

[54] SCOOP TYPE CONTAINER

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229/16 D; 229/41 R

[51] Int. Cl. B68d 5/36

[58] Field of Search 229/41 B, 41 R, 41 C, 41 D,
229/53, 57, 60, 61, 16 R, 16 D, 8, 21, 1.5 B

[56] References Cited

UNITED STATES PATENTS

1,478,838	12/1923	Reifsnyder	229/61
2,337,199	12/1943	Holy	229/16 R
3,630,430	12/1971	Struble	229/8
3,684,157	8/1972	Mendez	229/16
3,845,897	11/1974	Buttery et al.	229/16 R

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[57]

ABSTRACT

A collapsible container formed from paperboard or similar foldable sheet material which is fabricated in collapsed condition and which is characterized by front and back wall forming panels hingedly joined at the bottom and having vertical side wall panels which are connected to portions of the corresponding side edges of the front and back wall panels on hinge lines each having angularly related portions which converge inwardly in the plane of the front and back wall panels and which side wall panels are collapsible on a central vertical hinge line into the plane of the collapsible front and back wall panels, the collapsed container being adapted to be opened up for use by inward pressure on the center hinge portions of the side wall panels sufficient to move the side wall panels toward each other to a fully open and locked position, the side wall panels being freed at bottom edge portions from the front and back wall panels, thereby enabling the bottom portions of the side wall panels to form leg-like supports and rendering the container self supporting when opened up and placed in an upright position.

