G. P. ALTENBERG.

VACUUM INSULATED BOTTLE AND CUPS THEREFOR.

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1,354,712. **Patented Oct. 5, 1920.**

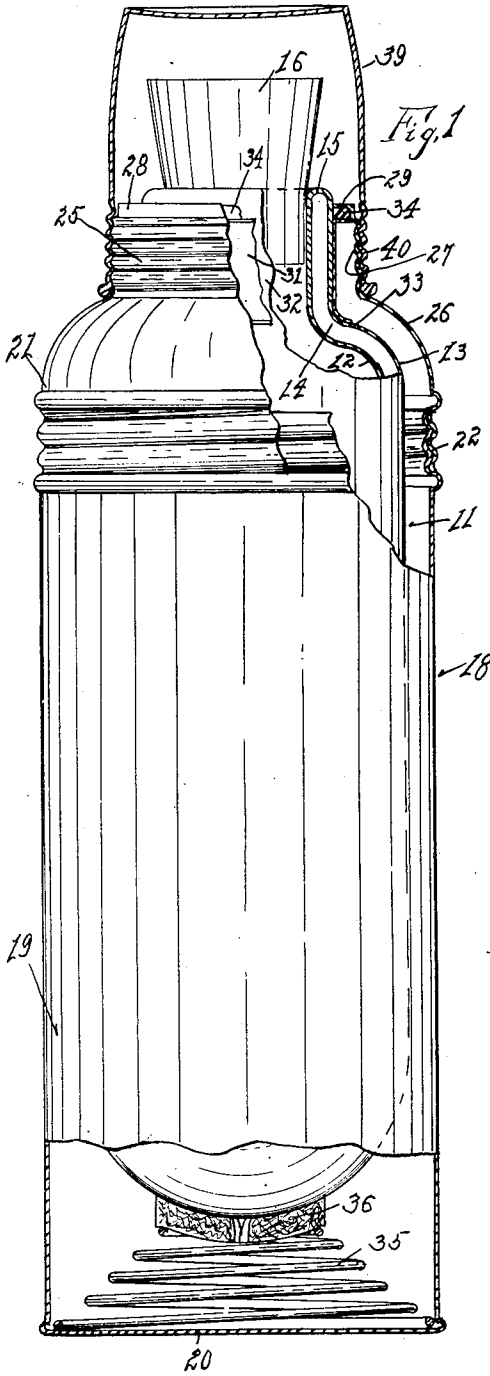
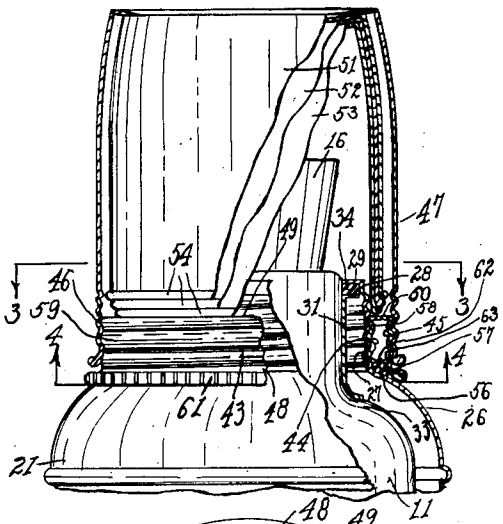


Fig. 1

Fig. 2.



