

Dec. 9, 1969

S. D. COLLIE

3,482,756

OPEN-SIDED CONTAINER

Filed April 29, 1968

4 Sheets-Sheet 1

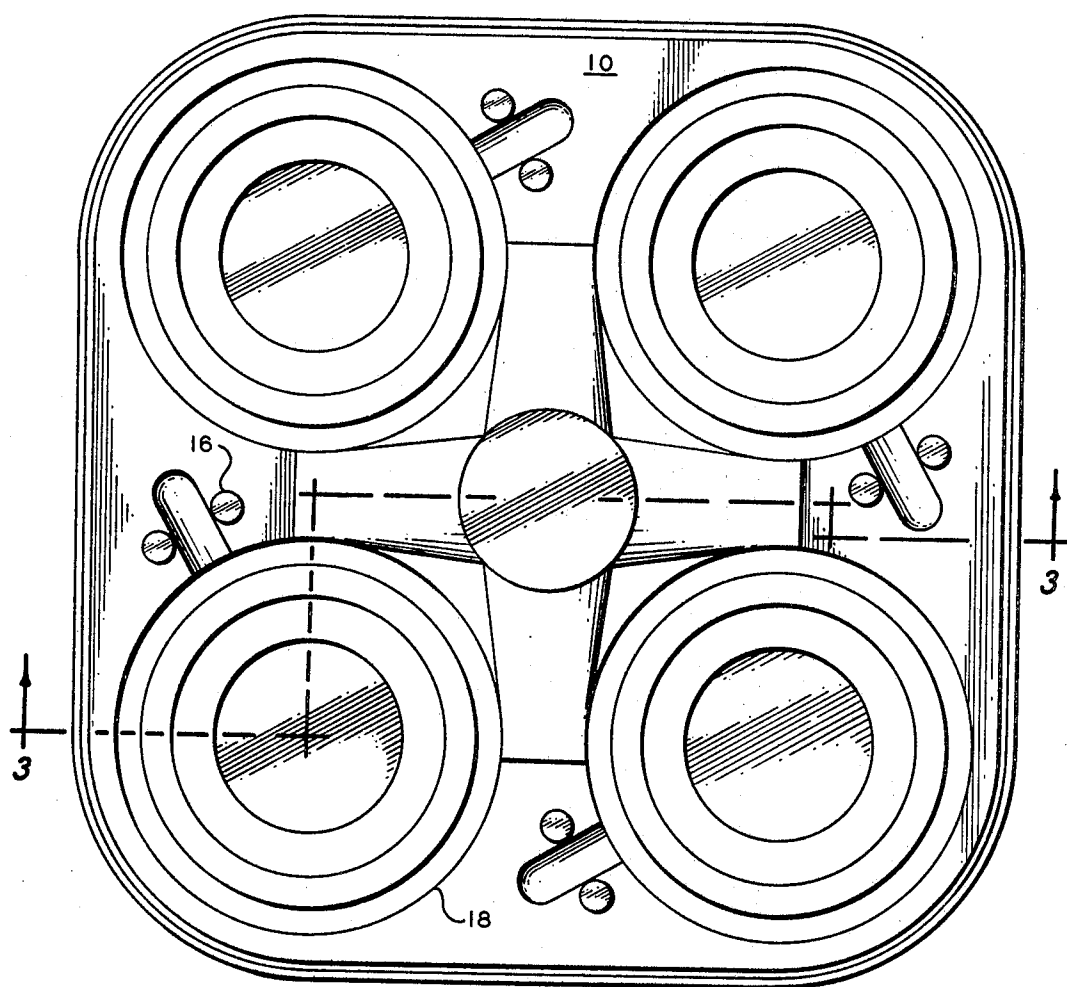


FIG. 1

INVENTOR.
S. D. COLLIE

BY *Young & Quigg*

ATTORNEYS

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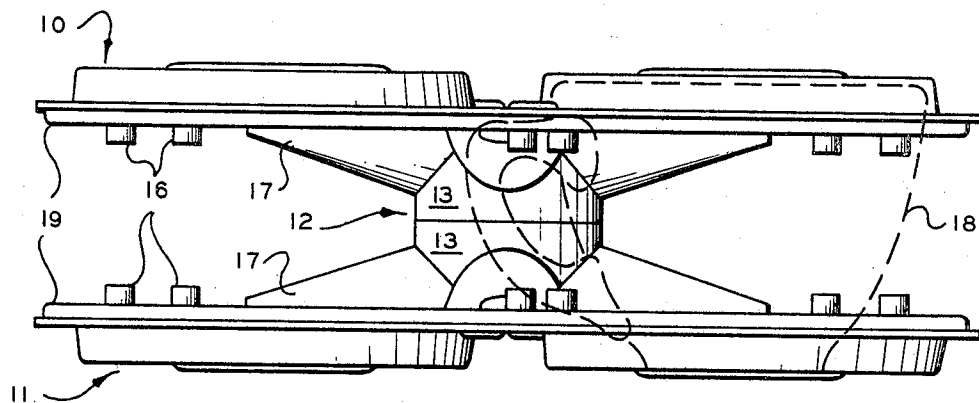


