Oct. 12, 1965 F. A. MAGUIRE 3,211,294

MULTIPLE-BIN DISPLAY DEVICE

Filed June 19, 1964 2 Sheets-Sheet 1

FIG. 1

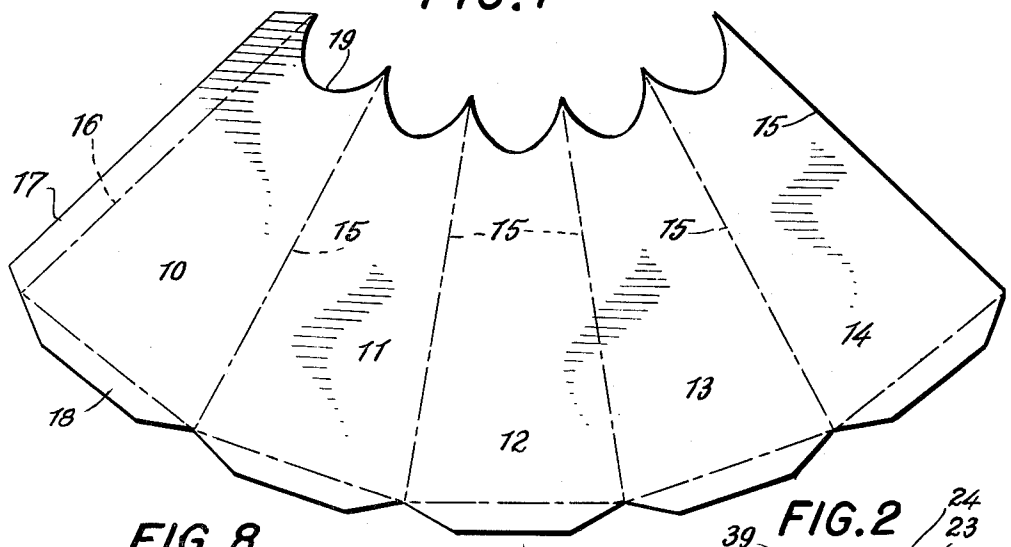


FIG. 8

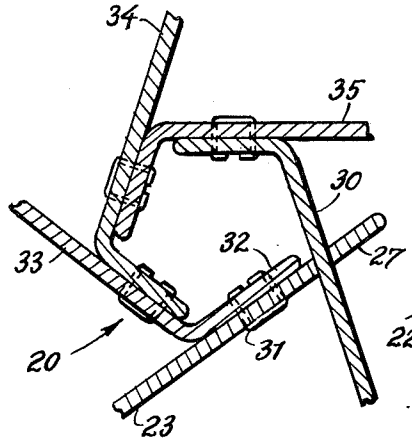


FIG. 2

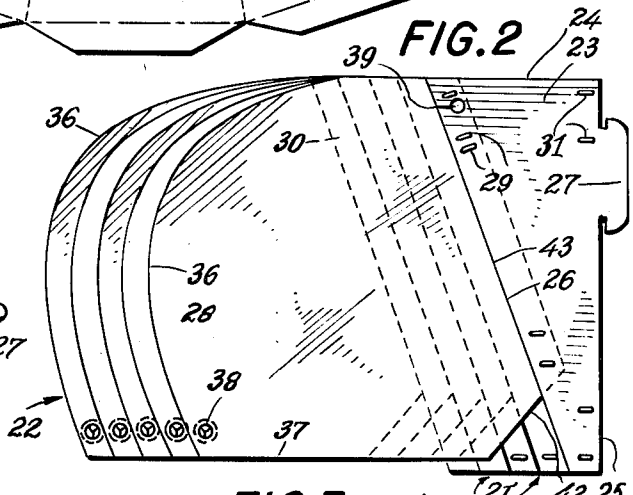


FIG. 3

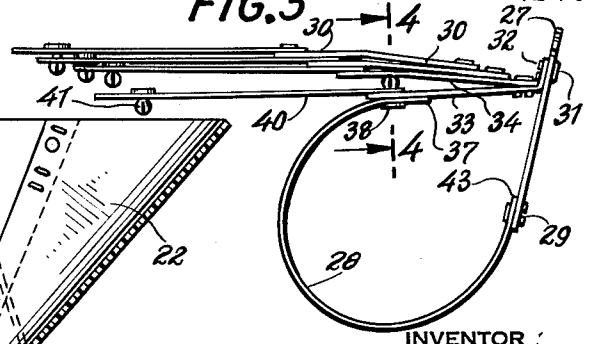
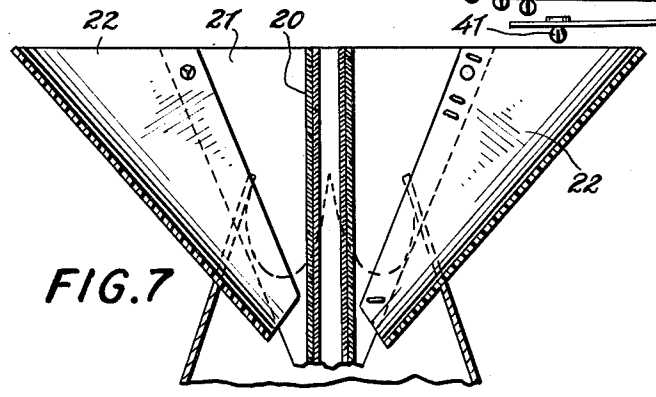


FIG. 7



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Oct. 12, 1965 F. A. MAGUIRE 3,211,294

