

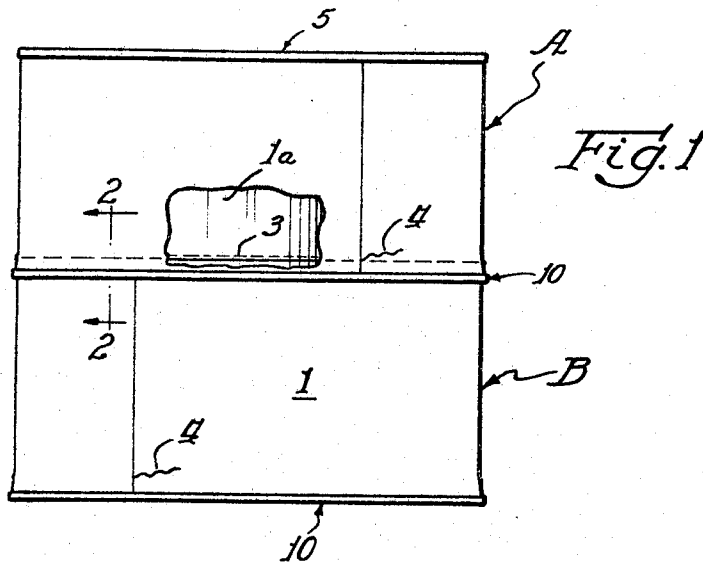
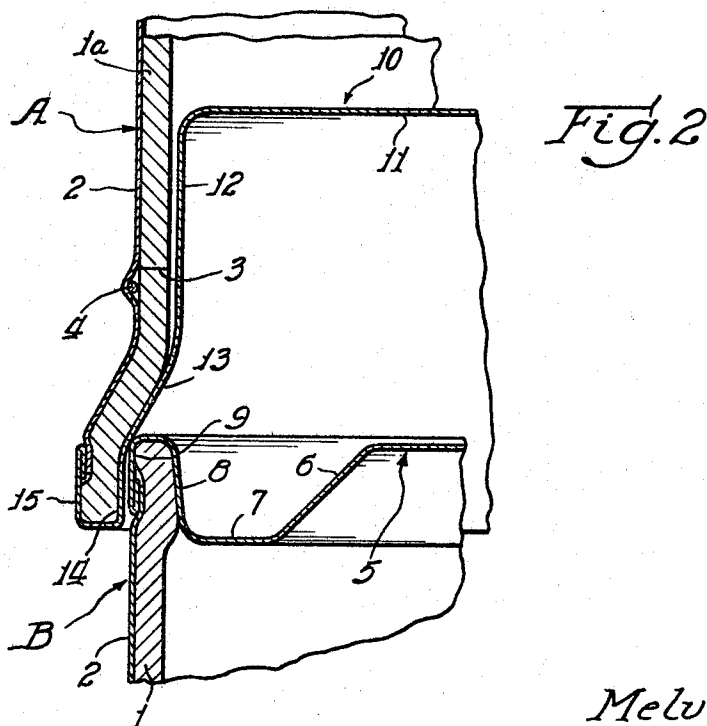
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STACKABLE CONTAINER

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STACKABLE CONTAINER

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ABSTRACT OF THE DISCLOSURE

A tubular can with a fibrous body portion has a metal top affixed onto one end to provide an outside top diameter the same as the body of the tube. The bottom has an inner recessed portion having a diameter enabling it to fit snugly within the tube. The bottom also has a flared section of larger diameter to provide a portion having an inside diameter slightly greater than the outside diameter of the top of the can to enable the bottom portion to fit outside the top of a similar can for secure stacking.

It is an object of this invention to provide an improved form of tubular container having a body of paperboard or other suitable sheet material, and having metal end closures of a simple and effective form which fit or interlock telescopically with closures of similar containers, thus to provide a form of container with good stacking qualities.

Another object of the invention is to provide a container of tubular form having an upright side wall or body portion formed of distendable sheet material, such as paperboard, which may be distended, particularly when moistened, such tube being closed at its upper end by a metal closure affixed onto the tube, and closed at its bottom end by a recessed metal closure having an upper portion fitting relatively snugly within the tube, and having a lower portion including an outwardly flaring section which is forced into the tube end to spread or distend it sufficiently to cause the lower end of the tube to have its inside diameter increased sufficiently so that the bottom of the container may fit telescopically around the top of a similar container to assure good stacking.