FIG. 2

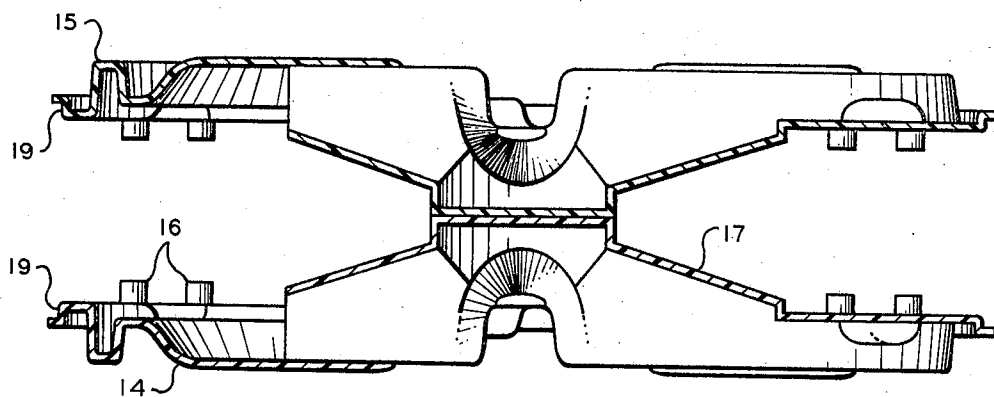


FIG. 3

INVENTOR.
S.D. COLLIE

BY *Young + Quigg*

ATTORNEYS

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S. D. COLLIE

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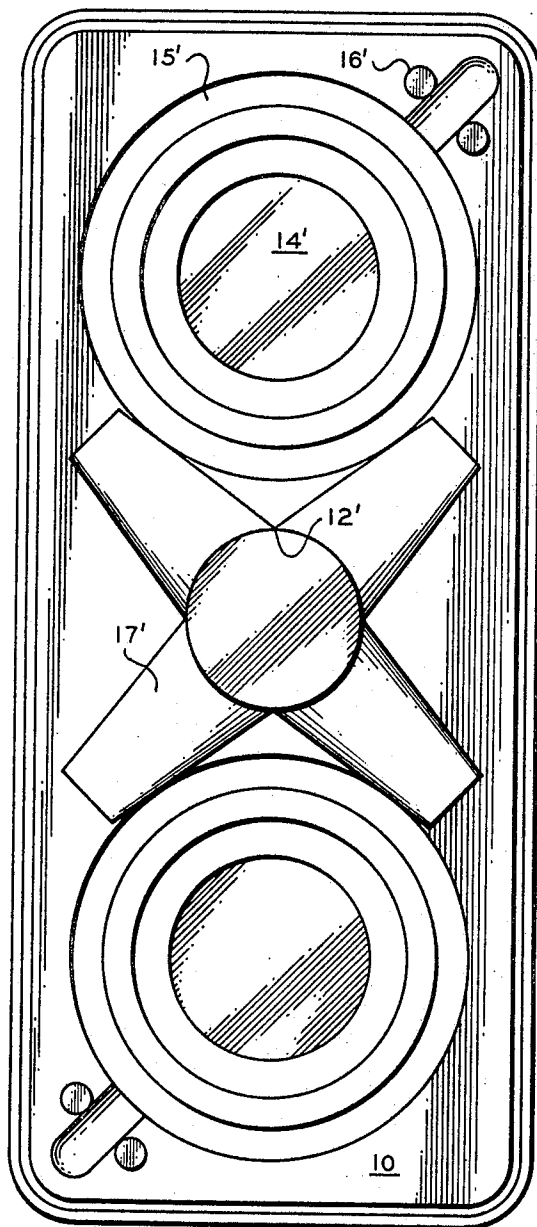


