July 31, 1934. O. J. TOWELL 1,968,661

FOLDING DISPLAY CONTAINER

Filed Feb. 11, 1932 3 Sheets-Sheet 1

FIG. 1.

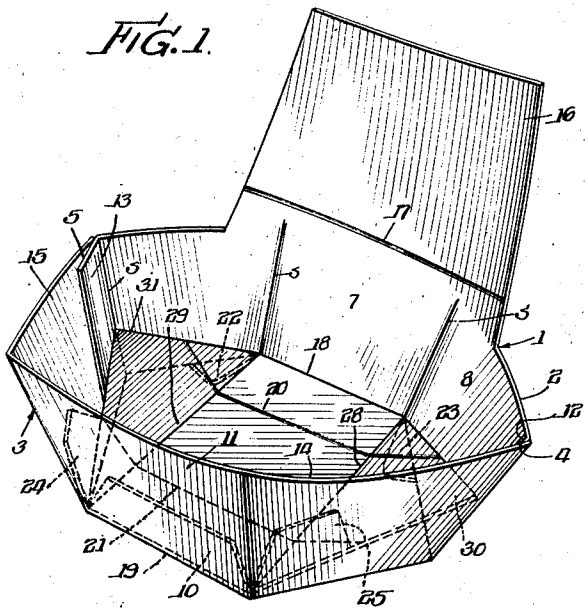


FIG. 2.

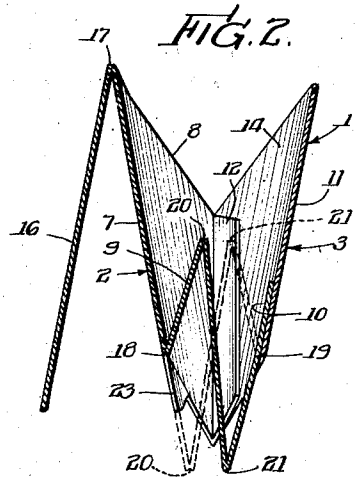


FIG. 3.

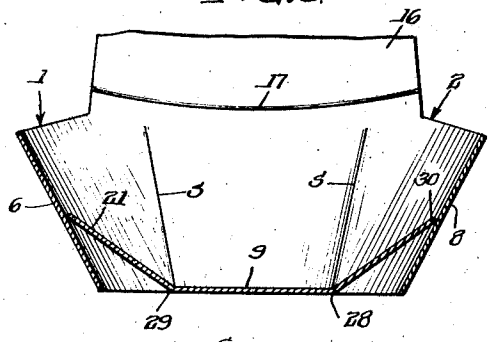


FIG. 4.

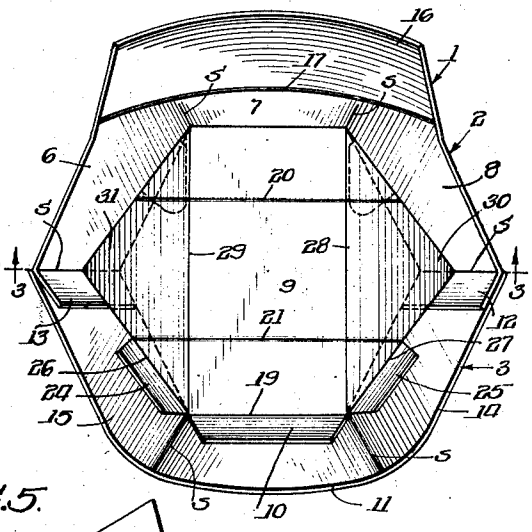
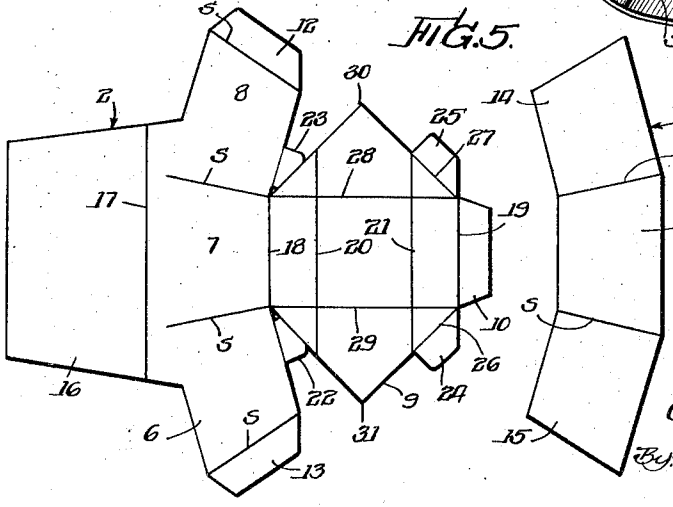


FIG. 5.