A further object of the invention is to provide a tubular container having a side wall or body portion of sheet material, combined with an inwardly recessed, metallic bottom closure which includes a downwardly extending, relatively straight skirt section and an adjacent portion terminating in an affixed rim, the tubular side wall being separable along a line intermediate the upper and lower ends of the skirt section, whereby the major upper portion of the tubular container forms a cover that may be lifted from the bottom closure and thereafter readily replaced telescopically onto the upper part of the skirt section of the closure.

A still further object is to provide an effective method of producing a readily stackable form of tubular container by moistening at least one end portion of a tube of fibrous material and forcing thereinto a recessed closure having an oversized, flaring portion that distends the tube end portion and remains in place, such oversized portion of the closure having an internal dimension sufficient to fit telescopically over the upper end of a similar tubular container.

Other and more specific objects and advantages of the invention will become apparent from the following description, and the drawings, in which

FIGURE 1 is an elevational view showing two containers as they appear in stacked arrangement;

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FIGURE 2 is a fragmentary enlarged, sectional view, taken on line 2—2 of FIGURE 1, showing the bottom closure of one container in interfitting relation with the top of a similar container.

The container of the present invention is particularly well suited for the hermetic packaging of food products such, for example, as upstanding cakes which are often prepared in layers, and which may be dispensed or served in slices, frequently for consumption over a period of several days. The container is preferably opened along a severance line near the base, and the top of the container, together with a major portion of the side wall is lifted off the base as a cover when portions of the cake are to be served. As the cake rests on the bottom closure panel which is upwardly spaced from the surface upon which the container may be placed, the operation of slicing the cake and serving separate slices is facilitated. When a desired amount of the cake has been served, the remainder may be preserved by replacing the cover portion of the container telescopically over the close-fitting, upstanding part of the bottom closure, thus restoring the container to approximately its original contents protective condition.

In FIGURE 1 two identically constructed containers A and B are shown in stacked relation. The body or side wall of the container, indicated at 1 for the lower container and at 1a for the upper container, is formed from suitable fibrous sheet material, such as paperboard.

A satisfactory side wall construction may comprise convolute wound paperboard tubes formed by board of relatively high bursting or tearing strength and capable of being appreciably drawn or distended, permitting an oversize portion of the bottom closure to be forced into the tube with a consequent increase in the tube circumference at the bottom end of the container.

In the finished form of the container a label 2 is preferably applied by adhesive to completely surround the tube. Prior to the application of the label the tube is preferably formed with a separation line or cut, indicated at 3; and a tear string 4, which completely surrounds the tube, is located near the cut 3. A short section of the tear string is allowed to project at the label joint so that the string may be readily grasped and pulled to sever the label entirely around the tube and to facilitate removal of the upper portion of the container from the lower portion along the cut line 3. The particular method of assembling the tear string and the label on the tubular container wall forms no part of the present invention.

The top closure 5 of the container, as herein shown, comprises a shaped panel or disk having an annular groove formed by wall sections 6, 7 and 8. The wall section 8 terminates in a downwardly extending flange or ring section 9. The upper end of the container wall is received within the inverted U-shaped channel formed by sections 8 and 9 and the closure is secured by a suitable affixing mechanism, thus forming the upper rim of the container.

In forming this rim the flange section 9 may be indented partly into the tubular side wall by the action of the affixing mechanism so that the outside surface of the rim is approximately flush with the major portion of the side wall outer surface.

As herein shown, the bottom closure 10 comprises disk 11 having a diameter approximately equal to the interior diameter of the tubular side wall 1a. The closure 10 is shaped to include a depending skirt section 12. This terminates in an annular, outwardly flaring section 13 which joins with a straight flange section 14 forming the inside of the rim portion of the bottom closure. The outer surface of the rim is provided by section 15 which, with section 14, forms an upright U-shaped channel to

receive the lower free edge of the tubular container. The sections 14 and 15 are firmly secured onto the tube end by affixing mechanism.

