April 3, 1951 W. F. BARRY 2,547,849

BOX CONSTRUCTION

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Fig. 1

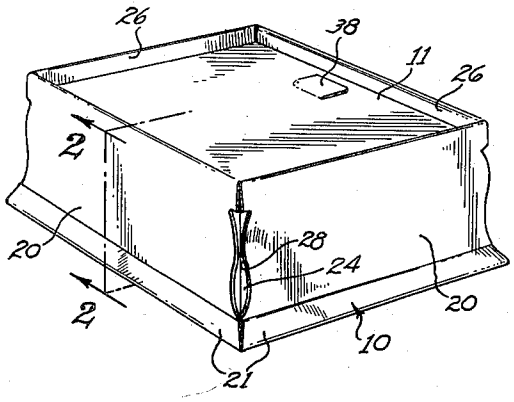


Fig. 2

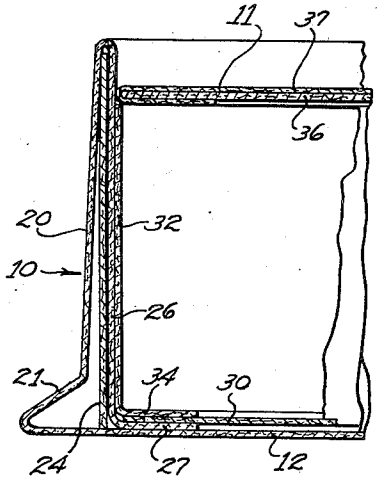
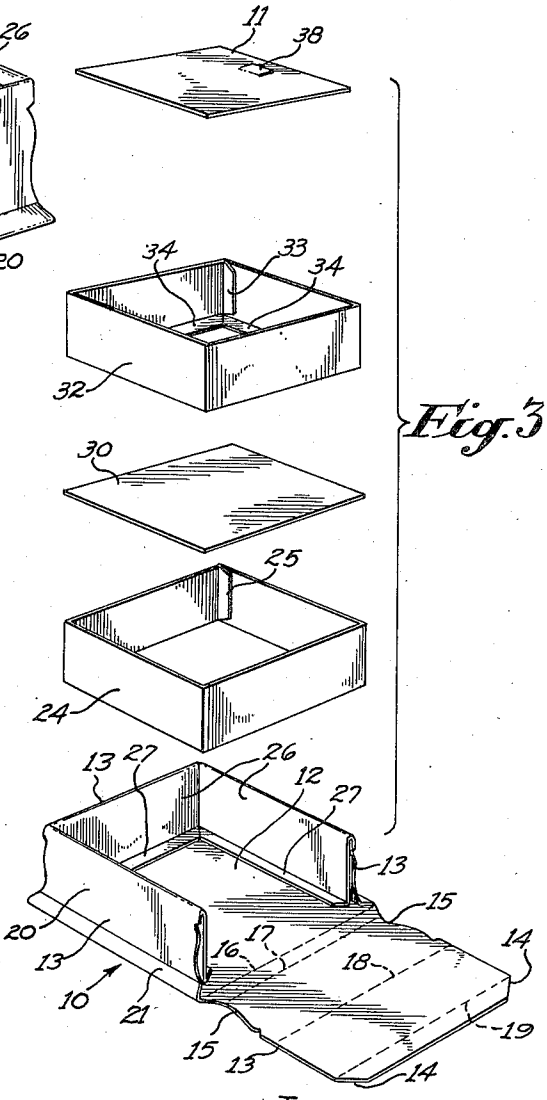


