

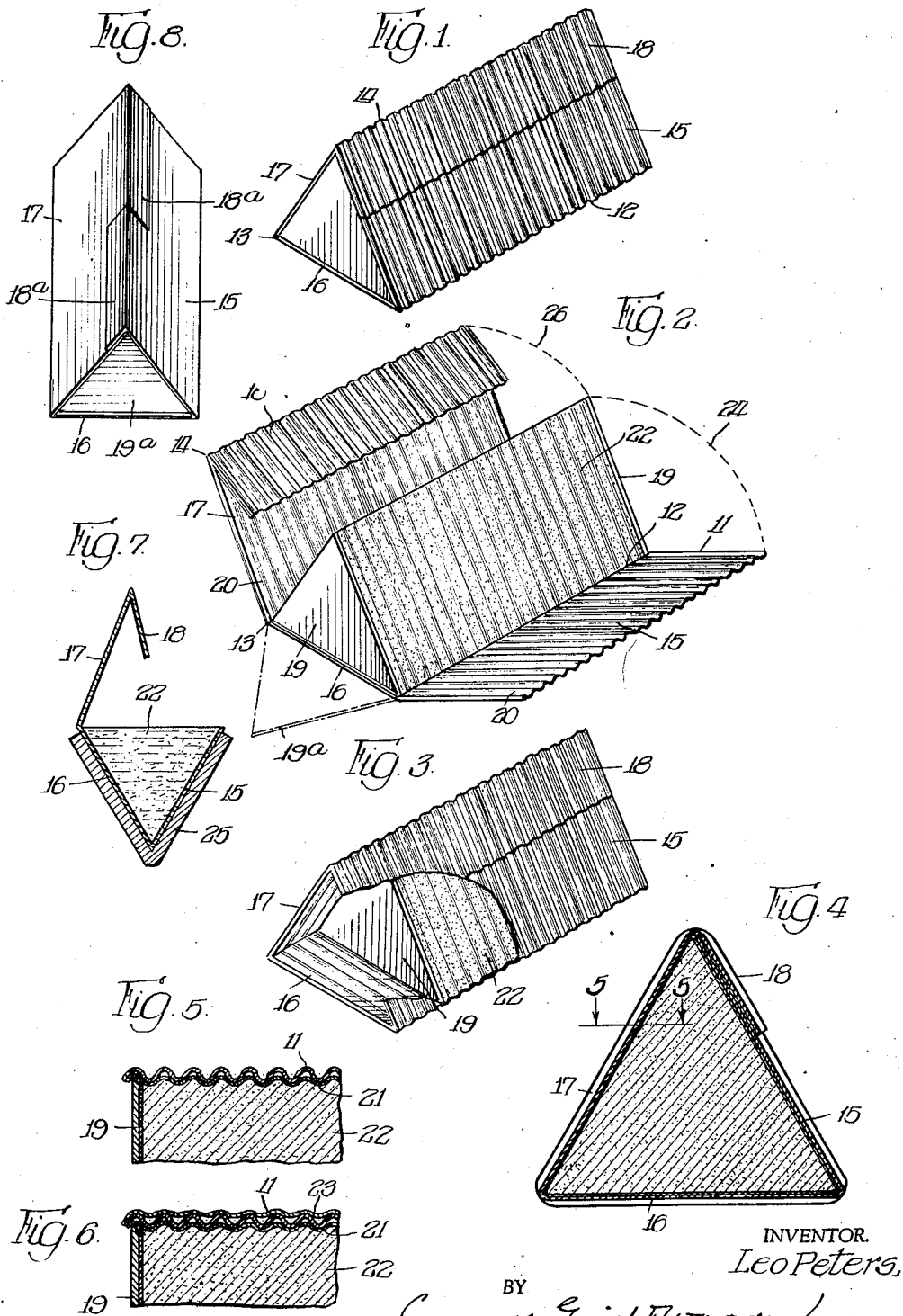
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CARTON FOR PLASTIC SUBSTANCES

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## UNITED STATES PATENT OFFICE

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## CARTON FOR PLASTIC SUBSTANCES

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My invention relates to the packaging of plastic substances such as butter, cheese, lard, etc., and has for its purpose the provision of a particularly efficient inexpensive carton. The carton of the present invention is adapted also to the packaging of sales commodities other than those of a plastic character, this by reason of its saving in material, ease of assembly or setting up, compactness, facility in filling and the like, yet it finds its most characteristic field of use in connection with plastic substances.

