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C. D. AMANN

3,263,847

RE-USEABLE CONTAINER

Filed Dec. 10, 1964

2 Sheets-Sheet 1

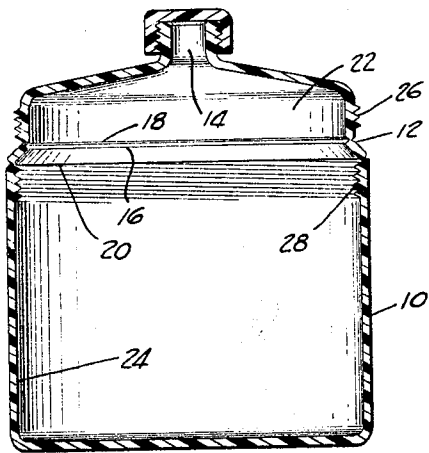


FIG. 1

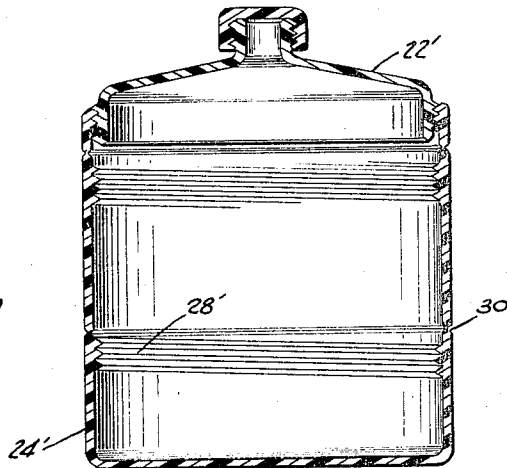


FIG. 2

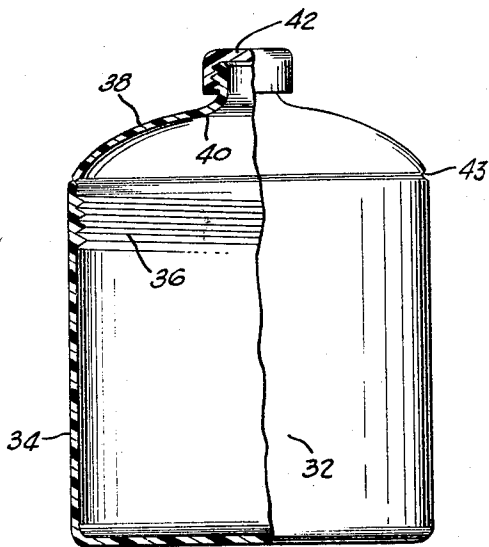


FIG. 3

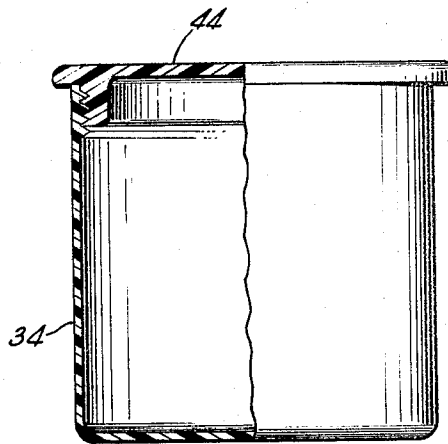


FIG. 4

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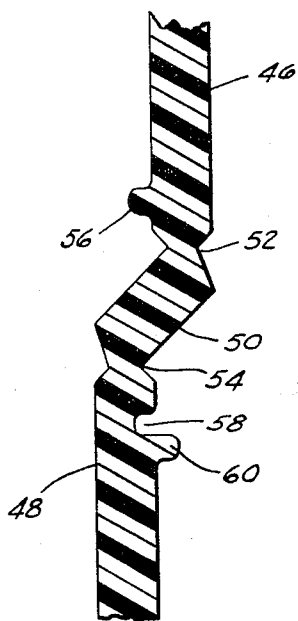


