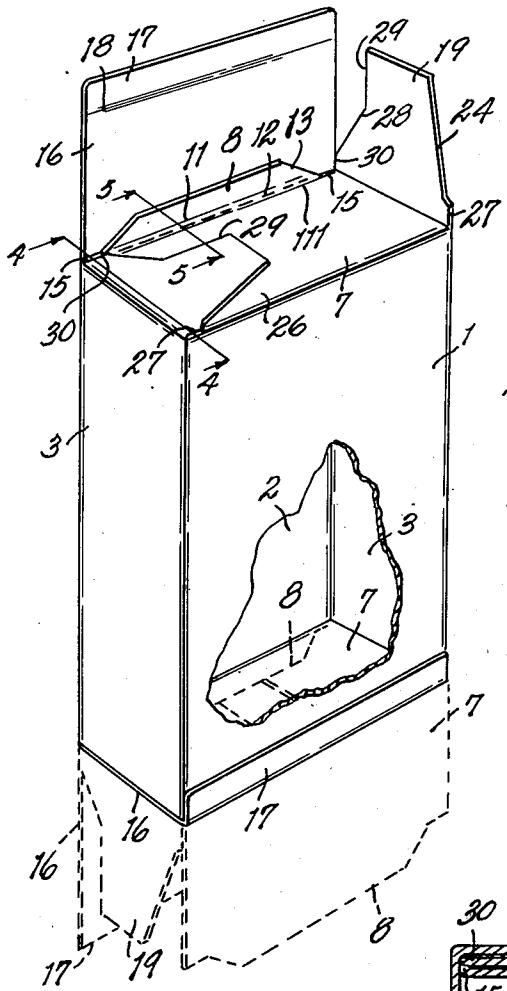


FIG. 1

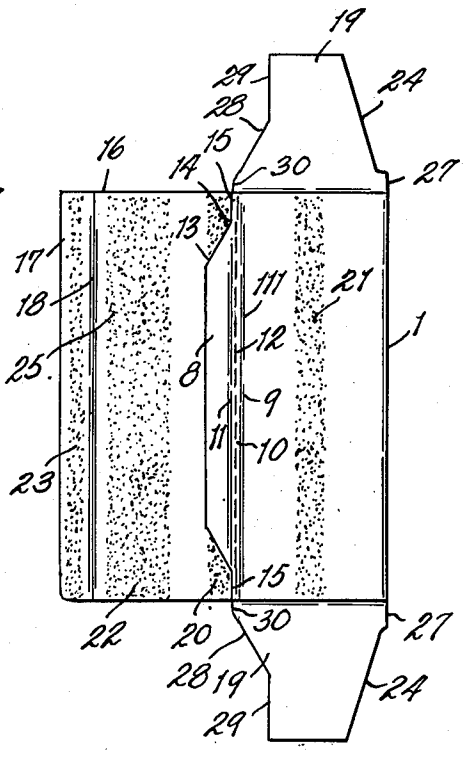


FIG. 3

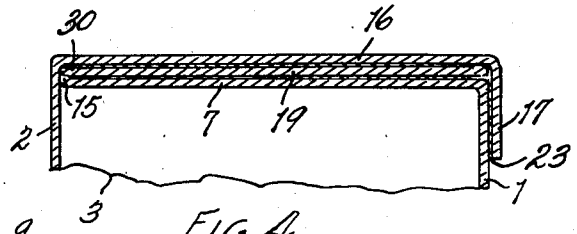


FIG. 4

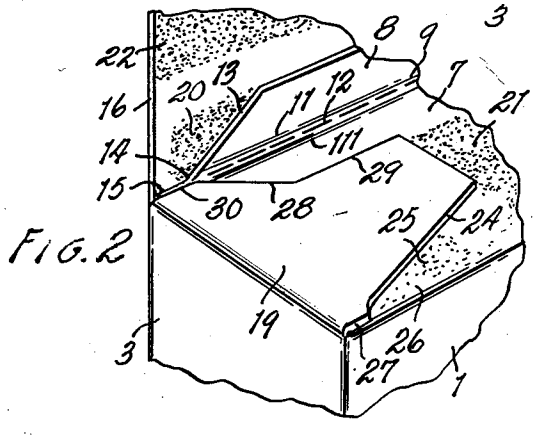


FIG. 2

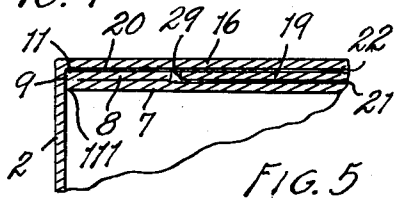


FIG. 5

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CARTON

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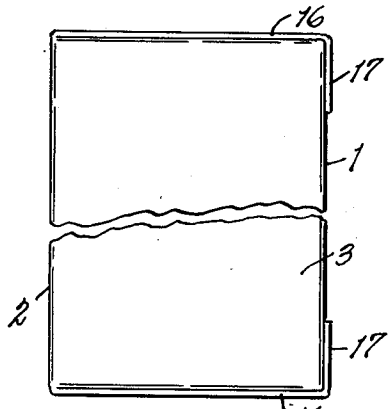


