March 12, 1957 R. E. BAUER 2,784,900

CONTAINER CONSTRUCTION

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FIG. 1.

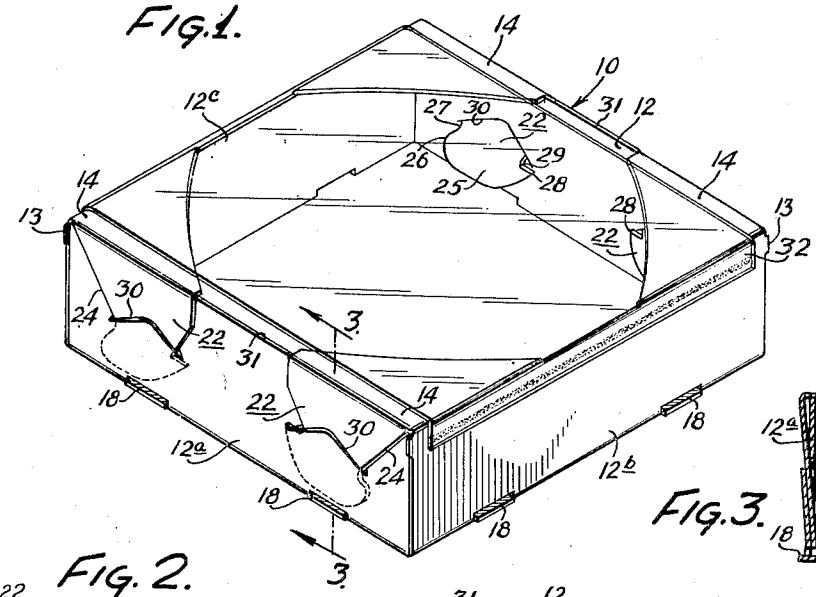


FIG. 3.

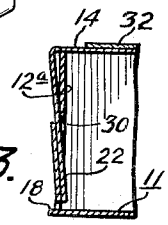
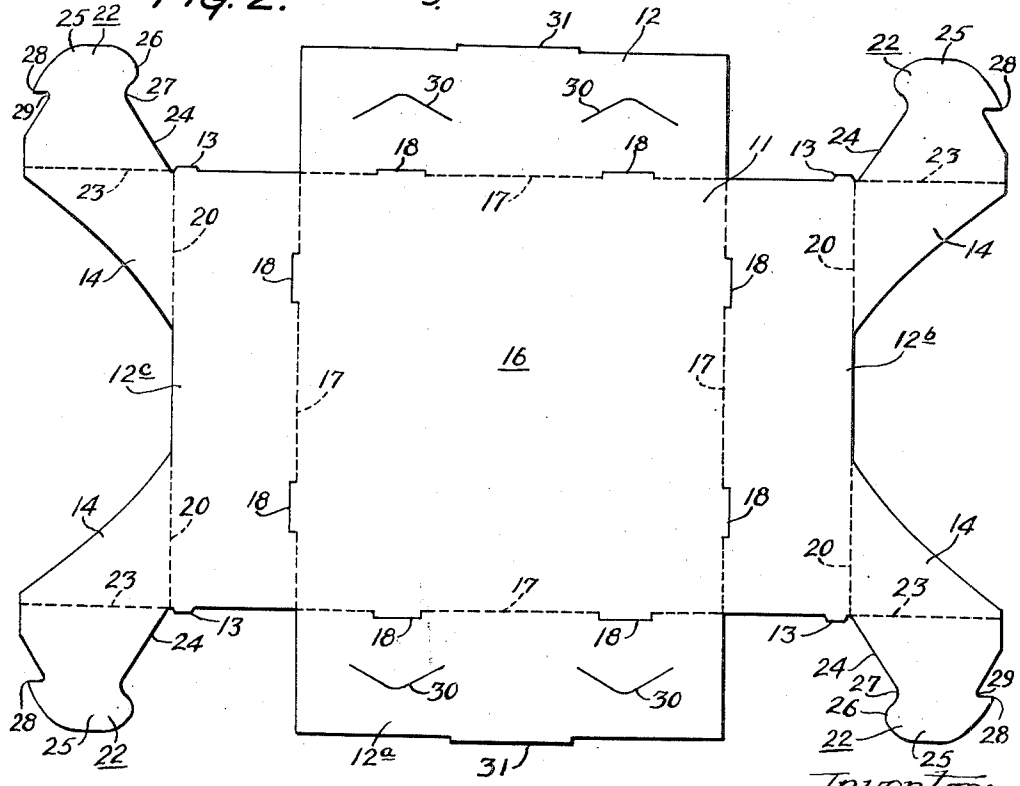


FIG. 2.