Fig. 3



INVENTOR:
WILLIAM F. BARRY,
BY HIS ATTORNEYS
HARRIS, KIECH, FOSTER & HARRIS,
BY

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BOX CONSTRUCTION

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Fig. 4

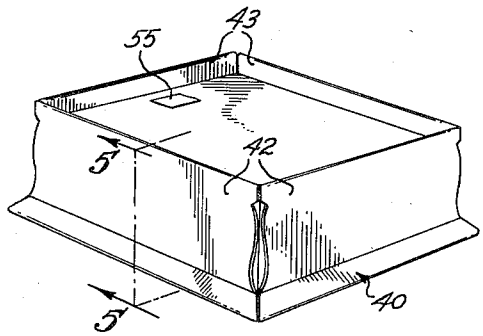


Fig. 5

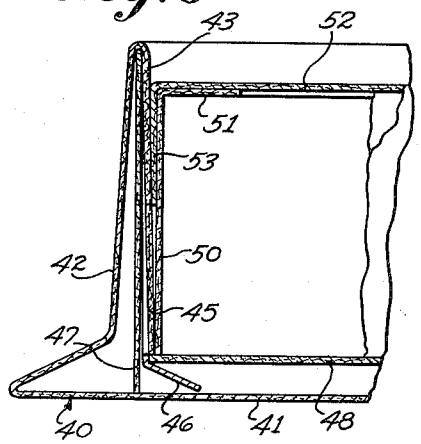
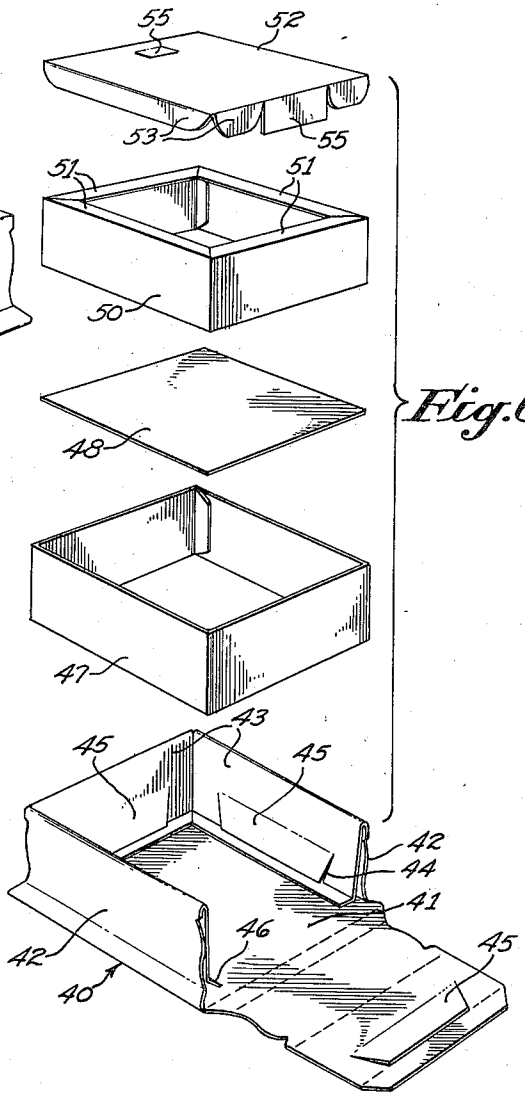


Fig. 6



INVENTOR:
WILLIAM F. BARRY,
BY HIS ATTORNEYS
HARRIS, KIECH, FOSTER & HARRIS,
BY

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UNITED STATES PATENT OFFICE

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BOX CONSTRUCTION

William F. Barry, Los Angeles, Calif.

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11 Claims. (Cl. 229—23)

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This invention relates to containers and particularly to cardboard or fiber boxes used for shipping, storage and display purposes.

One object of my invention is to provide a container of the type specified which is especially pleasing in appearance, being adapted to be made in a variety of shapes and sizes in accordance with the nature of the articles to be packaged and composed of parts having contrasting colors to further enhance the appearance.

Another object is to provide a container which is adapted for manufacture from relatively thin material with means for reinforcing the walls to provide a strong and durable structure capable of supporting considerable weight and withstanding rough handling during shipment.

Another object is to provide a container comprising a minimum number of parts which may be easily and quickly assembled without gluing operations.

Another object is to provide a container adapted to support the contents at a distance from the top, bottom and side walls thereby guarding against damage to the contents when the containers are stacked, one upon another, during storage and shipping.

Further objects and advantages of the invention will be made evident throughout the following part of the specification.

Referring to the drawings, which are for illustrative purposes only:

Fig. 1 is a perspective view of a container embodying the novel features of my invention;

Fig. 2 is a fragmentary vertical section through a side of the container taken on line 2—2 of Fig. 1;

Fig. 3 is a composite perspective view of the several parts of the container shown in Figs. 1 and 2;

Fig. 4 is a perspective view of a container of slightly modified construction;

Fig. 5 is a fragmentary vertical section through the side of the modified type container taken on line 5—5 of Fig. 4; and

Fig. 6 is a composite perspective view of the several parts of the container shown in Figs. 4 and 5.

