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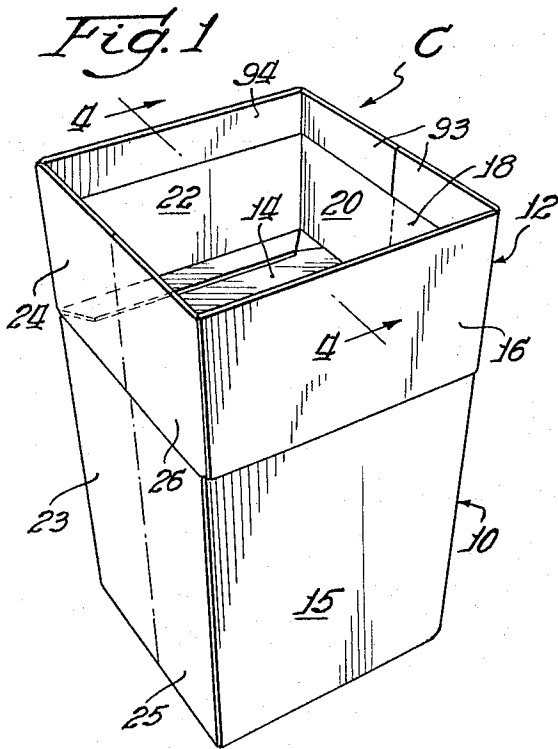
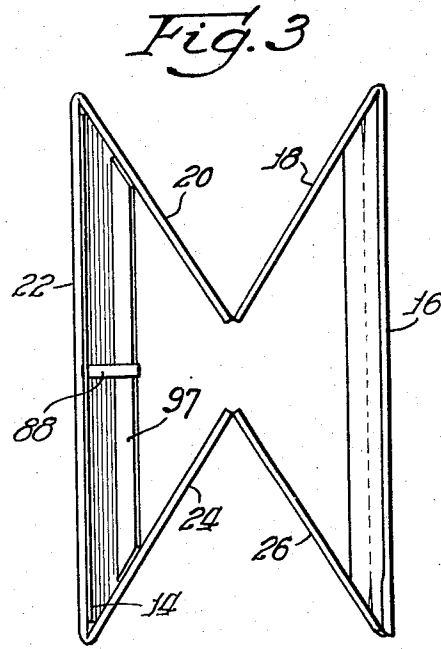
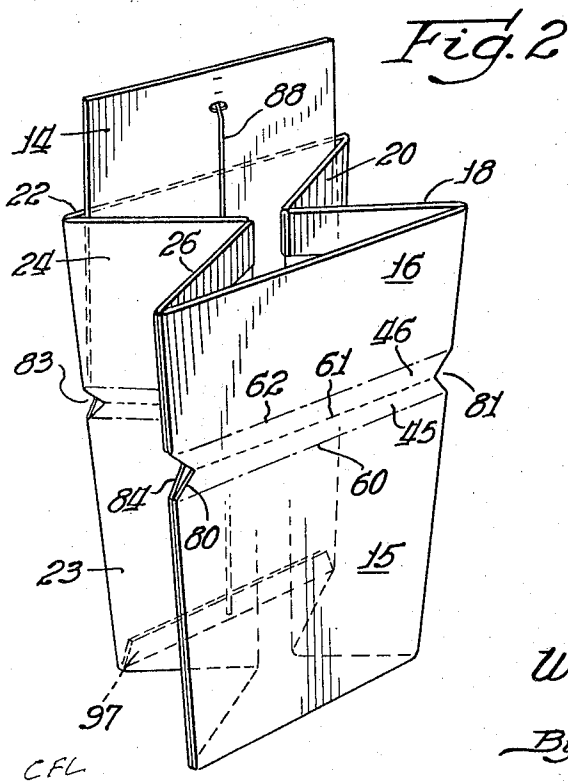
W. P. WOJCIECHOWSKI