FIG. 4

INVENTOR.
S. D. COLLIE

BY *Young + Quigg*

ATTORNEYS

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S. D. COLLIE

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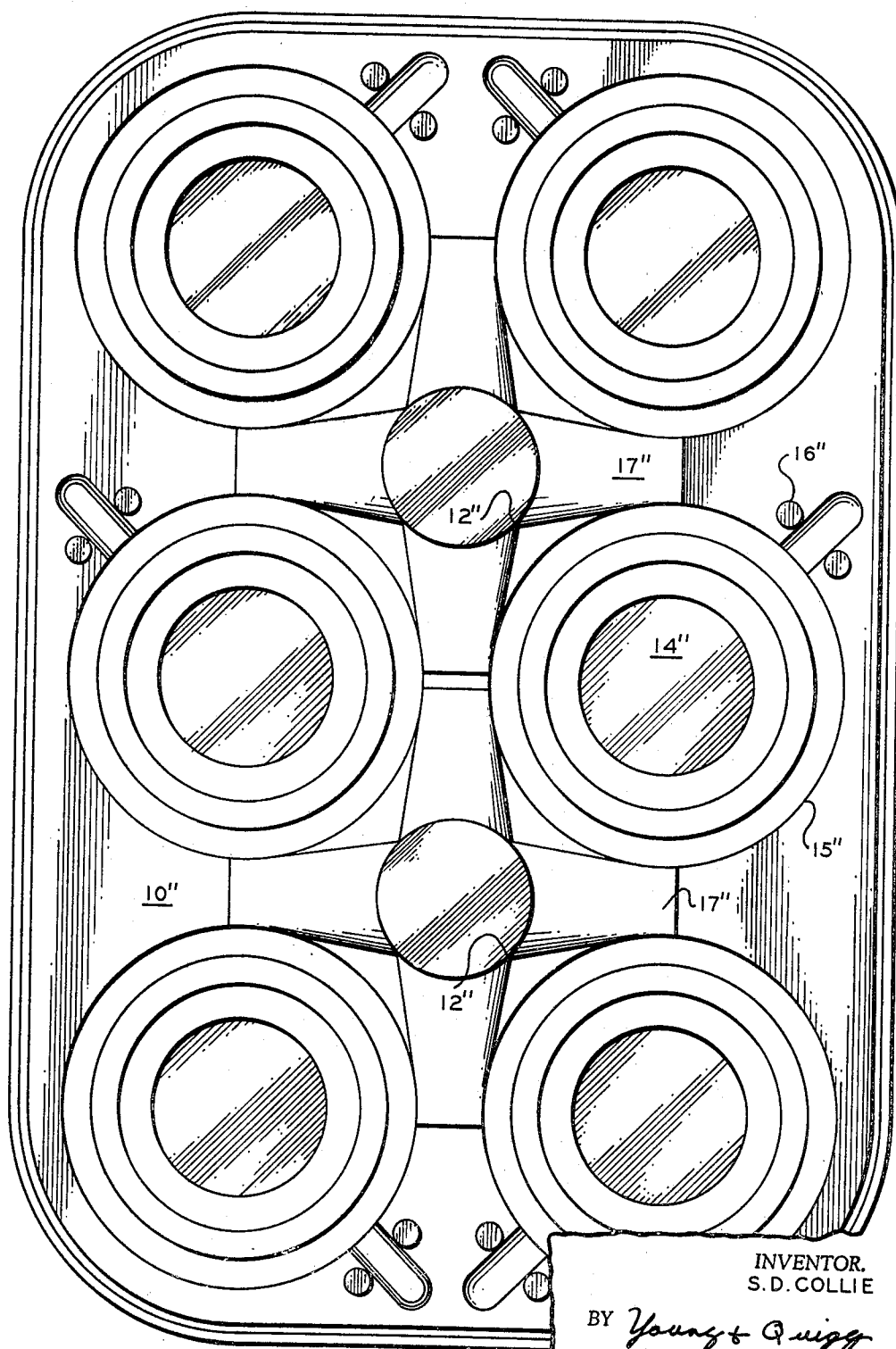


FIG. 5

ATTORNEYS

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OPEN-SIDED CONTAINER

Stafford D. Collie, Kansas City, Mo., assignor to Phillips Petroleum Company, a corporation of Delaware

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6 Claims

ABSTRACT OF THE DISCLOSURE

An open-sided container made from two opposed trays held apart in a fixed position by at least one post, for example, when utilizing substantially square or round trays, the trays can be held apart by a single post attached to the centers of both trays. The trays carry opposed indentations on the inner surfaces thereof which are adapted to cooperate and hold objects such as cups, glasses, saucers and the like between the two trays.

This invention relates to packaging and containers. In another aspect, this invention relates to a novel open-sided container.