Inventor:
Oscar J. Towell,
By: Cheever, Cox & Moore.
Attys.

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FIG. 6.

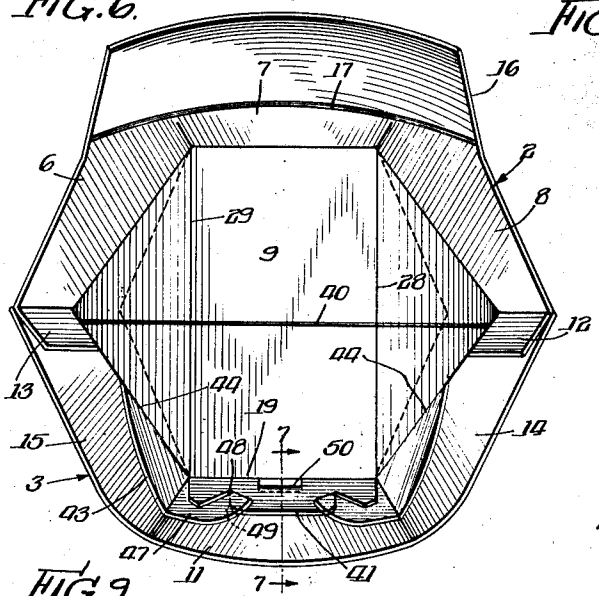


FIG. 7.

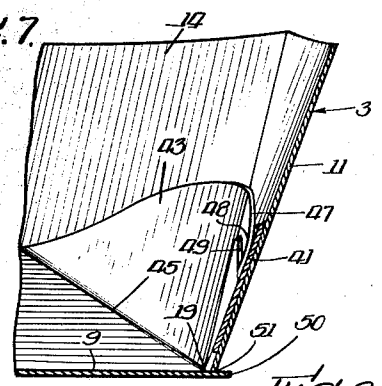


FIG. 8.

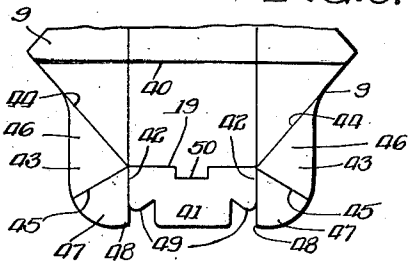


FIG. 9.

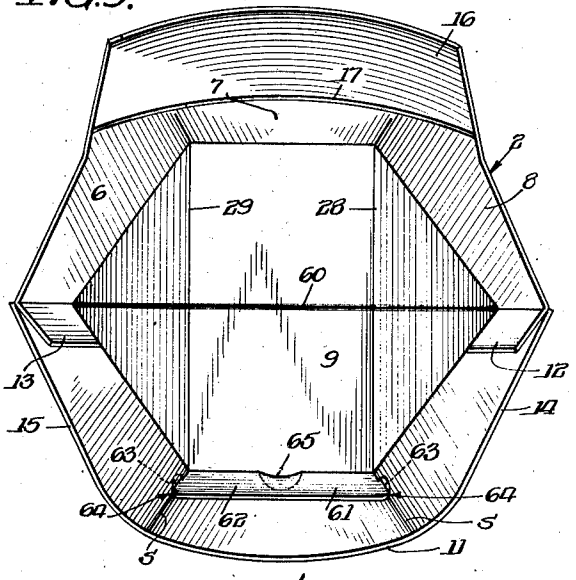


FIG. 10.

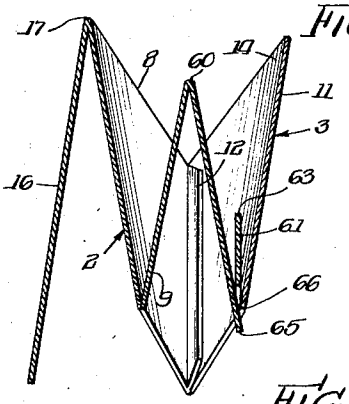


FIG. 11.