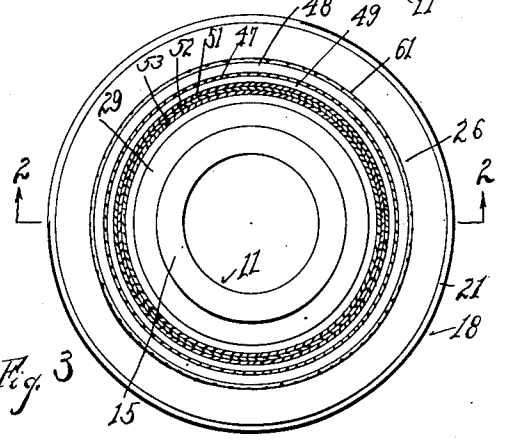


Fig. 3

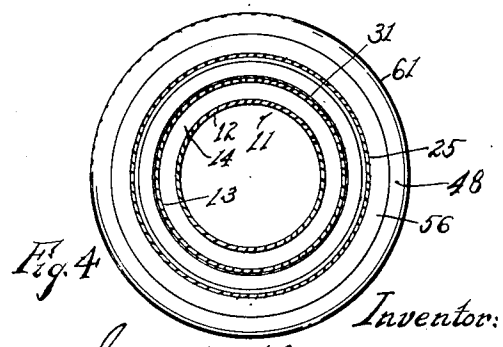


Fig. 4

Inventor:

George P. Altenberg,

by D. F. Herbold, His Attorney.

UNITED STATES PATENT OFFICE.

GEORGE P. ALTENBERG, OF CINCINNATI, OHIO, ASSIGNOR TO THE ICY-HOT BOTTLE COMPANY, OF CINCINNATI, OHIO, A CORPORATION OF WEST VIRGINIA.

VACUUM-INSULATED BOTTLE AND CUPS THEREFOR.

1,354,712. Specification of Letters Patent. Patented Oct. 5, 1920.

Application filed March 9, 1917. Serial No. 153,735.

To all whom it may concern:

Be it known that I, GEORGE P. ALTENBERG, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Vacuum-Insulated Bottles and Cups Therefor, of which the following is a specification.

Vacuum insulated bottles as heretofore usually made comprise a single cap used as a drinking cup, the neck of the bottle and the cup being provided with complemental securing means for releasably securing the cup to the bottle.

It is the object of my invention to provide an attachment whereby a plurality of cups may be employed in connection with the bottle, and further to so arrange a bottle of the character mentioned that either a single cup or a plurality of cups may be selectively employed. I employ the term bottle in this specification in its broader sense, as a container, regardless of its particular form.

The invention will be further readily understood from the following description and claims, and from the drawings, in which latter:

Figure 1 is a side elevation of a vacuum bottle as heretofore constructed, provided with a single cup, and partly broken away and partly in axial section.

Fig. 2 is a side elevation exemplifying a vacuum-insulated bottle employing my invention, partly broken away and partly in axial section in the plane of the line 2—2 of Fig. 3.

Fig. 3 is a cross-section of the same in the plane of the line 3—3 of Fig. 2; and,

Fig. 4 is a cross-section of the same in the plane of the line 4—4 of Fig. 2.

My invention relates primarily to so-called vacuum-insulated bottles, and the bottle exemplified is a bottle of this character. It is instanced as comprising a vacuum-insulated vessel 11, comprising an inner wall 12 and an outer wall 13, said walls having a vacuum-insulated space 14 between them, and being connected at their mouths by a cross-seal, as shown at 15. This vessel is a frangible vessel, being usually made of glass. It is adapted to be closed by a stopper 16.

A protecting casing is provided for the vessel, instanced as a casing 18, of sheet metal, comprising a body portion 19 having a bottom 20, and an upper portion 21, the upper portion and body portion being connected by means of threads 22 for drawing the casing portions one toward the other.

The casing is provided with a neck 25, between which and the body portion of the casing a breast 26 is formed. The neck of the casing is exemplified as threaded, as shown at 27, and is preferably provided above the threads with an annular substantially cylindrical reduced portion 28 from the upper end of which the sheet metal of the neck is bent inwardly in the form of a radial annular flange 29 projecting toward the neck of the bottle.

The vessel is suitably cushioned and securely held in the casing, as by means of a thimble 31 surrounding the neck 32 of the vessel and resting on the breast 33 of the vessel, a cushion ring 34, instanced as of rubber, being between the thimble and the flange 29, and a conical spiral spring 35 having a cushioning pad 36 thereon, instanced as of felt, being located between the bottom of the vessel and the bottom of the casing.

