Dec. 9, 1958 H. M. PIKER ET AL 2,863,581

CONTAINER AND A LID OR COVER THEREFOR

Filed Aug. 16, 1955 4 Sheets-Sheet 1

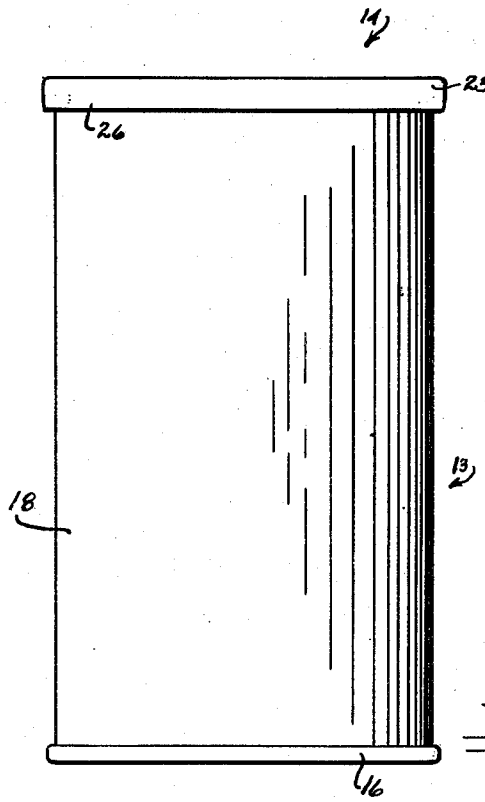



Fig. 1.

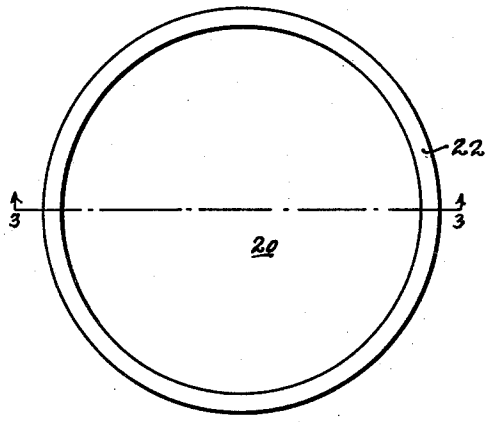



Fig. 2.

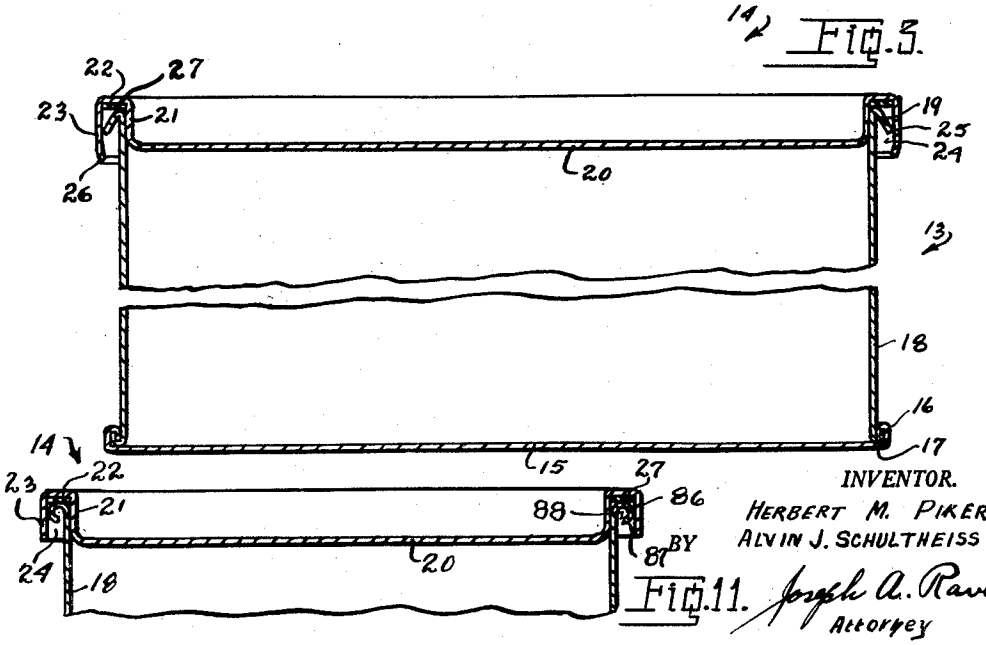



Fig. 3.

Fig. 11.

