

[54] CONTAINER WITH PIVOTED
CONTENTS-REMOVING COVER

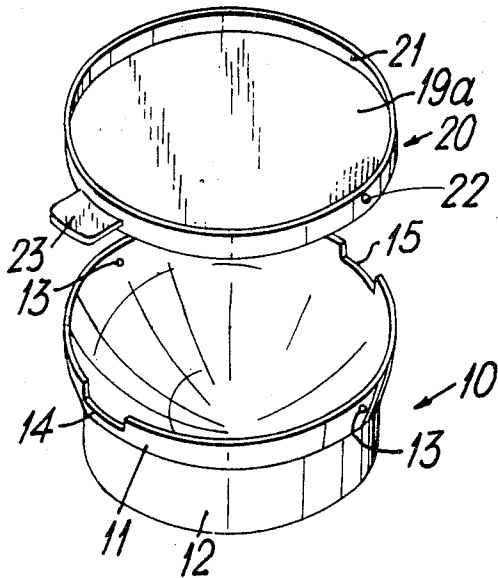
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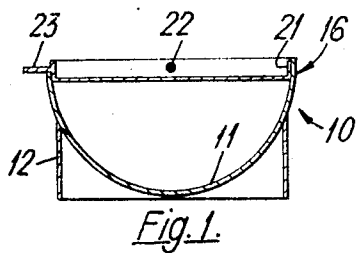
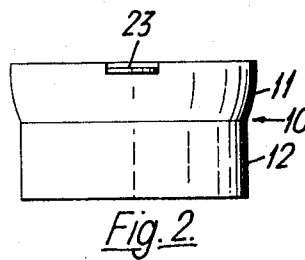
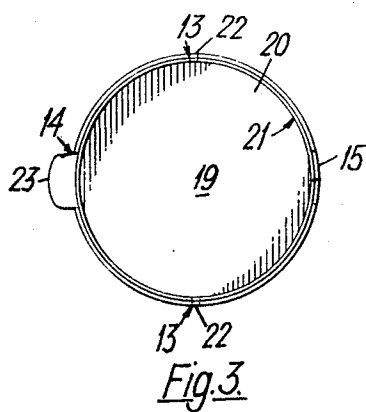
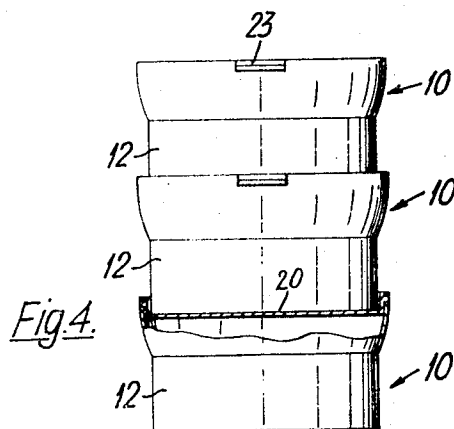
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[51] Int. Cl.B65d 43/16
[58] Field of Search.....206/56 R, 56 AA, 45.13, 45.19;
220/60 R, 31 R, 30; 150/5