11 Claims, 8 Drawing Figures

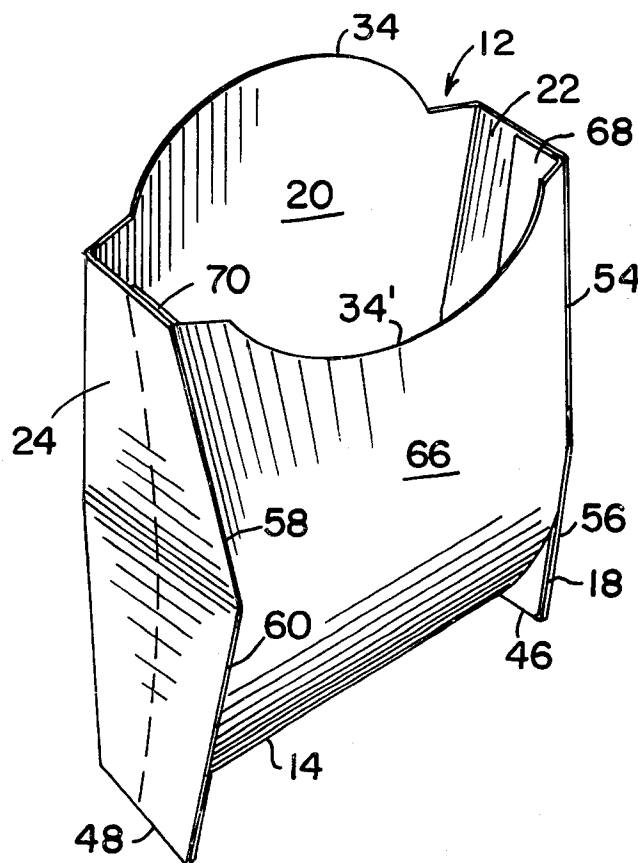


FIG. 1

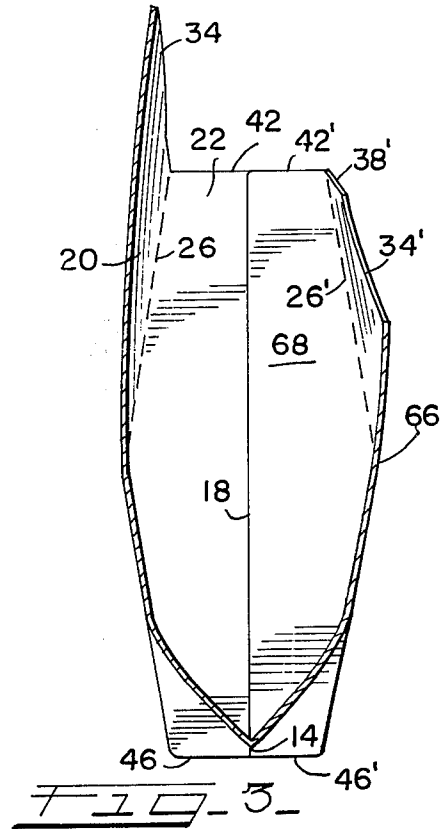
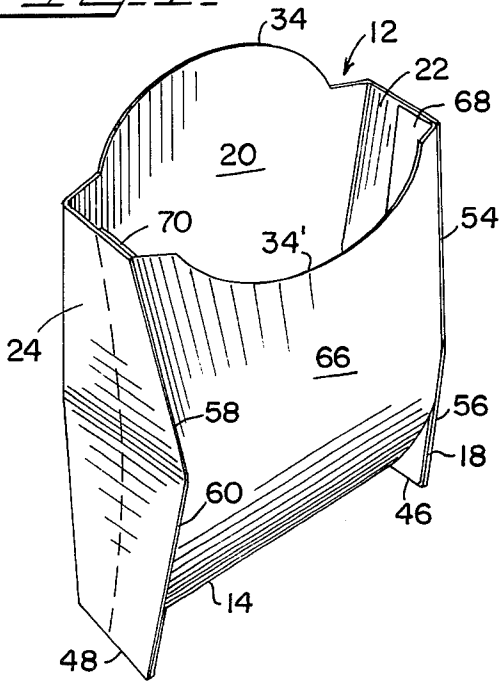


FIG. 4

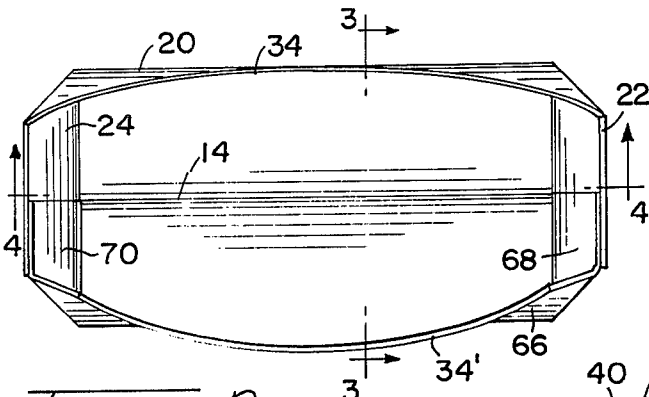
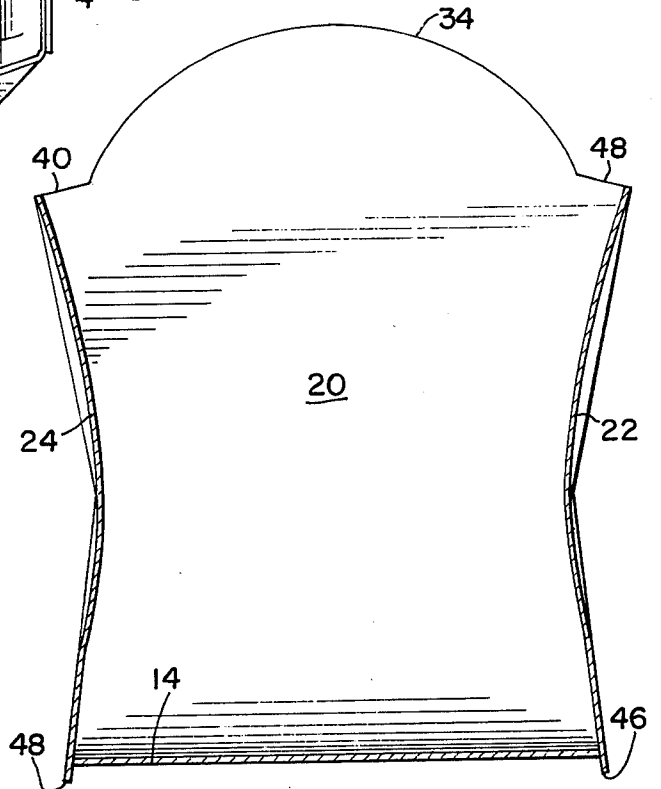


