

March 23, 1943.

D. RAY
CONTAINER

2,314,631

Filed Aug. 21, 1939

3 Sheets-Sheet 1

Fig. 1.

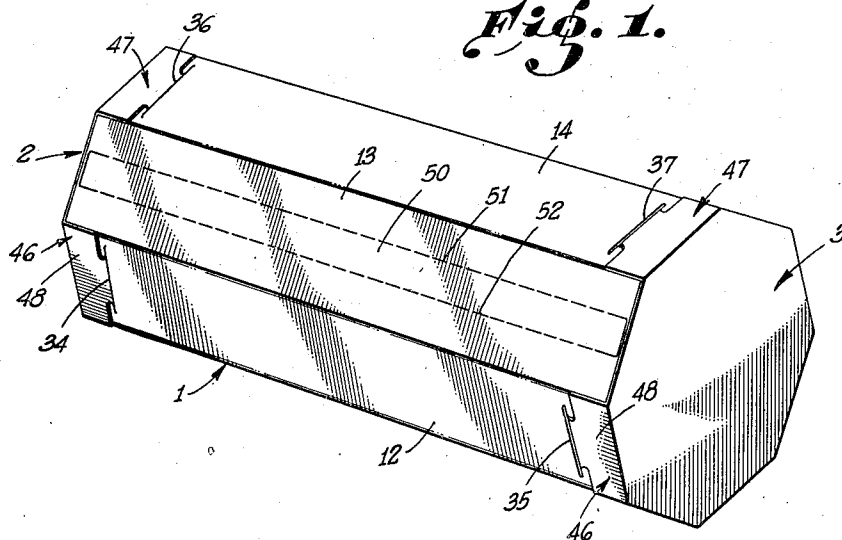
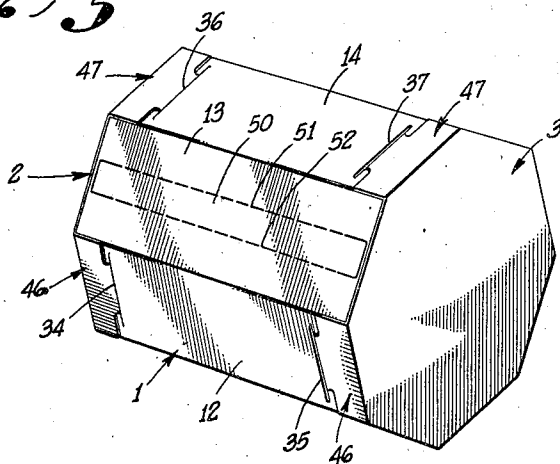


Fig. 2.



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3 Sheets-Sheet 2

Fig. 3.

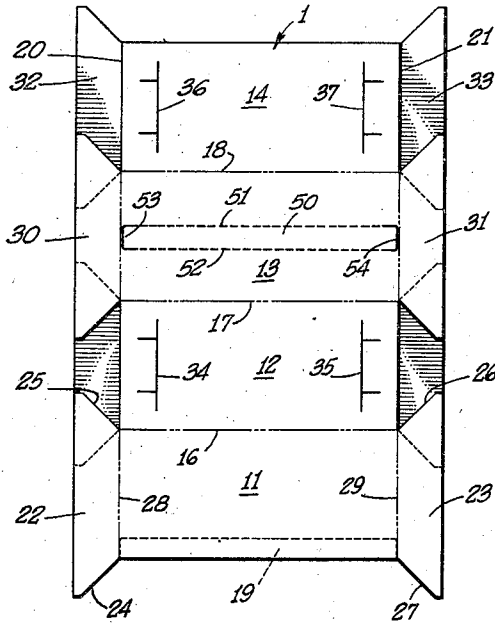


Fig. 5.

