# United States Patent [19]

**Murphy**

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[54] **DISPLAY BIN**


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[52] **U.S. Cl.**..... **206/44 R,** 206/45.34, 248/174, 221/311

[51] **Int. Cl.**..... **B65d 5/50,** B65d 5/72, B65d 25/54

[58] **Field of Search**..... 206/44 R, 44.12, 56 AC, 206/45.31, 45.34; 229/17 R, 41 B; 248/174; 211/133; 312/35; 221/311



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*Primary Examiner*—William T. Dixson, Jr.

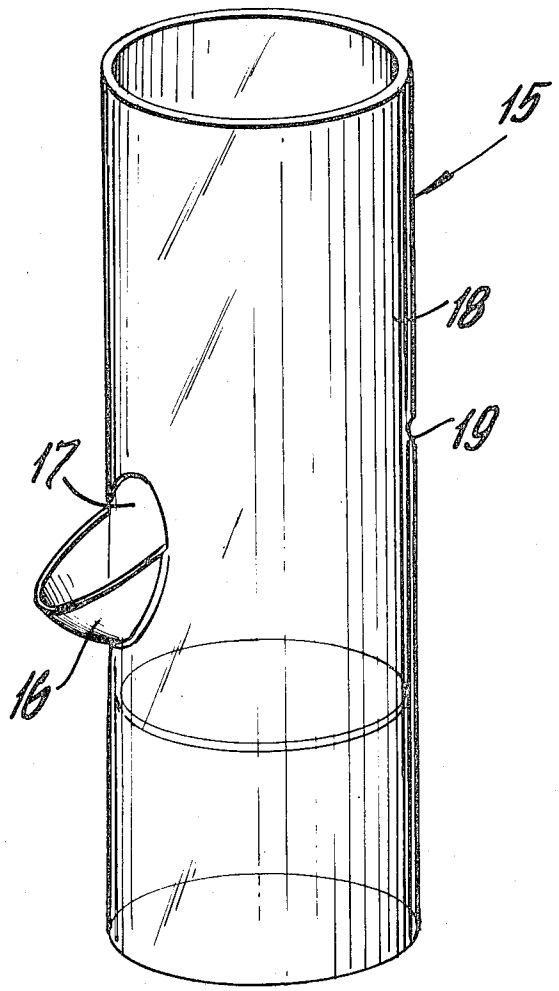
*Attorney, Agent, or Firm*—Irons, Sears & Spellman



[57] **ABSTRACT**

A self-supporting display bin includes a clear rigid sheet of plastic material which is assembled into a particular form to hold product mainly for retail self-service sales. The shape of the bin is determined by a former which is inserted within a clear plastic envelope to provide the desired shape. In one embodiment of the invention, the bin is in the shape of a tower having an integral product feed aperture arrangement and one or more stress relief holes to permit folding of the tower for material handling purposes.