FIG. 2

FIG. 5

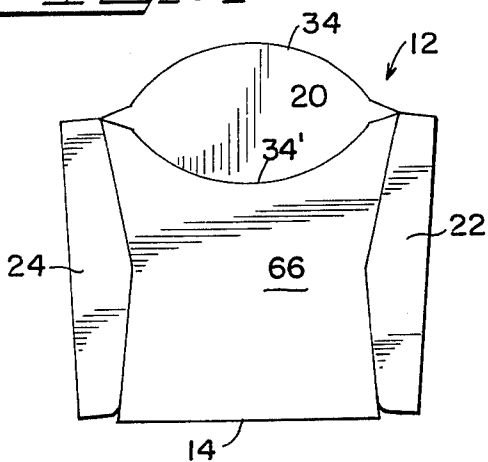


FIG-8-

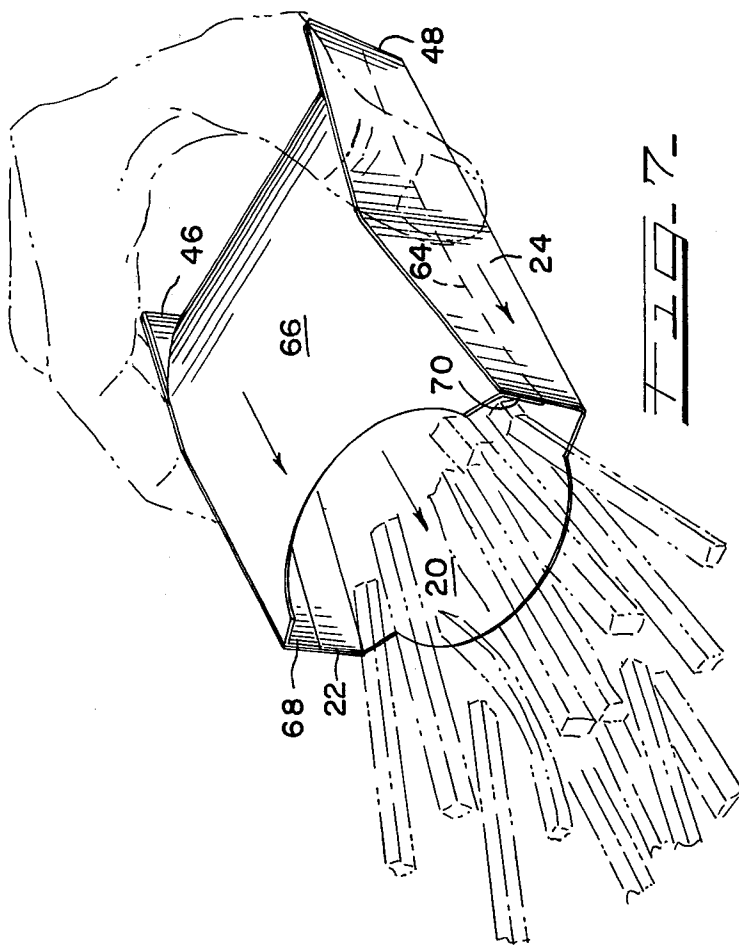
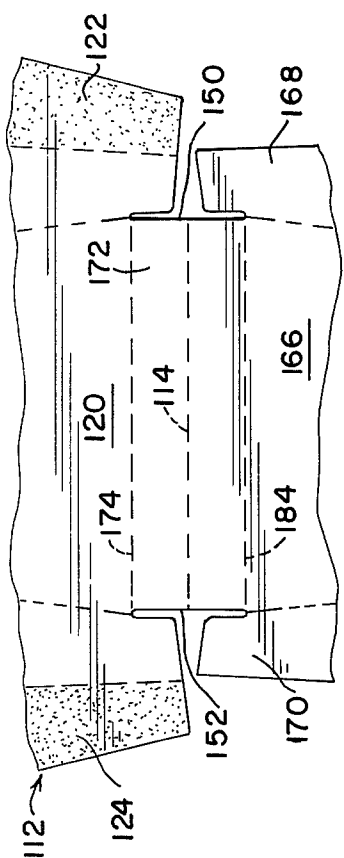
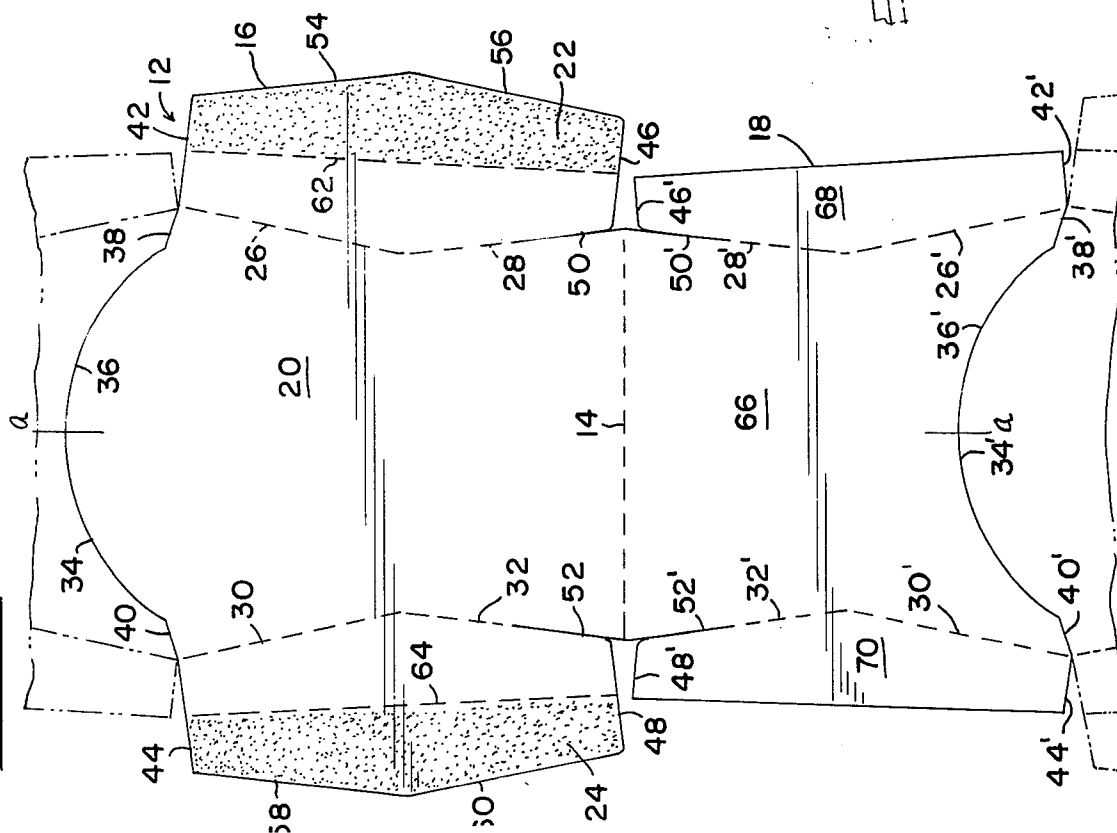