FIG. 6

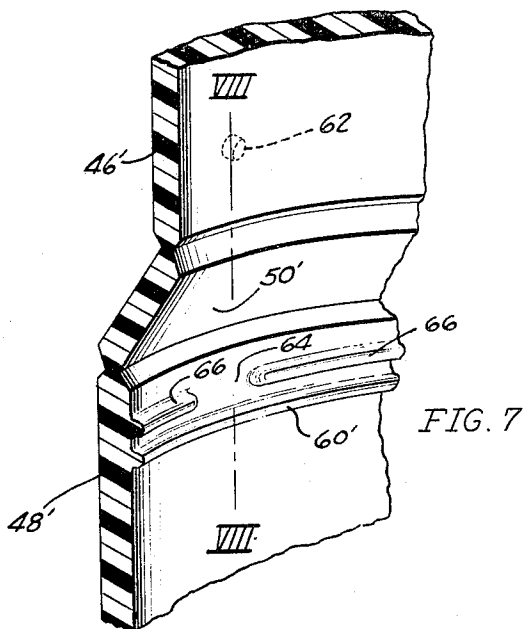


FIG. 7

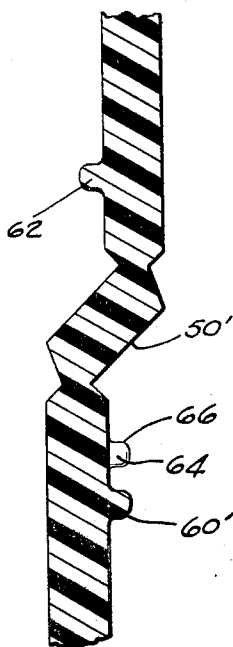


FIG. 8

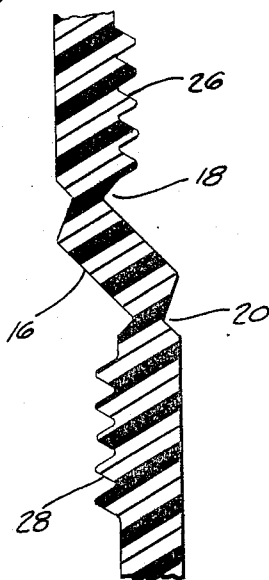


FIG. 5

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RE-USEABLE CONTAINER

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4 Claims. (Cl. 215—1)

The present invention relates to improvements in container design and construction which will permit the container, or a part thereof, to be modified, after it has served its original purpose, to enable the same to serve another purpose.

In the merchandising of many products, in recent years, much thought and effort has gone into making containers attractive, as well as capable of being used after their contents have been consumed. Such added utility is deemed by many manufacturers to increase the market for the original product, with the additional cost, if any, of the containers over those previously used, being considered justified as a form of sales promotion.

It is an object of the present invention to provide an improved container initially used for packaging a liquid, or other material capable of being discharged through a relatively small opening, which may be readily converted into a widemouthed container, after having served its original usefulness.

In carrying forward the object of the invention all, or a part, of the original container may be utilized, it being anticipated in some instances that a separate and distinct portion, not a part of the original container, may be used in converting the original container to its new use.

It has been heretofore proposed to provide a container for liquids with a pouring neck having a cap sealed on the neck by a frangible or severable diaphragm, the cap acting as a stopper upon rupture or cutting of the diaphragm. Such a conception has not changed the character of the container or provided a new use after the contents of the container have been consumed. According to the invention, the original container is parted in an area of increased cross section at a point substantially removed from the discharge opening of the original container. To part the container, a frusto-conical portion is preferably provided with frangible or severable portions disposed between spaced parallel planes.

In the illustrated embodiment of the invention,

FIG. 1 is an elevational view, partially shown in vertical cross section, of a container having a relatively small discharge opening and a removable conical section spacing adjacent sections of greater dimension than the discharge opening,

FIG. 2 is a view similar to FIG. 1 of a modified form of the invention and illustrating how the severed upper portion of FIG. 1 may be reassociated with the lower portion of the container,

FIG. 3 is a view similar to FIG. 1 of a further modification of the invention in which the upper portion of the original container is removable by rupture or severing and discarded,

FIG. 4 is a view similar to FIG. 1 of the lower portion of FIG. 3 provided with a separate and distinct upper portion,

FIG. 5 is an enlarged, cross-sectional, detailed view of the removable frusto-conical section of the container, for a resulting widemouthed container having a threaded connection of the upper and lower portions,

FIG. 6 is a view similar to FIG. 5 of a snap ring connection between the separated container parts,

FIG. 7 is a fragmentary, perspective view taken from the inside of the container and showing a bayonet lock type of connection, and

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FIG. 8 is a view similar to FIG. 5 taken on line VIII—VIII of FIG. 7.

Referring to the drawings, the container 10 may be of any suitable portion by rupture, cutting, tearing, or the like. Plastic containers being presently used for household products such as bleach are particularly well adapted to the present invention.

The parting portion 12 of the container 10 may take many forms to enable the same to serve the purpose of dividing the original container into two parts after it has served its original purpose and its contents has been discharged through a relatively small opening 14. Preferably, the parting portion is in the form of a circumferential band, or the like, defined by one or more sever or break lines, scores, grooves, demarcations, etc.

When the separated parts of the container on opposite sides of the parting portion are to have a mating or telescoping relation following separation along the parting portion, the parting portion preferably takes the form of a frusto-conical portion 16, as more clearly shown in FIG. 5, with spaced, parallel, circumferential grooves 18 and 20 providing frangible or severable planes along which rupture or severing of the continuous uninterrupted body of the container may take place. The grooves 18 and 20 also provide guide lines for a knife, or other sharp instrument, for severing the wall of the container in order to effect removal of the conical parting portion 16.

