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3,166,190

MULTI-CUP PACKAGE

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FIG - 1

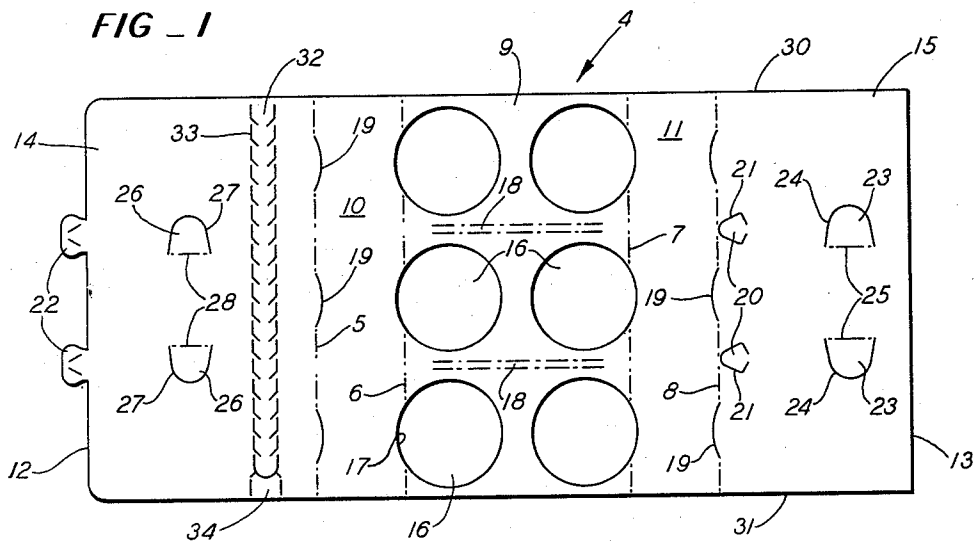


FIG - 2

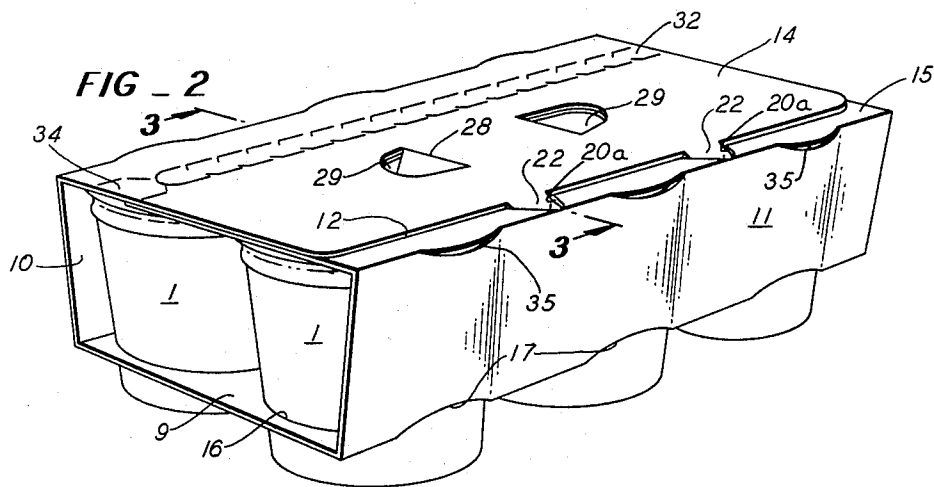
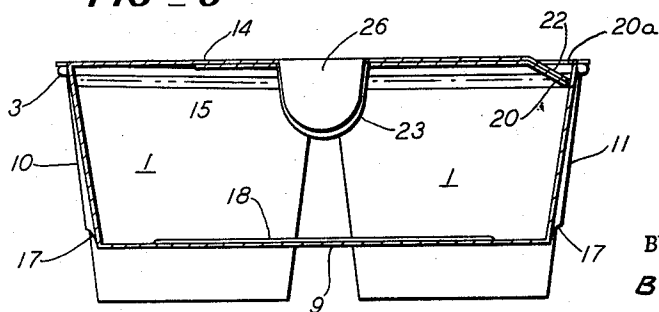


FIG - 3



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MULTI-CUP PACKAGE

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4 Claims. (Cl. 206-65)

This invention relates to a multi-cup carrier and package in which a plurality of rows of containers such as cups having inclined sidewalls, are held within an open-ended sleeve to provide a package of containers adapted to be handled and carried as a unit.