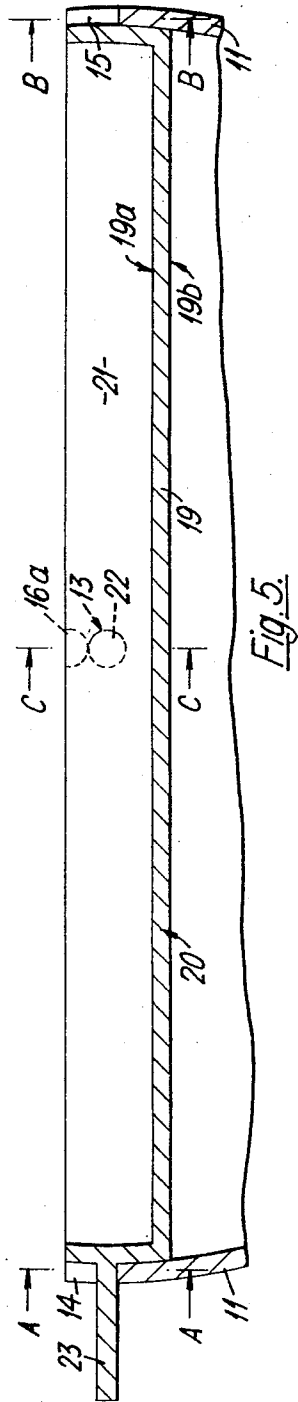
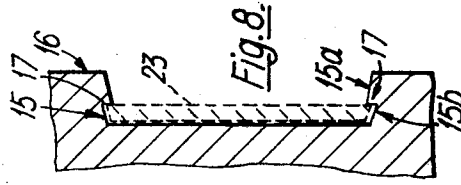
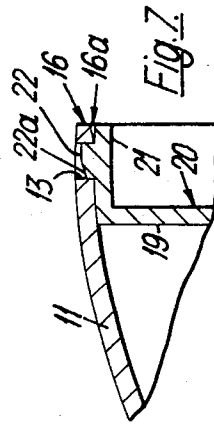
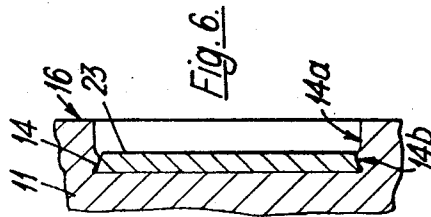
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Assistant Examiner—John J. Love
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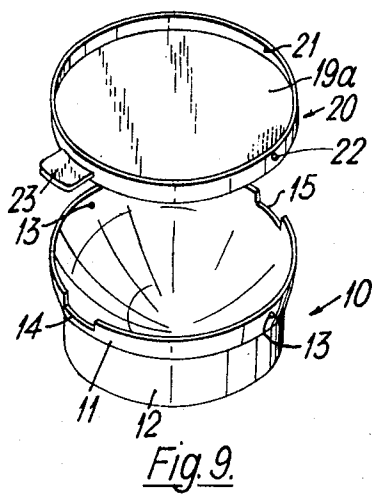
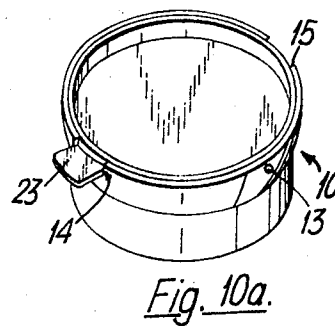
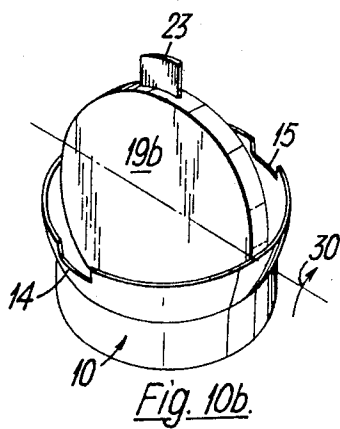
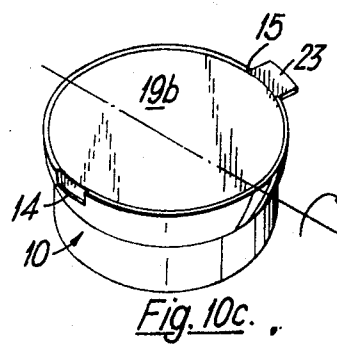
[57] ABSTRACT
A lidded container comprising a segmental body portion and a lid pivoted thereto, the lid having an innermost planar surface and wherein when the lid is moved through 180° the innermost planar surface will sweep the inner surface of the body portion and remove the contents therefrom and present them for use upon the inverted lid of the container.