3,300,166

COLLAPSIBLE AUTOMATICALLY SET UP DISPLAY CONTAINER

Filed June 14, 1965

2 Sheets-Sheet 1



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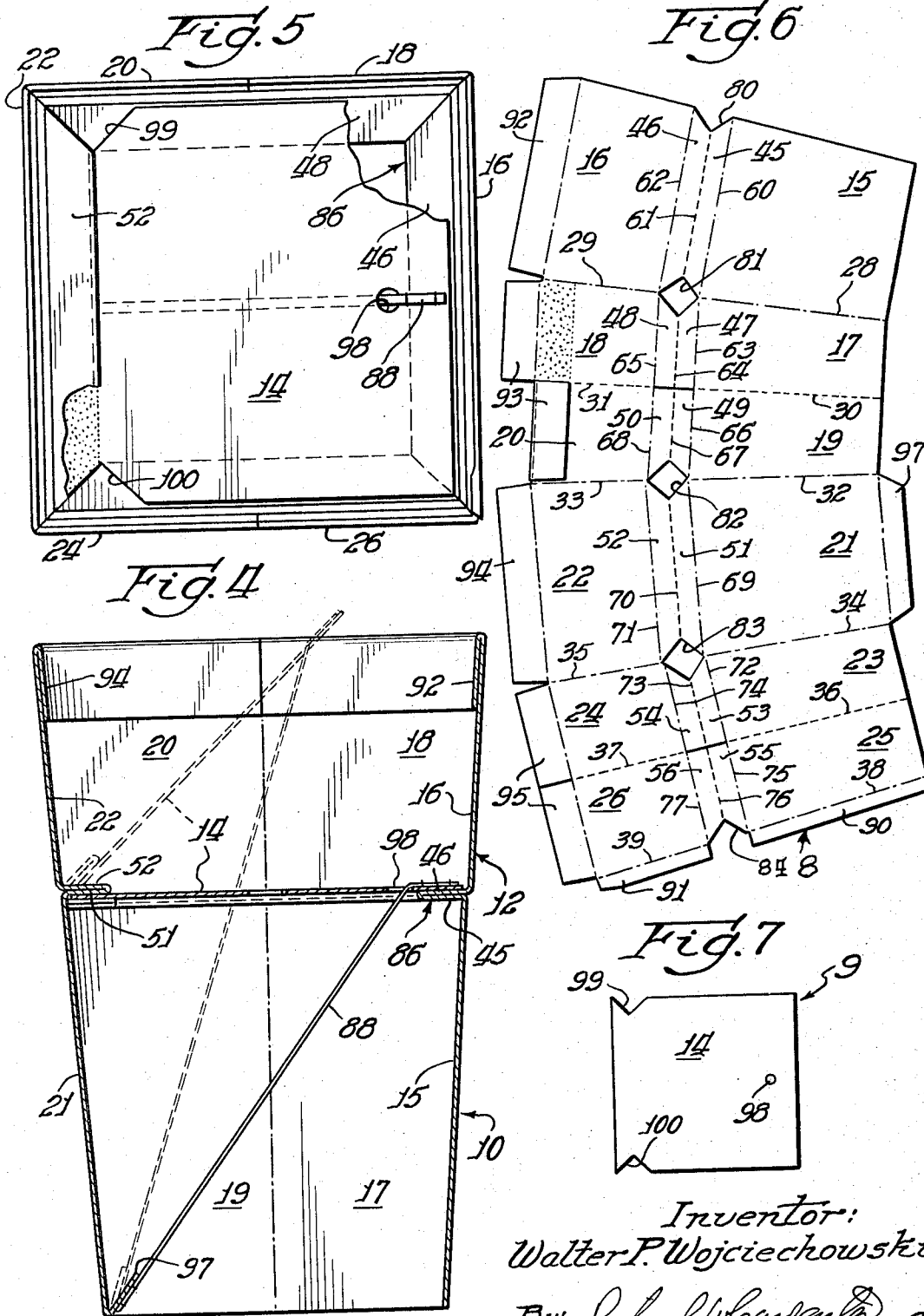
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COLLAPSIBLE AUTOMATICALLY SET UP DISPLAY CONTAINER

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Filed June 14, 1965, Ser. No. 463,822

9 Claims. (Cl. 248—174)

This invention relates to a container formed of foldable sheet material, such as paperboard, for holding and displaying a plurality of articles arranged haphazardly, and more particularly, this invention relates to a display container that is collapsible but yet that can be automatically set up when desired.