INVENTOR.
HERBERT M. PIKER
ALVIN J. SCHULTHEISS
BY
Joseph A. Rave
Attorney

Dec. 9, 1958 H. M. PIKER ET AL 2,863,581

CONTAINER AND A LID OR COVER THEREFOR

Filed Aug. 16, 1955 4 Sheets-Sheet 2

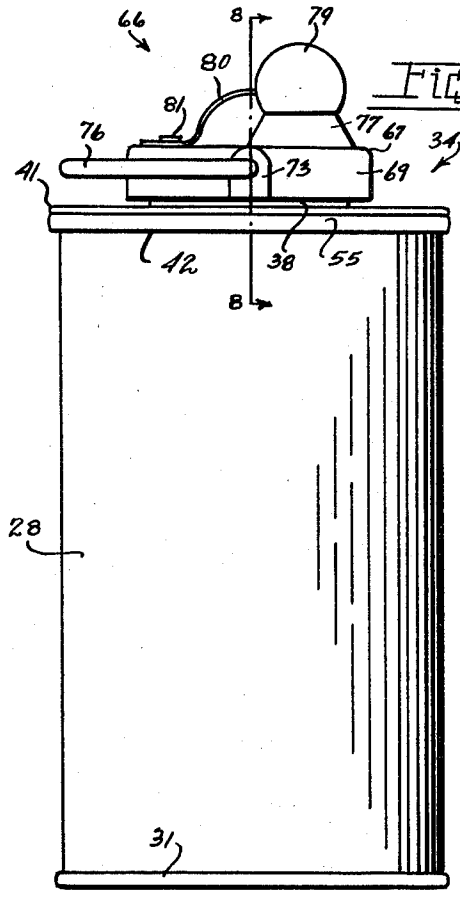



Fig. 4.

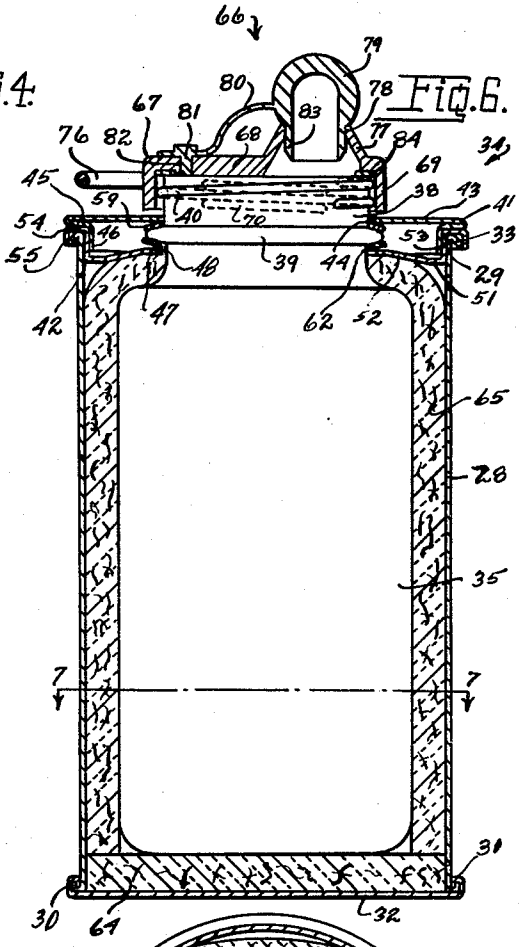



Fig. 6.

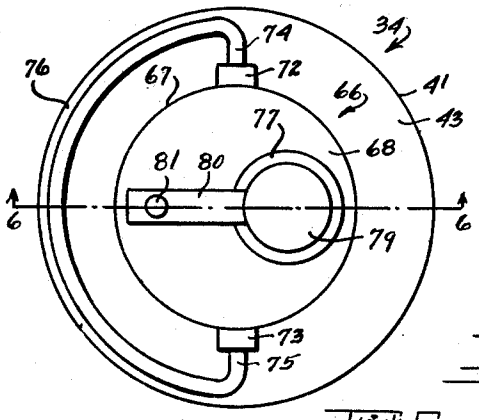



Fig. 5.

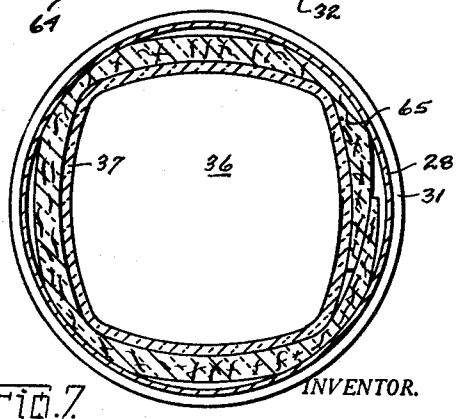



Fig. 7.