The carton is made up preferably from a rectangular sheet of cardboard material, plain or corrugated, of somewhat greater length than width depending upon the desired form of the completed carton, and whether for pound, half pound or other size package. A minimum of tongues, notches, interengaging slots, re-entrant portions and other irregularities of contour serves to reduce the amount of material necessary and to simplify construction and complexity of setting up in assembled shape.

The side walls of the carton, typically of triangular cross section, meeting at acute angles, are mutually self-supporting against collapse. Individual end closure elements of simple outline corresponding to the cross section of the carton are frictionally or otherwise held in interiorly supporting relation to the side walls. In the former case, being separate and independent of such walls, such elements constitute in effect follower plates which may be advanced into the carton as the contents thereof are progressively consumed, thus serving at all stages of partial depletion to support the contents of the ends and seal the carton interior.

To realize the advantages of the invention most fully it is desirable that the carton, when set up, be of equilateral triangular cross section, the three side walls forming with each other acute meeting angles with one end of the blank overlapping the other beyond the meeting angle. Optionally each end of the blank may overlap the other a portion of its length only.

Although other than a three-sided figure can be employed, provided there be an acute angle at the overlap whereby the sharp fold will tend to spring the flap into hugging relation to that side wall, yet the invention finds its best expression in a carton of triangular cross section, where the respective walls form a truss structure mutually supporting against collapse and where the meeting of the walls are naturally at an acute angle.

In the accompanying drawing a preferred form

of the invention is set out by way of illustration. In the drawing

Fig. 1 is a view in perspective of the assembled filled carton;

Fig. 2 is a similar view showing the carton partially opened and disclosing the contents;

Fig. 3 is a view similar to Fig. 1 showing the contents partially depleted and the end closure member shifted inwardly from the end;

Fig. 4 is a transverse medial section through the filled carton;

Fig. 5 is a sectional detail showing the carton cardboard material interiorly lined;

Fig. 6 is a similar view showing not only an interior lining but also an exterior protective cover sheet;

Fig. 7 is a cross section illustrating one method of supporting and filling the carton; and

Fig. 8 is an end perspective view of a modification.

Having particular reference to the drawing it will be observed that the embodiment shown comprises a sheet 11 of cardboard material, preferably corrugated, said sheet being sharply bent along the lines of fold 12, 13 and 14 to form side walls 15, 16 and 17 of uniform dimensions with a terminal flap 18 connected with the side wall 17 along the line of fold 14. The sheet is most sharply bent along the line 14 in order to spring the flap 18 towards the side wall 17, imparting a tendency of the flap to spring inwardly and closely hug the side wall 15 when the carton is assembled as best shown in Fig. 1.

Individual end members 19, entirely separate from the carton blank and from the side walls into which such blank is folded, are of an outline configuration corresponding to the cross section of the assembled carton and of dimensions corresponding to the interior dimensions of said carton. When the carton is formed, these end closure members 19 are preferably held in place by the frictional engagement of their edges with the inner faces of the walls. Security of such positioning engagement is provided by the taking of their three edges into opposing inwardly facing channels 20 of the side walls where corrugated material is employed for the carton blank. This channel engagement may be emphasized by pressing the material of the side walls inwardly to form flanges bearing against the outside of the closure members at their margins; and in the event plain cardboard material were employed in the blank, such flanging would also be resorted to. Moreover, where found desirable, the end closure members may be fixedly

secured to the side members forming the triangle or may even constitute triangular tongues laterally projecting from the carton blank as indicated in dot and dash lines 19a in Fig. 2.