15 Claims, 19 Drawing Figures









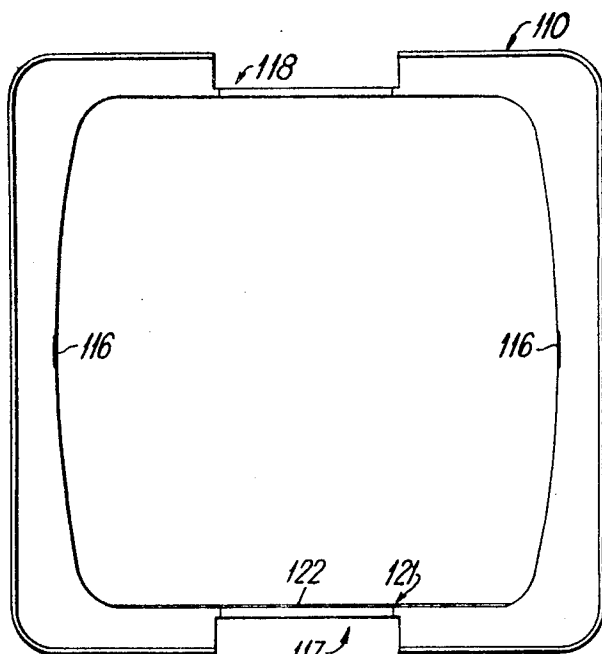


Fig. 11.

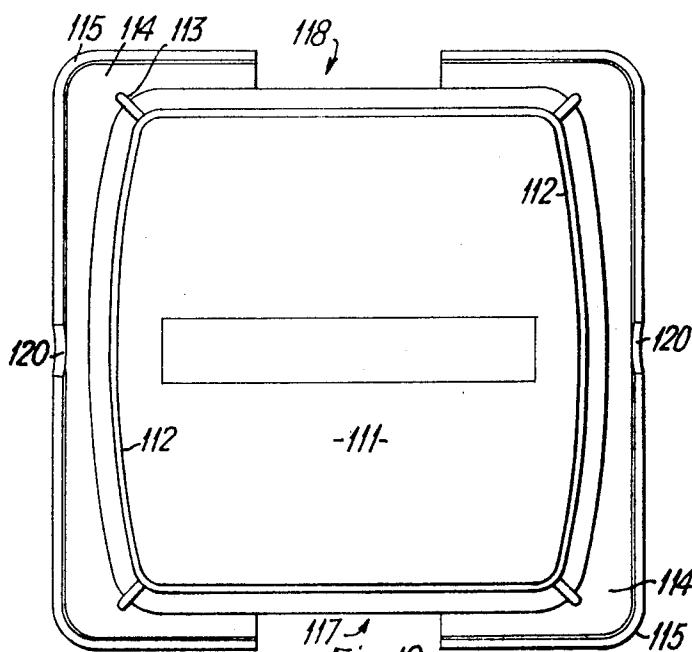


Fig. 12.

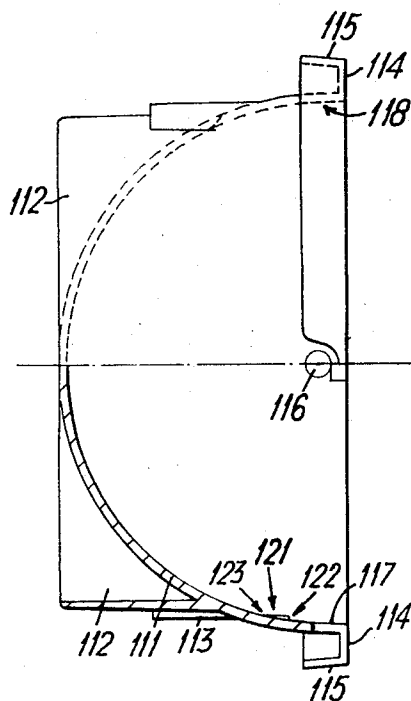


Fig. 13.

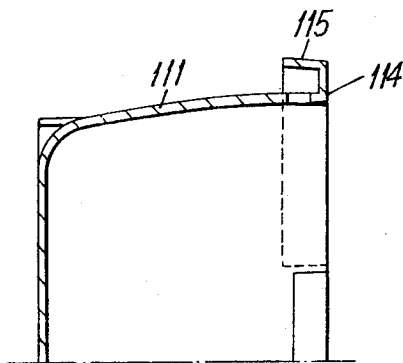


Fig. 14.