INVENTOR.
HERBERT M. PIKER
BY ALVIN J. SCHULTHEISS
Joseph A. Rave
Attorney

Dec. 9, 1958 H. M. PIKER ET AL 2,863,581

CONTAINER AND A LID OR COVER THEREFOR

Filed Aug. 16, 1955 4 Sheets-Sheet 3

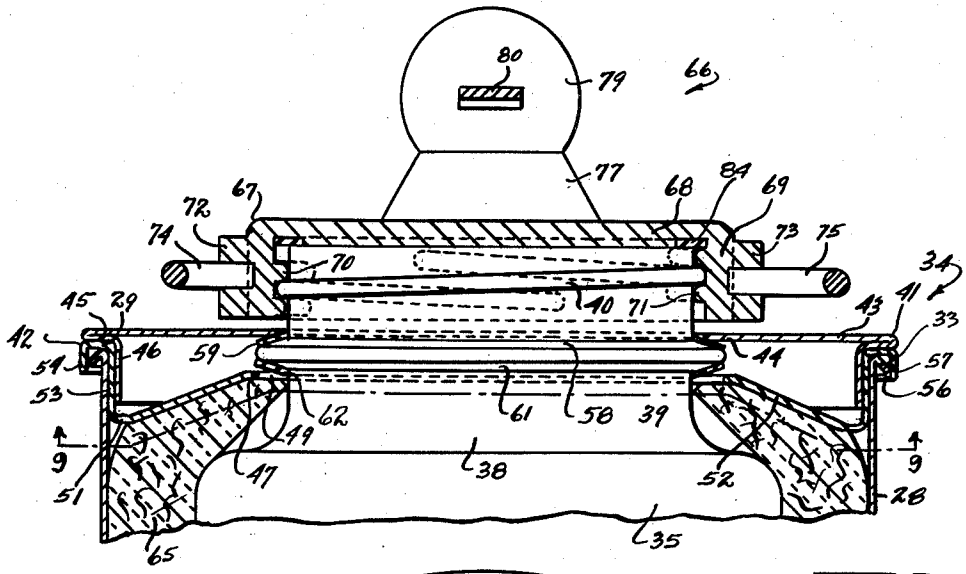



Fig. 8.

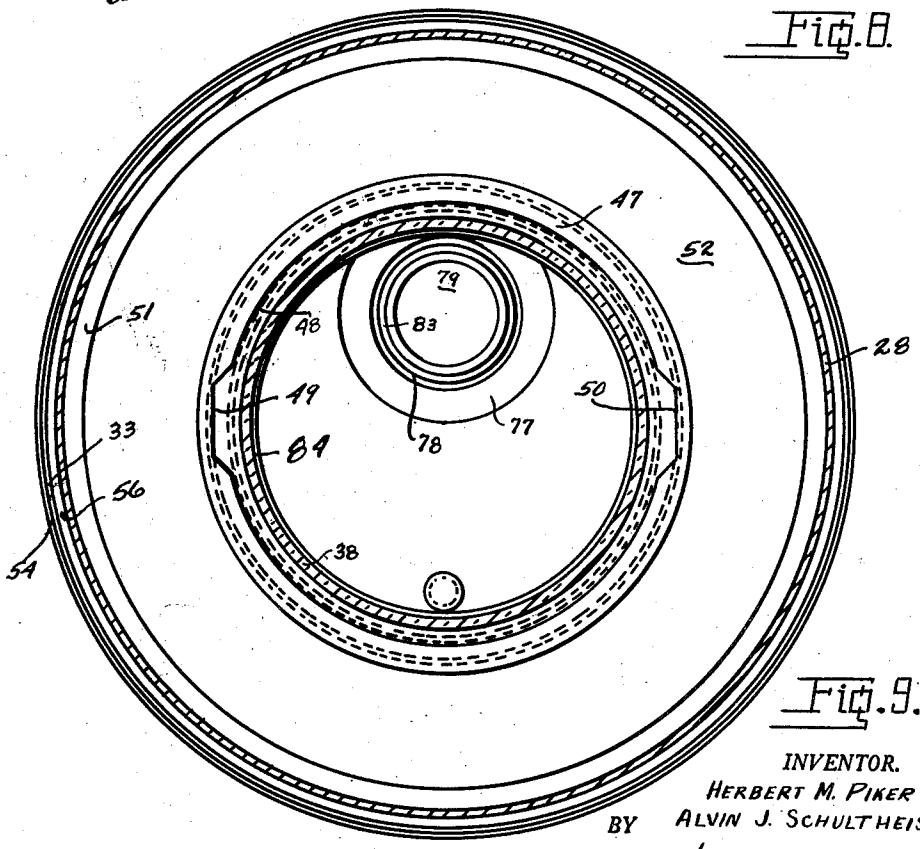



Fig. 9.