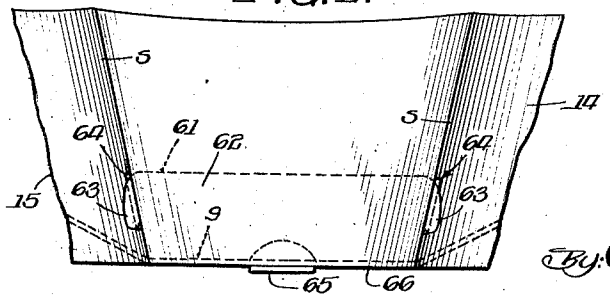
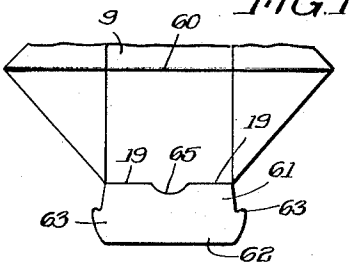


FIG. 12.



Inventor:
Oscar J. Towell,
By: Cheever, Cox & Moore
Attys.

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FIG. 13.

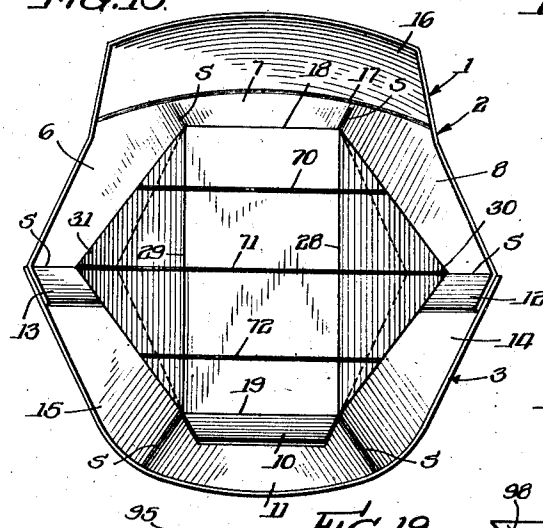


FIG. 14.

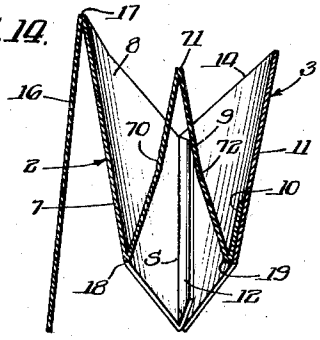


FIG. 15.

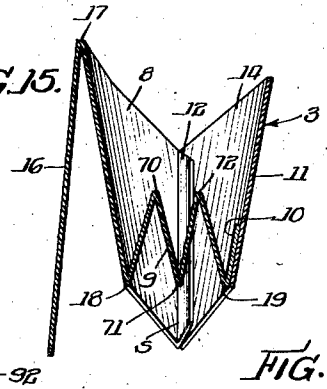


FIG. 19.

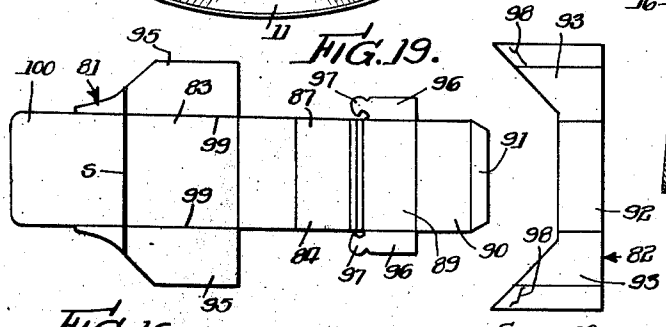


FIG. 16.

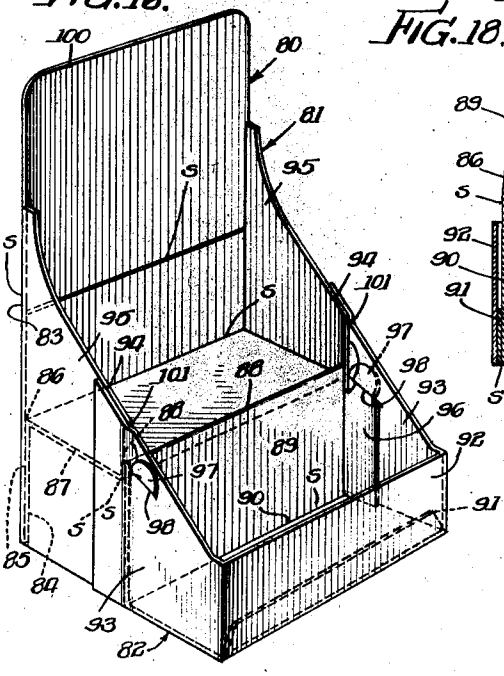


FIG. 18.

