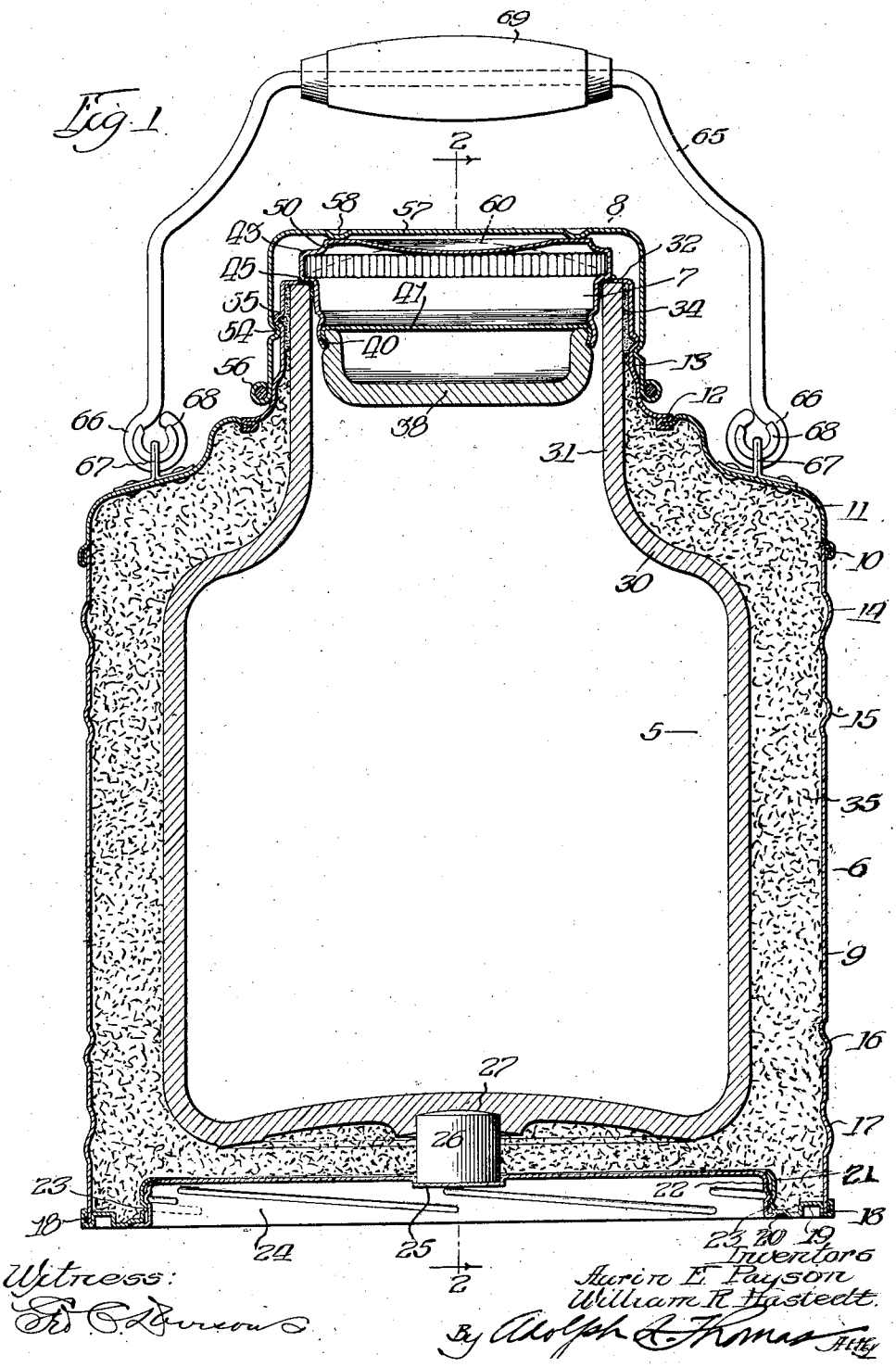
Aug. 16, 1927. 1,639,529

A. E. PAYSON ET AL

CONTAINER

Filed March 4, 1924 2 Sheets-Sheet 1

Fig. 1.