FIG-6-



SCOOP TYPE CONTAINER

This invention relates to containers fabricated of paperboard or similar foldable sheet material and is more particularly concerned with improvements in containers which are especially useful for handling products in food service establishments such as restaurants, roadside stands, or the like.

In serving some of the products which are offered in fast food service establishments, for example, french fried potatoes, it has been the practice to use open top containers, generally in the form of collapsed paper bags, for measuring and serving individual helpings of the product. These have been a flexible wall type which generally do not hold a definite quantity of the french fries or other product when opened up. Also, they are generally not flat bottomed so as to be set in an upright position when filled with the product. In addition, the paper bag containers may not open easily and may be torn in handling with the speed demanded by quick service operations. Some containers for this purpose have been developed which are manufactured of paperboard or other less flexible material so as to provide greater rigidity than paper and which may be adapted to remain upright when opened, filled with a product and set upright on a table or counter. However, the paperboard containers thus far designed are more expensive and generally require substantial manipulation to open up without providing for any more accurate or uniform measuring of the product than the paper containers. It is an object of the present invention to provide an improved container for this and other purposes which may be produced economically in collapsed or flattened condition, which is more easily opened for use and which has other advantages over containers of this type heretofore provided.

A more specific object of the invention is to provide a container which is especially suitable for use in connection with the serving of food products, particularly, french fries, or the like, in fast service restaurants, which may be supplied in collapsed condition, which is openable to a locked position with provision for standing upright on a table, counter or similar support and which is adapted to hold a predetermined quantity of the product so as to enable it to be employed as a satisfactory measuring scoop as well as a container from which an individual serving of the product may be consumed.