An important item of expense in the marketing of fragile objects such as glassware, pottery, and chinaware, is breakage during handling and shipment. As a result, elaborate shipping cartons have been devised. Generally, fragile objects are removed from shipping containers by retail merchants and placed on display for full consumer handling and viewing. Many times the shipping cartons for fragile objects are completely destroyed or damaged when the objects are removed therefrom for display. Also, in many instances the shipping packages for fragile objects are designed to carry a multitude of the objects and cannot be utilized by the customer for carrying small numbers of these objects from the retail establishment. In these instances, the retail merchant, as a service to the customer, usually individually wraps the fragile objects after they are purchased.

One object of this invention is to provide a novel open-sided container which is adapted so that objects can be inserted within and removed therefrom without damaging the container.

Another object of this invention is to provide a novel open-sided container which can function both as a product container as well as a dispensing package.

According to the invention, a novel open-sided container is provided which is particularly adapted to package fragile items such as glassware. The containers are made from two opposed trays or retaining members held apart at a fixed distance by at least one post member.

This invention can be better understood from a study of the drawing in which:

FIGURE 1 is a plan view of a preferred embodiment of this invention;

FIGURE 2 is an elevational view of the container of FIGURE 1;

FIGURE 3 is a sectional view taken along line 3-3 of the container of FIGURE 1; and

FIGURES 4 and 5 are plan views of other embodiments of this invention.

Now referring to FIGURES 1-3, there is illustrated an open-sided container of this invention which is particularly adapted to hold four cups. As will be explained in detail below, the open-sided container of this invention can be designed to pack objects other than cups such as glasses, bowls, vases, etc. Also, as illustrated in FIGURES 4-5, the open-sided container of this invention can be adapted to carry either more or less objects than the particular embodiment illustrated in FIGURES 1-3 which will be described in detail below. Thus, the open-sided container can be any convenient shape such as square,

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round, oval or rectangular. Therefore, the particular configuration of the open-sided container is not intended to limit the scope of this invention.

Referring again to FIGURES 1-3, retaining members 10 and 11 are held a fixed distance apart by post member 12 which comprises post sections 13 which, in turn, comprises molded protrusions from retaining members 10 and 11, respectively. As illustrated in this embodiment, retaining members 10 and 11 are identical objects molded from a suitable thermoplastic material. Suitable thermoplastic materials which can be utilized to mold the packages of this invention include polymers and copolymers of 1-olefins having from 1-8 carbon atoms such as polyethylene, polypropylene, polybutene-1 and copolymers thereof; styrene polymers and copolymers of styrene with other monomers such as acrylonitrile; rubber modified polystyrene, acrylonitrile-butadiene-styrene polymers, vinyl chloride polymers and copolymers, acrylic polymers such as polymers of methyl methacrylate or modified acrylic polymers such as copolymers of methyl methacrylate and α -methyl styrene, cellulosic polymers such as cellulose acetate, and polyamides. It is preferred that the thermoplastic material utilized as construction material for the open-sided package of this invention be transparent to enhance visual inspection of objects contained therein; however, colored resins can be used advantageously especially for bottom-retaining member 11.

Each retaining member 10 and 11 carries indentations 14 and 15, cup handle locking protrusions 16, cup bracing members 17, and the above-described post sections 13. As illustrated in the drawings, indentations 14 are designed to retain the bottom of cup 18 (FIGURE 2). Indentations 15 which encircle indentations 14 are designed to retain the upper periphery of each individual cup lip, and cup handle locking protrusions 16 are designed to engage and hold each individual cup handle (FIGURES 1 and 2) in a fixed position to thereby prevent the cup from rotating within the container.

Cup bracing members 17 not only serve to contact and thereby brace the cups held within the container, but also serve to reinforce and thereby add rigidity to retaining members 10 and 11. Also, in the preferred embodiment illustrated in the drawings, retaining members 10 and 11 carry external ridges 19 about their periphery to provide further rigidity.

Thus, the open-sided container of the preferred embodiment illustrated in FIGURES 1-3 is produced by molding two identical retaining members 10 and 11 by a suitable method such as vacuum forming from a sheet of thermoplastic material such as for example, a medium impact polystyrene, and then joining the ends of post sections 13 of individual retaining members 10 and 11 by a suitable method such as heat sealing, gluing, and the like. The outer configuration of the retaining members allows them to be easily stacked for shipment from their point of manufacture to the location where the package is assembled by the above-described process for joining the ends of post sections 13. It is, of course, noted that retaining members 10 and 11 need not be identical in that retaining member 11 need not have indentations 15, and retaining member 10 need not have indentations 14. However, it is generally more economical to produce identical retaining members with a single molding apparatus if the shape of the particular objects to be held in the resulting container will so allow.

