A can or container provided with a rim adjacent the upper end of the can or container and extending exteriorly of the body of the container, said rim having integrally formed locking lugs which are bendable to locking position to lock the lid or cover to the container and being bendable to permit removal of the lid from the container.

10 Claims, 8 Drawing Figures
CAN OR CONTAINER WITH LOCKING LUGS FOR LOCKING THE RESEALABLE LID

BRIEF SUMMARY OF THE INVENTION

The objective of this invention is to provide a can or container with an exterior rim adjacent the upper open end of the container which can be closed by a cover or lid which is resealable to permit repeated covering and uncovering of the container so that it can be used repeatedly, and in which the rim is integrally formed with locking lugs which are bent to secure the cover to the container and which may be unbent to permit removal of the cover or lid. The container has a body shaped so that it can be stacked with other like containers in a telescopic or nested relationship to occupy a minimum of shipping and storage space.

Another object of this invention is to provide a metal or plastic container formed with a separate rim which is attached adjacent the upper open end of the container externally thereof and so constructed that no portion of the rim extends within the container so that there is no interference with the upper edge of the container and this permits the containers to be telescoped or nested one within the other for storage and shipment.

BRIEF DESCRIPTION OF THE DRAWINGS

In the drawings:

FIG. 1 is a perspective view of the container with the rim attached thereto and showing a lid or cover secured in sealing relationship thereto in accordance with this invention.

FIG. 2 is an enlarged sectional view taken on line 2—2 of FIG. 1 and showing the locking lugs of the rim turned over to hold the lid in sealing position.

FIG. 3 is an enlarged sectional view similar to FIG. 2 but prior to the turning over of the lugs.

FIG. 4 is a view showing a plurality of containers in a stacked relation, one nested within the other, such as when in storage or shipment.

FIG. 5 is a perspective view showing a portion of the flat strip preformed to form the rim and before it is shaped to form an exteriorly applied annular rim.

FIG. 6 is a sectional view taken on line 6—6 of FIG. 5 and showing particularly the bead formed on the rim.

FIG. 7 is a perspective of a portion of the rim with a modified locking lug; and

FIG. 8 is a modified rim.

The can or container generally indicated at 10 is formed preferably of metal and comprises a cylindrical body 12 closed at the bottom thereof with a bottom 14. The cylindrical body 12 has a slight inward taper from the top toward the bottom so that the smallest diameter or circumference of the container is at the bottom and the largest at the top. This tapering body permits the containers to be stacked and nested one within the other, best seen in FIG. 4, to occupy a minimum of storage and shipment space. The upper portion of the container is open and is adapted to be closed by the cover generally indicated at 16, to be hereinafter described.

The cylindrical body of the container adjacent the top thereof has an inwardly offset annular wall portion 18 which at the lower end defines a continuous annular shoulder 20. The upper end or mouth of the container has an outwardly and downwardly turned flange 22 which is spaced from the wall 18 and which defines an inverted U-shaped top edge 23 which is adapted to receive and retain therebetween the upper portion of the rim, presently to be described.

The rim forming this invention is generally designated at 24 and is formed from a strip of flat stock of sheet metal material and from the initial flat strip is pre-shaped or stamped to the configuration shown in FIG. 5 and then when applied to the container is shaped to form the annular strip or rim 24. The rim 24 comprises an intermediate body portion 26 which is curved inwardly as at 28 at its lower lip edge 36 of the rim and then reversely curved as at 32 and continues downwardly to form a lower vertical wall 34 and is then curved upwardly to form a bottom lip 36.

The upper portion of the intermediate body portion 26 of the rim 24 is then reversely bent as at 37 to form a downwardly extending short vertical wall 38 positioned contiguous to the front upwardly extending portion and then continues inwardly to form a horizontal wall 39 which then continues upwardly to form the upper end wall portion 40 of the rim. The upper portion of the intermediate body portion 26 and the reversely bent portion 37 form a continuous outer annular top bead 41 of the rim, best seen in FIG. 6.