A further object of the invention is to provide a collapsible container which may be formed from a cut and scored blank of paperboard or similar foldable sheet material which blank comprises a minimum of paperboard for the container capacity desired and which may be readily cut, scored and assembled economically on presently available carton forming machinery with minimum modification.

Another object of the invention is to provide a collapsible container of paperboard or similar foldable sheet material having a sufficient degree of rigidity and a construction whereby it may be opened into a locked position with an open top and having a form enabling it to be used as a scoop and for measuring substantially uniform quantities of a product, for example, french fries or the like, in a fast food serving establishment.

A still further object of the invention is to provide a container which may be fabricated of foldable paperboard, or the like, in collapsed or flattened condition

and on a well known type of carton forming machinery, which container comprises front and back wall forming panels connected on one or more transverse hinge lines at the bottom so as to enable the panels to collapse on each other into a common plane and having upper portions of corresponding side edges of the front and back wall forming panels connected by side wall forming panels on hinge lines which have upper and lower portions in angular relation and converging inwardly in the plane of the front and back wall panels, said side wall panels each being divided by vertical hinge lines which enable these panels to collapse outwardly into flattened condition, with the lower portions of the side wall panels being cut free of the front and back wall panels so that when opened up the container may be placed in an upright position and supported on the bottom edges of the side wall panels.

These and other objects and advantages of the invention will be understood from a consideration of the container and the method of forming the same which is shown by way of illustration in the accompanying drawings, wherein:

FIG. 1 is a perspective view of a container which embodies the principles of the invention, the container being shown in unfilled upright position;

FIG. 2 is a top plan view, to a somewhat larger scale, of the container of FIG. 1;

FIG. 3 is a cross section on a vertical plane which is taken on the line 3—3 of FIG. 2;

FIG. 4 is a vertical section taken on the line 4—4 of FIG. 2;

FIG. 5 is an elevational view of the container of FIG. 1 in collapsed or flattened condition;

FIG. 6 is a plan view of a cut and scored paperboard blank employed in fabricating the container;

FIG. 7 is a perspective view illustrating the use of the container as a measuring scoop for serving a food product; and

FIG. 8 is a plan view of a portion of a cut and scored blank suitable for fabricating a modified form of the container.

The container 10 which is illustrated in FIGS. 1 and 5 will be best understood by referring first to the blank 12 which is shown in FIG. 6 and which is cut, scored and supplied with adhesive preparatory to forming the container 10 in collapsed or flattened condition, as illustrated in FIG. 5.

The cut and scored blank 12 is preferably formed from a sheet or web of bendable or foldable paperboard of suitable gauge or weight for the particular use for which the container is desired. As shown, the blanks 12 may be cut from a continuous web with the ends in the longitudinal direction cut so as to nest with the trailing and leading ends of preceding and succeeding blanks of the same character. The blank 12 is of generally rectangular shape and is cut and scored so that it is symmetrical about a longitudinal center line *a—**a* with the portion on each side of the line *a—**a* being a mirror image of the portion on the other side. The blank 12 is divided longitudinally by transverse score line 14 into two panel forming sections 16 and 18, each of which is subdivided, as hereinafter described.

The blank section 16 is subdivided into a wall panel 20 which is adapted to form the back wall of the container, when set up for use, and two laterally extending side wall forming panels 22 and 24 which are mirror images of each other, by laterally spaced pairs of score