INVENTOR.
HERBERT M. PIKER
ALVIN J. SCHULTHEISS

BY Joseph A. Rave
Attorney

Dec. 9, 1958 H. M. PIKER ET AL 2,863,581

CONTAINER AND A LID OR COVER THEREFOR

Filed Aug. 16, 1955 4 Sheets-Sheet 4

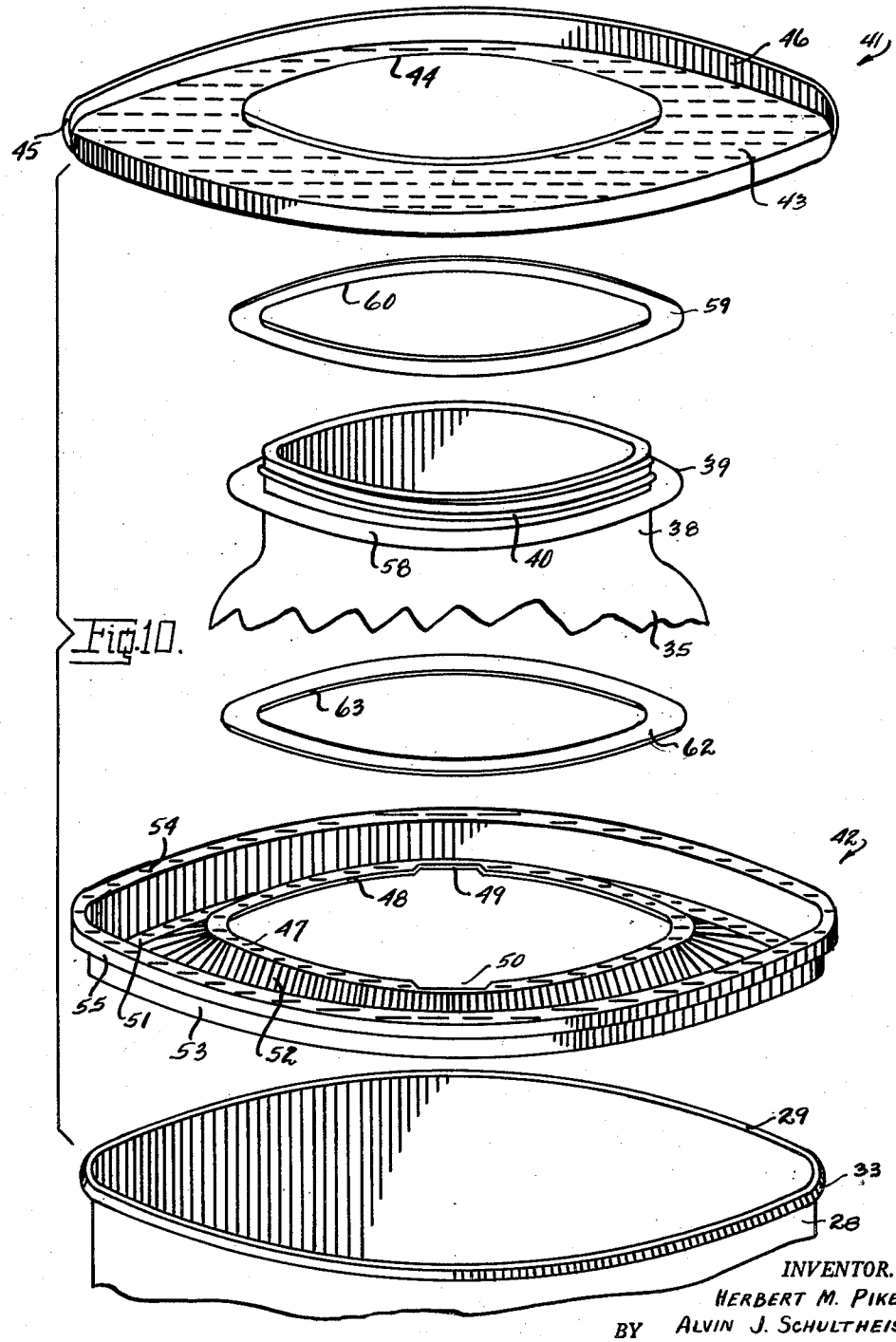



Fig. 10.

INVENTOR.
HERBERT M. PIKER
BY ALVIN J. SCHULTHEISS
Joseph A. Rave
Attorney

United States Patent Office

2,863,581

Patented Dec. 9, 1958



2,863,581

# CONTAINER AND A LID OR COVER THEREFOR

Herbert M. Piker, Wyoming, and Alvin J. Schultheiss, Hamilton, Ohio, assignors to Hamilton-Sketch Corporation, a corporation of Ohio

Application August 16, 1955, Serial No. 528,639

3 Claims. (Cl. 215—13)

This invention relates to improvements in a container and cover therefor. The container may take the form of a drum or can adapted to contain materials whether in dry, damp or flowable state.

The container and closure of the present invention may also be employed for providing a "picnic jug" and wherein the closure is adapted to suspend a liquid container within an outer or sheathing container and thereby result in improvements in the pending application of Herbert M. Piker, Serial Number 498,358, filed March 31, 1955.

The principal object of the present invention is the provision of a container of the nature of a drum or can including a bottom with a peripheral upstanding wall having at its upper end means for retaining a lid or cover thereon.

Another object of this invention is the provision of a slip cover for the upper end of a can or container that is frictionally retained upon the exterior of the can with more force than are the covers as heretofore known and produced.

Another object of this invention is the provision of a "picnic jug" wherein the outer container and its cover and inner container suspending device are frictionally retained on one another to the extent of requiring considerable force to separate them but which parts may be subsequently connected to one another with substantially the same retaining force as originally existed.

Other objects and advantages of the present invention will be readily apparent by reference to the following specification considered in conjunction with the accompanying drawings forming a part thereof, and it is to be understood that any modifications may be made in the exact structural details there shown and described, within the scope of the appended claims, without departing from or exceeding the spirit of the invention.

In the drawings:

Fig. 1 is a side elevational view of a container having applied thereto the cover of the present invention.

Fig. 2 is a top plan view of the device of Fig. 1.