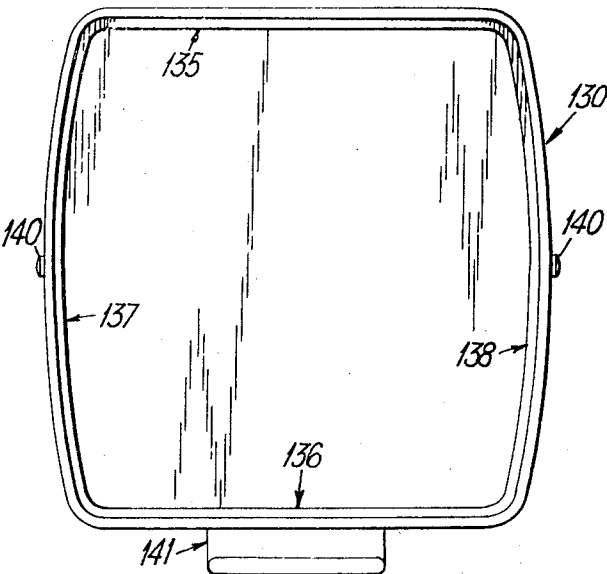


Fig. 15.

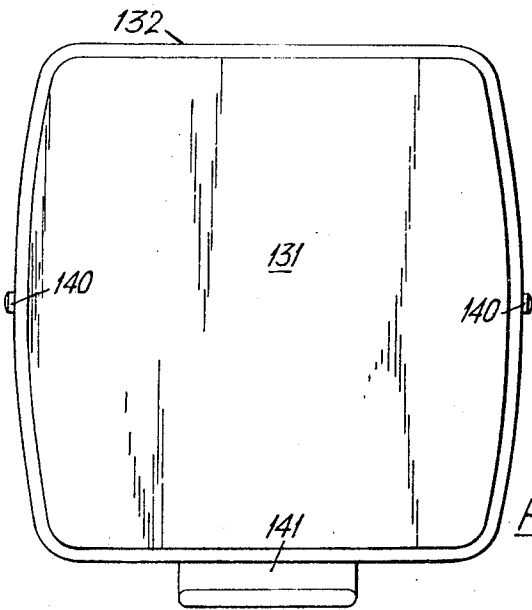


Fig. 16.

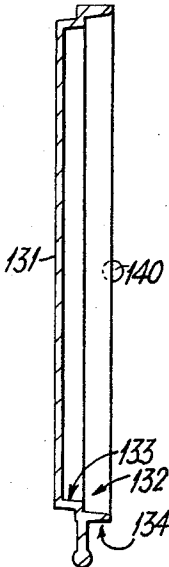


Fig. 17.

CONTAINER WITH PIVOTED CONTENTS-REMOVING COVER

This invention concerns a lidded container.

According to the present invention there is provided a lidded container comprising a segmental body portion and a lid mounted for pivotal movement about an axis coincident with the center of curvature of the segmental body portion whereby the lid or a part connected thereto can move through the container closely adjacent the walls thereof to remove the contents from the container.

Preferably the body portion is semicircular in cross section in a plane normal to the pivotal axis of the lid, the lid having a substantially plane inner surface and being adapted to move through substantially 180° whereby one half of the lids inner surface can sweep through the whole of the container body.

In a preferred embodiment the body portion is hemispherical, the lid having a semicircular portion which can sweep through the container body.

Alternatively the body portion may be semicylindrical.

Preferably the lid touches or scrapes the inner wall or walls of the container throughout its movement within the container.

Preferably there are provided means for preventing reclosure of the lid after it has been opened.

Such means may provide a lip or ledge on the body portion over which the lid moves in one direction to open the container but past which it cannot return to close the container.

Preferably the lid is provided with a peripheral wall providing a greater depth closely adjacent the wall of the body and thus restricting flow of the contents past the lid.

The invention is illustrated merely by way of example in the accompanying drawings in which

FIG. 1 is a cross sectional elevation through a lidded container according to the present invention,

FIG. 2 is an end elevation of the container of FIG. 1,

FIG. 3 is a plan of the container of FIGS. 1 and 2,

FIG. 4 is a part sectional elevation through a stack of lidded containers of the type illustrated in FIGS. 1 to 3,

FIG. 5 is an enlarged cross sectional view through part of the container illustrated in FIG. 1,

FIG. 6 is a cross section through part of the container of FIG. 5 taken on the line AA of that Figure,

FIG. 7 is a cross sectional view of part of the container of FIG. 5 taken on the line CC of that Figure,

FIG. 8 is a cross sectional view through the container of FIG. 5 taken on the line BB of that Figure,

FIG. 9 is a perspective view of the container with lid in an exploded arrangement,