FIG. 20.

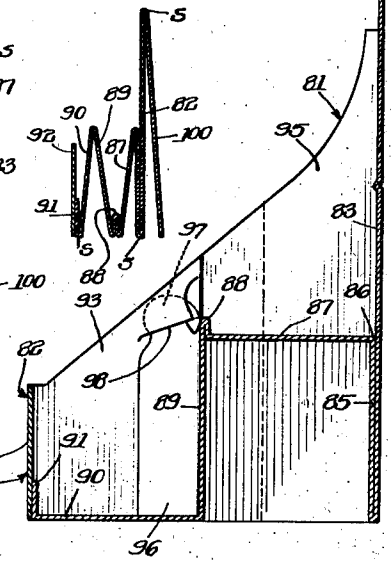


FIG. 17.

Inventor:
Oscar J. Towell,
By Cheever, Cox & Moore
Attys

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UNITED STATES PATENT OFFICE

1,968,661

FOLDING DISPLAY CONTAINER

Oscar J. Towell, Chicago, Ill., assignor to Bunte Brothers, Chicago, Ill., a corporation of Illinois

Application February 11, 1932, Serial No. 592,269

17 Claims. (Cl. 229—41)

This invention relates to collapsible display containers of the type disclosed and claimed in application Serial No. 587,172, filed January 18, 1932, and assigned to the same assignee.

The primary object of the present invention is to provide an improved display container which is collapsible and self-sustaining and which is provided with certain score lines arranged in predetermined positions to permit the bottom to be arranged in predetermined positions and to support a plurality of articles when in expanded position, but preventing the bottom from becoming detached.

A further object is to provide new and improved means for supporting the bottom member in position when the container is expanded.

A still further object is to provide a display container in which the bottom may be arranged to support articles at different levels.

Still another object is to provide collapsible cartons of various shapes and configurations with cooperating article supporting bottoms whereby the articles for the containers may be attractively displayed in the containers, the containers being collapsible and folded flat with the goods for storing and shipping purposes.

Another object is to provide an integral bottom for containers, which bottom is cut from a single blank, the said blank being substantially greater in cross sectional area than the cross sectional area of the container.

Numerous other objects and advantages will be apparent throughout the progress of the following specification.

The accompanying drawings illustrate a selected embodiment of the invention and the views therein are as follows:

Fig. 1 is a detail perspective view of one form of the improved container in expanded position and capable of supporting articles to be displayed.

Fig. 2 is a detail sectional view of the container in partially collapsed position.

Fig. 3 is a detail transverse sectional view through the container on the line 3—3 of Fig. 4.

Fig. 4 is a top plan view of the container in expanded position.

Fig. 5 is a plan view of the blanks from which the collapsible container is formed.

Fig. 6 is a top plan view of a modified form of collapsible display container.

Fig. 7 is a detail sectional view on the line 7—7 of Fig. 6.

Fig. 8 is a detail top plan view of the supporting bottom at the front end thereof showing the manner in which the blank is cut to provide the locking tabs at the forward edge of the bottom.

Fig. 9 is a top plan view showing another modification, particularly the manner in which the forward edge of the bottom has locking engagement with the walls of the container at the front thereof.

Fig. 10 is a cross sectional view of the container shown in Fig. 9, the container being partly collapsed.

Fig. 11 is a detail front elevation of the container shown in Fig. 9.

Fig. 12 is a detail bottom plan view of the container shown in Figs. 9 to 11 showing the locking tabs on the container bottom.

Fig. 13 is a top plan view of a container but having its bottom provided with additional folding score lines.

Fig. 14 is a detail sectional view showing the position the container assumes when the bottom is folded in one position.

Fig. 15 is a similar view showing the bottom folded on all its score lines.

Fig. 16 is a detail perspective view of another form of container having its bottom fastened to the front and rear of the container, the bottom providing stepped surfaces for display purposes when the container is expanded.