Fig. 3 is an enlarged fragmentary vertical sectional view through the container of Fig. 1 as seen from line 3—3 on Fig. 2.

Fig. 4 is a side elevational view of an insulated container, as a modification of the container illustrated in Fig. 1, embodying the principles of the present invention.

Fig. 5 is a top plan view of the insulated container of Fig. 4.

Fig. 6 is a vertical sectional view through the insulated container of Fig. 4 as seen from line 6—6 on Fig. 5.

Fig. 7 is a transverse sectional view through the insulated container as seen from line 7—7 on Fig. 6.

Fig. 8 is an enlarged fragmentary sectional view illustrating, in particular the outer container closure and suspending means for the inner container as seen from line 8—8 on Fig. 4.

Fig. 9 is an inverted transverse view through the upper



end of the insulated container showing certain parts in elevation and certain parts in cross section as seen from line 9—9 on Fig. 8.

Fig. 10 is a perspective view of the several elements utilized in the mounting or suspending of the inner container of the insulated container and at the same time illustrating the closing of the outer container thereof.

Fig. 11 is a fragmentary sectional view of the upper end of a container as disclosed in Fig. 3 showing a modification in the construction.

Throughout the several views of the drawings similar reference characters are employed to denote the same or similar parts.

Referring first to the invention as adapted to a drum, can, or the like, and illustrated in Figs. 1, 2 and 3. The container, indicated in its entirety by the reference numeral 13, as illustrated, comprises a bottom 15 having formed at its outer periphery upwardly disposed hook 16. Interengaged with the hook 16 is a complementary hook 17 at the lower end of the container body portion or wall 18. The interengaged hooks 16 and 17 are suitably pressed on one another to form a metal seam.

It should be noted that if the bottom 15 and body portion or wall 18 are formed of materials other than metal any other suitable or desirable connection of the parts may be effected instead of a metal seam, such as 16—17.

The upper end of the wall or body portion 18 is outwardly and downwardly bent as an angular flange 19 with said flange being uninterrupted and entirely around the upper end of the container body portion or wall 18. It is readily conceivable, in certain instances, under the present invention, that the flange 19 need not be continuous but may be interrupted and be in the form of dependent lugs, as will be obvious as the description proceeds.

Disposed on the upper end of the can, container, or the like, is a lid or cover, indicated in its entirety by the reference numeral 14, comprising a top portion 20 having at its periphery an upstanding flange 21. At its upper end the flange 21 outwardly, radially projects to provide what may be termed a top ring 22 with said top ring 22 having at its outer edge or periphery a depending flange or skirt 23.

It wil be noted that there is provided beneath the top ring 22 and between the flange 21 and skirt 23, a top or cover channel 24. The width of the passageway, that is, the space between the inner surface of the flange or skirt 23 and the opposed inner surface of the flange 21 should be slightly less than the normal or free spacing of the outermost point 25 of the container inclined or angular flange 19 and the inner surface of the container wall or body portion 18. By this construction the insertion of the inclined or angular flange 19 into the cap or cover channel 24, the said outer edge 25 of said inclined or angular flange 19 is urged toward the container body portion 19 so as to effect a frictional clamping action between the parts. It will be obvious that the frictional cooperation of the parts would prevent the displacement of the cap or cover.

The modification disclosed in Fig. 11 consists in supplying the upper end of the container body portion 18 with a curl or open bead 86 instead of with the outwardly and downwardly inclined flange 19. It should be noted that the end 87 of the curl or bead should stop short of the container body and that there should be a space 88 between said curl or bead end 87 and the container body 18.

It is understood that the distance of the outermost point of the bead or curl 86 from the outer surface of the container body 18 is slightly greater than the distance from said outer surface of the container body 18 and the

inner surface of the cover or lid depending skirt 23 so that the said container body curl or bead 86 is compressed within the cover or lid channel 24 upon the pressing home of the said container lid or cover 14. It is further, to be understood that the said compression of the curl or bead is not beyond the yield point thereof so that said cover or lid may be removed from and replaced on the container.

If desired, the lid or cover depending flange or skirt 23 may have its lower or free edge inwardly bent as at 26 to further insure the retention of the parts. If desired and to render the cover or lid leakproof, use may be made of a compressible gasket 27 conveniently mounted and attached to the undersurface of the lid or cover ring 22 at the base of the lid or cover channel 24.

From the foregoing it is believed obvious that the lid or cover may be removed from the container through the use of force and it should be noted that considerable force is required to so effect a lid or cover removal. From this, it also follows that with the compressible gasket 27 in position and engaging the upper edge of the can or container body 18, there is provided a leakproof joint for the cover which is, as noted above, not readily displaceable since considerable force is necessary to remove the cover from the container in the cover removing direction.

The modification illustrated in Figs. 4 to 10, as noted above, consisted in applying the improved container cover or lid to an insulated container, such as is popularly known as a "picnic jug" such as is disclosed in the pending application of Herbert M. Piker, Serial No. 498,358, filed March 31, 1955. Said improved lid or cover of the present invention being modified to provide a suspending device for the inner or liquid container generally being in the form of a glass jar.

