HEAT INSULATING CASING FOR BOTTLES.
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HEAT-INSULATING CASING FOR BOTTLES.


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To all whom it may concern:

Be it known that I, PERCIVALE RAYMOND SCHUYLER, a citizen of the United States, residing at Paterson, in the county of Passaic and State of New Jersey, have invented certain new and useful Improvements in Heat-Insulating Casings for Bottles, of which the following is a specification.

This invention relates to liquid containers of the class in which the container is insulated from the temperature-condition of the atmosphere, and it has for its object to provide an article of this kind the arrangement and construction of whose parts shall be such that, while a clear air-space will be left substantially all round the enclosed bottle or the like container so as to insulate its contents from the temperature-condition of the atmosphere, said bottle will be held within its enclosing shell in such a way that it will not only be fixed and firm therein but at the same time be very considerably protected from breakage should the container fall or otherwise receive some violent jar or blow, and also incapable of working or being jarred loose.

A further object is to construct a container of this kind that it will be especially proof against its contents finding their way into the space between the vessel and its shell, and so that it may be readily taken apart for cleaning, if desired or necessary, or for the purpose of replacing the bottle should the same become damaged or broken.

A still further object is to construct the container so that it may be filled or emptied with facility and so that the stopper for the said bottle may be held securely and hermetically in place to prevent the escape of its contents.

My invention has been fully illustrated in the accompanying drawing, wherein:

Figure 1 is a vertical sectional view, showing the bottle partly in elevation; Fig. 2 is a plan view of the lower seat for the bottle; and, Fig. 3 is a sectional detail view of a modification.

a designates the bottle of usual form and made of glass or the like. b is the shell or casing in which the bottle is disposed, the same standing spaced from the bottle at substantially all points and being closed at all points except for the opening c which coincides with the opening or passage d of the bottle; said shell conforms in shape to substantially the shape of the bottle, as shown.

The shell is made in two sections b' and b'', each section being drawn or otherwise formed from sheet-metal. The open or upper end of the lower section is formed with a coarse screw-thread e, and below said thread, with a surrounding horizontal groove f; the upper section has its lower edge-portion g formed as a cylindrical lip expanded to a somewhat larger diameter than the body of said section and, immediately above said lip, said upper section is formed with the coarse screw-thread h.

When the parts or sections of the shell are assembled, the upper section slips over the lower section and when one is now turned relatively to the other a screw-thread connection is formed between them by the interengagement of their threaded portions. In the groove f is fitted an elastic cross-sectionally round rubber ring i over which the lip g wipes when the sections are assembled, hermetically sealing the joint between them at this point.

The lower section is formed on its bottom, which is otherwise flat, with an annular marginal bead or flange, affording a seat and reinforcing the bottom; above the bottom at a suitable distance the metal of the lower section is crimped inwardly to produce an internal flange or bead k, which further reinforces the bottom part of said section. On this bead or flange rests the marginal part or edge of a seat l which is a disk of metal having its central part drawn downwardly, as at m, to form a socket for the bottom of the bottle, its flange-portion n being provided with the apertures o. The seat l has preferably but limited contact with the bead k whereby to reduce the conductivity at this point, and by shaping the seat l as described it not only serves to prevent sidewise movement of the bottle but is strengthened against the downward pressure of the same.

The neck-portion of the upper section b' is formed with a coarse screw-thread p, and above said thread with an internal annular groove q. Said upper section has the edge-portion thereof around its opening c turned back on itself continuously to form a cylindrical bead r which serves not only to impart a finish to the edge of said opening but coacts with a shoulder s at the other side of

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said groove to retain in place a seat $t$ consisting of an elastic rubber cross-sectionally round ring: By this construction the ring is normally retained in the groove, although it may be removed to be replaced by a new one when it ceases to be serviceable. The seat $t$ bears continuously on the mouth of the bottle in the assembled relation of the parts, the screw-thread connection between the shell-sections holding the bottle under pressure between said seat and the seat $z$, so that the bottle stands firm and stable within the shell. The mouth of the bottle being of somewhat less diameter than the seat $z$, it projects slightly into the latter and is thus insured against sidewise movement relatively thereto.

To hold in place the stopper for the bottle, I provide the cap $v$, having the coarse screw-thread $w$ to mate with the screw-thread $p$ of section $b'$; when this cap is screwed down it retains the stopper ($v$) against accidental displacement.

Fig. 3 shows a modification designed to reduce to substantially nil the conductivity at the point where the lower bottle seat is supported by the section $b'$. Here the said seat, designated $y$, has a grooved rubber ring seated over and continuously around its edge, the said ring resting on the head $k$ of the shell-section $b'$. Being of rubber, this ring augments the insulation of the bottle from the shell and at the same time cushions the seat.

By my construction, the device is made strong and durable, is proof against its contents finding their way into the bottle and having an opening coinciding with that of the bottle-mouth but being otherwise closed at substantially all points, said shell being spaced from the bottle at substantially all points and being divided horizontally into two sections separably interlocked together, an upper annular seat above the mouth of the bottle around the opening therein and interposed between the mouth and the shell and bearing down on the former and sealing the space between the bottle and shell from the exterior, and another seat under the bottle and supported by the shell, one of said seats being elastic and said shell-sections holding said seats in pressing contact with the bottle interposed between them, substantially as described.

2. In combination, a bottle, a shell receiving and shaped to conform substantially to the shape of the bottle and having an opening coinciding with that of the bottle but being otherwise closed at substantially all points, said shell being spaced from the bottle at substantially all points, means, between the bottle and shell, for maintaining them in spaced relation to each other, said shell being divided horizontally into two sections having an interlocking connection between them and one of said sections having a cylindrical lip and the other a groove coinciding with said lip, and an elastic ring arranged in said groove and on the bottom of the bottle and having an opening coinciding with that of the bottle-mouth but being otherwise closed at substantially all points, said shell being spaced from the bottle at substantially all points and having an internal horizontally arranged projection near its bottom, and seats interposed one between the top portion of the bottle and shell and around the opening of the former and the other under the bottle and resting on said projection, the latter seat being a disk of stiff material having its middle portion drawn downwardly and forming a socket receiving and fitting the bottom of the bottle, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

P. RAYMOND SCHUYLER.

Witnesses:
JOHN W. STEWARD,
WM. D. BELL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."