**1 Claim, 9 Drawing Figures**



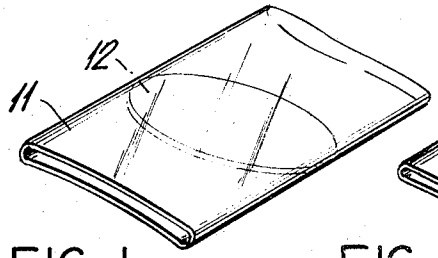



FIG. 1

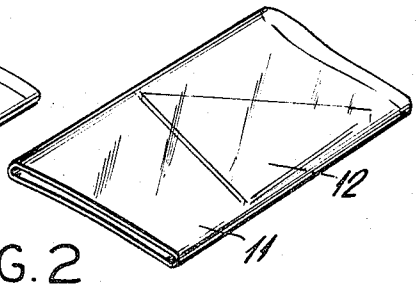



FIG. 2

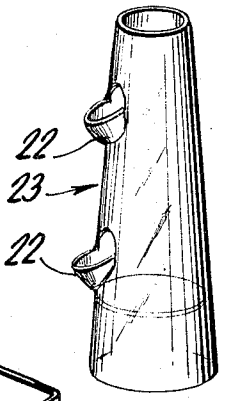



FIG. 9

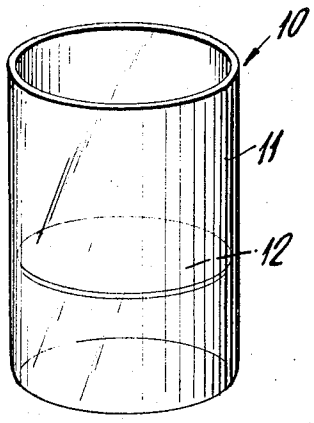



FIG. 3

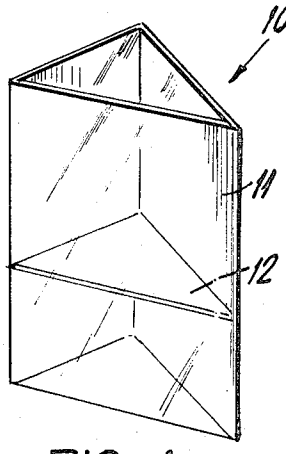



FIG. 4

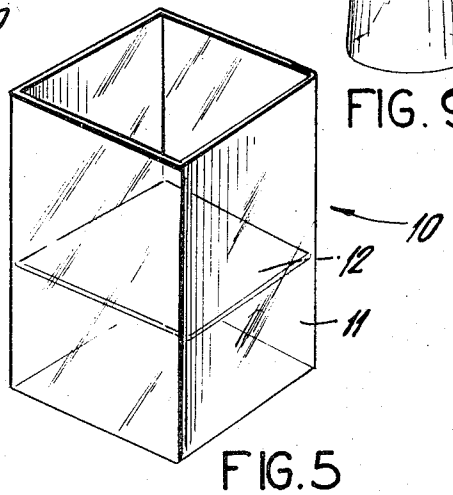



FIG. 5

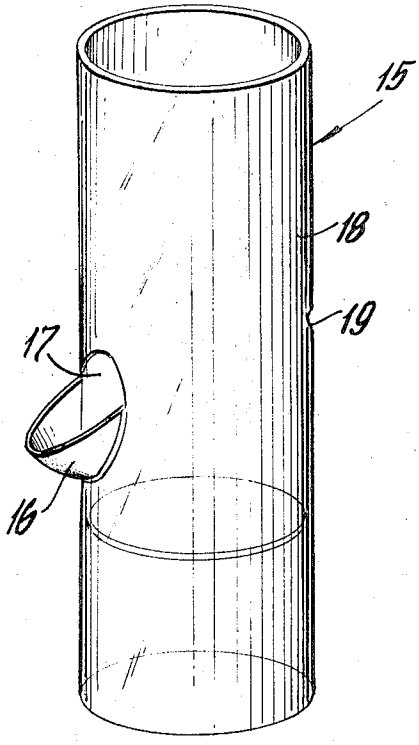



FIG. 6

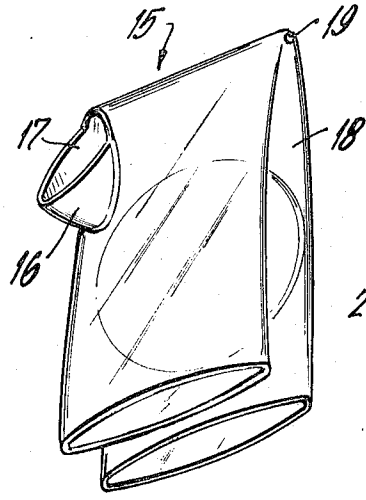



FIG. 7

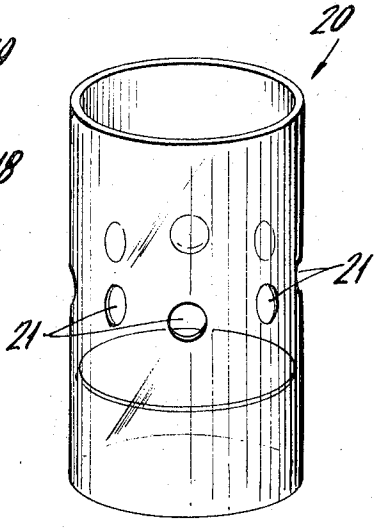



FIG. 8

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# DISPLAY BIN

## BACKGROUND OF THE INVENTION

The present invention relates to display arrangements and particularly to display bins for retail self-service sales.

Conventional display arrangements generally include an outer container portion and a supporting framework. The framework would include a plurality of structural elements which are assembled together to provide a support for the container portion. The use of these supporting elements, however, adds to the material cost and to assembly time. The structure must be assembled in situ due to shipping considerations. Furthermore, the use of structural elements adds to the shipping weight and the use of tall bins results in packaging problems.