FIG. 10a, b and c are perspective views of the lidded container of FIGS. 1 to 9 illustrating the action of opening the container,

FIG. 11 is a top plan of the body portion of an alternative form of a lidded container according to the present invention,

FIG. 12 is a bottom plan of the body portion of FIG. 11,

FIG. 13 is a side elevation partially in cross section of the body portion of FIGS. 11 and 12,

FIG. 14 is a sectional end elevation through part of the body portion of FIGS. 11 to 13,

FIG. 15 is a top plan of a lid for the body portion of FIGS. 11 to 14,

FIG. 16 is a bottom plan of the lid of FIG. 15 and

FIG. 17 is a cross sectional side elevation of the lid of FIGS. 15 and 16.

Referring to the drawings and particularly to FIGS. 1 to 10 there is shown a container 10 comprising a hemispherical body portion 11 having moulded integral therewith a cylindrical support 12. Adjacent the upper periphery of the body portion 11 is provided a diametrically opposed pair of apertures 13. Spaced at 90° to the apertures 13 is a diametrically opposed pair of tapered slots 14, 15 cut in the upper periphery of the base 11. FIG. 6 illustrates the form of slot 14 which is seen to comprise an upper parallel sided section 14a and a lower substantially divergent portion 14b which diverges as the slot

progresses away from the upper peripheral surface 16 of the base 11.

FIG. 8 illustrates the form of the tapered slot 15. It will be seen that this slot comprises an upper convergent portion 15a and a lower convergent portion 15b described with reference to the upper surface 16 of the base 11. The slot 15 is stepped at 17 between the convergent portions 15a and 15b.

Mounted within the upper portion of the base 11 is a lid 20 in the form of a planar disc 19 provided with a peripheral wall 21 the overall diameter of which is somewhat less than the overall diameter of the hemispherical base portion 11. The wall 21 is provided with an opposed pair of spigots 22 which are disposed within the apertures 13 of the base portion 11 to provide a pivotal connection between the lid 20 and the base 11. The lid 20 is also provided with a lifting tab 23 in the form of a planar extension. Referring to FIG. 7 it will be seen that each spigot 22 is formed as an integral extension of the side wall 21 of the lid 20 each spigot being cylindrical in cross section and being tapered in its lower half as indicated at 22a to facilitate the insertion of the lid into the base 11. Thus as clearly shown in FIG. 7 the wall 11 of the base is tapered adjacent the upper plane surface 16 as indicated at 16a and thus the lid 20 can be snapped into location with spigots 22 within the apertures 13 forcing the tapered section 22a of each spigot 22 past the tapered section 16a of the base 11.

Referring now to FIG. 6 it will be seen that the lifting tab 23 is tapered in cross section and in the closed position of the container which is illustrated in FIG. 6 the taper of the lifting tab 23 corresponds to the taper on the section 14b of the slot 14 whereby the lid is held in this closed position. The lifting tab 23 can be released from its held position illustrated in FIG. 6 by exerting a force on tab 23 in the upward direction i.e., toward the upper surface 16 of the base 11. The base 11 adjacent the slot 14 will flex to permit the lifting tab 23 to be released from the slot 14. Referring now to FIG. 8 there is illustrated in broken lines the position adopted by the lifting tab 23 when it cooperates with the tapered slot 15. It will be noted that the taper on the tab 23 also cooperates with the taper on the section 15b of slot 15 but, in its location as illustrated in FIG. 8 the tab 23 is held behind the shoulder 17 of the slot 15 thus preventing release of the tab 23 from this location. The tapered section 15a of the slot 15 facilitates insertion of the tab 23 into its retained location within the section 15b of this slot.

Referring to FIG. 5 the peripheral wall 21 of the lid 20 is seen to be somewhat convex on its outer face to mate with the inner surface of the hemispherical base 11. Whilst this shape is the preferred one and may need to be adopted with containers of fairly large sizes, it will be appreciated that the peripheral wall 21 can be linear where the size of the overall container is relatively small i.e., the external diameter being measured in inches or fractions of an inch.