Witness:

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Aug. 16, 1927.

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2 Sheets-Sheet 2

Fig. 2.

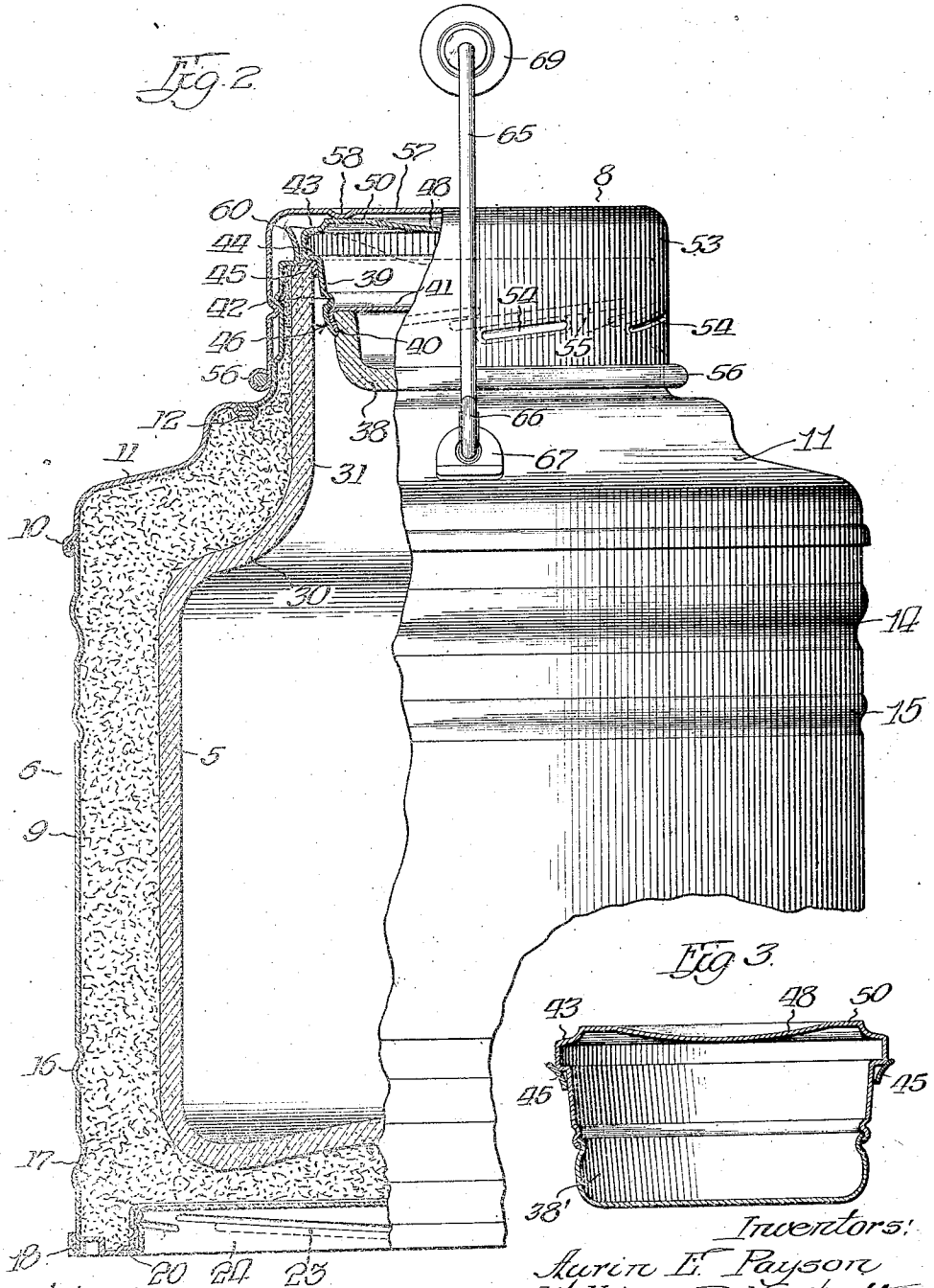


Fig 3.