The carrier of this invention is particularly useful for carrying a pair of parallel rows of upright cups or small containers made of treated paper, lightweight cardboard, plastic, or like material, similar to the well-known "Dixie" cups, containing individual servings of ice cream, frozen custard, or like frozen food products. Such containers are generally in the form of an inverse truncated cone, having inclined sidewalls and terminating at their upper ends in an annular rim or chime. The top of the container is normally closed by a removable, flat cover which may be made of the same or similar material as the container.

This type of container presents a number of packaging problems. The container may be deformed at its upper end, especially when the contents are in a semi-melted state, which tends to dislodge the cover resulting in possible harm to the contents of the container. The inclined container sidewalls create interior waste space when the containers are packaged in ordinary rectangular boxes, requiring additional freezer space due to the relatively large size of such boxes. It is desirable that the containers remain upright to facilitate handling and storing of the package. These are some of the problems inherent in this type of container which rendered carriers of the prior art inadequate, and which the carrier of this invention is intended to overcome.

It is a primary object of this invention to provide a package in which a row of containers having an intermediate portion of larger cross section than one end thereof are carried by an open-ended sleeve wrapped around the row for holding the containers against movement.

Another object of this invention is the provision of an open-ended sleeve adapted to be wrapped around such containers to provide a package having minimum interior waste space and outer dimensions while affording adequate protection to the objects.

A further object of this invention is to provide such a carrier in which the smaller ends of the containers are received within openings in the bottom of the carrier, with the sidewalls of the carrier engaging and being bulged outwardly by said intermediate portions to securely maintain the objects in an upright position.

Yet another object is the provision of a carrier for containers comprising an open-ended sleeve formed from a minimum amount of material for realizing economic savings while providing a compact and protective carrier.

A still further object of this invention is to provide a blank formed from a single sheet of paperboard for forming a substantially open-ended sleeve adapted to carry a pair of parallel rows of containers therein in side by side relation, the containers having inclined sidewalls and chimed upper ends.

These and other objects and advantages of the present invention will become more readily apparent in the following description taken in conjunction with the accompanying drawing, in which:

FIG. 1 is a plan view of the blank from which the package of this invention is formed;

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FIG. 2 is a perspective view of the package of this invention formed from the blank shown in FIG. 1;

FIG. 3 is a sectional view taken along line 3-3 of FIG. 2.

In general, the carrier of this invention is adapted to carry a pair of parallel rows of containers of the type illustrated in FIGS. 2 and 3 of the drawing and designated 1. Each container 1 is generally inversely frusto-conical in shape, having a relatively small, circular lower end with divergently inclined sidewalls 2 terminating at the relatively large upper end of the container in an annular chime 3. The upper end of each container is closed by a flat, circular cardboard cover (not shown) which is easily removed for access to the contents of the container.

It will be understood that the carrier of this invention is not limited to carrying the specific container herein described and illustrated. The carrier may be adapted to carry any type of container or other objects of either uniform or non-uniform taper having an intermediate portion of larger cross section than one end thereof. An example of such a container is one having a bulbous shape.

Referring to FIG. 1 of the drawing, the blank from which the carrier is formed is indicated generally at 4. Blank 4 is substantially oblong and is preferably formed from a single sheet of paperboard having marginal edges 30, 31 extending longitudinally thereof, with spaced, parallel folding creases 5, 6, 7 and 8 extending thereacross normal to the longitudinal axis of the blank.

The pair of creases 6, 7 define opposite ends of a central panel 9 that will constitute the generally horizontal bottom wall of the open-ended sleeve to be formed.

Equally spaced from creases 6, 7 in directions toward the ends of the blanks are folding creases 5, 8. The panels between creases 5, 6 and 7, 8 will be the inclined sidewalls or side panels 10 and 11, respectively, of the sleeve to be formed.

The outermost panels between crease 5 and the left marginal end 12 (FIG. 1) and crease 8 and the right marginal end 13 constitute first and second end panels 14, 15, respectively, along the outermost ends of the side panels 10, 11. When the side panels 10, 11 are folded about creases 6, 7, respectively, to define the sidewalls of the sleeve, the end panels 14, 15 are folded about creases 5, 8, respectively, in lapping relation to one another to define the top wall of the sleeve to be formed.