Referring to FIGS. 9 and 10, this illustrates use of the container according to the present invention. Referring to FIG. 9, the lid 20 and the base 10 are moulded as individual components for the lidded container and are then assembled in the manner illustrated in FIG. 9 by snapping the lid 20 into the base 10 such that the spigots 22 engage the apertures 13 and the tab 23 engages the tapered slot 14. These components are assembled after the base 10 has been filled with whatever material is to be held within the container. Thus the container is particularly useful for holding individual pats of butter or individual portions of butter for use in restaurants, airplanes, railways etc. Thus after filling base 10 with the butter or other material the lid 20 is snapped into position and will seal the container due to the close fitting of the peripheral wall 21 within the upper extremity of hemispherical base wall 11. This arrangement is illustrated in FIG. 10a which shows the lidded container in its filled condition ready for use.

To use the container the tab 23 is lifted to disengage it from the slot 14 and the lid 20 will pivot about the spigots 22 as illustrated by arrow 30 in FIG. 10b. The lid will continue in this movement until the tab 23 is snapped into engagement with

the tapered slot 15 from which it cannot subsequently be removed. The lidded container will then be in the position illustrated in FIG. 10c with the lid 20 upside down, the under surface 19b being uppermost.

It will be appreciated from the description given above that, since the spigots 22 are mounted along a line coincident with the center of curvature of the hemispherical base 11, the peripheral wall 21 of the base 20 will sweep the inner surface of the hemisphere 11 in its movement through 180° as tab 23 moves from slot 14 to slot 15. During this sweeping movement the wall 21 will be in contact with the inner surface of the base 11 and will thus scrape the surface of the base 11 completely.

When the container contains e.g., a pat of butter it will of course be in the form of a hemisphere and, due to the consistency of the butter it will retain this hemispherical shape as the lid 20 is rotated during the opening of the container. Thus when the container is fully opened as illustrated in FIG. 10c, there will be disposed upon the surface 19b of the lid a mound of butter in the form of a hemisphere which has been scraped from within the hemispherical base 11.

It will be appreciated that all the butter housed within the container will be presented for use upon the inverted lid of the container which, being planar will facilitate removal of the butter particularly where the butter needs to be scraped from the lid. No corners or angles need be cleaned to remove all traces of the butter. Simple scraping action across the upper planar surface 19b will remove all the contents. It will be appreciated that this is much easier than the normal arrangement where the butter needs to be scooped from a container in which it is housed.

Since the lid 20 has been snapped into the slot 15 from which it cannot be removed, any user of the container will not be able to reclose the container and thus there is no risk that a used or partially used container will be replaced upon a table for reuse. Such a situation can of course occur with a normal lidded container where conventionally there is no provision for preventing reclosure of the container.

Referring now to FIGS. 11 to 14, there is shown the body portion 110 for a preferred form of lidded container according to the present invention. The body portion 110 includes a semicylindrical base wall 111 provided with an integral and depending peripheral substantially rectangular skirt 112 providing a support for the wall 111. Four ribs 113 extend between the wall 111 and skirt 112 at each corner of the skirt 112. The upper periphery of the wall 111 is provided with a laterally extending flange 114 and a depending skirt 115 connected thereto. The peripheral shape of the flange 114 and skirt 115 is rectangular with rounded corners as clearly shown in FIGS. 11 and 12. The peripheral cross sectional shape of the base wall 111 and skirt 112 as shown in FIGS. 11 and 12 is substantially rectangular being defined by an opposed pair of linear walls and an opposed pair of bowed walls.

The opposed pair of bowed walls defining the upper periphery of base wall 111 are provided with apertures 116 adapted to receive spigots formed on the lid of the container as described below. The flange 114 and skirt 115 are cut away along the opposed lengths which are adjacent the linear sections of the wall 111. These cut away sections are shown at 117 and 118 in FIGS. 11 and 12. The skirt 115 is also cut away adjacent the holes 116, semicylindrical slots 120 being cut in the lower edge of the skirt adjacent each of the holes 116.

Within the container body and integral with the inner surface of wall portion 111 there is provided a ledge 121 extending along one of the linear upper edges of the wall portion 111 for the full width of the container. The ledge has an upper plan face which projects substantially normally to the inner surface of the wall portion 111 this planar face being indicated at 122 in FIG. 13. The ledge 121 is also provided with an upper surface 123 inclined to the inner surface of wall portion 111 provided with face 122 a wedge shaped tapering member.