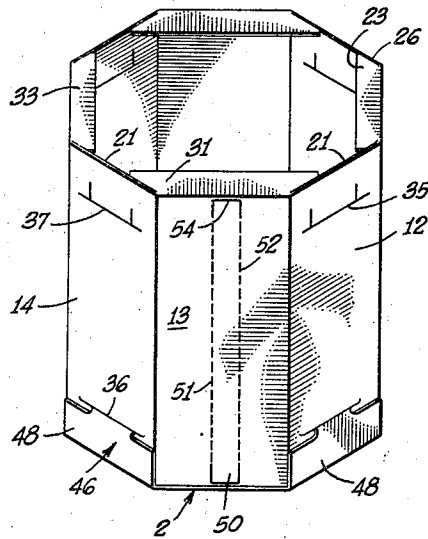
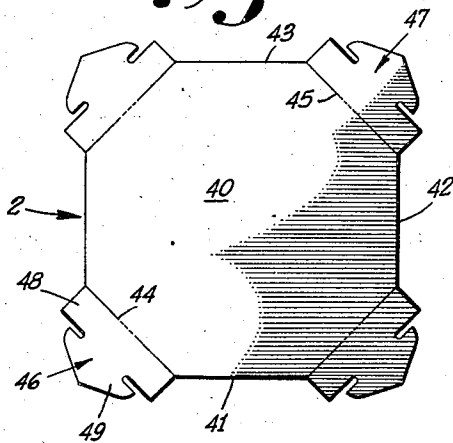


Fig. 4.



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3 Sheets-Sheet 3

Fig. 6.

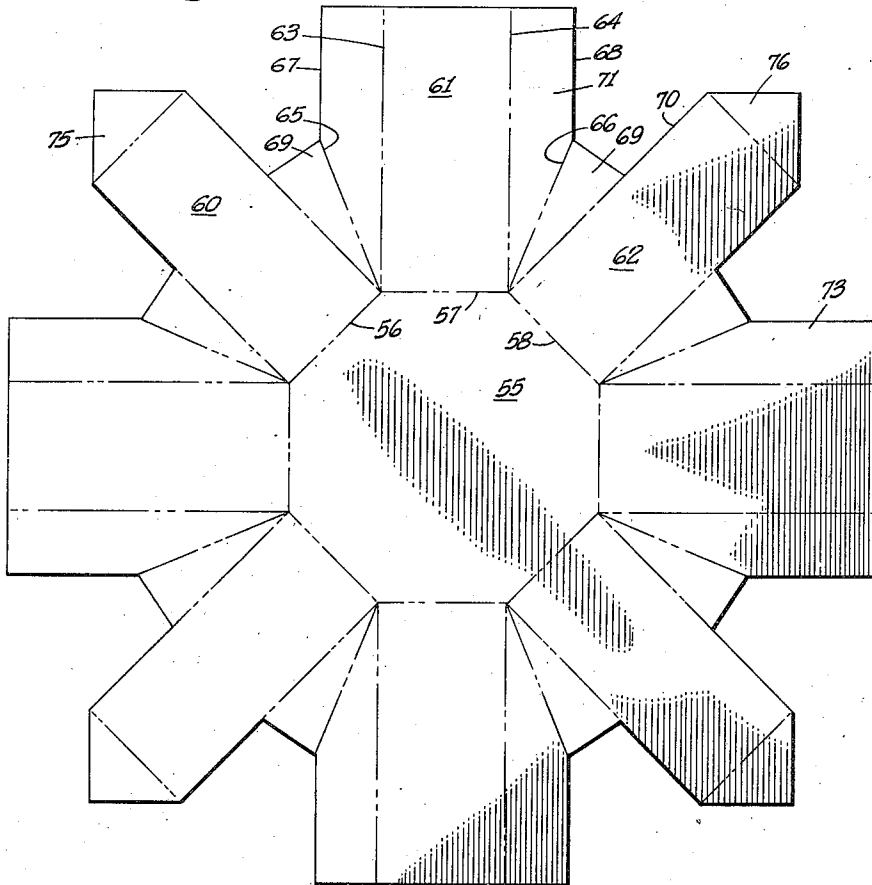
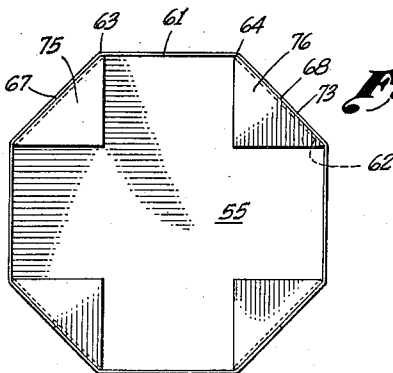


Fig. 7.



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UNITED STATES PATENT OFFICE

2,314,631

CONTAINER

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Application August 21, 1939, Serial No. 291,213

5 Claims. (Cl. 229—14)

The present invention relates to a container made of paper or other suitable material and adapted for the reception of candy, cookies, cheese, ice cream, dried fruits, popcorn and numerous other articles. Generally stated, the container of this invention is characterized by being of polygonal cross-section and by being provided with separately removable top and bottom portions. It is further characterized in that a container of relatively large volume is obtained by the use of a minimum quantity of paper or other material employed in constructing the carton.