Central panel 9 has a pair of parallel rows of spaced container receiving openings or apertures 16 formed therein extending transversely of the blank. The apertures 16 are generally circular and of a diameter sufficient to allow the lower ends of the containers to be received therethrough to a point on the container intermediate the ends thereof, as will be subsequently more fully explained.

Each of the apertures 16 has an outwardly longitudinally extending portion thereof extending beyond its adjacent folding crease and into its adjacent side panel to define in said side panel an arcuate slot 17. Thus, the right hand and left hand rows of apertures, as viewed in FIG. 1, each have outwardly disposed portions extending beyond folding creases 7, 6, respectively, into side panels 11, 10, respectively, to define in each of the said side panels a row of such arcuate slots 17 extending normal to the longitudinal axis of the blank. The significance of slots 17 will become evident in the subsequent description relating to the sleeve formed from the blank.

The central panel 9 also includes a pair of parallel, raised, strengthening ribs 18 extending longitudinally of panel 9, transversely of the rows of apertures 16, and spaced between successive pairs of said apertures. Ribs

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18 serve to reinforce panel 9 against sagging due to the weight of the containers when the assembled package is being carried.

Folding creases 5, 8 each have inwardly directed, arcuate, chime receiving slits 19 spaced therealong which provide openings 35 (FIG. 2) when panels 14, 15 are folded about creases 5, 8, respectively, to receive an outwardly extending portion of the chimes 3 of the containers when the package is assembled.

The end panel 15 has a pair of spaced, hinged tabs 20 in the plane thereof formed by a generally triangularly shaped cut 21, with the apex of each tab 20 being formed adjacent folding crease 8. Each tab 20 is foldable out of the plane of panel 15 inwardly of the carrier when formed to provide a pair of openings 20a in panel 15.

The marginal end 12 of the blank has a pair of spaced, winged locking tabs 22 formed as an integral extension of panel 14. Tabs 22 are adapted to be inserted into the openings 20a to secure panels 14, 15 in lapping relation when the carrier is formed.

The panel 15 has integrally formed therein a pair of oppositely facing, spaced tabs 23 formed by U-shaped cuts 24 connected by crease lines 25. Similarly, panel 14 has a corresponding pair of tabs 26 formed by U-shaped cuts 27 connected by crease lines 28. Tabs 23 and 26 are spaced within their respective panels 15, 14 so as to be positioned in superposed relation when panels 15, 14 are in overlapping relation (FIG. 3) extending interiorly of the sleeve in spaces between adjacent containers resulting from the circular cross section of the containers. Tabs 23 and 26 are foldable about crease lines 25 and 28, respectively, interiorly of the carrier to provide a pair of openings 29 (FIG. 2) in said panels into each of which openings 29 a person may insert a finger for carrying the assembled package. The double thickness resulting from the superposed relation of tabs 23, 26 affords increased strength at the openings 29 to provide a safe and secure carrying means for the package.

The distance between the centers of adjacent apertures 16 in each pair and in each row is equal to the diameter of the upper end of a container. The diameter of each aperture 16 is equal to the diameter of an intermediate portion of a container located in a horizontal plane between the upper and lower ends thereof. Thus, when the sleeve is formed and the containers are fully seated within the apertures 16, the chimes of adjacent containers contact each other and the lower ends of the containers project beneath the plane of the bottom wall 9.

In forming the package illustrated in FIGS. 2, 3, the side panels 10, 11 are folded inwardly relative to central panel 9 about creases 6, 7, respectively. The lower ends of the containers 1 are inserted into apertures 16. Top panels 15, 14 are then folded inwardly in that order relative to side panels 11, 10 about folding creases 3, 5, respectively, panel 15 being folded first to extend over and engage the upper ends of the containers and panel 14 being folded to overlap panel 15. The tabs 20 are then pushed interiorly of the sleeve out of the plane of panel 15 by the locking tabs 22 which are inserted into the openings 20a to lie in superposed locking relation to tabs 20 (FIG. 3). The locking means thus provided secures the sleeve in its formed state and maintains the sidewalls of the sleeve in engagement with the sidewalls of the containers and the containers within the apertures 16.