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Fig. 4.

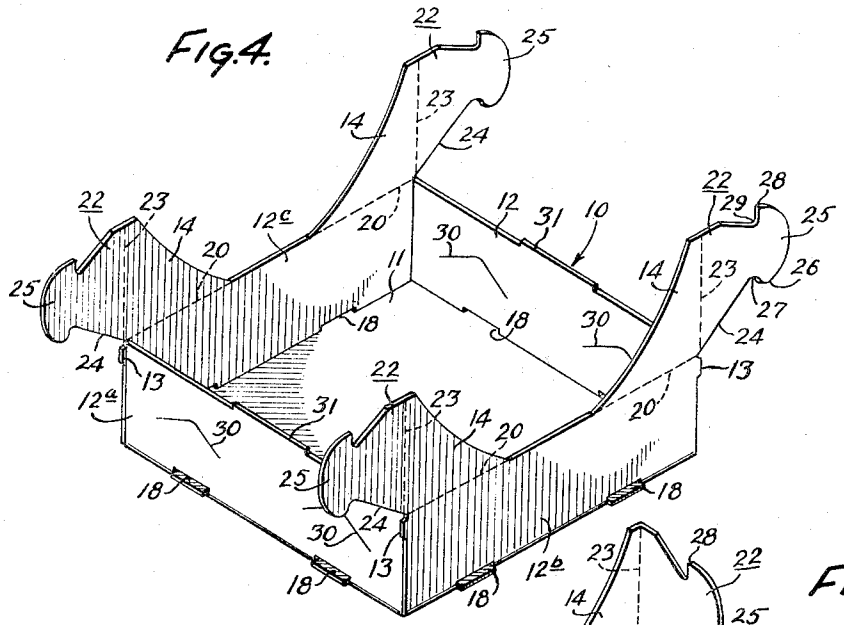


Fig. 5.

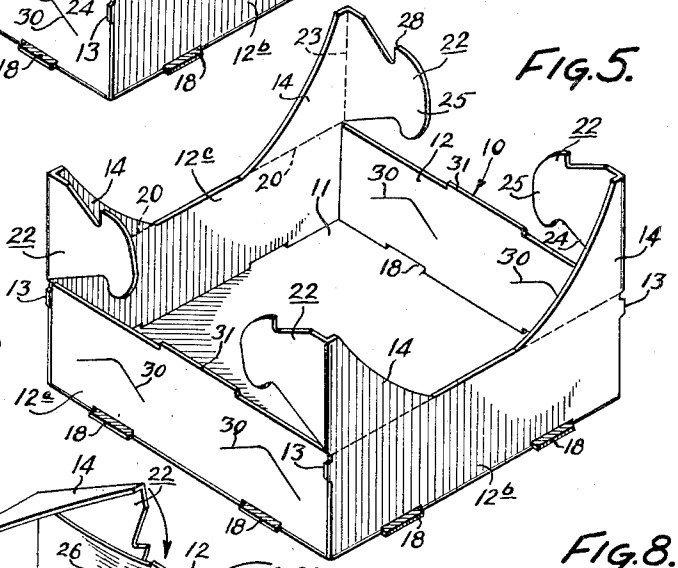


Fig. 7.

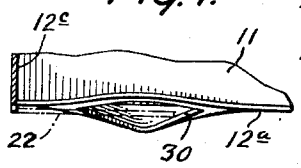


Fig. 6.

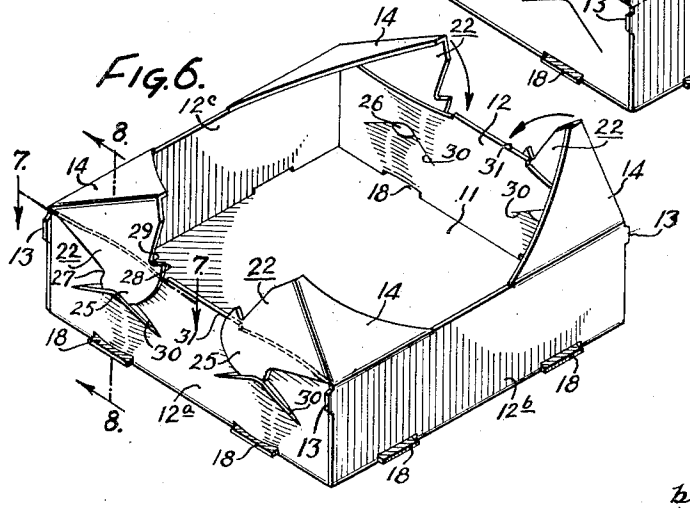
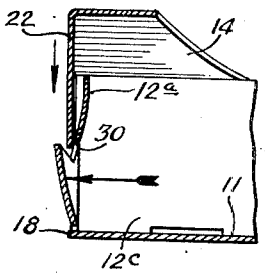