MULTIPLE-BIN DISPLAY DEVICE

Filed June 19, 1964 2 Sheets-Sheet 2

FIG. 5

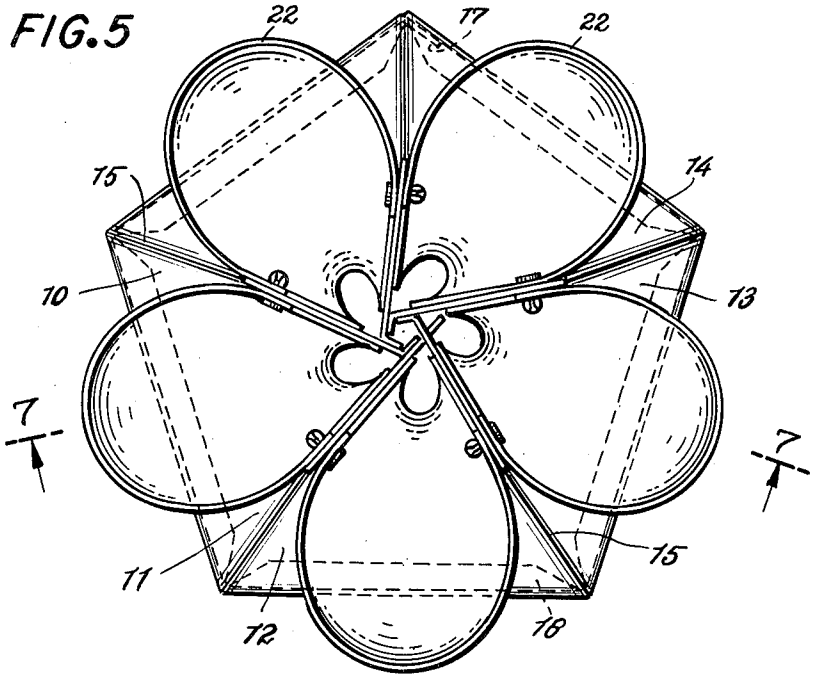


FIG. 6

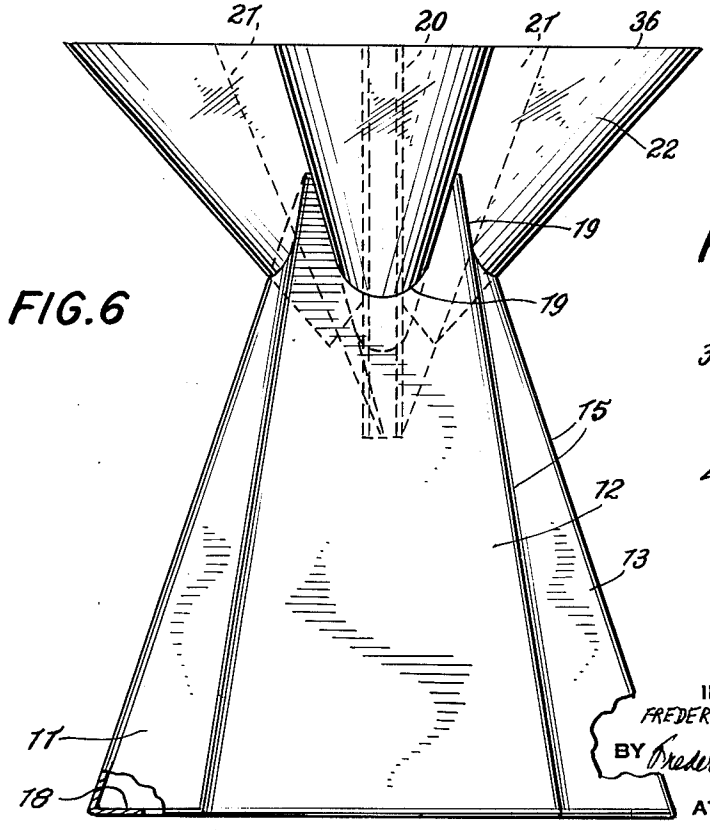
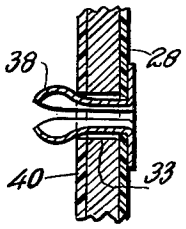


FIG. 4



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MULTIPLE-BIN DISPLAY DEVICE

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10 Claims. (Cl. 211—72)

The invention relates generally to an improved structure of inexpensive character for accommodating and displaying merchandise.

It is a general object of the invention to provide an improved merchandise display bin of the knockdown variety commonly used in stores and supermarkets, composed essentially of low cost light-weight sheet material, such as paperboard.

A more particular objective is to provide a device which can be shipped and stored in relatively flat knockdown condition which can be readily set up for use without requiring any special tools or skill, and which affords an attractive, attention-arresting self-service container for a plurality of jumble displays of canned goods or similar discrete articles of merchandise.

A particular feature of the improved display structure resides in the provision and use of only two readily assembled parts, viz., a base structure and a bin unit, the base being a hollow column with an open upper end, the bin unit defining a plurality of bins arranged corolla-like on the upper end of the column.

A more particular object of the invention relates to the formation of the bin unit in such a way that a multiple number of upwardly open merchandise bins are arranged in a circular array, each having a wide mouth and conforming substantially to an inverted cone. A feature of the invention resides in the manner in which the bins are interconnected so that they can be readily adjusted between an operative set-up condition and an inoperative knocked-down condition which is relatively flat.

A further objective of the invention is to provide the bin unit, as well as the supporting column, in the form of sub-assemblies which can be created simply, rapidly, and of a structurally sound and efficient character, of relatively inexpensive sheet material such as paperboard, plastic, and the like.

A characterizing feature of the bin unit resides in the arrangement, on a center post, of a series of stiff fins projecting substantially radially therefrom, and the mounting of a plurality of curved bin walls between successive pairs of fins. The center post is preferably of polygonal cross-section and the fins lie substantially in the planes of the walls of the post. A pair of adjacent walls is separably connected, so that the entire bin unit can be adjusted to the relatively flat condition previously referred to by separating these walls and allowing the fins to assume a stacked relationship to one another.