Referring now to FIGS. 15 to 17 there is shown a lid 130 adapted to cooperate with the body portion 110 of FIGS. 11 to 14 to provide a lidded container in accordance with the present invention.

The lid 130 comprises a planar substantially rectangular plate 131 provided with a peripheral upstanding wall 132 constructed in two sections a lower wall section 133 and an upper wall section 134 of somewhat larger overall dimensions. The two section wall portions 133, 134 provide a stepped wall 132.

The substantially rectangular lid has an opposed pair of linear walls 135, 136 and an opposed pair of bowed walls 137, 138, these walls being provided by the wall 132. The opposed pair of bowed walls 137, 138 are each provided with an integral spigot 140 adapted to snap into and cooperate with the apertures 116 provided in the opposed walls of the container body to provide a pivotal connection between the lid 130 and the body portion 110.

One of the opposed linear edges 135, 136 is provided with a planar extension providing a handle 141. When the lid is assembled on the body 110, the handle 141 is adapted to cooperate with the slot 117 cut in the peripheral wall 114, 115 and the upper section of wall 111 which is removed to receive the handle.

It will be noted that the cross section of the lid and body portion are substantially identical. The lid is pivotally mounted upon the body to fit snugly therein and it will be noted that the wall portion 111 being semicylindrical in section provides a segmental body through which the lid may sweep with its wall portion 135 moving closely adjacent or even touching the inner surface of wall 111 to scrape and sweep the contents of the container from within the container during opening movement of the container as the handle 141 is lifted from slot 117 and pivoted in a semicircular arc from slot 117 to slot 118.

When the handle 141 has reached slot 118 into which it is adapted to fit snugly, the opposed side 135 of the lid will be disposed adjacent the slot 117. Immediately before the side 135 of the lid reaches the slot 117 it will pass over the ledge 121. Since the slightly tapering face 123 of the ledge 121 will be presented to the lid during this opening movement, the ledge 121 will provide some obstruction to the lid but will not be sufficient to prevent movement of the lid thereover. Thus the lid passes over the ledge 121 to reach the slot 117. However, the lid is now facing the abutment provided by the face 122 of the ledge 121. Any attempt to reclose the container by lifting the handle 141 from slot 118 and moving it in a semicircular arc to the slot 117 will be prevented by abutment between the edge 135 of the lid and the face 122 of ledge 121. Thus reclosure of the container will be prevented.

The invention is not restricted in its application to use with butter but can of course be used with any such material which needs to be handled within a closed container but can be presented on an open surface in an unsupported form e.g., butter, margarine, mustard, lard, jam, meat and fish pastes, clotted cream, cream cheeses. Also, non-food preparations can also be dispensed e.g., facial creams and any other cosmetic paste substances. Indeed any material which is of such viscosity that it can be scraped from a container and presented on a substantially flat plate without losing its shape, is suitable for dispensing with the present container.

It will also be appreciated that solid substances could be dispensed with the present container if the substances were secured firmly to the under surface of the lid. Thus taking for example the example described above with reference to FIGS. 1 to 10 a block of cosmetic material e.g., eye shadow or mascara in the form of a solid block which requires moistening to render it usable could be preformed in a hemispherical shape mounted on the underside of the lid of the container. The slot 15 would not be provided in this embodiment but by lifting the tab 23 the hemisphere of cosmetic would be presented for use by moistening and could then be returned to the container by simply revolving the lid in reverse fashion through 180° until it reengages slot 14. In this way a handy container is provided which will present the contents of the container for immediate use without the need to dig for the contents within the closed container. Thus all the contents of the container can be used with ease. In such an arrangement the lid 20 need not be such a tight fit with respect to the base

since no 'scraping' action will be needed to remove the contents which, as mentioned above, would in this embodiment be solid.

Although as described above the under face of the lid is planar and has no peripheral lip in its inverted position, it will be appreciated that many variations on the basic idea can be effected without departing from the scope of the invention. Thus a peripheral lip could be provided on the under side of the lid to prevent any spillage of the material or 'weeping' should this be likely. Such an arrangement may be particularly suitable for materials such as jams, mustard or creams or indeed butter where temperature variations may possibly alter the viscosity of the material during use.