Fig. 8.



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2,784,900

CONTAINER CONSTRUCTION

Robert E. Bauer, Wyndmoor, Pa.

Application October 14, 1954, Serial No. 462,282

2 Claims. (Cl. 229—35)

This invention relates to new and useful improvements in containers for baked goods such as pies and other commodities. More particularly, the invention relates to new and useful improvements in the construction of containers having an open top for the purpose of visual inspection of the contents, and is a continuation-in-part of my copending application Serial No. 167,510, filed June 12, 1950, now abandoned.

Prior to the present invention, containers of this type usually were made by die cutting an opening in the top or the lid of the container to provide a window. This method of manufacturing window containers added to their cost because of the relatively large portion of the paperboard required for the top or lid portion of the blank and the amount of paperboard which was wasted by cutting out the window opening. The ideal blank for paperboard containers of this type is one in which the initial blank is substantially rectangular and has a minimum of cut-away or cut-out portions therein. Furthermore, the present type window containers have a portion of paperboard on the top of the container lying alongside of the open upper surface of the container thereby decreasing the window area and amount of the contents which may be seen and giving the impression that the contents is smaller than it actually may be.

With the foregoing in mind, the principal object of the present invention is to provide a novel window-type container made from a single piece of paperboard or like material in which there is a minimum amount of waste material while providing greater visibility of the contents with more complete protection to the contents.

Another object of the present invention is to provide a novel window type container which is constructed to provide top corner portions overlying the container and defining with the side wall portions thereof a window opening in the top of the container which is of comparatively larger area than window openings in prior containers of like size.

A further object of the present invention is to provide a novel type container for baked goods or like objects in which novel arrangements of overlapping portions of the container act as a reinforcement for the side and end walls thereof.

These and other objects of the invention and the various features and details of the construction thereof are hereinafter fully set forth and described with reference to the accompanying drawing, in which:

Fig. 1 is a perspective view of a container made in accordance with the present invention;

Fig. 2 is a plan view of a blank from which a container of the present invention may be assembled;

Fig. 3 is an enlarged sectional view on line 3—3, Fig. 1;

Figs. 4, 5 and 6, respectively, are perspective views showing successive steps in the assembly of the container from the flat blank of paperboard.

Fig. 7 is a sectional view on line 7—7, Fig. 6; and

Fig. 8 is a sectional view on line 8—8, Fig. 6.

Referring more specifically to the drawing, reference numeral 10 designates generally a completed container having a base or bottom portion 11, side wall portions 12, 12*a*, 12*b* and 12*c*, and generally triangular top flaps 14 overlying the corners of the upper surface of the container.

The container 10 is assembled from a blank 16 stamped or die cut to the configuration shown in Fig. 1 and folded on scored lines as more fully described hereinafter. It will be observed that the blank 16 is of generally rectangular shape and the overall area thereof is only slightly less than the area of a rectangle completely enclosing the blank 16. Thus there is a minimum amount of waste material in a container made from such a blank.

More particularly, the blank 16 comprises a generally quadrangular central portion 11 which, when the container is assembled, constitutes the base of the container. Extending outwardly from opposite edges of the central portion or base 11 are side wall portions 12, 12*a*, 12*b* and 12*c* of the container, respectively, which are formed as an integral part of the central portion or base 11. The blank is scored as indicated at 17 along the junctions of the base and side wall portions so that the latter may be folded relative to the base. In addition, small tabs 18 are cut from the side wall portions along the score lines 17 to provide at the bottom of the side walls in the assembled container, small openings for the circulation of air.