The insulated container as herein disclosed comprises an outer body member or shell 28 in the form of a hollow cylinder similar to the above identified container body portion 18, having its upper end open as at 29. The lower end of the body member 28 is outwardly turned to form a hook 30 adapted to interfit with a complementary hook 31 formed at the periphery of the container bottom 32. The bottom 32 is attached to the shell 28 in the same manner as the end closure for a can.

The upper end 29 of the shell 28 is outwardly and downwardly bent as an angular flange 33 in the same manner as the angular flange 19 of the body portion 18, and the said upper end 29 of the shell 28 is closed by an inner container suspending mechanism indicated in general by the reference numeral 34.

The inner container 35 is in the form of a glass bottle or jar, such as is well known as a "Mason Fruit Jar." Such a jar is provided with a bottom 36 from the periphery of which upstands the wall 37 and the said bottom may be circular in plan, but is, preferably, and as illustrated in Fig. 4, substantially rectangular in plan and has a wall 37 upstanding from each side or edge thereof.

The said inner container or jar 35 terminates at its upper end in a neck 38 having a radial flange 39 at its lower end. Upwardly of the radial flange 39 the neck 38 is provided with an outwardly projecting spiral rib which forms in effect a screw thread 40.

In the mounting of the inner container or jar 35 within the shell 28, use is made of the radial flange 39 for attaching the said inner container or jar 35 to the suspending device 34.

Specifically, the suspending device 34 comprises a pair of telescopic clamping members, an upper member 41 and a lower member 42, corresponding to the container lid or cover 14, as will later be made clear with said upper member 41 comprising a substantially horizontal portion 43 centrally apertured as at 44. The aperture 44 has an inner diameter substantially equal to the diameter of the spiral rib or thread 40 so as to just pass thereover. The periphery of the body portion 43 is turned on itself to form an inturned flange 45 and inwardly of said flange there is provided a downwardly disposed flange or skirt 46 and through which the said upper member 41 is telescoped with the lower member 42.

The said lower clamping member 42, is generally, dish shaped, substantially similar to the container lid or cover 14, and comprises a body portion having an upper horizontal portion 47 centrally apertured, as at 48, with said aperture having a diameter somewhat less than the diameter of the inner container or jar radial flange 39. At two diametrically opposite points of the aperture 48 the said body portion, in effect a ring, 47 is inwardly notched as at 49 and 50 so that its transverse dimension, between the bases of said notches 49 and 50, will be such that the inner container radial flange may be passed through the aperture 48 to have its body portion ring 47 therebelow, as will presently be made clear. The said lower clamping member 42 has a further ring like portion 51 that is downwardly spaced from and in a plane below the body portion ring 47 as clearly illustrated in Figs. 6 and 8. The lower clamping member 42 has the intermediate portion of its body portion downwardly inclined as at 52 for connecting the spaced horizontal ring like body portions 47 and 51 with one another.

The outer periphery of the body portion ring 51 is upwardly turned as at 53 to form a flange, or wall, of the dish and has an inner diameter to frictionally and closely receive the downwardly disposed flange or skirt 46 of the top clamping member 41. The upper end of the flange or wall 53 is outwardly turned as a ring 54 adapted to contact and underlie the upper clamping member inturned flange 45 as clearly illustrated in Fig. 8. The outer periphery of said lower clamping member 42 has its outer periphery downturned as a skirt 55 to provide a channel 56 in said lower clamping member at its outer edge or periphery. The said channel 56 of the lower clamping member 42 corresponds to the channel 24 of the container lid or cover 14 and the distance between the inner surface of the skirt 55 and the opposed surface of the flange, or wall, 53 is slightly less than the distance between the outermost point 57 of the inclined or angular flange 33 and the inner surface of the shell 28, wherefore, the telescoping of the upper and lower clamping members are retained in operative positions and separable from one another only upon the use of force.

Disposed on the upper face 58 of the inner container radial flange 39 is a rubber washer or gasket 59 having a diameter 60 equal, substantially, to the diameter of the container neck 38, see Fig. 10, so as to closely engage said neck when lying on the said face 58 of the radial flange 39; since the said washer or gasket 59 is formed of flexible material, rubber, it can be stretched over the spiral rib or thread 40 to be disposed as illustrated in Figs. 6 and 8. Lying against the under surface 61 of the inner container radial flange 39 is a second gasket or washer 62, similar to the gasket or washer 59, formed of rubber and having an aperture 63, see Fig. 10, again of a diameter substantially equal to the diameter of the inner container neck 38 and, again, since the gasket 62 is formed of flexible rubber, is stretchable to pass over the inner container radial flange 39 to be disposed therebeneath and against its said under surface 61.

It should be noted that the exterior diameter of the upstanding flange 53 of the lower clamping member of the suspending means is such that it tightly and frictionally enters the open upper end of the outer shell 28.