lines 26, 28 and 30, 32 which extend longitudinally of the blank. The score lines of each pair thereof extend in converging relation inwardly of the blank and to a meeting point intermediate the longitudinal ends of the blank section 16, the latter being defined by the transverse score line 14 and the transverse cutting line 34. The major center portion 36 of the end edge of the blank which is formed by cutting on the line 34 is arcuate or bowed in the outward longitudinal direction with the ends meeting the inner ends of relatively short, laterally extending, outwardly slanting edge portions 38 and 40 which are in outwardly diverging relation and merge at their outer ends into the outwardly slanted end edges 42 and 44 of the side wall forming panels 22 and 24 which are also in outwardly diverging relation. The panels 22 and 24 are cut at the opposite ends on transverse lines so as to define bottom edges 46, 48 which are spaced at the ends adjoining the back wall forming panel 20 a short distance from the plane of the transverse score line 14. The side wall forming panels 22 and 24 have end portions adjacent the end edges 46, 48 which are freed from the back wall forming panel 20 by the cutting lines 50, 52 which coincide with end portions of the score lines 28 and 32. The side wall forming panels 22, 24 are cut to provide outer edges with longitudinally extending, angularly related portions 54, 56 and 58, 60. Each pair of said edge portions extend in outwardly converging relation to a center meeting point opposite the meeting point of the inner score lines 26, 28 and 30, 32 which define the hinge connection of the side wall forming panels with the back wall forming panel 20. The side wall forming panels 22 and 24 are each divided into two equal panel portions by a center score line 62, 64 enabling these panels to fold up themselves about the score lines 62, 64.

The blank section 18 is divided into a wall panel 66 which is adapted to form the front wall of the container, when set up for use, and two laterally extending panels forming glue flaps or connecting panels 68, 70 which are adapted to form a connecting joint with the free edges or margins of the side wall forming panels 22 and 24. The glue flaps or side wall connecting panels 68, 70 are separated from the front wall forming panel 66 on longitudinally extending pairs of score lines which are of the same character as the edge defining score lines 26, 28 and 30, 32 of the back wall forming panel 20 and which are identified by corresponding numerals primed. The panels 68, 70 in the form shown are cut so as to have the shape of the outside halves of the side wall forming panels 22, 24 with slightly less width. The end portions of the glue flaps 68, 70 are freed from the front wall forming panel 66 on the cutting lines 50', 52' which coincide with end portions of the score lines 28', 32'. The free end of the blank section 18 is cut on a transverse line 34' of the same configuration as the transverse cutting line 34 at the other end of the blank 12 and provides an arcuate edge portion 36' which bows inwardly of the panel 66 and which has its ends terminating at edge forming portions 38', 40' which are parallel with the edge forming cutting line portions 38, 40 while the end edge portions 42', 44' on the glue flap panels 68, 70 are cut to coincide with the end edge portions 42, 40 of the side wall forming panels 22, 24.

The cut and scored blank 12 is supplied with an adhesive on the bottom side of the flaps 68 and 70, as viewed in FIG. 6, on the top side of the outermost halves of the side wall forming panels 22 and 24, after

which the blank is folded on the transverse score line 14 to bring the panel 66 onto the panel 20 and the outermost halves of the panels 22 and 24 are folded inwardly on the score lines 62 and 64 so that the outermost halves of these panels overlie the connecting flaps 68 and 70 and are adhesively secured thereto. The application of the adhesive and the folding operations may be accomplished on conventional carton forming machinery.

In using the container 10, it may be fully opened by grasping between the thumb and forefinger of one hand with sufficient pressure to move the side wall panels to the locked position which is shown in FIGS. 1 and 7. As illustrated in FIG. 7 a collapsed or flattened container, with a single motion of one hand, may be picked up, opened and used to scoop up a quantity of french fries, or any other product, after which the container may be set in upright position, as shown in FIG. 1, with the product readily available for removal. In the opened position the container provides a measuring device for serving a predetermined quantity of a product, all the panels being locked in position and having substantial rigidity due to the inwardly bowed hinge connections between the side wall panels and the front and back wall panels which results in outward bowing of the front and back wall panels and increases the rigidity of the latter thereby fixing to a substantial degree the capacity of the opened container.

A modified form of the container may be fabricated from the blank 112, a center portion of which is shown in FIG. 8, the remaining portions of the blank being cut and scored in the same manner as the blank 12 in FIG. 6, corresponding parts of which are represented by the same numerals plus 100. The center transverse score line 114 corresponds to the score line 14 in the blank 12. The blank 112 is provided with parallel transverse score lines 174 and 184 which are spaced equally on opposite sides of the line 114 in the direction longitudinally of the blank. The bottom wall forming panel 172 thus formed between the score lines 174 and 184 is cut at the ends on lines 150 and 152 to free it from the side wall forming panel members 122, 124 and 168, 170 so as to enable the panel 172 to open to a generally planar position when the resulting container is opened up in the same manner as the container 10 which is formed from the blank 12. The blank 112 is supplied with adhesive and folded in the same manner as the blank 12 in fabricating the container in collapsed condition, the initial fold being on the transverse fold or hinge line 114. The collapsed container is adapted to be opened and used in the same manner as the container 10 and affords the same advantages with the addition of a relatively flat bottom of substantial width which may facilitate complete removal of the contents.