The triangular portions 14 which overlie the corners at the top of the container 10 are connected in pairs to the side walls 12*b* and 12*c* at the opposite corners thereof and project therefrom endwise of the blank 16 with their hypotenuses diverging outwardly away from each other. The blank is scored as indicated at 20 at the junction of the triangular portions 14 with the side wall portions to allow the triangular portions to be easily folded with respect to the front and rear walls. Projecting laterally outward of the blank 16 from each of the triangular portions 14 is a tab portion 22 which is connected to the triangular portion 14 along the scored lines 23. As shown clearly in Fig. 2 of the drawing, the tabs 22 each tapers in width in a direction outwardly of the blank as indicated at 24 and terminate at their extremity in an enlarged curvilinear tongue 25. The tongues 25 each have a rounded end 26 which defines a recess 27 with the adjacent tapered edge of the tab 22 and an oppositely disposed end which tapers sharply to a point 28 and defines with the adjacent tapered edge of the tab 22 an angular notch 29. In addition, as shown in the drawings and for a purpose hereinafter set forth, there is provided at the opposite end edges of each of the side wall portions 12*b* and 12*c* a small offset or projecting lip portion 13 which is integral with its side wall portion and lies in the plane thereof.

In the assembled container 10 the tab portions 22 extend downwardly over the exterior of the side walls 12 and 12*a* and have their tongues 25 inserted into slots 30 formed in said side walls 12 and 12*a*. Two such slots 30 are provided in each of the container walls 12 and 12*a*. As shown in the drawings, the slots 30 are of angular configuration and are formed in the walls 12 and 12*a* so that in the assembled container the slots 30 are of inverted V-shape configuration. It is to be noted that the distance between the opposite ends of each of the slots 30 is less than the distance between the tongue end portions 26 and 28 in a direction longitudinally of the blank 16 so that when the tongues have been inserted in the slots 12 as hereinafter described, the opposite ends of the slots are interlockingly engaged in the recess 27 and notch 29 of each of the tongues 25 as shown in Fig. 1 of the drawings.

In the assembled container the small projecting lips **13** of the wall portion **12***b* and **12***c* are disposed outwardly of the opposite end edges of the adjacent side wall portions **12** and **12***a* of the container (see Fig. 1) and constitute abutments or stops to prevent displacement of the walls **12***b* and **12***c* inwardly between the ends of the wall portions **12** and **12***a*. Alternative and in addition to the lip portions **13**, the side wall portions **12** and **12***a* may be provided at their upper edges with a projecting lip portion **31**. The lip portion **31** extends continuously between the inner edges of the pair of tab portions which overlie each side wall **12** and **12***c* and the opposite ends of the lips are disposed closely adjacent the edges of the tab portions and constitute abutments or stops to prevent inward displacement of the tab portions along the side walls **12** and **12***a*. This construction further assists in maintaining the side wall portions **12***b* and **12***c* against displacement inwardly between the wall portion **12** and **12***a* while at the same time bringing the height of the exposed upper edge portion of the side walls **12** and **12***a* substantially level with the top surface of the adjacent triangular portions **14**. Moreover, the container construction of the present invention, by reason of the absence of any direct connection between the ends of adjacent wall portions, provides a container in which air may circulate through the corners between the side walls of the container, a distinct advantage when foods, such as pies and other baked goods, are packaged in the containers.

To assemble the containers **10** from the blank **16** the side walls **12**, **12***a*, **12***b* and **12***c* are first folded on the scored lines **17** to upstanding positions at right angles to the bottom portion **11** of the container, for example, as shown in Fig. 4 of the drawings. While the side walls are retained in their vertical positions, the tab portions **22** with their tongues **25** are folded inwardly on the scored lines **23** to positions substantially in the plane of the side walls **12** and **12***a*, respectively, as shown in Fig. 5 of the drawings. The triangular portions **14** are now folded on the scored lines **20** in the inward and downward direction to positions overlying the container **10**. Simultaneously with this downward movement of the triangular portions **14** the tab portions **22** and their tongues **25** attached thereto are caused to pass downwardly exteriorly of the side walls **12** and **12***a* and insert the tongues **25** inwardly of the inverted V-shaped slots **30**. To insure passage of the tabs **22** exteriorly of the side walls **12** and **12***a* and also insure that the tongues **25** enter the slots **30**, the portions of the side walls **12** and **12***a* directly above and below the slots **30** are bowed inwardly and outwardly, respectively, for example, by pressure applied at and in the direction of the arrow in Fig. 8 of the drawings, thereby opening up the slots **30** as shown in Figs. 6, 7 and 8 of the drawings.