After post sections 13 of retaining members 10 and 11 have been sealed together to thereby form the open-sided container, the cups can be inserted therewithin by pulling retaining members 10 and 11 apart adjacent each cup holding station and inserting the cup into position as illustrated in FIGURES 1 and 2. The cups can be removed

from the container by a similar procedure. Retaining members 10 and 11 have sufficient flexibility to allow this operation, but sufficient rigidity not to bend and permanently distort during the filling and emptying procedure.

It is generally preferred that retaining members 10 and 11 be held apart in a slightly flexed state by the action of the cups after they have been inserted within each cup holding station. Thus, it is preferred that the cups hold the outer edges of the retaining members from about $\frac{1}{32}$ to about $\frac{1}{8}$ inch, preferably, about $\frac{1}{16}$ inch farther apart than the normal fixed distance that the said retaining members are held apart by post 12 while in a non-flexed state.

Preferably, when initially filling each container with the cups, it is generally desirable to position the cups upside down on retaining member 10 with the top periphery of the cup lips positioned within indentations 15 and the individual cup handles positioned between cup handle locking protrusions 16, and then to position retaining member 11 thereover so that the bottom of each cup will fit within an indentation 14. The end of post sections 13 can then be sealed together to complete the container. Thus, when the container is made of transparent plastic material, the cups within the individual open-sided containers can be removed from larger shipping crates and placed on display shelves by the retail merchant. The consumer can then visually inspect the cups without removing them from the package. However, if desired, the individual cups can be easily removed from the package for further inspection and then inserted back within the package.

FIGURES 4 and 5 are plan views illustrating other embodiments of this invention wherein ' and ' characters, respectively, represent similar characters as shown in FIGURES 1-3. FIGURE 4 illustrates an elongated two-cup container of this invention. As shown, the container of FIGURE 4 possesses all the basic elements of the container of FIGURES 1-3 except that post member 12' is centered on the longitudinal axis of each retaining member. FIGURE 5 illustrates an open-sided container of this invention adapted to carry six cups. As shown, post members 12'' are positioned on the longitudinal axis of each retaining member, so that the two center cups are seated therebetween, and the four outer cups are seated against support member 17'' in a similar manner as illustrated in FIGURE 1.

As previously stated, the open-sided container of this invention can be adapted to carry various other fragile objects such as tumblers, bowls, ash trays, vases, etc. It is noted, that objects such as tumblers can be engaged and carried in the sideways position by the open-sided container rather than the upright position of the cups as illustrated in the drawings. It is also within the scope of this invention to utilize the open-sided container of this invention to carry disposable consumer items such as canned beverages and the like. Lastly, it also must be noted that even though the preferred embodiments of this invention have been described with relation to two-

piece package components sealed together by post members, the open-sided container of this invention can also be formed as a one-piece construction by injection molding, for example.

I claim:

1. An open-sided container for holding a plurality of cups, open ends of said cups having larger diameters than bottom ends thereof, said container comprising two opposed resilient identical molded plastic retaining members which are connected and held a fixed distance apart by at least one post member comprising a first protrusion integrally molded to one retaining member and a second protrusion integrally molded to the other retaining member, the ends of said protrusions being sealed together to form said at least one post member, the opposed surfaces of said retaining members carrying matching indentations adjacent said post member for engaging said cups and holding them between said opposed retaining members, said indentations comprising an annular indentation adapted to hold the open end of each cup, and a depression centered within each annular indentation adapted to hold the bottom of each cup.

2. The container of claim 1 further comprising protrusions positioned adjacent said annular indentations adapted to engage a handle attached to each cup.

3. The container of claim 1 further comprising a strengthening ridge molded about the periphery of each of said retaining members.

4. The container of claim 1 wherein said retaining members comprise elongated bodies attached by one said post member at the center of the longitudinal axis of said elongated bodies, and said indentations are arranged to hold two cups on either side of said post member.

5. A container of claim 1 wherein said retaining members comprise elongated bodies attached by two post members on the longitudinal axis of each elongated body, and said indentations are arranged to hold six cups between said retaining members and around said post.

6. The container of claim 1 wherein said retaining members are substantially symmetrical bodies attached by one said post member at the center of each said body, and said indentations are arranged to hold four cups between said bodies and around said post.

References Cited

UNITED STATES PATENTS

3,416,690	12/1968	Michael	206—65 X
3,128,933	4/1964	Hohnjec	229—2.5
3,360,150	12/1967	Schechter.	
3,369,659	2/1968	Ettlinger	217—26 X

FOREIGN PATENTS

1,454,008	4/1966	France.
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MARTHA L. RICE, Primary Examiner

U.S. Cl. X.R.

206—65; 217—26.5