An object of the present invention, therefore, is to disclose and provide a container which is distinctive in form and appearance and which may be readily and cheaply manufactured.

A further object is to provide a container of polygonal cross-section having separately removable end portions or top and bottom.

A still further object is to provide a container having integral means for facilitating entry into the package.

Other objects, uses and advantages will become apparent from the following description.

In order to facilitate understanding, reference will be had to the appended drawings showing certain illustrative forms.

In the drawings:

Fig. 1 is a perspective view of a container made in accordance with this invention.

Fig. 2 is a perspective view of a smaller container made in accordance with this invention.

Fig. 3 is a plan view of a precut blank of material adapted to form the side walls of the container.

Fig. 4 is a plan view of an end or bottom portion.

Fig. 5 is a perspective view of a container with one end or top removed.

Fig. 6 is a plan view of a blank for use in making liners in the container.

Fig. 7 is an enlarged view of a portion of the liner in preformed condition.

Although the present invention is adapted to the production of any polygonal package or container (having either an even or an odd number of sides in excess of four), best results appear to be attained by adapting the invention to octagonal packages or packages having an even number of side panels. In the drawings an octagonal container is shown comprising in general a side wall member, generally indicated at 1, and end portions 2 and 3 which are separately removable from the side wall member 1. Al-

though the illustrative container has a section representing a regular, equilateral polygon, polygonal containers having sides differing in length can be made; for instance, an eight sided container may have two opposing sides appreciable longer than the three sides at each end portion of the container.

The side wall member 1 preferably comprises a continuous strip of material having a plurality of transversely extending parallel panels thereon, such panels being delineated by score lines or crimp lines extending transversely of the strip. For example, the continuous wall member 1 shown in Fig. 3 comprises a strip of material having panels 11, 12, 13, 14, etc., thereon, these panels being delineated by the score lines 15, 17, 18, etc. As shown in Fig. 3, the ends of the continuous strip containing eight panels such as 11 to 14 have been connected together so as to form the overlapping portion indicated at 19, this overlapping portion being then glued to the inner surface of the strip. In Fig. 3 this continuous wall member having its ends joined or connected together is shown in a flattened out position ready for introduction into a suitable forming machine described in a co-pending application.

Side margins of the strip are indicated at 20 and 21. The ends of certain of the panels terminating at these side margins may be provided with integral tongues having outwardly diverging edges extending from these side margins. For example, panel 11 may carry the tongues 22 and 23 at opposite ends thereof, such tongues being provided with the outwardly diverging edges 24, 25, 26 and 27. Crimp lines 28 and 29 in alignment with the margins 20 and 21 may be provided for the purpose of facilitating subsequent folding of the tongues 22 and 23.

When containers having even number of sides or side panels are being made, only alternate panels are provided with the tongues. As shown in Fig. 3, panels 11 and 13 are clearly visible and are provided with tongues, the panel 13 bearing the tongues 30 and 31. The inner sides of tongues attached to the panel beneath panel 14 are indicated at 32 and 33.

Means are carried by the wall member 1 for facilitating attachment of the end portions. Such means may comprise slots, such as the slots 34 and 35 formed in the panel 12 adjacent the margins 20 and 21. Similar slots 36 and 37 are formed in the panel 14. In other words, alternate panels may be provided with foldable tongues extending from their ends whereas in-

intermediate panels are provided with slots or other means adapted to cooperate with the end portions of the package in forming a completed container.

One of the end portions 2 is indicated in Fig. 4. It will be noted that each end portion comprises a central field 40 delineated by the margins 41, 42, 43, etc., and by intermediate score lines or crimp lines 44, 45, etc. The length of the edges 41, 42, 43, etc., should be substantially equivalent to the length of the score lines 44, 45, etc. The margins 41 as well as the score lines 44 will hereafter be referred to as field lines. Alternate field lines preferably carry outwardly extending locking tangs. For example, the score lines 44, 45, etc., may carry the locking tangs 46 and 47, each of such locking tangs including a main portion 48 substantially as long as the length of the field line 44 and of a width approximating the distance between the margin 20 and the slot 36 formed in the wall member 1. Such main portion 48 may then be provided with a spear head 49, the maximum length of this spear head being substantially equivalent or slightly shorter than the length of the slots, such as the slots 34 and 36 formed in the wall member.