My improved container comprises, in general, a bottom wall having side walls folded upwardly therefrom, said side walls having panels folded inwardly and downwardly in spaced relation to the side walls to receive a reinforcing member therebetween; means within the container for reinforcing the bottom wall and maintaining the side panels in engagement with the reinforcing

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member; a member inserted in the container to further reinforce the side walls and provided with a rest; and a cover positioned on said rest for closing the container.

Referring to Figs. 1, 2 and 3 of the drawings, the improved container comprises a main box 10 for containing various articles and a cover 11 for closing the top of the box. As shown in Fig. 3, the box 10 consists of a bottom wall 12 with foldable tabs or tongues 13 projecting laterally from the side edges of the bottom wall. The bottom wall 12 may be of any desired shape such as triangular, hexagonal, octagonal or other polygonal contours, the present drawings illustrating the bottom wall as rectangular in order to simplify the description. The tongues 13 are also substantially rectangular in outline and have their outer corners cut at an angle as indicated at 14. Adjacent the point of joinder with the bottom wall 12, the side edges of the tongues 13 are cut away slightly as shown at 15 for a purpose to be later explained, the cut away portions being of any suitable configuration. The tabs or tongues 13 may also be transversely scored as indicated by the dotted lines 16, 17, 18 and 19 in Fig. 3.

In forming the box 10, each tab 13 is first folded on the scored lines 16 and 17 and bent inwardly and upwardly, thereby providing a side wall 20 having a lower inclined rim portion 21 overlying the edge of the bottom wall 12. The side wall 20 may project upwardly perpendicular to the bottom wall 12 but perferably is inclined slightly inward to provide a tapering effect to enhance the appearance of the container. After each tab 13 has been folded upwardly in this manner a reinforcing member 24 is applied to the interior of the box. As shown in Fig. 3, the member 24 comprises a strip of cardboard folded into rectangular outline with the ends of the strip overlapped and glued or otherwise joined together as indicated at 25.

The reinforcing member 24 is placed between the side walls 20 of the box 10 with its lower edges resting upon the bottom wall 12 and thereafter the side walls are folded over the upper edges of the member along the scored line 18, and then downwardly to form inner side-panels 26 positioned against the interior of the member, see Fig. 2. The lower portions of the side-panels 26 are bent along the scored line 19 at right angles to the panels to form projections 27 which are adapted to rest upon the upper surface of the bottom wall 12.

It will be noted from the above that the sides of the container or box 10 comprise, in effect, three

thicknesses of material, namely, the side walls 20, reinforcing strip 24 and inner side panels 26 so that a very strong and rigid structure is provided. It will be observed by reference to Fig. 1 that the cut away portions 15 of the tabs 13 cooperate, when the side walls 20 are formed, to provide openings 28 through which the corners of the reinforcing member 24 may be observed. The member 24 and side walls 20 may be of different colors and the side walls embellished with a suitable design to add to the ornamental appearance of the display container.

After the sides of the box 10 have been formed in the manner above explained, a plate-like cardboard reinforcing and retaining member of substantially the same shape and dimensions as the space between the inner side panels 26 of the box 10 is forced down into the box to rest upon the internal projections 27 of the side walls. The member 30 thus serves to reinforce the bottom of the container and to retain the projections 27 and side panels 26 in place.

A removable element 32 is placed in the box 10 for the purpose of holding the contents of the box therein and to provide a rest for the cover 11. As shown in Fig. 3, the element 32 is similar to the reinforcing member 24 and is adapted to be slid down into place between the side panels 26 of the box 10. The sides of the element 32 are bent inwardly at their lower ends to provide ears 34 which rest upon the reinforcing plate 30. The element 32 may be constructed from a strip of cardboard folded to proper shape with the ends of the strip overlapped and secured together as indicated at 33.

The removable cover 11 for closing the top of the container may consist of a rectangular sheet of cardboard 36 adapted to be inserted in the box 10 and to rest upon the upper edges of the element 32. A strip of decorative paper 37 may be applied to the sides of the sheet 36 as shown in Fig. 2. The paper covering 37 may be slit and a short strip of paper inserted in the slit and secured in place between the paper 37 and sheet 36 to provide a finger tab 38 adapted to be lifted to facilitate removal of the cover 11 from the box 10.