The lid of the container need not be planar on either the upper or lower surface. Although preferably the upper surface of the lid is planar to provide a surface upon which advertising can be printed, any embossed or raised surface or a surface of any shape e.g., frustoconical provided it will move within and can be housed within the empty container body 11 can be used according to the present invention. Also, the under surface of the lid e.g., 19b in FIG. 5 need not be plane but can be of any shape and embossed or otherwise figured. However the underside is preferably plane to facilitate complete removal of the contents of the container by scraping the surface 19b e.g., with a knife.

It will also be appreciated that the lower segmental body portion of the container need not be a perfect hemisphere or perfect semicylinder but can of course be greater or smaller proportions of complete spheres or cylinders to provide any segmental body portion, the arrangements always being such that pivotal opening movement of the lid will sweep the inside of the container to remove the contents and present them for use.

In the embodiments described above the material is preferably polypropylene or high impact polystyrene but the container can of course be made in any suitable material.

As illustrated in FIG. 4 the base supports of each container is preferably arranged to have an overall diameter somewhat less than the lid whereby like containers can be stacked one upon the other, similarly with the arrangement of FIGS. 11 to 13 the base support is preferably such that it will stand within the tray-like lid 130.

A container according to the present invention is of particular use where one time single portions of material to be dispensed e.g., in restaurants, cafeterias on airplanes or railways or as picnic portions. However the invention is equally applicable to the dispensing of any material required for one time use and in such arrangements the lid is preferably of the type described above with reference to FIGS. 1 to 10 in which the lid is retained in its open position and cannot be reclosed. However the invention is also applicable to holding solid materials as described above e.g., in the case of ladies' cosmetics in solid form and when in this re-usable state the container is preferably reclosable.

What we claim is:

1. A lidded container comprising a segmental body portion and a lid having an innermost planar surface, said lid being pivotally mounted about an axis coincident with the center of

curvature of the segmental body portion, a portion of said lid being movable through the container closely adjacent the walls thereof to remove the contents from the container and present said contents on said surface.

2. A lidded container as claimed in claim 1 wherein the body portion is semicircular in cross section in a plane normal to the pivotal axis of the lid, the lid having a substantially plane inner surface and being adapted to move through substantially 180° whereby one half of the lids inner surface can sweep through the whole of the container body.

3. A lidded container as claimed in claim 2 wherein the body portion is hemi-spherical, the lid having a semicircular portion which can sweep through the container body.

4. A lidded container as claimed in claim 3 wherein the lid is a planar disc of substantially the same diameter as the body portion and which can sweep through the container body.

5. A lidded container as claimed in claim 2 wherein the body portion is semicylindrical and the lid planar and rectangular or substantially rectangular in plan cross section.

6. A lidded container as claimed in claim 1 wherein the lid touches or scrapes the inner wall or walls of the container throughout its movement within the container.

7. A lidded container as claimed in claim 1 wherein means are provided for preventing reclosure of the lid after it has been opened.

8. A lidded container as claimed in claim 7 wherein such means provide a lip or ledge on the body portion over which the lid moves in one direction to open the container but past which it cannot return to close the container.

9. A lidded container as claimed in claim 8 wherein the lip or ledge may be provided with two opposed faces one of which is inclined to the path of movement of the lid but permits movement thereover, the other of which is disposed transversely of the path of movement to form an abutment past which the lid cannot move.

10. A lidded container as claimed in claim 9 wherein the lid is provided with a handle in the form of a planar extension which cooperates with a tapered slot in the wall of the body portion which slot provides some resistance to opening and maintains the lid closed until pressure is applied thereto.

11. A lidded container as claimed in claim 10 wherein the handle may be tapered in section, a slot in the opposed wall of the body portion also being similarly tapered whereby the handle can become irremovably locked in the opposed tapered slot when the lid is fully opened.

12. A lidded container as claimed in claim 1 wherein the lid is provided with a peripheral wall providing a greater depth closely adjacent the wall of the body and thus restricting flow of the contents past the lid.

13. A lidded container as claimed in claim 1 wherein the lid has opposed cylindrical spigots adapted to snap into corresponding apertures formed in the body portion to provide the pivotal connection therebetween.

14. A lidded container as claimed in claim 13 wherein the spigots are integral with the lid.

15. A lidded container as claimed in claim 1 wherein the segmental body portion is provided with a base or legs to render the body stable.

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