FIG. 6

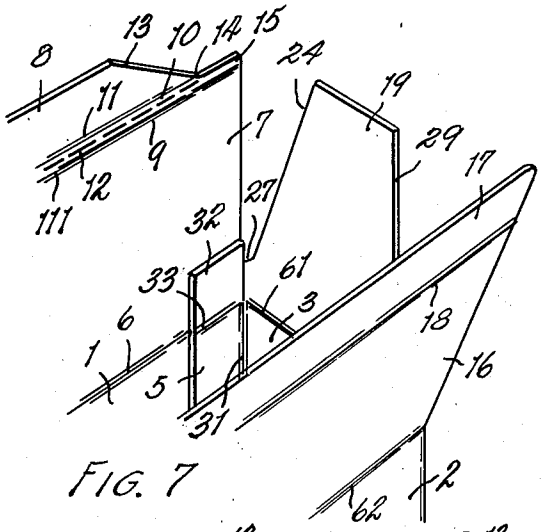


FIG. 7

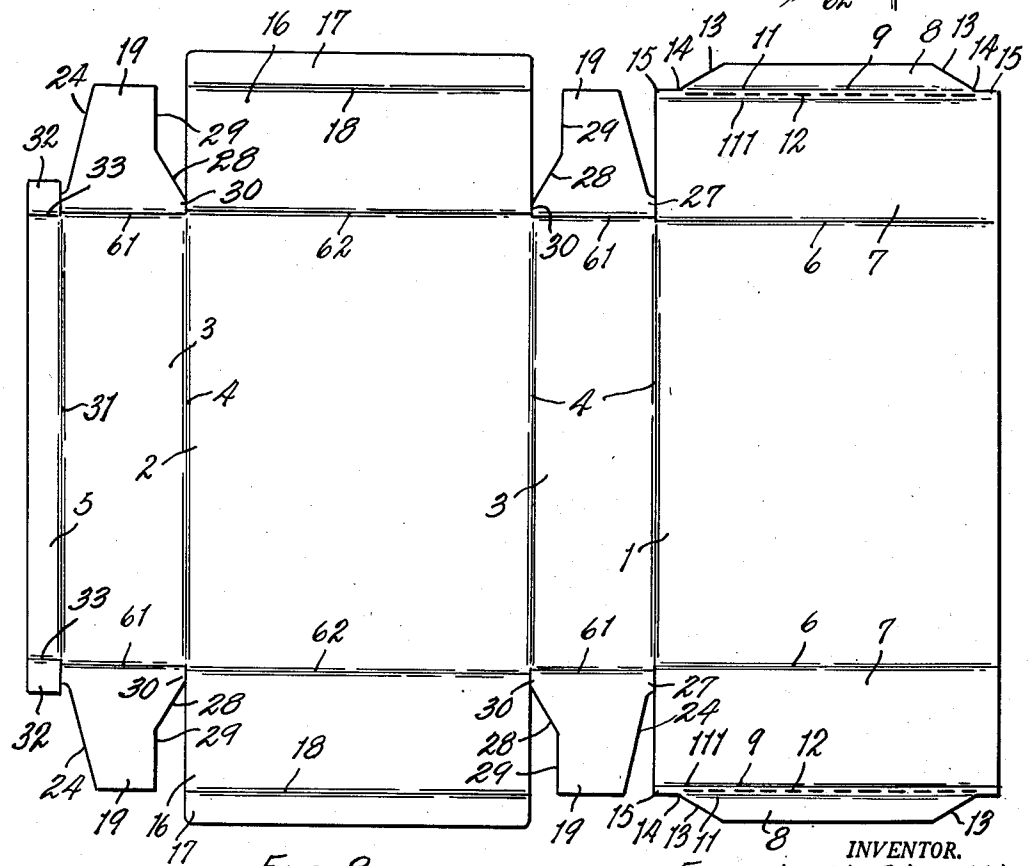


FIG. 8

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# UNITED STATES PATENT OFFICE

2,670,128

## CARTON

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Application August 15, 1947, Serial No. 768,886

3 Claims. (Cl. 229—38)

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This invention relates to improvements in cartons or containers.

The main objects of the invention are:

First, to provide a container which may be effectively closed on a sealing machine, even when filled to capacity or when the contents are such as to yield under pressure.

Second, to provide a carton for food products and the like having end closures which effectively prevent the escape or sifting of the contents consisting of fine particles through the joints of the closure.

Third, to provide a closure which serves to effectively support the walls against bulging, thus resulting in a neat, attractive appearance as well as effective closure.

Fourth, to provide a closure having overlapping flaps so disposed that they may be readily glued to each other in such manner as to eliminate or greatly reduce the possibility of the contents of the carton coming in contact with the glue.

Other objects pertaining to details and economies of the invention will definitely appear from the description to follow. The invention is defined in the claims.

A structure embodying the features of the invention is clearly illustrated in the accompanying drawing in which:

Fig. 1 is a perspective view of a carton embodying my invention showing the upper end closure partially closed and showing the lower end closure in full lines closed and in broken lines open, the front wall being broken away to show details of structure of the lower end closure.

Fig. 2 is an enlarged fragmentary perspective view illustrating a step in the closing of the carton.

Fig. 3 is a top plan view of the carton showing an inner closure member in closed position, and the intermediate and outer closure members in open position.

Fig. 4 is an enlarged detail fragmentary view in section on the line 4—4 of Fig. 1 showing the closure members in closed or sealing position.

Fig. 5 is an enlarged detail fragmentary view in section on the line 5—5 of Fig. 1 showing the closure members in closed or sealing position.

Fig. 6 is a side view of the carton showing the flaps of the outer closure members at the upper and lower ends of the carton folded over and sealed to the front wall of the carton.