Present super-market type merchandising depends for a large part on stylish display of the articles to be sold. To promote sales, for example, the so called dump bin containers for haphazardly holding and displaying a plurality of articles have become quite popular. One reason for the popularity is that a very colorful display can be formed on the exposed surfaces of the container. Another reason is that the container can be large and can hold a sufficient supply of articles to require only infrequent restocking. Furthermore, such containers are portable and can be used just about anywhere.

Containers of this general type are commonly formed of a foldable sheet material, such as paperboard, and are shipped in a flat or collapsed condition. A drawback of presently known dump bin containers is the time and skill required to set up the container. This is so because of the many separate parts of the container and the manner of securing the parts together. Despite this, these containers continue to be much in demand.

This invention relates to an improved dump bin container which can be transported in a flat, collapsed condition and which can be readily set up automatically when desired. The entire setting up operation is completed almost instantaneously and requires absolutely no skill. Furthermore, the subject display container, if it is desired, can be readily collapsed and returned to a flat compact position.

An object of this invention is to provide a dump bin container that is suitable for flat shipment and that can be automatically and instantaneously set up or collapsed, when desired, with no required mechanical skills.

A more detailed object of this invention is to provide a dump bin container which has collapsible side walls and a pivotable bottom wall that cooperates in the set up position of the container with the side walls to form an open top bin and which further has elastic means between the bottom and side walls for biasing the bottom wall and container to its set up position.

These and other objects of this invention will be more fully appreciated after reference to the following specification and accompanying drawings, wherein:

FIG. 1 is a perspective view of the subject dump bin display container shown in the set up condition;

FIG. 2 is a perspective view of the subject dump bin display container shown in a partially flat or collapsed condition;

FIG. 3 is a top plan view of the container disclosed in FIG. 2;

FIG. 4 is a sectional view as seen generally from line 4—4 of FIG. 1;

FIG. 5 is a top plan view of the container shown in FIG. 4;

FIG. 6 is a top plan view of a blank suitably cut and scored to form the container disclosed in the previous figures; and

FIG. 7 is a top plan view of a blank suitably cut and

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scored to form the bottom wall of the container disclosed in FIGS. 1—5.

For the sake of clarity, immaterial details of construction have been intentionally eliminated from certain of the figures where they are believed adequately disclosed in others.

The subject dump bin container, generally designated C, is formed of two die cut and scored blanks 8 and 9 (FIGS. 6 and 7, respectively) of foldable sheet material, such as paperboard, suitably secured together. The container C basically is tubular, and includes a base section 10 and a bin section 12 hinged together at their adjacent edges. A bottom wall 14 closes the open bottom of the bin 12. The container has vertical walls 15—26 for the front, rear and opposed sides, the walls being hingedly interconnected at their opposite side edges on longitudinal score lines 28—39. Note that the side walls 17—20 and 23—36 are hinged intermediate their edges on score lines 30, 31 and 36, 37 to provide for their inward folding between the front and rear walls in the collapsed condition of the container.

Transverse panels 45—56 are formed intermediate the base section 10 and the bin section 12 of the container by means of three substantially parallel lines 60—77 extending across each of the panels successively and connected endwise with one another. The end edges of the transverse panels between the upper and lower hinge lines are notched as at 80—84 so that the transverse panels can extend normal to the vertical walls of the container into the tubular structure to define a transverse ledge 86 on the inside thereof. The bottom wall 14 for the bin section 12 is supported on the ledge 48. Preferably, the bottom wall 14 is secured by adhesive or other suitable means to the lower transverse panel 51 of the hinged connection.