## SUMMARY OF THE INVENTION

The present invention relates to a display arrangement for product sold mainly in retail self-service sales. The display arrangement comprises a clear plastic envelope which may be any one of a plurality of shapes, the envelope assuming the shape of a former which is positioned therewithin. The envelope may be knocked down for packaging and shipped with the former to a customer.

In another embodiment of the invention, the display arrangement is fairly tall and the plastic envelope includes stress relief holes so that the envelope may be doubled over for shipping. The envelope may also include a catch scoop formed integrally with the envelope and serving both as a stress relief point and an aperture for dispensing of product.

Accordingly, it is an object of this invention to provide a new and improved display arrangement for product.

Another object of this invention is to provide a new and improved clear plastic display arrangement for retail self-service sales having unique shipping and packaging advantages.

Other objects and advantages will be more clearly seen when viewed in conjunction with the accompanying drawings wherein:

FIG. 1 shows the display bin of FIG. 3 in knocked-down form prior to assembly;

FIG. 2 shows the display bin of FIG. 4 in knocked-down form prior to assembly;

FIG. 3 shows a new and improved display bin having a circular cross-section while FIG. 4 illustrates a bin of triangular cross-section and FIG. 5 a bin having a square cross-section;

FIG. 6 illustrates a larger "tower-type" bin having a catch scoop for product;

FIG. 7 illustrates how the stress-relieved bin of FIG. 6 may be folded for shipment;

FIG. 8 illustrates a display bin with a plurality of feed holes; and,

FIG. 9 illustrates a particular tower having a plurality of catch scoops.

## DETAILED DESCRIPTION OF THE INVENTION

As shown in the drawings, the invention comprises a display arrangement **10** including a clear rigid sheet **11** of plastic material such as vinyl plastic which may be shaped into a particular form which is self-supporting. The plastic sheet **11** forms an envelope for supporting



product and may be round (FIG. **3**), oval (not shown), triangular (FIG. **4**), square (FIG. **5**), or other suitable cross-sectional shape. The envelope may also form a configuration such as a cone or pyramid. The plastic envelope is generally constructed from a sheet of vinyl plastic which is heatsealed into a unitary structure.

The shape of the display arrangement or bin **10** is determined by a former **12** which is inserted within envelope and comprises the floor or bottom product level. This "floor" may be supported, if necessary, by various means such as the empty or full case of the product being displayed. A prime advantage of this display arrangement or bin **10** is the fact that it can be soft folded flat in a "knocked-down" position for minimum packaging size. FIGS. **1** and **2** of the drawings represent the bins of FIGS. **3** and **4** respectively in a knocked-down condition. A typical bin height for the above embodiments would be in the range of 30 inches to 36 inches.

The embodiment of the invention shown in FIG. **6** is somewhat taller, being in the range of 60 inches to 72 inches, and forming a gravity feed tower **15.** The product which may be any suitable item such as soap, paper products, etc. moves downward within the plastic tower **15** to a catch scoop **16** formed about a product feed aperture **17.** The scoop **16** comprises a soft rounded plastic portion formed integrally with the tower envelope **18.** The function of the scoop **16** is to prevent the product from spilling onto the floor and to provide ready access to the product.

The tower **15** also includes one or more stress relief holes **19** which permit the tower **15** to be soft folded flat and to be double folded to reduce the height within the packing carton as shown in FIG. **7.** The catch scoop **16** may serve as one of the points of stress relief and, furthermore, additional holes may be cut in the plastic tower **15** to reduce the folded height still more.

Other modifications of the basic invention may include a tower **20** having a plurality of feed holes **21** positioned thereabout with or without catch scoops, see FIG. **8.** By the same token a further design may include more than one catch scoop **22** as in FIG. **9** where the tower **23** has a frusto-conical configuration. The material gauges and former design will, in general, be selected depending upon the product displayed therein.

It is to be understood that the above-described arrangements are merely illustrative examples of the application of the principles of the invention. Numerous other arrangements may be readily devised by those skilled in the art which will embody the principles of the invention and fall within the spirit and scope thereof.

I claim:

**1.** A display bin for product comprising:

a unitary plastic envelope to contain the product, said evelope being self-supporting in a vertical plane and capable of assuming various cross-sectional shapes, and

a former mounted within the envelope to impart the desired cross-sectional shape to the envelope and to support the product within the envelope, said former being readily removable to facilitate shipping of the bin in an unassembled condition,

wherein the plastic envelope is substantially taller than its width dimension and including stress-relief apertures at predetermined locations in said envelope to permit folding of the envelope for shipping purposes and said apertures being sufficiently large to permit dispensing of product therethrough.

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