Fig. 7 is an enlarged fragmentary perspective view of the interior corner structure of the carton.

Fig. 8 is a plan view of the integral blank from which the carton is formed.

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It will be understood that I use the terms "front," "rear" and "side walls" in the specification and claims for convenience in description and defining the invention.

My improved carton is formed of suitable container or carton stock such as is commonly used for food packages, although it will be understood that the stock is varied considerably for the particular kind of merchandise for which the carton is intended. The front wall 1, rear wall 2 and side walls 3 are in alinement in the blank and are hingedly joined by folding scores 4 as is also the glue flap 5 which extends from one end of the blank and is adhesively secured to the other end of the blank, the glue flap being integral with one of the end walls 3 in the embodiment illustrated.

In the carton illustrated the walls are desirably formed of identical closure flaps at both ends although it will be appreciated by those skilled in the art that there are advantages resulting from the structure incident to the top end closure which are not so important in the bottom end closure, as the bottom closure members are automatically closed while they are supported on a form. The end closure members are joined to the walls by hinging scores 6, 61 and 62, hereinafter more fully described.

The closure member 7 of the front wall 1 is provided at its swinging edge with a sealing flap 8 having hinged connection 9 to the closure member 7. The hinged connection 9 comprises a relatively wide score 10 having intermediate the edges 11 and 111 thereof a line of incisions 12 terminating short of the ends of the score 10 as shown in Figs. 1, 2 and 3. The incisions 12 extend entirely through the material and the score 10 is disposed on the inner side of the hinge connection to facilitate folding the flap 8 flatly against the closure 7 as shown in Fig. 5. The sealing flap 8 is cut away providing the beveled end edges 13 intersecting at 14 the edge 11 of the score 10 in spaced relation from the ends of the score 10, and the closure member 7 is cut away outwardly from approximately the outer edge 11 of the score 10, thereby providing the end portions 15 in substantial alinement with the hinges 9 for a purpose hereinafter described.