In the set up condition of the container, as shown in FIGS. 1, 4 and 5, the bottom wall 14 is disposed above and is supported on the ledge 86 to close the open bottom end of the bin section 12. An elongated elastic member 88, such as a rubber band, extended between the lower end of base section 10 and the swinging end of the bottom wall 14 biases the bottom wall to the horizontal or transverse position across the tubular structure against the ledge. However, the bottom wall can be rotated upwardly in a counter-clockwise direction about its hinged connection (shown in FIG. 4) and the transverse panels can be extended vertically to permit the opposed side walls to be biased inwardly (see FIGS. 2 and 3) to collapse the container. Note that in the collapsed condition, the bottom wall is confined between the rear wall 22 and the side walls 20 and 24, and only a slight securing force between the front and rear panels of the container is required to maintain the container collapsed. However, upon releasing this force and by slightly pulling apart the front and rear walls, the bottom wall, being biased by the elastic member in its clockwise direction about its hinge connection (relative to FIG. 4) wedges the adjacent side panels 20 and 24 outwardly and in turn snaps in place against the ledge 48.

Incidental features of construction of the subject dump bin container are shown in FIGS. 6 and 7. For example, a fifth or glue panel 90, 91 is hinged on score lines 38 and 39 to the side edge of side wall 25, 26 and is secured in overlapping face-to-face relationship, as is well known in the art, to the front wall 15, 16 to form a tubular structure of rectangular cross section, open at its opposite ends. Also, reinforcing edge panels 92—95 are formed at the top edge of the bin to eliminate the exposed cut edge of the blank on the finished display bin. The panels 92—95 are folded into the tubular structure and secured by appropriate means such as adhesive to the main vertical panels of the bin. Similarly, the lower edge of the base vertical panel 21 below the hinged con-

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nection for the bottom wall has an inturn, panel 97 for connection to the elastic member 88. Moreover, the bottom wall has finger opening 98 which can be used for readily lifting the bottom wall to collapse the container, and the hinged edge of the bottom wall is notched at 99, 100 to correspond with the transverse panels notches 82, 83.

While only a specific embodiment of the subject invention has been disclosed, it will be obvious that slight modifications are possible. Accordingly, it is desired that the invention be limited only by the scope of the claims hereinafter following.

What is claimed is:

1. A collapsible, automatically set up display container, formed of foldable sheet material such as paperboard, for holding a plurality of articles arranged haphazardly, comprising the combination of:

- (a) a base formed of opposed pairs of interconnected vertical walls hinged together at their opposite side edges along vertical hinge lines to form a tubular structure;
- (b) a bin formed of opposed pairs of interconnected vertical panels hinged together at their opposite side edges along vertical hinge lines to form a tubular structure;
- (c) the bin tubular structure being disposed above the base tubular structure, and being connected thereto by a hinged connection;
- (d) the hinged connection including upper and lower transverse panels between each adjacent vertical wall and panel of the base and bin, the transverse panels being hinged together at their inboard edges and being hinged at the outboard edges, respectively, to the lower horizontal edge of the bin vertical panel and the upper horizontal edge of the base vertical wall;
- (e) the end edges of the transverse panels being trimmed so that the transverse panels diverge from the shortest dimension adjacent their inboard edges to the longest dimension adjacent the outboard edges and so that the end edges abut one another, whereby the transverse panels define between the base and bin a transverse ledge disposed at the lower edge of the bin vertical panels;
- (f) a bottom wall, for closing the lower end of the bin tubular structure, adapted to be supported by the transverse ledge and being shaped substantially the same as the cross section of the bin tubular structure, and having edge dimensions slightly less than the lengths of the adjacent respective bin vertical panels;
- (g) the bottom wall being secured at one edge to one of the lower transverse panels of the hinged connection, and being adapted to pivot from the position across the lower end of the bin to a position adjacent the vertical panel of the bin immediately above the one transverse panel in the collapsed condition of the bin;
- (h) the vertical walls of the base, the vertical panels of the bin, and the upper and lower transverse panels adjacent the one transverse panel being hinged medially thereof and adapted to fold inwardly between into the tubular structures of the base and bin in the collapsed condition of the bin;
- (i) elastic means such as a rubber band, connected to the bottom wall at a location spaced from the hinged connection and to the base on the one vertical panel operable to bias the bottom wall from the vertical position to the transverse position for automatic set up of the bin.