When the parting portion 16 is removed, the portion of the container then defining the upper and lower edges of the upper and lower portions 22 and 24, respectively, are capable of being brought into telescoping relationship. When such edges or portions directly adjacent thereto are equipped with threads 26 and 28, the portions 22 and 24 may be screwed together and when unscrewed will provide a widemouthed container. The threads 26 and 28 may be fine or coarse threads or may have threads of such a severe pitch that none of the threads completely embrace the circumference of the container parts and enable the coupling of the parts to be effected by partial relative rotation between the parts.

In the modification of FIG. 2, the upper portion 22' conforms to the upper portion 22 of FIG. 1, and illustrates the manner in which the portion 22 of FIG. 1 is attached to the portion 24 of FIG. 1 after the conical parting portion 16 has been removed.

The lower portion 24' of FIG. 2 corresponds generally to portion 24 of FIG. 1 but has been modified by the provision of a second set of threads 28' located directly below a parting line groove 30. This arrangement permits a selection of the height of the converted container. By severing or rupturing the lower portion 24' at the groove 30, the upper portion 22' can be used at the lower level, in lieu of the upper level, with the container portion above the lower threads 28' being discarded.

Referring to FIGS. 3 and 4, the container 32 has a main cylindrical portion 34 having threads 36, or other suitable forms of fastening or holding structure, integrally formed at the upper portion adjacent the dome 38 in which a neck portion 40 is provided and sealed by the cap 42. A parting line 44 in the form of a groove is provided along which the dome 38 may be severed or ruptured from the main body portion 34 of the container 32 when its contents has been consumed.

In FIG. 4, a separate flat top 44 is shown threaded, or otherwise fitted, to the main body portion 34 of the container 32. In practice, the top 44 will usually be supplied as a premium item, as an inducement for the original purchase of the container 32 of FIG. 3, to enable the container 32 to be converted into a canister in the manner shown in FIG. 4.

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It is anticipated that in lieu of threads, it may be more practical to use other forms of known fastening means located between the telescoping portions of the container structure. FIG. 6 shows the upper and lower portions 46 and 48, respectively, of a container spaced by a frusto-conical parting portion 50 having spaced, circumferential parting lines 52 and 54. The portion 46 is provided with a circumferential bead 58 which is adapted to snap into the groove 58 and rest upon the ledge 60 following the removal of the portion 50.

Another form of fastening structure is shown in FIGS. 7 and 8 wherein the upper and lower sections 46' and 48', separated by the parting portion 50', are connected by a bayonet type lock. Such an arrangement may be provided by molding exterior protuberances 62 circumferentially spaced about the container, which are adapted to pass through circumferentially spaced openings 64 in the bead 66 to rest on the bead 60' following relative rotation between the parted and telescoping portions 46' and 48'.

The container structure to which the principles of the present invention may be applied may take many shapes and forms and may be fabricated from numerous materials. In general, glass would not be particularly suitable. However, most plastic materials now being used for various forms of containers can be used, as well as fiber containers and containers consisting of fiber and inner metallic or plastic liners in laminated layers. For convenience, a material which may be severed along the parting lines by a knife, or other sharp instrument, will prove to be the most practical. However, it is anticipated that the separation of the container parts may be accomplished with the use of a solvent or by heating, particularly in the case of plastic containers. Also, by using thin gauge material and scoring the parting portion along spaced, parallel lines, metal containers may be adapted to the present invention by tearing the metal along the scoring lines through the aid of a finger tab, or the like, attached to the exterior of the container between the score lines.

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Having thus described my invention, what I claim as new and desire to protect by Letters Patent is:

1. A container having wall portions and a discharge opening of relatively small dimension having a removable closure, said container wall portions including a first wall portion and a second wall portion, said first wall portion being of greater transverse dimension than said second wall portion, a portion of said container spaced from said opening having a parting portion for providing said container with a widemouthed opening comprising a severable wall portion disposed intermediate said first and second wall portions, and mating portions defined on said container first and second wall portions adjacent said severable wall portion adapted for mating relation with each other on separation of said severable wall portion from said first and second wall portions.

2. A container as defined in claim 1 wherein said severable wall portion is defined by parting lines of reduced wall thickness circumscribing said container.

3. A container as defined in claim 1 wherein said severable wall portion is frusto-conical in form and the first and second wall portions of said container directly adjacent thereto are cylindrical.

4. A container as defined in claim 3 wherein said first and second wall portions are adapted to telescope one within the other upon the removal of said severable wall portions.

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