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Patented Aug. 16, 1927. 1,639,529

UNITED STATES PATENT OFFICE.

AURIN E. PAYSON AND WILLIAM R. HASTEDT, OF NORWICH, CONNECTICUT, ASSIGNORS, BY MESNE ASSIGNMENTS, TO THE AMERICAN THERMOS BOTTLE COMPANY, OF NORWICH, CONNECTICUT, A CORPORATION OF OHIO.

CONTAINER.

Application filed March 4, 1924. Serial No. 696,740.

This invention relates to containers and more particularly to containers of the insulated type.

The invention pertains especially to containers of relatively large capacity, and its object is the provision of a generally improved and simplified construction that may be economically produced.

The invention is illustrated in the accompanying drawings in which,

Fig. 1 is a reduced vertical sectional view of a container embodying the invention;

Fig. 2 is a vertical section taken normal to Fig. 1 on line 2—2 thereof and showing the vessel partially in elevation; and

Fig. 3 is a vertical section through a modified form of stopper.

In the drawings 5 designates an inner container, 6 an outer jacket, 7 the stopper for container 5, and 8 the cover which holds stopper 7 in place and which may form a drinking cup when removed.

The outer jacket 6, which is preferably formed of sheet metal, includes a lower cylindrical section 9, joined at its upper edge at 10 to the lower edge of a breast section 11, which breast section 11 is in turn joined along its opposite edge at 12 to an upper neck section 13. Lower section 9 is preferably beaded circumferentially at 14, 15, 16 and 17 to impart structural strength, and its lower end extends below the bottom of the container 5 and is joined at 18 to the outer edge of a bottom ring 19. Ring 19 is offset at 20 and its inner edge is turned up at 21 and defines a bottom opening 22, the diameter of which is slightly greater than the diameter of container 5.

The upstanding opening defining flange 21 has a sectionalized quick thread therein formed by overlapping vertically spaced circumferential ridges or beads 23 pressed or otherwise formed therein, and a closure 24 having threads similarly formed is adapted to be threaded into opening 22 and held securely in place by the cooperation of said threads. These threads permit screwing closure 24 into or out of place with but a slight rotation thereof. The height of flange 21 is relatively small as compared with the height of the vessel, so that its strength is relatively great and it securely holds the threaded engagement with the closure. Centrally disposed in the bottom forming wall of closure 24 is a depression 25 in which depression one end of a spacing and retaining member 26, conveniently a solid cork, is held. The upper end of member 26 engages in a recess or cavity 27 centrally disposed in the bottom wall of container 5, the upper surface of which bottom wall is preferably convex inwardly or upwardly slightly, as shown. Member 26 forms a support for the container 5 and completes the arrangement whereby the container 5 is clamped between the inwardly projecting rim at the top of the neck 13 and the closure 24. In the broader aspect of our invention, the parts 19 and 24, which form the bottom of the outer jacket, need not be relatively separable, for it is clear that they are removable and insertable as a unit at the joint 18.

The inner container 5 is preferably of earthenware or similar material which, despite its fragility, is employed because of its low heat conducting properties, and it provides a sanitary and easily cleaned interior. Container 5 is reduced at 30 along a breast shoulder generally parallel to and spaced from the breast of jacket 6, and said breast shoulder merges into an integral neck 31. In the embodiment shown the neck opening is large enough to permit insertion of the hand for cleaning or packing and removing food and the like. The main body of container 5 is disposed concentrically within jacket 6 with an annular space between it and the jacket, said space extending up along the neck of the container and there is also a space between the bottom of the container and the bottom of the jacket 6. The upper end of neck 31 terminates under an inturned integral flange 32 at the upper end of neck section 13 of the outer jacket, said flange 32 protecting the upper edge of the frangible container and forming a stop or upper seating shoulder for said edge. A filler 34 is provided between the neck portions 13 and 31 to prevent moisture from entering the space between the container and the jacket.