2. A collapsible, automatically set up dump bin display container formed of foldable material, such as paperboard, comprising the combination of:

- (a) front, rear and opposed side panels hingedly inter-

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connected at their side edges along longitudinal hinge lines to form a tubular structure open at the ends;

- (b) the panels having upper, middle and lower substantially parallel transverse hinge lines extended consecutively across each of the panels to divide them into a bin wall on the upper side of the upper transverse hinge line, a base wall on the lower side of the lower hinge line, and upper and lower transverse panels between the transverse hinge lines;
- (c) the bin walls and base walls extending vertically in the set up condition of the dump bin display container, and the transverse panels extending vertically in the collapsed condition of the dump bin and extending horizontally into the tubular structure in the set up condition of the dump bin display container;
- (d) the upper and lower transverse panels between each of the walls of the base and bin being hinged together at their inboard edges and being hinged at the outboard edges, respectively, to the lower horizontal edges of the bin walls and the upper horizontal edges of the base walls;
- (e) the end edges of the transverse panels being trimmed so that the transverse panels diverge from the shortest dimension adjacent their inboard edges to the longest dimension adjacent the outboard edges to provide that the end edges abut one another in the set up condition of the dump bin display container, whereby the transverse panels define between the base and bin a transverse ledge disposed at the lower edge of the bin;
- (f) a bottom wall, for closing the lower end of the bin, adapted to be supported by the transverse ledge and being shaped substantially the same as the cross section of the bin and having edge dimensions only slightly less than the lengths of the adjacent bin walls to fit snugly therebetween;
- (g) the bottom wall being hinged at one edge to the lower transverse panel of the rear panel and adapted to pivot from across the lower end of the bin in the set up condition of the dump bin display container adjacent the rear bin wall in the collapsed condition of the dump bin display container;
- (h) the side panels being hinged medially thereof to fold inwardly between the front and rear panels in the collapsed condition of the bin and to be positioned between the bottom wall and the front panel;
- (i) elastic means such as a rubber band, connected to the bottom wall at a location spaced from its hinged connection and to the rear base wall operable to bias the bottom wall from the vertical position to the transverse position for automatic set up of the dump bin display container.

3. A collapsible, automatically set up display container, formed of foldable sheet material such as paperboard, for holding a plurality of articles arranged haphazardly, comprising the combination of:

- (a) a base formed of opposed pairs of interconnected vertical walls hinged together at their opposite side edges along vertical hinge lines to form a tubular structure;
- (b) a bin formed of opposed pairs of interconnected vertical panels hinged together at their opposite side edges along vertical hinge lines to form a tubular structure;
- (c) the bin tubular structure being disposed above the base tubular structure, and being connected thereto by a hinged connection;
- (d) the hinged connection including upper and lower transverse panels between the adjacent vertical wall and panel of the base and bin, the transverse panels being hinged together at their inboard edges and being hinged at the outboard edges, respectively, to the lower horizontal edge of the bin vertical panel and the upper horizontal edge of the base vertical wall, whereby the transverse panels define between the base

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and bin a transverse ledge disposed at the lower edge of the bin vertical panels;

- (e) a bottom wall, for closing the lower end of the bin tubular structure, adapted to be supported by the transverse ledge and being shaped substantially the same as the cross section of the bin tubular structure;
- (f) the bottom wall being secured at one edge to one of the lower transverse panels of the hinged connection, and being adapted to pivot from the position across the lower end of the bin to a position adjacent the vertical panel of the bin immediately above the one transverse panel in the collapsed condition of the bin;
- (g) the vertical walls of the base, the vertical panels of the bin, and the upper and lower transverse panels adjacent the one transverse panel being hinged medially thereof and adapted to fold inwardly into the tubular structures of the base and bin in the collapsed condition of the bin;
- (h) elastic means such as a rubber band, connected to the bottom wall at a location spaced from the hinged connection and to the base on the one vertical panel operable to bias the bottom wall from the vertical position to the transverse position for automatic set up of the bin.