As heretofore usually constructed, a single cap, instanced at 39, is received over the mouth of the vessel and the stopper therein, and has releasable connecting means with the neck of the casing. These connecting means are instanced as the screw-threaded portion 27, and a complemental screw-threaded portion 40 of the cap 39, the cap being arranged to be employed as a cup, into which the contents of the bottle may be poured for drinking the same.

The mouth of the neck of the vessel preferably protrudes above the radial flange 29, the radial flange and the annular smooth portion 28 thereunder serving as a pouring lip for preventing the flow of liquid contents of the vessel along the bottle when serving the same.

In order to provide for the employment of a plurality of cups in connection with the bottle, I provide a ring or thimble about the neck of the casing, and an outer cup, the said ring and outer cup being provided with complemental attaching means for releasably securing the outer cup to the ring over inner cups.

Instancing this arrangement, I have provided a ring 43, the inner face of which is provided with threads 44 arranged to be

received over the threads 27 of the neck of the casing, the ring being provided with outer threads 45 with which threads 46 of the outer cup 47 coact, for securing the outer cup to the ring. The ring is preferably provided with an annular apron portion 48, which coacts with the breast 26 of the casing. The upper edge of the ring preferably forms an annular support 49 which, when the ring is screwed in place, is preferably below the level of the top of the neck of the casing and forms a support for the inner cup or cups.

I have shown a plurality of inner cups, instanced as a nest of cups 51, 52 and 53, telescopically arranged, and each provided at its mouth with an annular bead 54, the mouth of the lower cup, when the cups are inverted, resting upon the annular supporting face 49 and being received about the upper end of the neck of the casing for positioning the inner cups. The outer cup is arranged to be received inverted over the inner cup or cups, and to be releasably secured to the ring, preferably in such manner as to hold the inner cups firmly in place, although a different number of inner cups may be employed. For this purpose the outer thread portion of the ring and the thread portion of the outer cup are sufficiently long axially of the bottle, so that the outer cup may be screwed to greater or less extent downwardly upon the outer threads of the ring, clamping the inner cups in place between the normal bottom of said outer cup and said shoulder 49.

The ring is preferably held to the casing with a greater resistance to removal than is the outer cup. For accomplishing this purpose, an annular cushion 56 is instanced as interposed between the ring and the casing. This annular cushion may be instanced as a rubber ring received in an annular recess 57 in the ring 43, so that when the ring 43 is screwed in place on the casing, the cushion will cause a pressure between the threads of the ring 43 and the threads of the neck of the casing for resisting ready detachment of the ring 43, the annular cushion also aiding in exerting friction between the breast of the casing and the ring 43. When it is desired to remove the outer cup, the outer cup not being subjected to such resistance or friction, will be more readily released than the ring, so that the ring will stay in place during use of the bottle.

In its preferred form, however, the ring may, if desired, be removed, so that either the single cup or the ring and plurality of cups may be employed in connection with the use of the bottle.

The ring is instanced as formed up out of sheet metal and comprising an inner wall 58 and an outer wall 59, the threads 44, 45 being formed as rolled threads in these respective walls, and the walls being connected by an upper wall 60, forming the support for the nest of cups.

The apron portion of the ring is shown as provided with an annular knurled portion 61. The annular recess for the reception of the annular cushion 56, is shown formed by bending the lower end of the inner wall outwardly as a flange 62, the outer periphery of which is received in the annular groove 63 formed in the inner face of the outer wall of the ring 43, at the knurled portion thereof.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. The combination of a frangible vessel, a casing therefor comprising a screw-threaded neck-portion having outwardly presented threads of a diameter less than the diameter of the body-portion thereof and arranged for receiving the threaded end of a cup thereabout, a screw-threaded converting ring received about said screw-threaded neck-portion arranged to be interchanged with said cup, said screw-threaded converting ring provided with outer cup-attaching means of greater diameter than said screw-threaded neck-portion and with a supporting face for an inner cup, an inner cup, and an outer cup about said inner cup, and attaching means for the latter complemental to said outer cup-attaching means.