In assembling the insulated container, the said inner container first has the lower clamping member 42 mounted in operative position by having inserted through its aperture the inner container radial flange 39, this being accomplished, as noted above, by angularly positioning the said member on the inner container neck and with the radial flange 39 thereon pushed through the notches 49 and 50 whereupon the said clamping member 42 may be straightened up and temporarily

retained on the flaring portion of said inner container that is located below its neck 38. The lower gasket or washer 62 is now mounted in position to underlie the said inner container radial flange 39 and be disposed against the lower surface 61 thereof. The upper gasket 59 is now mounted in position to lie on top of the said inner container radial flange 39 and hug the upper surface 58 of the flange 39. The suspending means top clamping member 41 now has the inner container neck inserted through its aperture 44 whereupon the said inner and outer clamping members 41 and 42 are telescoped by inserting the depending flange 46 of the upper member within the upstanding flange 53 of the lower member and said parts telescoped until their respective flanges or rings, 45 and 54, are in face contact, as illustrated in Figs. 6 and 8. It should be noted that the frictional engagement of these parts is such that an instrument or tool is necessary to be inserted between said flanges or rings 45 and 54 in order to separate the same after they have been operatively associated with one another.

It should further be noted that the telescoping of the suspending means upper and lower clamping members to the point of flanges and rings engagement effects a tight clamping engagement of the portion of the upper member body 43 that is immediately outwardly of its aperture 44 on the upper gasket 59 and, that a similar clamping action is affected through the inner body portion ring 47 of the lower clamping member with the lower gasket 62, all as clearly illustrated in Figs. 6 and 8. The clamping engagement of these parts is such that said upper and lower gaskets 59 and 62 are compressed to form a liquid and air tight joint around the inner container neck.

It will now be noted that the inner container is securely attached to the suspending mechanism and the said parts are inserted as a unit within the outer container. Before the insertion, however, of the inner container within the shell 28 a layer of heat insulation, for example, in the nature of sheet spun glass, 64 is first deposited within the shell 10 against the inner face of the bottom 32. The inner container or glass jar 35 is then completely wrapped or enfolded in a sheet 65 of similar heat insulating material whereupon the said inner container is inserted within the outer contaner or shell 28.

The connection of the parts with one another is by the frictional insertion of the inner container suspending means flange or wall 53 within the open upper end 29 of the said shell 28, and the insertion of the inclined or angular flange 33 of the outer container shell 28 into the suspending device channel 56. It should be noted that considerable force is necessary to insert the suspending device, through its lower clamping member 42, within the shell 28 and the inclined or angular flange 33 in the channel 56, that such frictional resistance exists between the suspending device and outer shell that the use of force is needed for subsequently separating the parts when desired. In order to remove the inner container from the outer container shell, the inner container neck is grasped in one hand, or the hand is inserted into the neck opening, and pressure is exerted through the other hand against the bottom of the outer container shell. This pressure may be in the nature of a slap through the open palm of said second hand.

The parts are so related to one another that upon the insertion of the inner container suspending device to the point where the radial flange or ring 54 engages the upper end 29 of the shell 28 the insulating material 64 and 65 is in contact with the parts and under a slight compression.

It will be understood that the inner and outer containers are separated from one another only when it is necessary for the cleaning of the interior of the outer shell and the exterior of the inner container or when it



is necessary to replace said inner container due to breakage thereof.

It will be readily understood that the inner container 35 has its neck centrally apertured for the filling and discharging thereof and which aperture is closed by a readily removable closure cap, indicated in its entirety by the reference numeral 66. This closure cap is clearly disclosed in the pending application of Herbert M. Piker, Serial Number 462,925 filed October 18, 1954 but briefly is as follows:

The closure cap 67, per se, comprises a body portion 68 with a depending flange 69 from its periphery. Inwardly projecting from diametrically opposite points are ribs 70 and 71 which, as seen in Fig. 6, see ribs 70, incline to the horizontal and in fact incline to the same degree as the spiral rib or thread 40 on the container neck 38. The said ribs 70 and 71 are in fact interrupted threads for threaded engagement with the, as noted above, threads of the inner container neck.

The closure cap has lugs 72 and 73, respectively, projecting from two diametrically opposite points on the exterior of its flange 69, each of which is provided with a socket for respectively receiving the inwardly projecting ends 74 and 75 of a bail handle 76.

In practice the closure cap 66 is removed to permit filling of the inner container through its neck 38 and since the said contents are to be discharged in relatively small quantities, as compared to its capacity, the said closure cap is provided with a discharge opening. The discharge opening may be formed as part of a funnel-like upstanding lug 77 which is centrally apertured as at 78 to receive a removable cork, stopper, or the like 79. The said stopper 79 is illustrated as having integrally formed therewith a tie or leash 80 having at its other end a plug 81 through which the said cork is attached to the closure cap body portion 68. The attachment of the tie or leash 80 to the closure cap being effected by inserting the said lug 81 through an aperture 82 in the closure cap body portion 68.