By referring to Fig. 5 (which shows a partially assembled container) it will be noted that the flat wall member 1 may be expanded so as to form a polygonal container. The various tongues, such as for example the tongue 31 attached to one end of panel 13, may be folded inwardly. It will be noted that the outwardly diverging edges of the tongue 31 are now in substantial alignment with the planes occupied by the adjoining panels 12 and 14, this tending to maintain the shape of the container.

The bottom 2 has been applied to the side wall member by folding the various locking tangs 46, 47 and the like upwardly and forcing the spear heads of such tangs through the slots in the alternative panels of the body member 1. In Fig. 5 the locking tang 46 is shown inserted into the slot 36 of panel 14.

The top or other end portion of the finished container may be applied to the other end of the container shown in Fig. 5 in substantially the same manner as that described for the bottom 2.

Attention is also called to the fact that certain of the panels may be provided with means for facilitating access to the completed, filled and sealed container. For example, as shown in Fig. 3, panel 13 (or some other panel) may be provided with a readily removable wall section. Specifically, panel 13 is shown provided with a partially perforated strip 50 defined by the perforations 51 and 52, such perforations being in parallel relation and being connected at their ends by a slot or through-cut portions of U form as indicated at 53 and 54. In the finished package, a finger nail may be readily introduced into one of the slots, such as the slot 54, and the entire removable strip 50 torn out of the panel 13, thereby permitting ready access to the interior of the container.

In some instances it may be desirable to use a liner within a container of this character. A form of liner found best suited for this purpose is shown in Figs. 6 and 7. The liner may be made of any suitable material such as, for example, paper, rubber compositions (such as those sold under the name "Pliofilm"), parchment, waxed papers, or the like. By referring to Figs. 6 and 7 it will be seen that the liner comprises a polygo-

nal field 55 delineated by the crimp lines 56, 57, 58, etc. Preferably the polygonal field 55 is smaller than the polygonal field 40 of the end portions of the package. Tongues, such as the tongues 60, 61 and 62, extend from each of these field lines and perpendicular thereto. The length of these tongues measured in a direction perpendicular to the field line, should be at least equivalent to the long dimension of each of the panels of the body member or the distance separating the margins 20 and 21 of such body member. Alternate tongues may be of a width equivalent to the length of the field lines. For example, the tongues 60 and 62 are of substantially uniform width, the width being equivalent to the length of the field lines 56 and 58. Intermediate tongues, such as the tongues 61, are preferably approximately twice as wide but are provided with parallel score or fold lines such as the lines 63 and 64 extending from the ends of the corresponding field line 57.

Fold lines, such as 65 and 66, are also formed, these fold lines bi-sectioning the angle formed between perpendiculars drawn to opposing ends of adjacent field lines. Where these score lines 65 and 66 intersect the edges of the intermediate wider tongues, such as the edges 67 and 68 of the tongue 61, these edges 67 and 68 terminate and define the point at which a web, such as the web 69, extends from the narrow tongue, such as the tongue 62, toward the wider tongue such as the tongue 61.

The entire liner is thus seen to be made of a single piece of material. When forming the liner, the narrow tongues 60 and 62 are folded upwardly along their field lines 56 and 58 so as to cause the edges of the narrow tongues to overlie the score lines formed in the wider tongues. For example, the edge 70 of the tongue 62 will be caused to overlie the score line 64, the wing 71 embracing approximately one-half of the outer surface of the narrow tongue 62. The wing of the next wide tongue, indicated at 73, will abut the edge 68, thereby forming a substantially water-tight liner capable of retaining moisture, melting ice cream, or the like.

These liners may be inserted into the package or container immediately prior to the application of the top. If desired, certain of the tongues, such as the narrow tongues 60 and 62, may be provided with tab end portions 75, 76 so as to partially cover the contents of the package. If still further protection is desired, a top liner may be applied before the top itself is locked with the wall member.

Liners or bag-like containers made from a blank of material comprising a central field of any desired shape (not necessarily polygonal, but instead rectangular, square, etc.) and having tongues extending therefrom, alternate tongues being wider than the intermediate tongues (or at least wider than the field line from which such wider tongues extend) may be made from a thermoplastic or thermosetting, flexible material such as Pliofilm (which becomes adhesive upon heating) and then the overlapping portions of the tongues may be caused to cement together during formation of the liner or bag-like inner container. The resulting inner liner or container is water tight. Such liner containers may be filled, under vacuum, sealed under vacuum and then exposed to atmospheric pressure. When placed in an outer protective wrapper, a finished, flavor-retaining shipping container is obtained.