The preferred way of achieving these general objects and advantages, and such other advantages as may be pointed out hereinafter, is depicted in the accompanying drawings, in which:

FIG. 1 is a plan view of the blank of which the support column may be formed;

FIG. 2 is a plan view of the multiple bin unit in the collapsed or knocked-down relationship of its parts;

FIG. 3 is an edge view of the unit shown in FIG. 2, with one of the bin walls set up;

FIG. 4 is an enlarged fragmentary cross-sectional view along the line 4—4 of FIG. 3;

FIG. 5 is a plan view of the complete multiple-bin display device in its operative condition;

FIG. 6 is an elevational view thereof;

FIG. 7 is a fragmentary cross-sectional view substantially along the line 7—7 of FIG. 5; and

FIG. 8 is an enlarged cross-sectional view of the center post assembly in its set-up condition.

The blank shown in FIG. 1 may be composed of foldable paperboard, cardboard, or its equivalent. It has the general contour of a developed pyramid, and in the device illustrated, the pyramid is five-sided. Thus, the blank of FIG. 1 is cut, scored, and contoured to define five adjacent trapezoidal areas **10–14** hingedly connected along lines **15**. Hingedly connected to the outer edge **16** of the area **10** is a connection flap **17** adapted, when the device is set up, to engage with the outer marginal part of the area **14** so that the device will define a pyramidal support column with an open upper end. Reinforcement flaps **18** are preferably hinged to the lower edges of the areas **10–14**, and are adapted to be turned in when the device is set up, so as to rigidify the structure.

The upper edge of each area **10–14** is cut to define a reentrant curve, each of these curved upper edges being adapted to support one of the bins when the parts are completely assembled as shown in FIGS. 5–7.

The bin unit to be supported on the base has an upwardly divergent shape when it is set up. In this condition it consists of a center post **20** (best shown in FIG. 7), a series of fins **21** projecting from the post in a substantially radial direction, and a plurality of curved bin walls **22**, each bin wall being arranged between a pair of adjacent fins **21**.

The post **20** and the fins **21** are made up of a succession of flat substantially triangular elements, composed of corrugated board or the like. One of these elements is designated by the reference numeral **23** in FIGS. 2, 3 and 8. It has the shape of a right-angled triangle, with a relatively short upper edge **24**, a relatively long vertical edge **25**, and an edge **26** defining the hypotenuse.

On the vertical edge **25**, the element **23** is provided with a locking tab **27**. It cooperates with a slot (not shown) in the rearmost element **30** to hold the successive elements in the set-up condition as shown in FIG. 8.

Each of the triangular elements, corresponding to the elements designated **23** and **30**, is similarly constructed, with the exception that only the element **23** has the locking tab **27**, and only the element **30** has a corresponding slot. The element **23** is secured by staples **31** or the like, along its vertical margin, to the marginal part **32** of the adjacent element **33**. The latter element is similarly secured to the adjacent element **34**, and this element is in turn secured to the element **35** while the latter is secured to the slotted element **30**. As a result, when the parts are adjusted into the relationship of FIG. 8, a polygonal cross section is imparted to the center post **20**, and the fins lie substantially in the planes of the planar walls of the polygon.

Each of the elements corresponding to the element **28** is preferably composed of translucent plastic of normally flat but bendable character. It has a substantially convex edge **36**, and a straight edge **37** substantially the same in length as the edge **43** that is secured to the corresponding fin by means of staples **29** or the like, previously referred to. Thus each bin-wall element may be said to have a short bottom edge **42**, side edges **37** and **43** diverging upwardly therefrom, and a long convexly curved upper edge **36**. Adjacent to one end of the curved edge **36** is one element **38** of a separable fastener assembly. The complementary fastener is formed on the adjacent fin, near the opposite end of the curved edge **36**. Thus, when the bin-wall element **28** is curved or flexed into the disposition shown in FIG. 3, the fastener element **38** carried by it (see FIG. 4) is adapted to snap into a suitably-shaped opening **39** in the adjacent fin **33**. This opening necessarily extends through the edge of the adjacent bin-wall element **40**. The latter is in turn provided with a

separable fastener element **41** (see FIG. 2), and the successive bin-walls are similarly provided with fasteners so that ultimately the corolla-like formation may be established as shown in FIG. 5.