In practice the container outer body or shell 18, inner container upper and lower clamping members 41 and 42 and bottom 33 are formed of sheet metal, although they may be formed of other material whether moldable or formable by other means. The inner container 35 is preferably formed of glass, as noted above, a well known "Mason Fruit Jar," or the like and can thereby be readily cleaned and kept clean and sanitary. The closure cap 67 may be made of a moldable synthetic resin compound commonly known as plastic and preferably of the type that is hard and rigid after molding, while the stopper 79, its tie or leash 80, and the securing lug 81 are likewise formed of moldable synthetic resin, but preferably of the type that remains flexible and slightly compressible after formation, so that said stopper may have its reduced end 83 readily pressed into the discharge opening 78. The flexible tie or leash 80 permits the ready withdrawal of the stopper from the discharge opening and permits the ready insertion of said stopper into said opening while the flexible lug 81 permits pressing of the same through its attaching aperture 82 in the closure cap body.

It will be readily noted from the drawings that the screwing of the closure cap 67 through its interrupted threads 70 and 71 onto the outer container neck is continued until the gasket 84, carried by the under or inner surface of the closure cap body portion 68, is compressed or clamped between the upper edge of the inner container neck and the under surface of the closure cap body portion 68.

The insulated container of the present invention, as will be readily noted from the foregoing, comprises a metallic or outer sheath centrally of which is suspended a relatively fragile inner container and which inner container is protected against shock from abuse to the outer container through suitable insulating material which not

only absorbs shock but at the same time insulates the inner container from transfer of heat through contact of said inner container with the outer container.

In view of the foregoing, it will be further noted that the objects initially set forth have otherwise been fulfilled.

What is claimed is:

1. In an insulated container the combination of an outer container including a body portion having its upper end open and an outwardly and downwardly extending angular flange, an inner container including a centrally apertured neck, a radially extending flange intermediate the ends of said neck and means for suspending the inner container substantially centrally of and within the outer container and including a member having a body portion of an area substantially equal to the area of the open upper end of the outer container, said suspending member body portion having an aperture through which the inner container neck projects to have the radial flange above said member body portion and outwardly of the periphery of the aperture, said suspending means member having an upwardly extending channel at the periphery of its body member formed by an upwardly extending flange at the periphery of the suspending means member body portion, an outwardly disposed depending skirt and a channel base joining said cover body portion flange and depending skirt adapted to receive the container upper end and its angular flange and cooperating with one another in securing the inner container suspending means and outer container to one another.

2. In an insulated container the combination of an outer container including a body portion having its upper end open and an outwardly and downwardly extending angular flange, an inner container including a centrally apertured neck, a radially extending flange intermediate the ends of said neck, and means for suspending the inner container substantially centrally of and within the outer container and including a first member having a body portion of an area substantially equal to the area of the open upper end of the outer container, said suspending means first member having an upwardly extending channel at the periphery of its body member formed by an upwardly extending flange at the periphery of the suspending means first member body portion, an outwardly disposed depending skirt and a channel base joining said cover body portion flange and depending skirt adapted to receive the container upper end and its angular flange and cooperating with one another in securing the inner container suspending means and outer container to one another, said suspending means first member having an aperture substantially centrally thereof receiving the neck of the inner container and underlying the neck radial flange, an inner container suspending means second member telescoped with the suspending means first member, and said inner container suspending means second member having a body portion with an aperture substantially centrally thereof for said inner container neck and overlying said inner container radial flange for clamping said inner container radial flange between the suspending means first and second members.



3. In an insulated container the combination of an outer container including a body portion having its upper end open and an outwardly and downwardly extending angular flange, an inner container including a centrally apertured neck, a radially extending flange intermediate the ends of said neck, and means for suspending the inner container substantially central of and within the outer container and including a first member having a body portion of an area substantially equal to the area of the open upper end of the outer container, said suspending means first member having an upwardly extending channel at the periphery of its body member formed by an upwardly extending flange at the periphery of the suspending means first member body portion, an outwardly disposed depending skirt and a channel base joining said cover body portion flange and depending skirt adapted to receive the container upper end and its angular flange and cooperating with one another in securing the inner container suspending means and outer container to one another, said suspending means first member having an aperture substantially centrally thereof receiving the neck of the inner container and underlying the neck radial flange, an inner container suspending means second member telescoped with the suspending means first member, having a body portion with an aperture substantially centrally thereof for said inner container neck and overlying said inner container radial flange for clamping said inner container radial flange between the suspending means first and second members, said inner container neck above the suspending means second member having formed thereon exteriorly thereof a screw thread, and a closure cap removably secured to the inner container through screw threads thereof.


**References Cited** in the file of this patent

UNITED STATES PATENTS

| | | |
|---|---|---|
| 762,557 | Reese | June 14, 1904 |
| 1,374,389 | Reichenbach | Apr. 12, 1921 |
| 2,288,903 | Haycock | July 7, 1942 |
| 2,297,843 | Sharpnack | Oct. 6, 1942 |
| 2,383,290 | Carew | Aug. 21, 1945 |
| 2,480,247 | Jamison | Aug. 30, 1949 |
| 2,693,307 | Goodwin | Nov. 2, 1954 |
| 2,695,719 | Faris | Nov. 30, 1954 |

FOREIGN PATENTS

| | | |
|---|---|---|
| 496,481 | Germany | Apr. 24, 1930 |
| 73,623 | Holland | October 1953 |