Fig. 17 is a transverse sectional view through the container shown in Fig. 16.

Fig. 18 is a cross sectional view through the last named container, the same being partially collapsed.

Fig. 19 is a top plan view of the blanks from which the container shown in Fig. 16 is made.

Fig. 20 is a diagrammatic view showing a different fold.

Referring to the drawings, and particularly to Figs. 1 to 5 thereof, 1 designates a container made from two blanks 2 and 3, Fig. 5. The two blanks are fastened together at the seams 4 and 5 to form a container which, when in expanded position, assumes the shape shown in Fig. 1. The container, when expanded, is substantially hexagonal in shape, assuming the form of a frusto-pyramid.

The blank 2 forms the three rear sides of the container designated generally by the numerals 6, 7, and 8. A bottom 9 is integral with the blank 2 and is provided with a flap 10 which is adapted to be fastened by gluing or otherwise, to the central section 11 of the blank 3. Tabs 12 and 13 are integral with the sides 6 and 8 of the blank 2 and are adapted to be fastened by gluing or otherwise, to the side sections 14 and 15 respec-

tively of the blank 3. A flap 16 extends upwardly from the upper edge of the blank 2 to provide an advertising flap or card, there being a score line 17, Fig. 5, to permit the advertising flap 16 to be folded rearwardly, as shown in Fig. 2.

The bottom 9 is hexagonal in shape, but the sides are not equal, as the distance crosswise of the bottom is greater than the distance from front to rear. The bottom is provided with a score line 18 where it is integrally joined to the blank 2, and it has a score line 19 where the flap 10 is integrally connected to the bottom proper. The blanks 2 and 3 each have other score lines *s* to permit the container to be collapsed together, as shown in Fig. 2. These score lines also permit the container to be quickly and readily expanded. The bottom 9 is further provided with cross score lines 20 and 21 to permit the bottom to fold, as shown in Fig. 2, when the device is collapsed. These score lines also permit the bottom to be bowed downwardly to support articles which are arranged in the container for display purposes. Integral tabs 22 and 23 extend downwardly from the bottom edges of the sections 6 and 8 respectively for the purpose of maintaining the bottom in proper position and to prevent the bottom from bowing downwardly too far should it be carried about with the contents arranged therein. Side tabs 24 and 25 are fastened to the bottom, as indicated in Fig. 5. These latter tabs are hingedly connected to the bottom, there being score lines 26 and 27 to permit folding of the tabs 24 and 25. Front to rear score lines 28 and 29 are formed in the bottom to permit the ends 30 and 31 of the bottom to extend upwardly a predetermined distance in the container and prevent articles in the container from falling out between the top of the bottom and the lower edges of the sides. These extended ends 30 and 31 also permit the bottom to be bowed downwardly without leaving any openings between the bottom and the lower edges of the container.

After the blanks have been cut to the proper shape and configuration, as shown in Fig. 5, the flaps 12 and 13 are glued or otherwise fastened to the side sections 14 and 15, while the flap 10 is glued or otherwise fastened to the central section 11. The container will then assume the position shown in Fig. 2, permitting it to be collapsed along the various score lines, thereby taking up very little room during shipping, as the collapsed container is preferably arranged inside of the package containing the articles which are to be placed in the container when it is expanded. The device is expanded by merely spreading the sides apart and pushing downwardly on one of the score lines. In Fig. 2 the score line 20 is shown in up position, while the score line 21 is arranged in a lowered position. However, this is determinable merely for the purpose of convenience because the score line 20 can extend downwardly, while the score line 21 can be arranged in an upper position, as indicated in dotted lines in Fig. 2. By placing the container on a table in its collapsed position, shown in Fig. 2, the edge 21 will naturally be forced upwardly. Therefore when pressure is applied to the ridge along the score line 20, the bottom will bow downwardly to the position shown in Fig. 1. The flaps or tabs 22 and 23 prevent the edges of the bottom along sections 6 and 8 of blank 2 from being forced under the bottom edges of the container. Likewise, the tabs or flaps 24 and 25 prevent the edges of the bottom along sections 14 and 15 from being forced under the lower edges of blank 3. Furthermore, when articles are put in the container, the articles tend to force the flaps 24 and 25 against the sides and hold them in position. When it is desired to recollapse the container, upward pressure is applied along either the score lines 20 or 21, whereby the container will again assume the position shown in either the full or the dotted lines in Fig. 2, determinable upon which score line is forced upwardly. Of course, when the container is expanded, the flap 16 is raised and thus when the bottom 9 is forced down in bowed position, the flap will bow according to the shape of the back of the container and hold the flap in rigid position.