In the construction illustrated, the separable fastener assembly consists, in each case, of a snap-fastener element **38** and a corresponding opening **39** with which it cooperates. Any other type of separable fastening means might be provided, if desired.

The material of which the bin-wall elements are made has preferably an inherent resilience which urges the elements to lie flatwise in stacked relation when the unit is disassembled. This is the condition of the parts represented in FIG. 2. FIG. 3 represents the first step in adjusting the bin unit to its set-up condition. Each bin-wall is in turn flexed into the curved condition shown, and held between a pair of adjacent fins. The entire unit then embodies an upwardly divergent configuration, and it may then be inserted into the open upper end of the support column as shown in FIG. 6, the curvatures of the edges **19** (FIG. 1) being obviously provided to correspond with the curvatures of the several bin-walls which rest upon them.

The resultant structure is sturdy and of unusual effectiveness in displaying merchandise items in a multiplicity of readily-visible and readily-accessible bin-like receptacles.

It will be understood that the bin unit may comprise bins fewer in number than the five shown in the drawings, or it may under certain circumstances embody more than five bins. In general, it will be understood that many of the structural details described and illustrated may be modified by those skilled in the art without necessarily departing from the spirit and scope of the invention as expressed in the appended claims.

What is claimed is:

1. A multiple-bin display device comprising a support column having an open upper end, and an upwardly divergent bin unit supported on the upper edge of the column, said bin unit comprising a center post, a series of stiff fins projecting substantially radially therefrom, and a plurality of curved bin walls arranged corolla-like between successive pairs of fins.

2. A display device as defined in claim **1**, in which each bin wall is an element of flat bendable material flexed to conform substantially to an inverted conical configuration, said element having side edges which are secured respectively to the fins between which said element lies.

3. A display device as defined in claim **2**, in which each of said elements has one of said side edges permanently secured to its fin, and in which a separable means is provided for securing the other side edge to its fin.

4. A display device as defined in claim **3**, in which each fin is permanently secured to the side edge of one of said elements and carries part of the separable means for securement of the next adjacent element.

5. A display device as defined in claim **4**, in which said post is composed of hingedly connected planar walls imparting a polygonal cross-section to the post, said fins lying substantially in the planes of said walls, a pair of adjacent post walls being separably connected so that the entire bin unit can be adjusted between a set-up condition as described and an inoperative condition in which its parts lie flatwise in superposed relation.

6. A display device as defined in claim **1**, in which said center post is composed of hingedly connected planar walls imparting a polygonal cross-section to the post, and in which said fins lie substantially in the planes of said walls.

7. A display device as defined in claim **1**, in which said center post is composed of hingedly connected planar walls imparting a polygonal cross-section to the post, and in which said fins are integral parts of and lie in the planes of said walls.

8. A display device as defined in claim **7**, in which a pair of adjacent post walls are separably connected so that when disconnected the fins can be adjusted to an inoperative stacked relationship in which they lie flatwise on top of one another.

9. A display device as defined in claim **1**, in which each bin wall is an element of flat bendable material flexed to conform substantially to an inverted conical configuration, said element in its flat state having a short bottom edge, side edges diverging upwardly therefrom, and a long convexly curved upper edge, said side edges being secured respectively to the fins between which said element lies when flexed.

10. A display device as defined in claim **2**, in which said element is composed of translucent plastic to enhance the visibility of the bin contents.

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CLAUDE A. LE ROY, *Primary Examiner.*