As the triangular portions **14** of the container are turned downwardly as previously described, a rotational movement is imparted to the tongues **25** about an axis coincident with the scored lines **23**. This causes the rounded end **26** of the tongues **25** to first enter the slots **30** as shown in Fig. 6, followed by the remaining curvilinear edge of the tongue and finally the point **28**. As the points **28** of the tongues **25** reach the end of the slots **30** the slot outer end already is positioned in the tongue recess **27** so that upon the application of downward pressure on the triangular portions **14** the points **29** of the tab tongues **25** are snapped under the inner end of its slot to engage the slot ends within the notches **27** and thereby interlock and secure together the several portions of the container in the relation shown in Fig. 1 to complete the assembly of the container proper, as shown in Fig. 1 of the drawing.

A cellophane cover **32** is provided to fit over the open surface of the container **10** to protect the contents therein and still allow the contents to be visible when packaged. The cover **32** shown in the present embodiment has two opposite edges thereof.

From the foregoing it will be observed that the present invention provides a novel window-type container which may be made from a smaller piece of cardboard than the usual containers of similar size and in which novel arrangements of overlapping portions of the container act as reinforcement for the side and end walls thereof. Furthermore, the present invention provides a novel window-type container having a greater amount of visibility and which may be stacked on top of each other without the upper containers contacting or injuring the contents of the containers immediately below them.

While a certain embodiment of the present invention has been illustrated and described herein, it is not intended to limit the invention to such disclosures, and changes and modifications may be incorporated and embodied therein within the scope of the following claims.

I claim:

1. A paperboard container comprising a flat quadrangular bottom portion, vertically disposed side wall portions foldably connected to said bottom portion, two opposite of said side wall portions each having adjacent each of their opposite ends an inverted V-shaped slot extending generally parallel to the bottom portion, the sections of said side wall portions above and below said slots being displaceable laterally relative to one another, the other two of said side wall portions each having at their opposite ends a triangular portion foldably connected to the upper edge thereof, said triangular portions inwardly overlying the container at the top thereof with a free edge of each triangular portion extending angularly crosswise inwardly of the corners defined by the junction of adjacent side wall portions, a tab portion integral with each triangular portion at the outer side thereof and extending downwardly at right angles thereto over the exterior of said opposite side wall portions, said tab portions each having a tongue at its extremity, the leading edge portion of said tongues operable to initially engage and enter the central section of said slots upon folding said triangular portions downwardly about said other side wall portions to a position overlying the corners of said container, said tongues each having oppositely disposed endwise projections engaged under the edges of its slot and defining with the edges of the tab portion a recess and notch in which the opposite edge portions of the slot are received, lip portions integral with and projecting laterally outward from opposite ends of said other side wall portions and disposed outwardly adjacent the end edges of said opposite side wall portions operable to prevent displacement of said other side walls inwardly between said opposite side walls during downward folding of said triangular portions, and lip portions integral with and projecting outwardly from said opposite side walls in the plane thereof extending continuously between the inner edges of the overlying triangular portions to prevent inward displacement of said triangular portions along said opposite side walls.

2. A paperboard container comprising a flat quadrangular bottom portion, vertically disposed side wall portions foldably connected to said bottom portion, two opposite of said side wall portions each having adjacent each of their opposite ends an inverted V-shaped slot extending generally parallel to the bottom portion, the sections of said side wall portions above and below said slots being displaceable laterally relative to one another, the other two of said side wall portions each having at their opposite ends a partial top wall portion foldably connected to the upper edge thereof, said partial top wall portions inwardly overlying the container at the top thereof with a free edge of each partial top wall portion extending crosswise of the box inwardly of the said other two side wall portions, a tab portion integral with each partial top wall portion at the outer side thereof and extending downwardly at right angles thereto over the

exterior of said opposite side wall portions, said tab portions each having a tongue at its extremity, the leading edge portion of said tongues operable to initially engage and enter the central section of said slots upon folding said partial top wall portions downwardly about said other side wall portions to a position overlying the corners of said containers said tongues each having at the leading edge portion thereof a rounded portion operable to initially engage the center of said slot and at the trailing edge portion thereof an endwise projection engaged under the edge of its slot and defining with the edge of the tab portion a recess and notch in which the opposite edge portions of the slot are received, and lip portions integral with and projecting laterally outward from opposite ends of said other side wall portions and disposed outwardly adjacent the end edges of said opposite side wall portions operable to prevent displacement of said

other side walls inwardly between said opposite side walls during downward folding of said triangular portions.

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