Should the inner frangible container become broken, it may be removed and replaced by removing bottom closure 24, then removing the broken container, replacing it,

inserting the new container in place and replacing bottom closure 24. To this same end, bottom closure 24 is preferably removable by means of its threaded connection with the permanent opening defining ring 19. Closure 24 may, however, be permanently secured in place, or to make the device fool proof and yet the inner container replaceable, means may be employed for preventing, or at least discouraging, removal other than at the factory or at some other place prepared to do it properly.

In either event, the threaded connection of bottom closure 24 facilitates proper disposition of the heat insulating substance in the space between container 5 and jacket 6. The lower edge of closure 24 has an outturned flange which engages in annular recess or depression 20. The space between the container 5 and jacket 6 is packed with a comminuted substance 35 of poor heat conducting properties, such as cork or the like.

In making the jacket in three sections with the bottom ring 19 and bottom closure, the manufacture and assembly of the container is greatly facilitated. The various parts may be separately produced ready for assembly. The formation of the breast section separately eliminates a material drawing operation at the ends of the neck and cylindrical sections, the flared formation of said separate neck being easily produced in a separate piece. The joints 10, 12 and 13 permit convenient and secure joining of the sections. Inner container 5 may be inserted through bottom opening 22, and, the insulating material being packed into the space between the inner container and the jacket, bottom closure 24 is quickly threaded and secured in place with member 26 between it and the bottom of the container. The segmental formation of the quick screw threads between the container and closure 24 requires but slight rotation to screw it home, as already pointed out. The projection of section 9 below the bottom of container 5, and the opening 22 being larger than the container, disposes the threaded connection between the jacket and closure out of the horizontal and out of the vertical plane of the inner container.

The open top of container 5 is closed by a stopper 7, which is hollow and comprises a lower cup-shaped section 38 of glass or similar material, and an upper section 39 of aluminum or other suitable sheet metal joined to section 38 at 40 with a sheet or cap of fiber 41 interposed between sections 38 and 39 and secured along its edge at joint 40. The upper section 39, which we may call the cap section has a circumferential bead 42 around the upper surface of cap 41. Upper section 39 is headed at 43 to form an annular shoulder 44 which rests upon a gasket 45 preferably of the lightning jar flat rubber type interposed between the shoulder 44 and the upper end of neck 31. The wall 46 of the stopper is preferably tapered to allow for non-uniformity of the dimensions of container 5 in quantity production. The air may be exhausted from the space within the stopper or rarefied by expansion before the stopper is closed.

The cylindrical outer wall of head 43 is preferably corrugated, as shown, to facilitate removing and replacing the stopper, and the upper surface of section 39 is depressed centrally at 48 and has an annular surface 50 surrounding said central depression.

A cover 52 has a depending flange 53 provided with circumferentially and vertical spaced segmental ridges 54 pressed inwardly therefrom, and said ridges or beads provide quick thread screw engagement with similar vertically spaced and circumferentially overlapping threads 55 pressed out from neck 13. The cover 52 is secured in place by said threads with but a slight rotation. The lower edge of cover flange 53 is beaded at 56 and the top 57 has an annular bead 58 pressed therein, said bead having circumferential contact with surface 50 when the cover is in place and thereby holding the stopper firmly seated.

When removed, cover 8 may be used as a drinking cup, and to facilitate pouring liquid from the container we form the upper edge of one side of neck section 13 with an integral upwardly projecting lip 60 rounded and flared out slightly. This forms a spout for pouring from the container. The spout lies up in compact relation with the stopper when in place, and does not interfere with arranging of the stopper and cover in closed position nor with their removal.

As in the formation of the jacket the formation of the stopper in two sections facilitates the manufacture thereof. The fiber cap 41 prevents injury to the glass section and allows for unequal expansion and contraction between the stopper sections, and it should be noted that the stopper is so sectionalized that when in place, joint 40 is disposed below and surrounded by the upper end of neck 31. This maintains the heat insulating properties along this portion of the device of a high order. Furthermore, the glass section of the stopper is disposed within and protected by neck 31 and said section is disposed where its low heat conducting properties are most useful in insulating against the entrance or escape of heat.