Depending upon the nature of the contents the side walls and the flap would be constituted by the plain or corrugated sheet cardboard as shown in Figs. 1 to 4 inclusive, or these walls might advantageously be interiorly lined with a metal foil or other suitable material as shown at 21 in Figs. 5 and 6 isolating the walls from the contents 22. Furthermore, the walls might be exteriorly lined or covered with waxed paper or the like, as indicated at 23 in Fig. 6, for protection of the wall material from moisture. The flap 18 might also advantageously be covered on both sides with a waxed paper whereby adhering sealing contact could be had between said flap and the wall 15 by applied heat.

By the employment of separate and independent end closure members 19, frictionally held in position by the side walls of the carton, such end closure element may be advanced inwardly as the contents of the carton are progressively consumed, thus serving at all stages of depletion to support the remaining contents and maintain a sealing of the carton interior, as indicated in Fig. 3.

When the carton is being filled, as with cheese in a molten condition, the side wall 15, swung through the path indicated by the dotted line 24 in Fig. 2, is caused to form with the companion side wall 16 and the inserted end walls 19 a trough-like receptacle into which the heated semi-fluid material is poured while held within a suitable trough-like support 25 is indicated in Fig. 7. The subsequent swinging of the side wall 17 through the path indicated by the dotted line 26 in Fig. 2 encloses the material within the carton, the end walls 19 being securely held in position by engagement with the side walls and the flap 18 being sprung outwardly sufficient to clear the free edge of the side wall 15 and allowed to snap down over the same as shown in Fig. 1.

Where the flap 18 and the side wall 15 are provided with a waxed sheet as 23, the heat of the contents will cause a melting of the wax sufficient to seal the carton in its filled condition. If a waxed sheet be not employed in the making of the carton itself, the overlapping flap 18 and side wall 15 may have applied thereto any suitable sealing composition as wax or an adhesive strip, although the inherent spring imparted to the flap 18 will serve to maintain the carton closed without supplemental sealing.

It will be realized that a quantity of cartons such as here represented may be assembled compactly for shipment or storage without danger of deformation of one carton by the pressure of adjacent units; that the contents are made readily accessible for slicing by opening to the position shown in Fig. 2; that uniform slicing is facili-

tated by the faint impression made by the corrugated side walls upon the contents as indicated in Fig. 2; and that as the contents are progressively consumed the end wall 19 may be advanced inwardly as a continued support for the remaining contents and to maintain the sealing of the interior from the outside atmosphere.

Not only does the carton of the present invention have the advantages above indicated together with others but the blank being a simple rectangle there is no waste, while the setting up of the blank into carton form is shorn of all complexity with a great saving of time and labor in addition to avoidance of waste.

In Fig. 8 a modification is shown wherein each of the terminal edges of the carton blank is notched back for a portion of its length to provide in effect on each a projecting flap 18a opposite the notched back portion on the other end of the blank. When the carton is set up these flaps lie alongside each other in complementary relation and are sharply bent in opposite directions to overlap the notched back adjacent portion of the other edge of the carton as illustrated in Fig. 8.

In this form of construction the flaps provide finger pieces whereby the carton may be readily opened by grasping one in each hand and pulling in opposite directions. Their meeting ends also serve as a guide for severing the carton and contents into halves with individual closing flaps.

I claim:

1. A carton of triangular section comprising base and side members integrally connected along lines of fold, at least one of said side members being provided with an integral flap obliquely folded to form an acute angle with its attached side member and functioning as a spring flap overlapping the other side member and locking said first-mentioned side member thereto, said flap, when released from engagement with said other side member, springing inwardly to a position adjacent the side member to which it is attached, and end pieces closing the ends of the carton, said spring flap when overlapping said other side member serving to lock and maintain said side members in carton-forming position.

2. A carton of triangular section comprising base and side walls integrally connected along lines of fold, a liner extending along said base and side walls to isolate the contents from the carton walls, at least one of said side members being provided with an integral flap obliquely folded to form an acute angle with its attached side member and functioning as a spring flap overlapping and pressing against the free end portion of the other side member, said spring flap tending to grip said liner when said flap and side member are drawn away from the contents of the package, and end walls closing the ends of the carton.

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