The closure member 16 of the rear wall 2 is provided with a sealing flap 17 hingedly connected to the swinging edge of the member by a score 18. The closure member 16 and its sealing flap 17 extend the full width of the rear wall 2. The closure members 7 and 16 correspond in dimensions to the cross sectional dimensions of the

carton. The closure member 7 constitutes an inner closure member and the closure member 16 constitutes an outer closure member. The flap 8 of the inner closure member 7 is folded in overlapping relation to the inner side of the outer closure member 16, and the flap 17 of the outer closure member 16 is folded in overlapping relation to the outer side of the front wall 1.

The end walls 3 are provided with intermediate closure members 19 disposed between the inner and outer closure members 7 and 16 when the carton is completely closed.

In closing, the inner closure member 7 is first turned inwardly with its sealing flap 8 lying upon the inner side of the outer closure member 16 as shown in Fig. 3, or what constitutes the inner side of the outer closure member 16 when the outer member is in closed position, although in the sealing machine the member 16 would commonly be in a horizontal position at the time of sealing the flap thereto by the adhesive 20. The intermediate closure members 19 on the side walls 3 are then folded inwardly and secured to the closure member 7 by the adhesive 21 as shown in Fig. 2, and thereafter the outer closure member 16 is folded upon and secured to the intermediate closure members 19 by the adhesive 23 to the outer face of the front wall 1 as shown in Fig. 4.

Also in this embodiment the front edges of the intermediate closure members 19 are beveled or inclined inwardly at 24 to permit the front edge portion of the outer closure member 16 to be secured by the adhesive 25 to the forward portion 26 of the inner closure member 7 forwardly of the inclined or beveled edges 24 of the intermediate closure members. However, the intermediate closure members have portions 27 the full width of the carton which abuts the hinge joint 18 of flap extension 17 when the extension is folded over and adhesively secured to the front wall. This effectively closes the front corners of the carton.

The rear edges 28 of the intermediate closure members 19 are recessed at 29 to receive the sealing flap 8 and to permit the same to be folded back into abutting relation with the inner closure 7 as shown in Fig. 5. The portions 30 of the rear edges 28 adjacent the rear corners of the carton extend, when the carton is closed, in parallel superimposed relation to the portions 15 at the ends of the hinge joints 9 as shown in Fig. 4. This facilitates the closure members being folded into a very compact flat relation to each other and effectively seals the rear corners of the carton against leakage.

The hinge joint 6 of the inner closure member 7 to the front wall 1 is disposed inwardly of the hinge joints 61 of the intermediate closure members 19 to the side walls 3 and the hinge joints 61 are disposed inwardly of the hinge joints 62 of the outer closure member 16 to the rear wall 2 as is shown in Fig. 8. The inward displacement in each instance being approximately equal to the thickness of the stock of the cartons permits the closure members to be disposed in very flat relation to each other and facilitates effectively closing the corners of the carton against leakage, and provides a neat and attractive appearance to the carton.

The sealing flap 5 is integrally connected by hinge joint 31 to one of the side walls 3 and is adhesively secured to the inner side of the front wall 1. This flap is provided with integral extensions 32 hingedly connected at 33 to the ends of the flap as shown in Figs. 7 and 8. These extensions are adhesively secured to the inner sides of the inner closure members 8, and when these closure members are closed the outer edges of the extensions abut a side wall 3 closely adjacent to the hinge connection 61 of the inner closure member to the side wall. This assists in preventing the escape of the contents from the front corners.

When the end closure members are in closed position and adhesively secured together and the sealing flaps 8 and 17 are adhesively secured as above described they result in a closure which prevents escape of the contents from or sifting of the contents through the closure. The edge portions 30 of the intermediate closure members 19 being in parallel superimposed relation to the portions 15 at the ends of the hinge joint 9 prevents escape of the contents at the rear corners of the carton. The front sealing flap 17 extending the full width of the carton with its hinge connection 18 in abutting relation to the edge portions 27 of the intermediate closure members prevents escape of the contents at the front corners of the carton. Also vertically offsetting the hinge joints 6, 61 and 62 of the closure members as hereinbefore described permits the closure members to be folded into very close and tight superimposed relation to each other at both the front and rear corners of the carton to prevent leakage at said corners.