4. A collapsible, automatically set up display container formed of foldable sheet material such as paperboard, for holding a plurality of articles arranged haphazardly, comprising the combination of:

- (a) opposed pairs of interconnected vertical walls hinged together at their opposite side edges along vertical hinge lines to form a tubular structure;
- (b) the tubular structure having a transversely extending, intermediate, hinged connection;
- (c) the hinged connection including upper and lower transverse panels hinged together at their inboard edges and hinged at the outboard edges, respectively, to the vertical walls to define a transverse ledge on the inside of the tubular structure;
- (d) a bottom wall adapted to be supported by the transverse ledge and being shaped substantially the same as the tubular structure above the ledge;
- (e) the bottom wall being secured at one edge to the hinged connection, and being adapted to pivot from a transverse position supported on the ledge to a vertical position adjacent the vertical wall in the collapsed condition of the bin;
- (f) elastic means such as a rubber band, connected to the bottom wall and to one vertical wall at locations spaced from the hinged connection operable to bias the bottom wall from the vertical position to the transverse position for automatic set up of the bin.

5. A collapsible, automatically set up display container formed of foldable material such as paperboard, for holding a plurality of articles arranged haphazardly, comprising the combination of:

- (a) front, rear and opposed side panels hingedly interconnected at their side edges along longitudinal hinge lines to form a tubular structure open at the ends;
- (b) the panels having upper, middle and lower substantially parallel transverse hinge lines extended consecutively across each of the panels to divide them into a bin wall on the upper side of the upper transverse hinge line, a base wall on the lower side of the lower hinge line, and upper and lower transverse panels between the transverse hinge lines;
- (c) the bin walls and base walls extending vertically in the set up condition of the display container, and the transverse panels extending vertically in the collapsed condition of the display container and extending horizontally into the tubular structure in the set up condition of the display container to define a transverse ledge at the lower edge of the bin;
- (d) the upper and lower transverse panels between each of the walls of the base and bin being hinged together

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at their inboard edges and being hinged at the outboard edges, respectively, to the lower horizontal edges of the bin walls and the upper horizontal edges of the base walls;

- (e) a bottom wall, for closing the lower end of the bin, adapted to be supported by the transverse ledge and being shaped substantially the same as the cross section of the bin and having edge dimensions only slightly less than the length of the adjacent bin walls to fit snugly there-between;
- (f) the bottom wall being hinged at one edge to the lower transverse panel of the rear panel and adapted to pivot from a transverse position across the lower end of the bin in the set up condition of the display container to a vertical position adjacent the rear bin wall in the collapsed condition of the display container;
- (g) the side panels being hinged medially thereof to fold inwardly into the tubular structure in the collapsed condition of the bin between the bottom wall and the front panel;
- (h) elastic means such as a rubber band, connected to the bottom wall and to the rear wall at locations spaced from the hinged connection operable to bias the bottom wall from the vertical position to the transverse position for automatic set up of the display container.

6. A collapsible, automatically set up display container formed of foldable material such as paperboard for holding a plurality of articles arranged haphazardly, comprising the combination of:

- (a) front, rear and opposed side panels hingedly interconnected at their side edges along longitudinal hinge lines to form a tubular structure open at the ends;
 - (b) the panels having upper, middle and lower substantially parallel transverse hinge lines extended consecutively across each of the panels to divide them into a bin wall on the upper side of the upper transverse hinge line, a base wall on the lower side of the lower hinge line, and upper and lower transverse panels between the transverse hinge lines;
 - (c) the bin walls and base walls extending vertically in the set up condition of the display container, and the transverse panels extending vertically in the collapsed condition of the display container and extending horizontally into the tubular structure in the set up condition of the display container to define a transverse ledge at the lower edge of the bin;
 - (d) a bottom wall, for closing the lower end of the bin, adapted to be supported by the transverse ledge and being shaped substantially the same as the cross section of the bin;
 - (e) the bottom wall being hinged at one edge to the lower transverse panel of the rear panel and adapted to pivot from a transverse position across the lower end of the bin in the set up condition of the display container to a vertical position adjacent the rear bin wall in the collapsed condition of the display container;
 - (f) elastic means such as a rubber band, connected to the bottom wall and to the tubular structure at locations spaced from the one edge operable to bias the bottom wall from the vertical position to the transverse position for automatic set up of the display container.
7. A collapsible, automatically set up display container, formed of foldable sheet material such as paperboard, for holding a plurality of articles arranged haphazardly, comprising the combination of:
- (a) a base formed of opposed pairs of interconnected vertical walls hinged together at their opposite side edges along vertical hinge lines to form a tubular structure;
 - (b) a bin formed of opposed pairs of interconnected vertical panels hinged together at their opposite side

edges along vertical hinge lines to form a tubular structure;

- (c) the bin tubular structure being disposed above the base tubular structure, and being connected thereto and defining therebetween a transverse ledge; 5
- (d) a bottom wall, for closing the lower end of the bin tubular structure, adapted to be supported by the transverse ledge and being shaped substantially the same as the cross section of the bin tubular structure; 10
- (e) the bottom wall being hinged at one edge to the lower end of the bin tubular structure, and being adapted to pivot from a transverse position across the lower end of the bin to a vertical position adjacent one vertical panel of the bin; 15
- (f) the vertical walls of the base and the vertical panels of the bin, adjacent the hinged connection of the bottom wall, being hinged medially thereof adapted to fold inwardly into the tubular structures in the collapsed condition of the bin; 20
- (g) elastic means such as a rubber band, connected at locations spaced from the hinged connection of the bottom wall to the base and the bottom wall operable to bias the bottom wall from the vertical position to the transverse position for automatic set up of the bin. 25

8. A collapsible, automatically set up display container, formed of foldable sheet material such as paperboard, for holding a plurality of articles arranged haphazardly, comprising the combination of:

- (a) a bin formed of front, rear and opposed side walls interconnected at their opposite side edges along vertical hinge lines to form a tubular structure; 30
- (b) means adjacent the lower edge of the bin tubular structure defining a transverse ledge; 35
- (c) a bottom wall, for closing the lower end of the bin tubular structure, adapted to be supported by the transverse ledge and being shaped substantially the same as the cross section of the bin tubular structure; 40
- (d) the bottom wall being hinged at one edge to the rear bin wall adjacent the transverse ledge, operable to pivot from a transverse position across the lower end of the bin to a vertical position adjacent the rear bin wall in the collapsed condition of the bin; 45
- (e) the side walls of the bin being hinged medially thereof adapted to fold inwardly into the tubular structures in the collapsed condition of the bin;

(f) elastic means such as a rubber band, connected to the bottom wall at a location spaced from the hinged connection operable to bias the bottom wall from the vertical position to the transverse position for automatic set up of the bin.

9. A collapsible, automatically set up display container, formed of foldable sheet material such as paperboard, for holding a plurality of articles arranged haphazardly, comprising the combination of:

- (a) front, rear and opposed side walls hinged together at their opposite side edges along vertical hinge lines to form a tubular structure;
- (b) the tubular structure having a transversely extending, intermediate, hinged connection;
- (c) the hinged connection including transverse panels hinged to the vertical walls to define a transverse ledge on the inside of the tubular structure;
- (d) a bottom wall adapted to be supported by the transverse ledge and being shaped substantially the same as the tubular structure above the ledge;
- (e) the bottom wall being hinged at one edge to the tubular structure operable to pivot from a transverse position supported on the ledge to a vertical position adjacent one vertical wall in the collapsed condition of the bin;
- (f) elastic means connected to the bottom wall at a location spaced from the hinged connection operable to bias the bottom wall from the vertical position to the transverse position for automatic set up of the bin.

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