I claim:

1. A collapsible container formed from a paperboard blank which is cut and scored to provide, when opened up, front and back wall forming panels and side wall forming panels, said front and back wall panels having side edge portions connected to said side wall forming panels on hinge lines having top and bottom sections converging inwardly so that said side wall panels are bowed inwardly into a locked position, said front and back wall panels having bottom portions curved inwardly to a hinge connection which extends between the side wall panels, thereby forming the bottom wall of the container, said front and back wall bottom panel

portions having side edge portions cut free of the bottom portions of the front and back edges of said side wall forming panels, said side wall panels having vertically extending hinge forming center score lines which are in the plane of the front and back wall bottom hinge connection so as to enable the side wall panels to fold outwardly upon themselves and permit collapse of the front and back wall panels upon each other.

2. A collapsible container as set forth in claim 1 wherein said front and back wall forming panels have hinge forming parallel transverse score lines spaced on opposite sides of the hinge connection between said wall forming panels which define a bottom wall when the container is in opened up condition.

3. A collapsible container as set forth in claim 1 wherein said side wall forming panels have bottom marginal portions which extend below the hinge connection between the front and back wall forming panels and form leg portions on which the container is adapted to rest when in upright open position on a supporting surface.

4. A collapsible container as set forth in claim 1 wherein said back wall forming panel has an extended portion at the top of the container and the front wall has a portion of the topmost margin cut away.

5. A collapsible container as set forth in claim 1 wherein said top and bottom sections of said hinge lines at the connection of the side wall forming panels with the front and back wall forming panels are on straight lines converging to a point intermediate the top and bottom of said front and back wall forming panels.

6. A container formed from a blank of paperboard or similar bendable sheet material which comprises, when in an upright position, a back wall forming panel and a front wall forming panel with bottom marginal portions thereof connected on a transverse hinge line, said front and back wall forming panels having corresponding side edges connected in spaced relation by side wall forming panels, the connections between said front and back wall panels and said side wall panels being on lines which are generally arcuate so that said side wall forming panels are inwardly bowed, said side wall forming panels having bottom marginal portions which are free of the bottom edges of the front and back wall forming panels, and which extend at least to the bottom hinge connection between said front and back wall forming panels, with bottom edges constituting means for supporting the container in upright position.

7. A container as set forth in claim 6 wherein said front and back wall forming panels have parallel, transverse scores at the bottom which are spaced on opposite sides of said transverse hinge line so as to define a generally rectangular bottom wall forming panel.

8. A container as set forth in claim 6 wherein said front and back wall forming panels have top edges which are arcuate in opposite directions so as to form an extension on the one and a cut away recess in the opposite one.

9. A container as set forth in claim 6 wherein said side wall forming panels have bottom marginal portions depending below said bottom hinge connection between said front and back wall forming panels and which terminate in substantially straight line edges.

10. A blank for use in fabricating a collapsible container which comprises an elongate, generally rectangular sheet of paperboard or similar bendable sheet material, which blank is divided longitudinally by a transverse score line into two container wall panel forming sections, each of said blank sections being scored on longitudinally extending, transversely spaced lines to define the side edges of container front and back wall forming panels which extend in opposite directions from said transverse score line, and each of said transversely spaced score lines being divided into two substantially equal portions which converge inwardly to a substantially central meeting point, each of said blank sections having laterally extending panel portions cut in the blank side margins which define container side wall forming panel members with the longitudinal edges thereof coinciding with said inwardly converging portions of said longitudinally extending, transversely spaced score lines and said side wall forming panel members being cut free of the adjoining front and back wall forming panel members on lines extending a short distance from said transverse score line and coinciding with portions of said longitudinally extending score lines.

11. A blank for fabricating a collapsible container as set forth in claim 10 wherein said container front and back wall forming panels are scored on transverse lines which are parallel with and equally spaced a short distance from said transverse score line, said score lines defining a container bottom wall forming panel with its opposite ends cut free of said side wall forming panels.

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