The cross sectional area of the bottom member 9 is greater than the cross sectional area of the container at the point where the bottom is fastened to the container.

The entire container could be made in one piece and having continuous hinged sides in circuit formation and having only one glue seam. However, if the container were to be manufactured that way, the paper would have to be coated on both sides in order to prevent an uncoated exterior surface at the front of the container or at the back of the container. By making the container out of two separate blanks, as shown in Fig. 5, the upper face of blank 2 is coated, while the lower face of blank 3 is coated. Thus, by looking at the container from the front, the container will have the appearance of being colored and printed on all sides, as the coated surfaces of the cardboard or paper material from which the container is made, are at the front of the container. It is useless that the rear side of the front and back portions of the container be coated as they are not in view.

In Figs. 6 to 8 inclusive, a different type of container is shown. The container is made up of two blanks 2 and 3 exactly in accordance with the container previously described. The bottom 9, however, is provided with only one score line 40 instead of the two score lines 20 and 21. The score line 40, however, is located off the long diameter of the bottom as clearly shown in Fig. 6. Instead of providing the front tab 10, the bottom is provided with a tab or flap 41 of different formation, Fig. 8. The tab 41 is cut along the lines 42 to sever it from the side tabs 43. These latter tabs are integrally attached to the front forward side edges of the bottom, as indicated at 44 and are scored along the lines 45. The tabs 43, when folded in locking position, as shown in Fig. 6, will have their rear portions 46 engaging the side sections 14 and 15, while their forward portions 47 will engage the front section 11 of blank 3. The tab 41 will bend along the score line 19 and also engage the inside of the container on the inner wall of section 11. The extreme ends 48 of the members 43 will be locked behind the ears 49, Fig. 8, and thus provide a rigid connection across the front of the container to hold the bottom in rigid position even though there is no positive fastening connection between the bottom and the container at the front side thereof. In actual practice, it has been found that this construction is substantially as strong as if the tabs were glued to the inner face of the container. A tongue 50 is cut from the bottom at the score line 19 and this tongue extends underneath the bottom edge 51 of the container, as clearly shown in Fig. 7. The purpose of this tongue is to hold the container in extended position and prevent it

from collapsing when no articles are in the container.

The container shown in Figs. 9 to 12 inclusive comprises a longitudinal score line 60 across the long diameter of the hexagonal body and is folded upwardly in the same manner as the container described in the aforesaid copending application. However, instead of fastening the front tab 61 to the front section of the container, as described in the aforesaid copending application, or in the manner described relative to Fig. 1, the tab 61 is made a little longer and wider to provide a forward section 62 which engages the inner front face of section 11 and end ears 63 which extend through slots 64 provided along the score lines separating section 11 from sections 14 and 15. A tongue 65 may be cut from the tab 61 to extend underneath the bottom edge 66 of the container, Fig. 11.

The score lines 28 and 29 in each of the containers permit the end sections 30 and 31 of the bottom to bear against the sides of the container and assist in maintaining the container in expanded position.

In Figs. 13 to 15 inclusive there is shown a container similar to the container mentioned in the aforesaid copending application, and also similar to the container shown in Figs. 1 to 5 inclusive. This latter container, however, is provided with three score lines 70, 71, and 72 as well as the front to rear score lines 28 and 29. The container shown in Fig. 13 is adapted to be folded very similarly to the container described in the aforesaid copending application in the manner shown in Fig. 14. These score lines 70, 71, and 72 permit the container to be folded in the manner shown in Fig. 15.

In all the containers thus far described, the area of the bottom member 9 is greater than the area of the container at the point where the bottom is connected to the container. Each bottom is adapted to be pushed downwardly and bowed downwardly, thereby creating a tension against the sides of the containers to maintain them in expanded position.