The bottom closure may be assembled with fibrous sheet material tube sections by assembling the closure while the plies are still moist from the moisture in the glue used in joining the plies, or a short length of the tube may be moistened just prior to the assembly with the closure, so that the end portion of the tube will be distended when the annular flaring section 13 is forced into the tube end.

The inside diameter of the lower rim of the tube, defined by the closure sections 14 and 15, is of such size as to permit the lower rim to fit readily over the upper rim of a similar container, thus to achieve good stacking results.

In the fabrication of the containers a relatively long tube may first be formed upon a rotating mandrel. The separation lines, as indicated at 3 may then be made by cutting through the tube stock, and the tear strings and label sheet will next be applied. The long tube may then be cut into sections of the desired length for the individual containers. The open ended tubes thus formed are then ready for assembly with the bottom closures. The top closures are applied by the packer after the cake or other commodity has been placed within the container.

When the containers have been filled and sealed they are ready for delivery to retail stores where the filled containers may readily be stacked for display and sale.

When the purchaser desires to open the container, this is readily done by severing the label with the tear string completely around the container. The main body portion of the container which is above the cut line 3 is then free to be lifted from the bottom closure, thus leaving the article, such as cake, resting upon the disk portion 11 of the bottom closure. Any remaining portion of the cake not immediately used may be kept in good condition by returning the upper part or cover of the container to its original position in which the lower end is slipped over the upstanding skirt section 12 of the bottom closure.

It is obvious that, if desired, the lower end portion of the tube which fits around the outwardly flaring section 13 can be formed from sheet material other than that from which the upper portion of the tube is formed. Thus, the severance line 3, instead of being a line of cut, can be the line of contact of the separate tubular portions.

It is to be understood that materials employed for the closures may include tinplate, aluminum, plastic compounds, and paper and plastic combinations.

While the description has referred to cylindrical containers, it is obvious that the same principles of construction may be employed in the formation of containers of other specific shapes.

It is to be understood that reference to downwardly extending or upwardly extending sections or portions is for convenience of description, and that it is not intended that such terms shall be considered in a limited sense. If desired, the vertical positions of the containers can be reversed.

I claim:

1. A container comprising in combination:

- (a) a cylindrical tube of sheet material forming the side wall of the container;
- (b) the major portion of the tube, including its upper end, being relatively straight and of generally uniform diameter;
- (c) the lower end portion of the tube being outwardly flared;
- (d) a recessed bottom closure comprising:
 - (i) a disk section received within the straight por-

tion of the tube above the flared portion;

- (ii) a generally straight skirt section extending downwardly from the disk section with its lower end adjacent the junction of the flared portion and straight portion of the tube;
- (iii) an outwardly flared section below the straight skirt section and received in close fitting relation within the flared end portion of the tube;
- (iv) a generally straight rim section extending downwardly from the flared section, such rim section having an internal dimension slightly greater than the external dimension of the upper end of the tube, whereby such rim section may fit telescopically over the upper end of a similar container to provide secure stacking.

2. The invention as defined in claim 1, in which the tube has a top closure of sheet material, such closure including a rim member secured to the upper end of the tube, the outer surface of such rim member being substantially flush with the adjacent outer surface of the tube.

3. The invention as defined in claim 1, in which the tube has a line of separation intermediate the upper and lower edges of the straight skirt section, whereby the major upper portion of the tube above the separation line comprises a removable cover.

4. A container comprising in combination:

- (a) a cylindrical tube of sheet material forming the side wall of the container;
- (b) the major portion of the tube, including its upper end, being relatively straight and of generally uniform diameter;
- (c) the lower end portion of the tube being outwardly flared;
- (d) a recessed bottom closure comprising:
 - (i) a disk section received within the straight portion of the tube above the flared portion;
 - (ii) a generally straight skirt section of generally uniform diameter extending downwardly from the disk section with its lower end adjacent the junction of the flared portion and straight portion of the tube;
 - (iii) an outwardly flared section below the straight skirt section received in close fitting relation within the flared end portion of the tube;
 - (iv) said flared section having an internal dimension slightly greater than the external dimension of the upper end of the tube, whereby said flared section may fit telescopically over the upper end of a similar container to provide secure stacking.

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