At spaced intervals and extending upwardly of the outer annular top bead 41 are upstanding locking lugs 42, best seen in FIGS. 2, 3 and 5, which are formed from the upwardly extending wall portion of the intermediate body portion and the reversely bent portion 37 contiguous thereto. The locking lugs 42 are the portions which extend above the annular top bead 41 and said locking lugs are each shaped so that they have a peak shape in that the opposite sides 42a of the lugs slope upwardly and inversely toward the top central portion 42b which is rounded. The intermediate body portion 26 is therefore offset from the upper and lower end walls 40 and 34 of the rim. The rim 24 is formed separately from the container and may be of less expensive steel or material than that of the container.

The annular rim 24 is secured to the container body with the upper portion 40 of the rim received in the inverted U-shaped top edge 23 of the body of the container and with the lower lip edge 36 of the rim resting on the shoulder 20. In the formation of the body of the container, the rim 24 is applied against the upper portion of the container and then the upper edge of the container is reversely bent, as seen in FIG. 3, so that the upper portion of the rim would be confined between said inverted upper edge. The rim 24 will be retained secured to the upper end of the container by the reversely turned flange 22 at the upper end when it is crimped against the upper portion of the rim, however, the rim 24 may be brazed or otherwise welded in addition thereto to the wall or body of the container. The rim will thus be positively and permanently secured to the top portion of the container and, as clearly seen, no portion of the rim extends within the body of the container so there is no interference with the open mouth of the container. This is important from the standpoint of stacking the containers within each other and also from the standpoint of providing a resealable cover or lid which is applied to seal the container.

The rim 24 is provided with a pair of diametrically spaced openings 48, as seen in FIG. 1, which receive the hooked ends of the carrying bail 49 for carrying the container. The carrying bail as shown in FIG. 1 is in up-
right or carrying position, however, the bail may be rotated so that it extends on either side of the rim or body of the container in an out-of-the-way position. When the rim 24 is secured to the top of the container it is secured in such a manner that the wall or body of the container forms the top edge 23 or the mouth of the container.

The lid or cover 16 is of circular shape and comprises a main central concave or dish-shaped portion 50 which continues outwardly to form a U-shaped bend 52, with the vertical wall 53 of said bend continuing horizontally as at 54 and then downwardly to form the outer peripheral flange 55 which provides an inverted U-shaped configuration generally indicated at 56. The downwardly extending flange 55 terminates in an outwardly turned edge or peripheral bead 58. A circular gasket 60 which is of an inverted U-shape in cross-section is positioned inside the U-shaped portion 56 of the cover and when said cover is positioned on the rolled-over top edge 23 of the container the gasket 60 rests on the rolled-over edge 23 and is interposed between the cover and the rolled-over edge, as best seen in FIGS. 2 and 3. The beaded peripheral edge 58 of the cover when the cover is first applied rests adjacent the top horizontal wall 39 of the rim 24, as best seen in FIG. 3, and inwardly of the upstanding lugs 42.

To seal the lid 16 to the container, as in FIG. 2, the upper portion of the upstanding lugs 42 are bent or curved inwardly as at 42 to extend over the peripheral beaded edge 58 of the cover and this locks the cover in sealing position to the container. The lugs 42 may be bent to the shape 24' in FIG. 2 by any rolling machine or manually. When the cover is applied to the container it is foolproof against leakage or the like.

The lid 16 is removable by bending the locking lugs 42 from the position shown in FIG. 2 to the position shown in FIG. 3 and this may be done by any conventional tool. The lid may be reapplied to the container to close the container opening and if it is desired to reseal and lock the lid the lugs may be manually bent to the FIG. 2 position. When the lugs 42 are applied to the cover as at 42 they lock the lid or cover to the rim and the top edge of the lugs are positioned inwardly of the exterior surface of the rim so that same cannot be accidentally engaged during shipment, as when containers are positioned contiguous to each other. With the locking lugs 42 in either locked or unlocked position and the containers positioned contiguous to each other, the rims 24 of the containers will be the only portions of the containers which can engage each other.