In Figs. 16 to 19 inclusive there is shown a rectangular box or container 80. The container 80 is cut from two blanks 81 and 82, Fig. 19, and comprises a back 83 and a bottom 84. The bottom 84 is adapted to be folded up against the back 83 as indicated at 85, Fig. 16, and then folded along the line 86 to provide a horizontal shelf 87. The bottom may be bent back against itself to provide an upstanding ledge 88 to support articles arranged on the shelf 87. The bottom extends downwardly vertically, as indicated at 89, and then forwardly to provide a bottom shelf 90. An upstanding tab 91 is provided at the forward end of the bottom and is glued or otherwise fastened to the front flap 92 of blank 82. Side extensions 93 are formed on blank 82 and are glued or otherwise fastened, as indicated at 94, to the side extensions 95 which are integral with the back 83. The portion 89 of the bottom section is provided with side flaps 96 having ears 97. These flaps engage the inner side edges of the sides 93 and extend through slits 98 formed in the said sides. This ear and slit arrangement forms a locking engagement to hold the bottom in proper position and is the type of lock which is commonly known in the art as a "Greenleaf" lock.

The section 81 is scored at 99, permitting the side flaps 95 to be folded relative to the back 83. The back 83 extends upwardly a predetermined distance to provide an advertising display card 100. Various score lines *s* are formed in blanks 81 and 82 for the purpose of permitting the container to be folded to proper extended position and to permit the container to be collapsed. When the container is to be collapsed, the locking ears 97 are moved from their cooperating slots 98, thereby permitting the container to be collapsed in the manner shown in Fig. 18, the sides of the container which constitute the parts 95 and 93, spreading outwardly along the vertical score lines 101, while the bottom will fold up against the back as clearly shown in Fig. 18. Due to the number of horizontal score lines, the container may be folded as shown diagrammatically in Fig. 20, instead of the way it is shown folded in Fig. 18.

The invention provides a collapsible folding box or container for displaying articles, such as candy and other confectionery. Each container comprises a bottom member foldable along various score lines and of greater cross sectional area than the normal area of the container at the bottom thereof. The container can be easily and readily manufactured, and can be instantly expanded by pushing down on the bottom. Improved locking means are provided on all of the containers for preventing them from collapsing, although the construction of the containers is such that by bowing out their bottoms, they will remain in expanded position. In all instances, the bottom is made an integral part of the back and various means are provided for maintaining the bottom in proper position relative to the balance of the container. Where the forward edge of the bottom is not permanently fixed to the container, such as by stapling or gluing, locking ears or tabs are provided for holding the bottom in proper position. The invention provides a container which may be very economically manufactured, which is strong and durable, when expanded, and capable of supporting a relatively large amount of material, and is instantly collapsible so as to take up very little space.

Changes may be made in the form, construction, and arrangement of the parts without departing from the spirit of the invention or sacrificing any of its advantages, and the right is hereby reserved to make all such changes as fairly fall within the scope of the following claims.

The invention is hereby claimed as follows:

1. A collapsible display container comprising a plurality of hingedly connected sides, a bottom hingedly and integrally connected with one of said sides and having contacting engagement with a bottom edge of another of said sides, and a plurality of score lines in said bottom whereby the bottom may be collapsed in folded position between the front and rear of the container to provide at least two folds in the bottom.

2. A collapsible display container comprising a plurality of hingedly connected sides, a bottom hingedly and integrally connected with one of said sides and fastened to another of said sides, and a plurality of score lines in said bottom whereby the bottom may be collapsed along all of said score lines.

3. A collapsible display container comprising a plurality of hingedly connected sides, a bottom hingedly and integrally connected with one of said sides and fastened to another of said sides, and a plurality of score lines in said bottom whereby the bottom may be folded along said score lines to provide a plurality of folds and positioned between the front and rear of the container, the bottom comprising a member of

greater area than the area of the container where the bottom is fastened to a said side.

4. A collapsible display container comprising a plurality of hingedly connected sides, a bottom hingedly and integrally connected with one of said sides and having contacting engagement with another of said sides, a plurality of score lines in said bottom whereby the bottom may be collapsed in folded position along said score lines between the front and rear of the container, and ears on said bottom and engaging some of said sides.

5. A collapsible display container comprising a plurality of hingedly connected sides, a bottom hingedly and integrally connected with one of said sides and having contacting engagement with another of said sides, said bottom being bowed when the container is in extended position, a plurality of score lines in said bottom whereby the bottom may be collapsed in folded position between the front and rear of the container, ears on said bottom and engaging some of said sides, and ears integral with said sides and extending from the bottom thereof and forming a guide and support for said bottom and preventing articles from falling out of the container between the bottom edges of the sides and the top of said bottom.