Referring now to Figs. 4, 5 and 6 of the drawings, the improved container is illustrated as embodied in a slightly modified form of construction. The container 40 consists of a bottom wall 41, side walls 42 and inner side panels 43 which are similar to the corresponding portions of the box 10 previously described and shown in Figs. 1, 2 and 3. In the modified container 40 the inner side panels 43 are each provided with a substantially U-shaped slit 44 and the material between the sides of the slit is folded inwardly to provide inclined retaining fingers 45 which are used for a purpose to be later explained. The inner side panels 43 are formed with projections 46 similar to the projections 27 of the side panels 26 but in this case are inclined downwardly with their lower edges abutting the bottom wall 41, see Fig. 5. A reinforcing member 47 is interposed between the side walls 42 and inner side panels 43.

A plate-like member 48 is adapted to be inserted in the box or container 40 and to rest upon the inclined projections 46. As the element 48 is slid down into place in the box its edges ride across the retaining fingers 45 which thereafter snap inwardly to overlie the member 48, see Fig. 5. Through this provision the member 48 is retained in place upon the inclined projections 46 and forms, in effect, a false bottom for supporting the contents.

A removable element 50, similar to the element 32, previously described, may be inserted in the box 40 to provide a protective covering for the contents and the upper edges of its sides folded inwardly to provide a ledge or rest 51 upon which a cover 52 is adapted to seat. A sheet of transparent material, such as cellophane, may be bonded to the rest 51 if desired to further protect the contents. The cover 52 may comprise a sheet of cardboard or the like having downwardly projecting side walls 53 of any desired configuration. One of the side walls 53 may be slit at spaced points and the material between the slits extended to provide a hinge ear 55 adapted to be inserted between the side of the element 50 and one of the inner side panels 43 to pivotally mount the cover 52 on the box. When the cover 52 is swung down to close the container, the side walls 52 will be positioned between the sides of the element 50 and the inner side panels 43 to effectively seal the top of the container, see Fig. 5. A finger tab 55 may also be provided on the cover 52 for facilitating lifting of the cover to open the container.

It will be observed from the foregoing that the present invention provides a container especially suitable for use in packaging various articles such as powder puffs, artificial flower corsages, hair ornaments and other objects usually displayed and sold in decorative boxes. An article may be placed in the box 10 and the element 32 slid down thereover to retain the article therein and to provide a protective covering so that handling and soiling of the article are prevented. It is the usual practice in making ornamental display boxes to form the bottom and sides in such a way that many gluing operations are necessary, thus adding to the over-all cost of the container. The present improved box, on the other hand, may be made from simple parts adapted to be assembled without gluing operations. The container is suitably reinforced to adapt it to withstand rough use and provide maximum protection for its delicate or fragile contents. It will be particularly noted that even though the containers are improperly stacked during storage or subjected to rough handling during shipment, the contents will be fully protected. The unique shape of the container adds greatly to its ornamental appearance and thus increases the sales appeal of the contents, it being understood that the box may be made in the polygonal contour best suited for the shape of the contents.

While the improved container has been herein shown and described as embodied in two preferred forms of construction by way of example, it is to be understood that various changes, modifications and substitutions may be incorporated in the exemplary embodiment disclosed without departing from the spirit or scope of the invention and I hereby reserve the right to all such changes, modifications and substitutions as properly come within the scope of my appended claims.

I claim as my invention:

1. A container comprising: a bottom wall; side walls folded upwardly from said bottom wall, said side walls being cut away along their abutting edges to provide openings at the corners of the container; inner side panels formed integral with and folded inwardly and downwardly in spaced relation to said side walls; an endless lining member interposed between said side walls and inner side panels to reinforce the sides of the container, said lining member being visible through said openings at the corners of the container; and

retaining means for retaining said inner side panels in folded relations.

2. A container comprising: a bottom wall and upwardly extending side walls; inner side panels extending downwardly from the upper edges of said side walls and engageable with said bottom wall; a retaining member inserted in the container and engaging said inner side panels to retain said panels in substantially vertical position and in abutting engagement with said bottom wall; a frame member closely fitting the interior of the container and supported on the retaining member, said frame member being provided with a rest at its upper end; and a cover seated upon said rest for closing the container.