There is thus provided a can or container with a resealable cover which may be repeatedly resealed. Also, by reason of this construction when one can is nested within the other, the rims of the nested containers will be as shown in FIG. 4, where the rims are positioned slightly spaced from each other but superimposed so that a plurality of containers can be contained in a small area during transit and storage.

FIG. 7 shows a portion of a rim 24, similar to that of rim 24, which has a modified locking lug indicated at 62. The locking lug 62 is formed similar to locking lug 42 except that it is not peak-shaped as is locking lug 42.

FIG. 8 shows a modified rim having the locking lugs 42 similar to that previously described and in this modification the rim generally indicated at 24 has the top inner wall portion 40 turned over as at 64 to overlap the top edge 66 of the container 68, with the turned over edge 64 then cramped to the edge 66.

What is claimed is:

1. A can or container having a body with a closed bottom and an open top, with said body having a top edge, a removable cover for closing the open top, said cover having an inverted U-shaped peripheral portion and an outer peripheral bead, with said inverted U-shaped portion seating over the top edge of said container body for sealing engagement therewith, a rim formed separately from the body of said container and extending around the exterior of the body and adjacent the top edge of said body and secured to said body, said rim having upper and lower vertically extending wall portions positioned contiguous to the exterior of said container body, with an offset intermediate portion extending vertically and spaced from the wall body of the container, with the upper and lower vertical wall portions of the rim connected to the intermediate vertical offset portion by laterally extending connecting walls at the top and bottom, said outer peripheral bead of said cover being in engagement with the top connecting wall of the rim to limit the downward movement of said cover when on said container, said rim having integrally formed spaced locking lugs, with the upper portion of said locking lugs adapted to be bent inwardly to extend over the peripheral bead of the cover to lock the cover in sealing position to the container.

2. A structure as set forth in claim 1 in which a carrying bail is secured to the rim.

3. A can or container having a body with a closed bottom and an open top, with said body having a top edge, a removable cover for closing the open top, said cover having an inverted U-shaped peripheral portion and an outer peripheral bead, with said inverted U-shaped portion seating over the top edge of said container body for sealing engagement therewith, a rim formed separately from the body of said container and extending around the exterior of the body and adjacent the top edge of said body and secured to said body, said rim having upper and lower vertically extending wall portions positioned contiguous to the exterior of said container body, with an offset intermediate portion extending vertically and spaced from the wall body of the container, with the upper and lower vertical wall portions of the rim connected to the intermediate vertical offset portion by laterally extending connecting walls at the top and bottom, said outer peripheral bead of said cover being adjacent the top connecting wall of the rim, said rim having integrally formed space locking lugs, with the upper portion of said locking lugs adapted to be bent inwardly to extend over the peripheral bead of the cover to lock the cover in sealing position to the container.

4. A structure as set forth in claim 3 in which a carrying bail is secured to the rim.

5. A structure as set forth in claim 3 in which the body of the container slopes inwardly from the top toward the bottom so that one container can be positioned and nested within the other, and in which the interior of the container at the top edge thereof is free of any obstruction to permit nesting of containers.

6. A structure as set forth in claim 1 in which the locking lugs are formed as upward extensions of the offset intermediate vertically extending portion of the rim.
7. A structure as set forth in claim 1 in which the upper edge of the container body is reversely and outwardly bent to form a generally inverted U-shaped configuration, and in which the upper vertically extending wall portion of the rim is secured in said inverted U-shaped upper edge.

8. A structure as set forth in claim 1 in which the upper vertically extending wall portion of the rim is crimped over the top edge of the container and in which a carrying bail is secured to the rim.

9. A structure as set forth in claim 1 in which the offset intermediate portion of the rim extends upwardly and is reversely bent to form the spaced locking lugs which then extends inwardly horizontally to form the upper laterally extending connecting wall of the rim and terminates in the upwardly extending vertical wall of the rim, and in which the upper laterally extending connecting wall of the rim is continuous.

10. A structure as set forth in claim 1 in which the body of the container slopes inwardly from the top toward the bottom so that one container can be positioned and nested within the other, and in which the interior of the container at the top edge thereof is free of any obstruction to permit nesting of containers.