6. A collapsible display container comprising a plurality of hingedly connected sides, a bottom hingedly and integrally connected with one of said sides and having contacting engagement with another of said sides, said bottom being provided with a score line to permit the bottom to be folded between a front side and back side of the container, said bottom being bowed downwardly when the container is in extended position, and interlocking means on the free end of said bottom and having interlocking engagement with some of said sides.

7. A collapsible display container comprising a plurality of hingedly connected sides, a bottom hingedly and integrally connected with one of said sides and having contacting engagement with another of said sides, said bottom being provided with a score line to permit the bottom to be folded between a front side and back side of the container, interlocking means on the free end of said bottom and having engagement with some of said sides, and a tab cut from said bottom and adapted to extend under the bottom edge of at least one of said sides.

8. A collapsible display container comprising a plurality of hingedly connected sides, a bottom hingedly and integrally connected with one of said sides and having one of its ends free, said bottom being provided with a hinge structure to permit the bottom to be folded upwardly between a front side and back side of the container without necessitating disconnection of said bottom and sides, and means on the free end of said bottom adapted to interlockingly engage at least one of the sides.

9. A collapsible display container comprising a plurality of hingedly connected sides, a bottom hingedly and integrally connected with one of said sides and having its other end free, said bottom being provided with a score line to permit the bottom to be folded between a front side and back side of the container, and an ear on the free end of said bottom and extending through a slot in the container for locking the bottom to the container.

10. A collapsible display container comprising a plurality of hingedly connected sides, a bottom hingedly and integrally connected with one of said sides and having its other end free, said bottom being provided with a score line to permit the bottom to be folded between a front side and back side of the container, ears on the free end of said bottom and extending through slots in the container for locking the bottom to the container, and a tongue punched from said bottom but integral therewith and extending beneath a lower edge of the container.

11. A collapsible display container comprising a back, a bottom and sides integrally connected to said back, a front member having side arms, the side arms being connected to said first named sides, said bottom being connected to said front and having a plurality of score lines therein to permit the bottom to be collapsed between the front and back.

12. A collapsible display container comprising a back, a bottom and sides integrally connected to said back, a front member having side arms, the side arms being connected to said first named sides, said bottom being connected to said front and having a plurality of score lines therein to permit the bottom to be collapsed between the front and back, and locking ears on said bottom and engaging all of said sides.

13. A collapsible display container comprising a back, a bottom and sides integrally connected to said back, a front member having side arms, the side arms being connected to said first named sides, said bottom being connected to said front and having a plurality of score lines therein to permit the bottom to be collapsed between the front and back, locking ears on said bottom and engaging all of said sides, said bottom being provided with an upstanding ridge.

14. A collapsible display container comprising an enclosing wall, a bottom having integral connection with the wall and having a free end, said wall having a slit therein, an ear on the free end of the bottom and engaging the slit to lock the bottom to the wall, said bottom being flexed downwardly to maintain the wall in a state of expansion, and a rear portion hinged to and integral with the wall and extending a predetermined distance above the upper edge of the wall.

15. A collapsible display container comprising a plurality of hingedly connected sides, a bottom structure including a member hingedly and integrally connected with one of said sides, said bottom structure being scored to facilitate the downward flexing thereof and thereby enable said bottom structure to cooperate in maintaining the container sides in a state of expansion, and interlocking means on the free end of the hinged member adapted to interlock with a complementary side of the container.

16. A collapsible display container comprising a plurality of hingedly connected sides, a bottom structure including a member hingedly and integrally connected with one of said sides and having marginal contacting engagement with other of said sides, said bottom structure being scored to facilitate the marginal coaction of said hingedly connected member with the container sides to maintain said sides in a state of expansion, and interlocking means on the free end of said hingedly connected member adapted to interlock with at least one side of said container.

17. A collapsible display container comprising a plurality of hingedly connected sides, a bottom structure including a member hingedly and integrally connected with one of said sides and having marginal contacting engagement with

other of said sides, said bottom structure being scored to facilitate the marginal coaction of said hingedly connected member with the container sides to maintain said sides in a state of expansion, interlocking means on the free end of said hingedly connected member adapted to interlock with at least one side of said container, and a rear display section extending upwardly from said container, said display section being formed from a blank of sheet material which is individual with respect to the blank from which the front portion of the container sides is formed, whereby to facilitate the use of the container for display purposes.

OSCAR J. TOWELL.