Those skilled in the art will appreciate that numerous changes and modifications can be made and that the character of the materials used may be varied in accordance with the use to which the container is being adapted. Moreover, it is to be understood that the term "score lines" as user herein refers to any scoring, crimping, indenting or other means of facilitating folding or bending of the materials along predetermined lines.

I claim:

1. A container comprising a side wall member having a plurality of panels delineated by score lines extending transversely of said member, the ends of said member being connected together along a transverse line of connection, the longitudinal margins of said member, at the ends of alternate panels, being provided with tongues having outwardly diverging edges extending from said margins, slots cut in intermediate panels, such slots being substantially parallel to the margins of said member and adjacent thereto, and a pair of end portions, each of said portions having a polygonal center field and outstanding locking tangs, said tangs being foldable to overlies marginal portions of the wall panels and extend into said slots in locking engagement therewith to form a polygonal container provided with removable top and bottom, the outwardly diverging edges of said tongues cooperating with said end portions and the adjacent panels to further stabilize the container.

2. A container comprising: a strip of material having a plurality of transversely extending parallel panels therein, said panels being delineated by score lines extending between side margins of said strip; the side margins of said strip being provided with tongues having outwardly diverging edges extending from said margins, said tongues being located at the ends of alternate panels; intermediate panels being provided with locking means adjacent the ends of said panels; the ends of said strip being connected together; and a pair of end portions, each of said portions having a polygonal center field and outstanding locking tangs, said tangs being foldable to overlies marginal portions of the wall panels and cooperate with said locking means, the outwardly diverging edges of the tongues cooperating with the foldable tangs of said end portions to stabilize a container made from said strip of material and end portions.

3. A container of the character described including a continuous wall member comprising a strip of material having its ends connected together and including a plurality of transversely extending parallel panels delineated by score lines extending between side margins of said strip, said wall member being adapted to fold flat and to expand and form side walls of a polygonal container; a liner comprising a polygonal field defined by field lines and tongues extending from each of said field lines and perpendicular thereto, alternate tongues being substantially as wide

as the field lines and intermediate tongues being substantially twice as wide as said field lines, said tongues being foldable into planes at right angles to the plane of said field to form a liner slidable into said polygonal container; and a pair of end portions, each of said portions having a polygonal center field and outstanding locking tangs, said tangs being foldable to overlies marginal portions of the wall panels of said wall member and engage with said wall panels.

4. A container comprising: a strip of material having a plurality of transversely extending parallel panels therein, said panels being delineated by score lines extending between side margins of said strip, said margins of said strip being provided with tongues having outwardly diverging edges extending from said margins, said tongues being locked at the ends of alternate panels, intermediate panels being provided with locking means adjacent the ends of said panels, the ends of said strip being connected together, said strip being adapted to expand and form side walls of a container; a moisture-retaining liner made from a blank of material including a thermo-plastic, said blank comprising a central field defined by field lines, the number of field lines being equivalent to the number of panels in said strip of material, and tongues extending from each of said field lines and perpendicular thereto, alternate tongues being substantially as wide as the field lines and intermediate tongues being substantially twice as wide as the field lines, said tongues being foldable in planes to right angles to said field to form a liner slidable into said expanded strip material, the overlapping and folding portions of said liner being held together by the thermo-plastic content of said blank; and a pair of end portions each of said portions having a central field and outstanding locking tangs, said tangs being foldable to overlies marginal portions of the wall panels and cooperate with said locking means, the outwardly diverging edges of the tongues cooperating with the foldable tangs of said end portions and with the adjacent panels to further stabilize the container.

5. A polygonal-shaped moisture-retaining container made from a blank of material, said blank comprising a plurality of fields lying parallel to each other and defined by parallel field lines, tangs formed along the opposite marginal edges of alternate fields, said tangs being of a width greater than the width of the field to which they are adjoined and having an angular face conforming to the next adjoining field when the blank is folded into container shape and the tangs are folded at right angles to the plane of the fields, transverse slits formed through the opposite ends of the alternate rectangular fields, separate end portions of polygonal shape resting against the opposite ends of the container, and locking tangs carried by the end portions and interlocking with said transverse slits, whereby a closed container will be formed.

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