2. The combination of a casing for a frangible vessel, said casing having a screw-threaded neck-portion, a converting ring provided with an inner thread and an outer thread of different diameters, and a cup-supporting face between said threads, said converting ring threaded to said screw-threaded neck-portion by means of said inner thread, an inner cup on said cup-supporting face, an outer cup received over said inner cup, and a threaded portion for said outer cup coacting with said outer thread of said ring to position said cups.

3. The combination of a casing for a frangible vessel, said casing having a screw-threaded neck-portion, a converting ring provided with an inner thread and an outer thread, said inner thread and outer thread spaced apart radially and having an annular support therebetween, said annular support arranged to support a nest of cups, said ring screwed to said screw-threaded neck-portion by said inner thread, and an outer threaded part received over said nest of cups and having a threaded portion coacting with said outer thread of said ring.

4. A vacuum bottle converting ring having threaded portions of different diameters separated by an annular support, that one of said threaded portions of less diameter being adapted to fit the threaded neck of a standard vacuum bottle, and the other of

said threaded portions which is of greater diameter being adapted to receive the complemental securing means for the outer one of a nest of drinking cups supported by said annular support.

5. In combination, a standard vacuum bottle comprising a casing having a neck-portion provided with standard cup-securing means, a converting ring provided with inner securing means complemental to said standard cup-securing means and with outer cup-securing means, said securing means of different diameters separated by an annular support, a nest of cups arranged to be supported by said annular support, and securing means therefor coacting with said outer cup-securing means on said converting ring.

6. The combination of a casing for a frangible vessel, said casing provided with a screw-threaded neck-portion, a screw-threaded ring coacting with said screw-threaded neck-portion for being releasably secured thereto, a cup having a screw-threaded portion arranged for being releasably secured to said screw-threaded neck-portion, a second cup, and attaching means between said ring and second cup, whereby said first-named cup or said ring is selectively secured to said casing.

7. The combination of a casing for a frangible vessel, said casing provided with a screw-threaded neck-portion, a ring having an inner screw-threaded portion and an outer screw-threaded portion, and a pair of cups each having a screw-threaded portion, one of said cups arranged for being releasably threaded to said ring, and the other of said cups and said ring arranged to be selectively threaded to said screw-threaded neck-portion.

8. The combination of a casing for a frangible vessel, said casing provided with a neck comprising a threaded portion having outwardly presented threads and an annular portion above said threaded portion, a threaded ring received over said threaded portion having an upper end forming a shoulder adjacent to but lower than and outside said annular portion, an inner cup received on said shoulder about said annular portion so as to be positioned laterally by the latter, and an outer cup received about said inner cup and said threaded ring, said outer cup and said threaded ring provided with complemental relatively releasable securing means of greater diameter than said first-named threaded portion.

9. The combination of a casing for a vacuum vessel, said casing provided with a screw-threaded neck and with a breast, a screw-threaded ring received about said screw-threaded neck, said screw-threaded ring having an apron arranged to coact with said breast for retarding unscrewing of said screw-threaded ring, a cup, and attaching means between said cup and ring.

10. The combination of a casing for a frangible vessel, said casing provided with a screw-threaded neck and with a breast under said neck, a screw-threaded ring provided with an inner thread coacting with said screw-threaded neck and with an apron received over said breast, a resistance-cushion between said ring and breast, an inner cup, and an outer cup received about said inner cup, said outer cup and said ring provided with complemental relatively releasable securing means.

In testimony whereof, I have hereunto signed my named in the presence of two subscribing witnesses.

GEORGE P. ALTENBERG.

Witnesses:
M. F. HAWKINS,
DAWSON E. BRADLEY.