When the panel 14 thus overlaps panel 15, the tabs 26 in the former and tabs 23 in the latter are pushed interiorly of the sleeve to provide finger openings 29 in the top wall of the sleeve which serve as carrying means for the package. Each tab 26 will thus be in superposed relation to its corresponding tab 23 and each pair of superposed tabs serve as an additional means of securing said top panels 15, 14 in said lapping relation.

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In this lapping relation, the outwardly facing portions of the chimes 3 extend through the openings 35 formed by the arcuate slits 19 when the top panels 14, 15 are folded. The sidewalls 10, 11 firmly yet resiliently extend across and engage the oppositely outwardly facing tapered sidewalls of the containers. The central panel 9 is narrower between its ends, that is the longitudinally measured distance between creases 6 and 7, than the distance between the oppositely outwardly facing sides of the tapered portions of the containers, thereby causing the portion of each sidewall engaging the sidewalls of the containers to be bulged outwardly of the plane of the rest of the sidewall (FIG. 3) along lines extending from the edges of slots 17 upwardly to the openings 35. The peripheral edges of the sidewalls defined by the slots 17 firmly engage the outwardly sloping container sidewalls at a point intermediate the plane of bottom wall 9 and the top wall of the carrier and laterally outwardly of creases 6, 7. This engagement plus the nesting of the containers within apertures 16 insures that the containers remain upright when the package is carried by means of the finger openings 29 in the top wall thereof.

A tear strip 32 is provided in panel 14 to facilitate opening the package for removal of the containers therefrom. The tear strip extends transversely of panel 14 parallel to folding crease 5 and is spaced between the latter and the marginal edge 13 of panel 15 when panels 15 and 14 are in said lapping relation. Tear strip 32 is formed by parallel lines of V-shaped cuts 33, and terminates at one end in a pull tab 35 which is positioned at marginal edge 31 of the sleeve to enable it to be readily grasped between the fingers of the hand. An upward pull on the pull tab 34 will tear the tear strip 32 from top panel 14 to quickly open the sleeve from end to end for obtaining access to the containers.

While the multi-container package and carrier of this invention have been described with specific reference to the embodiments thereof illustrated in the accompanying drawing, it will be understood that various modifications and changes in the package and carrier may be made within the skill and understanding of persons skilled in the art without departing from the spirit and scope of the invention as defined in the appended claims.

I claim:

1. A multi-container package comprising:

- (a) at least one row of a plurality of upright containers having an intermediate portion thereof of larger cross section than the lower end thereof;
- (b) an open-ended sleeve enclosing said row with the end containers in said row at the open ends of said sleeve;
- (c) said sleeve being formed from a single elongated cardboard blank having side edges extending longitudinally thereof;
- (d) said blank being transversely scored and folded to form a longitudinally extending series of panels including a central panel, a pair of side panels along opposite ends of said central panel and a pair of terminal end panels along opposite ends of said side panels;
- (e) said central panel having at least one row of spaced apertures therein of smaller cross section than said intermediate portion of said containers and each of said apertures extending partially into said side panels and receiving said lower end of one of said containers therethrough;
- (f) said side panels extending across and in engagement with the oppositely outwardly facing sides of said intermediate portions of said containers;
- (g) said terminal end panels extending over and in engagement with the ends of said containers opposite said lower end thereof; and
- (h) means securing said terminal end panels together maintaining said containers within said apertures.

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2. The package of claim 1, further comprising:
 (i) said central panel being narrower between its ends than the distance between said oppositely outwardly facing sides of said intermediate portions of said containers whereby said side panels are bulged outwardly by said intermediate portions. 5
3. The package of claim 1, further comprising:
 (i) said central panel including a plurality of integrally formed raised reinforcing ribs extending longitudinally of said blank between said apertures. 10
4. The package of claim 1, further comprising:
 (i) a pair of hinged tabs formed in each of said end panels and positioned in superposed relation when said end panels are in said overlapping relation; 15
 (j) said tabs being foldable out of the planes of said end panels to provide a pair of openings formed in said end panels in spaces between adjacent containers resulting from the circular cross section of said con-

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tainers for insertion of fingers through said openings for carrying said package.

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