3. In a container having a bottom wall and upwardly extending side walls, the combination of: inner side panels forming continuations of and folded inwardly and downwardly from said side walls to engage said bottom wall; a planar member engaging said inner side panels for maintaining said side panels in substantially vertical position and in engagement with said bottom wall; frame means supported by said planar member and cooperating with said inner side panels to provide a rest adjacent the upper end of the container; and a cover seated upon said rest for closing the container.

4. A container comprising: a bottom wall and sides folded upwardly therefrom; inner side panels forming continuations of and folded inwardly and downwardly from said side walls; a plate-like member inserted in the box and engaging said inner panels to maintain said panels in folded relationship; a frame member carried by said plate-like member; and a cover supported by said frame member.

5. In a container having a bottom wall and upwardly extending side walls, the combination of: inner side panels formed as continuations of and folded inwardly and downwardly from said side walls in spaced relation thereto; an endless lining member interposed between said side walls and panels to reinforce the structure; projections formed on said inner side panels and engaging said bottom wall; a plate-like member engaging said projections to maintain said panels in folded relation against said lining member; a tubular member supported by said plate-like member and being provided with a rest at its upper end; and a cover seated upon said rest for closing the container.

6. In a container having a bottom wall and upwardly extending side walls, the combination of: inner side panels formed integral with and bent inwardly and downwardly from said side walls in spaced relation thereto; an endless lining member interposed between said side walls and said panels to reinforce the structure; projections bent angularly from said side panels to engage said bottom wall; a plate-like member engaging said projections to maintain said panels in folded relation against said lining member; a tubular member closely fitting the interior of the container and supported by said plate member, said tubular member being provided with a rest at its upper end; and a cover seated upon said rest for closing the container.

7. In a container having a bottom wall and upwardly extending side walls, the combination of: inner side panels formed integral with and bent inwardly and downwardly from said side walls in spaced relation thereto; an endless lining member interposed between said side walls and panels to reinforce the structure; projections

bent angularly from said side panels to engage said bottom wall; a plate-like member extending horizontally within the container and engaging said projections to maintain said panels in folded relation against said lining member; a frame member closely fitting the interior of the container and carried by said plate member, said frame member being provided with a rest at its upper end; and a cover seated upon said rest for closing the container.

8. In a container having a bottom wall and upwardly extending side walls, the combination of: inner side panels formed integral with and folded inwardly and downwardly from said side walls in spaced relation thereto; an endless lining member interposed between said side walls and panels to reinforce the sides of the structure; projections bent at right-angles to said inner panels and resting upon said bottom wall; a horizontally extending plate-like member closely fitting between said side panels and positioned against said projections to maintain said panels in folded relation against said lining member; a frame member closely fitting the interior of the container and supported on said plate member; and a removable cover seated upon the upper end of said frame member for closing said container.

9. In a container having a bottom wall and a plurality of upwardly extending side walls, the combination of: inner side panels formed integral with and folded inwardly and downwardly from said side walls in spaced relation thereto; an endless lining member interposed between said side walls and panels to reinforce the sides of the structure; projections formed integral with and bent at an acute angle from the lower ends of said inner side panels to form inclined rests, said inclined rests engaging said bottom wall; and a plate-like member inserted in the container and resting upon the several inclined rests to maintain said inner side panels in substantially vertical position with their inclined rests engaging said bottom wall of the container.

10. In a container having a bottom wall and a plurality of upwardly extending side walls, the combination of: inner side panels formed integral with and folded inwardly and downwardly from said side walls in spaced relation thereto; an endless lining member interposed between said side walls and said inner side panels to reinforce the sides of the structure; means projecting at an acute angle from said inner side panels to provide inclined rests, said means engaging said bottom wall; a plate-like member inserted in the container and seated upon said inclined rests to maintain said inner side panels in substantially vertical position; and retaining means engaging said plate member to retain the plate member seated on said rests.

11. In a container having a bottom wall and a plurality of upwardly extending side walls, the combination of inner side panels formed integral with and folded inwardly and downwardly from said side walls in spaced relation thereto; an endless lining member interposed between said side walls and said inner side panels to reinforce the sides of the structure; means projecting at an acute angle from said inner side panels to provide inclined rests engaging said bottom wall of the container; a plate-like member inserted in said container and seated upon said inclined rests to maintain said inner side panels in substantially vertical position; and retaining means on said inner side panels engaging said plate mem-

ber to retain said side panels seated upon said inclined rests.

WILLIAM F. BARRY.

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