The container is provided with a bail 65 having at its opposite ends eyes 66 pivotally connected by ears 67 to the breast section 11 of the jacket. The bail 65 has a handle 68 and eyes 66 are preferably lined with sheet metal as at 69.

In Fig. 3 we have shown an alternative

form of stopper in which fiber cap 41 is omitted and the lower stopper section 38′ is formed of aluminum or other suitable sheet metal.

We claim:—

1. In a container having a neck terminating in a flat annular rim or edge, a stopper comprising a lower cup-shaped section of glass and an upper cap section of sheet metal, said cup-shaped glass section terminating at its outer open end in an annular rib, said cap section being bent inwardly into locking engagement with said rib, whereby the two sections are rigidly united to form a closed hollow stopper, an outwardly projecting annular shoulder on said cap, said shoulder having a flat under-surface arranged to rest on the upper rim or edge of the container, the top of said metal section forming the entire top of the stopper, and a cap adapted to be screwed down over the neck of the container and having means to engage the metal top of said stopper along a circular contact line in close proximity to said annular shoulder, whereby said annular shoulder is forced down over the upper rim of the container to form a sealed joint.

2. In a heat-insulated vessel, an outer metal jacket terminating at its upper end in an inturned horizontal flange, a container removably supported within said jacket, the upper edge of said container being held firmly against the underside of said horizontal flange, this flange only partly overlying said edge of the container as an annular band around the outer circumference of the edge, an integral spout extending from the edge of a portion of said partly overlying flange, a stopper for said container, said stopper having an annular shoulder constructed to rest on that portion of said container edge which is not covered by said horizontal flange, whereby said flange and said spout do not interfere with the proper seating of said stopper, and a cap detachably mounted on said jacket and bearing down on said stopper to hold the same firmly seated.

3. In a container, a stopper having a metal top provided with a peripheral flange adapted to overlie and rest on the upper edge of the container, an upwardly projecting annular ridge formed on said top near its outer periphery to provide a raised marginal contact ring, a cap adapted to be screwed over the neck of the container, and an annular shoulder extending inwardly from the top of said cap in a position to engage said marginal ridge on the stopper and bear down on said ridge as the cap is screwed down, whereby the stopper is held tightly on its seat by the pressure of said annular shoulder on said marginal ridge.

4. In a heat-insulated vessel, an outer metal jacket, a frangible inner container sealed at its neck to said outer jacket but otherwise spaced therefrom, the bottom of said container and the bottom of said jacket being provided with aligned circular recesses, and a cork held in said opposite recesses under pressure to support the container within the jacket and take up shocks to which the container may be subjected, the space between the container and the jacket being filled with comminuted heat-insulating material.

5. In a heat-insulated vessel, an outer metal jacket provided with a removable bottom, a frangible inner container sealed at its neck to said outer jacket but otherwise spaced therefrom, said jacket having a peripheral flange at its upper edge to overlie the upper edge of the inner container, the bottom of said container and the bottom of said jacket being provided with aligned circular recesses, a cork held in said opposite recesses, the fastening of said bottom to the jacket placing said cork under permanent compression to force the inner container against said upper flange of the jacket and to absorb shocks to which the container may be subjected, and comminuted heat-insulating material packed in the space between the container and the jacket.

6. In a heat-insulated vessel, an outer metal jacket terminating at its upper end in an inturned horizontal flange, a container removably supported within said jacket, the upper edge of said container being held firmly against the underside of said horizontal flange, this flange only partly overlying said edge as an annular band around the outer circumference of the edge, whereby said flange leaves uncovered an inner annular section of said container edge, a wide pouring spout formed integral with said partly overlying flange, a stopper for said container, said stopper having an annular shoulder constructed to rest on said inner section of the container edge and thereby forming a tight joint without interference by said spout, and a cap detachably mounted on said jacket and bearing down on said stopper to hold the same firmly seated, said cap enclosing said spout which does not interfere with the attachment or removal of the cap.

In witness whereof, we hereunto subscribe our names this 29th day of February, A. D. 1924.

AURIN E. PAYSON.
WILLIAM R. HASTEDT.