An advantage of sealing the flap 8 to the underside of the outer closure member is that it greatly assists in preventing the contents of the carton contacting the glue or adhesive in the subsequent sealing operations. A further advantage of sealing the flap 8 to the underside of the outer closure member 16 is that the inner closure member 7 is effectively supported without regard to the contents so that the intermediate and outer closure members may be folded to closed position and adhesively secured in that position, the inner closure member being capable of supporting the thrust incident to such closing and sealing. This also results in a more effective sealing of the closure members together as they are supported and cannot spring away from each other, both during and the setting of the adhesive. The outer sealing flap 17 when sealed to the front wall 1 in addition to preventing escape of the contents through the front corners has the further advantages of facilitating retention of the outer closure member 16 in close engagement with the intermediate closure members 19 and the inner closure member 7 during the setting of the adhesive between the abutting surfaces of said closure members.

I have illustrated and described my invention in a highly practical embodiment thereof. I have not attempted to illustrate or describe the various embodiments or adaptations as it is believed this disclosure will enable those skilled in the art to embody or adapt my invention as may be desired.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A carton comprising front, rear and side walls having end closure members hingedly connected thereto at one end of the carton, the closure member of the front wall constituting an inner closure member, the closure member of the rear wall constituting an outer closure member, the closure members of the side walls constituting intermediate closure members, the hinged connection of the inner closure member to the

front wall being disposed inwardly of the hinged connections of the intermediate closure members to the side walls, said hinged connections of the intermediate closure members being disposed inwardly of the hinged connection of the outer closure member to the rear wall, said inner and outer closure members being of dimensions substantially corresponding to the cross sectional dimension of the carton, said inner closure member having a sealing flap extension on the swinging edge thereof, said flap extensions being disposed inwardly of the ends of said swinging edge and having a hinged connection to said swinging edge and having an adhesive connection to the inner side of the outer closure member and lying flatly against the inner closure member when the outer closure member is in closed position, said hinged connection comprising a score and a line of incisions intermediate the side edges of the score to facilitate folding the extension flap flatly against the inner closure member, said intermediate closure members being recessed at the rear thereof to permit the extension flap throughout the length thereof to lie flatly against the inner closure member.

2. A carton comprising front, rear and side walls having end closure members hingedly connected thereto at one end of the carton, the closure member of the front wall constituting an inner closure member, the closure member of the rear wall constituting an outer closure member, the closure members of the side walls constituting intermediate closure members, said inner and outer closure members being of dimensions substantially corresponding to the cross sectional dimension of the carton, said inner closure member having a sealing flap extension on the swinging edge thereof, said flap extension being disposed inwardly of the ends of said swinging edge and having a hinged connection to said swinging edge and having an adhesive connection to the inner side of the outer closure member and lying flatly against the inner closure member when the



outer closure member is in closed position, said hinged connection comprising a score and a line of incisions intermediate the side edges of the score to facilitate folding the extension flap flatly against the inner closure member, said intermediate closure members being recessed at the rear thereof to permit the extension flap throughout the length thereof to lie flatly against the inner closure member.

3. A carton comprising front, rear and side walls having end closure members hingedly connected thereto at one end of the carton, the closure member of the front wall constituting an inner closure member, the closure member of the rear wall constituting an outer closure member, the closure members of the side walls constituting intermediate closure members, said inner and outer closure members being of dimensions substantially corresponding to the cross sectional dimension of the carton, said inner closure member having a sealing flap extension on the swinging edge thereof, said flap extension being disposed inwardly of the ends of said swinging edge and having a hinged connection to said swinging edge and having an adhesive connection to the inner side of the outer closure member and lying flatly against the inner closure member when the outer closure member is in closed position, said intermediate closure members being recessed at the rear thereof to permit the extension flap throughout the length thereof to lie flatly against the inner closure member.

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