No. 843,670. PATENTED FEB. 12, 1907.

W. B. FENN.

CLOSING DEVICE FOR VESSELS.

APPLICATION FILED MAR. 28, 1906.

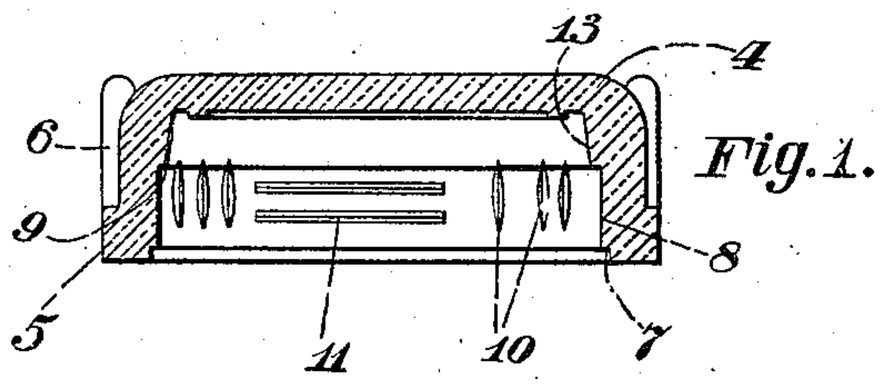

Fig. 1.

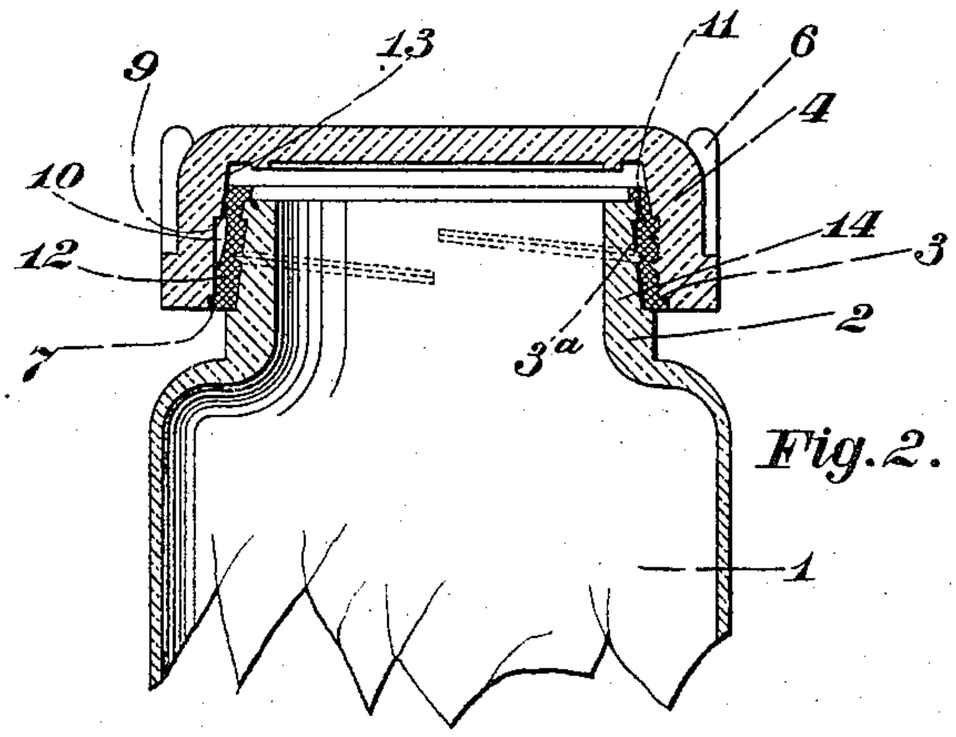

Fig. 2.

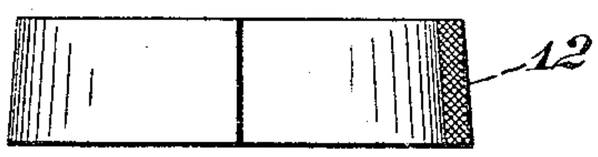

Fig. 3.

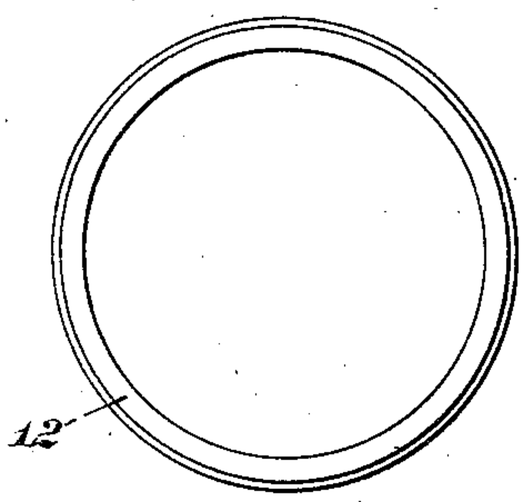

Fig. 4.

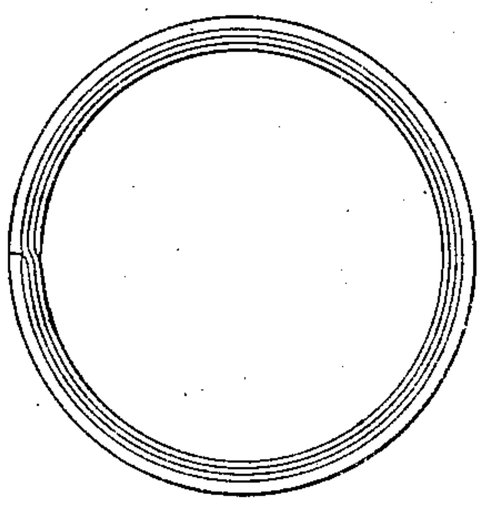

Fig. 5.

Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM B. FENN, OF COLUMBUS, OHIO.

CLOSING DEVICE FOR VESSELS.

No. 843,670. Specification of Letters Patent. Patented Feb. 12, 1907.

Application filed March 28, 1906. Serial No. 308,383.

To all whom it may concern:

Be it known that I, WILLIAM B. FENN, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Closing Devices for Vessels; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The object of this invention is to provide more effective means than have heretofore been proposed for sealing fruits, meats, or other edibles in jars or like vessels to secure the same from the deleterious effects of exposure to the atmosphere; but my invention can be used for other purposes where effective sealing is desirable or advantageous.

In the accompanying drawings I have shown the invention embodied in the form of a glass jar.

In the said drawings, Figure 1 is a central vertical sectional view of the cover. Fig. 2 is a similar sectional view of the jar with the cover applied. Fig. 3 is an edge view of a sealing-ring with a quadrant removed, and Fig. 4 is a top plan view of the sealing-ring. Fig. 5 is a top plan view of a ring made of coils.

In the several views, 1 designates a jar, the neck of which is designated 2. At a point somewhat below the top of the jar is an annular shoulder 3, and the portion of the neck 14 from this shoulder upward is slightly tapered toward the axis of the jar. This tapered portion is provided with a thread or threads, which are preferably sharpened to provide a penetrating edge. The upper end of the neck of the jar is made with an outwardly-projecting shoulder 3^a, having its outer face slightly tapered inward.

4 designates a cap or cover, having a flange 5 and lugs or projections 6 to permit a firm gripping with the hand in operating it. The lower part of the flange is provided internally with an annular shoulder 7, and extending from this shoulder vertically is an annular surface 8, terminating in a second shoulder 9. From the shoulder 9 the inner side of the flange is tapered inwardly in a slight degree to the top of the cap, forming an inclined annular surface 13.

The vertical surface 8 is provided with a series of vertically-arranged elongated projections or lugs 10, preferably arranged in groups, and between the several groups of projections 10 is a series of horizontally-arranged elongated ridges 11.

12 designates the sealing-ring. This ring is preferably formed of a material or materials adapted to be softened when warmed by a little artificial heat, as of a gas-flame. For example, a ring composed of asbestos fiber and paraffin or of wax can be used; but I do not, of course, confine myself to the use of any particular material or compound so long as it is capable of coöperating in the invention as desired. The ring can advantageously be formed of one or more layers coiled one upon another, as illustrated in Fig. 5.

In practice the sealing-ring is first placed within the cover next the flange. The ring is then heated sufficiently to slightly soften it, when by turning the cap and ring down onto the threaded neck of the jar, as in turning a threaded nut onto a bolt, the threads of the jar penetrate the inner side of the sealing-ring and the sealing is also pressed under and around the projection 3^a, while the ring at its outer side is pressed about the projections 10 and 11 in the cover. In forcing the cover downward the inclined surface 13 thereon coöperates with the tapered or inclined surface 14 and the shoulder 3 on the neck of the vessel to compress the fibrous ring about the projections 10 and 11 and effect a close tight joint between the vessel and cover.

As a result of the foregoing operations the ring becomes attached to the cover and the cover and ring together may be turned off the neck of the jar in a manner somewhat like that in which a threaded nut is turned off a bolt. It will be noted that the vertical projections 10 tend to prevent horizontal movement of the ring and cover with respect to each other and that the horizontal projections 11 tend to prevent direct vertical separation of the cover from the ring.

The form of sealing-ring shown in Fig. 5 is covered in application for Patent of the United States filed by me April 16, 1906, Serial No. 311,904.

What I claim, and desire to secure by Letters Patent, is—

1. Means for closing a vessel consisting of a cover provided with a flange having on its inner side projections lying at angles to each other, and a sealing-ring to fit between said flange and the vessel.

2. Means for closing a vessel consisting of a cover provided with a flange having on its inner side a plurality of projections lying at angles to each other and alternating with each other around the flange, and a sealing-ring to fit between said flange and the vessel.

3. Means for closing a vessel consisting of a cover provided with a flange having on its inner side a plurality of projections arranged in groups and at angles to each other and a sealing-ring to fit between said flange and the vessel.

4. Means for closing a vessel having the periphery of its end provided with projections, said closing means consisting of a cover provided with a flange having on its inner side projections lying at angles to each other, and a sealing-ring to fit between said flange and the vessel and adapted to engage the projections of the vessel and cover.

5. Means for closing a vessel having the periphery of its end provided with a thread, said closing means consisting of a cover provided with a flange having on its inner side projections lying at angles to each other, and a sealing-ring adapted to engage the projections of the cover and the threads of the vessel.

6. Means for closing a vessel consisting of a cover provided with a flange adapted to engage a sealing material, said flange also being tapered inward at its upper end whereby it is adapted, when the cover is applied to the vessel, to compress the sealing material between the vessel and flange and into engagement with the flange.

7. Means for closing a vessel having an annular shoulder below the upper end thereof, said means consisting of a sealing material, a flanged cover adapted to engage the sealing material, the flange of said cover also being tapered inward at its upper end whereby it is adapted to coöperate with the shoulder on the vessel to compress said sealing material into engagement with said flange.

8. Means for closing a vessel having a thread on its end and a shoulder below said thread, said means consisting of a sealing material and a flanged cover adapted to be engaged by the sealing material, said flange being also tapered inward at its upper end to coöperate with said shoulder to compress the sealing material into engagement with said flange.

9. Means for closing a vessel having a tapering end provided with means for engaging a sealing material and a shoulder below said engaging means, said closing means comprising a sealing material and a cover provided with a flange having means thereon for engaging the sealing material and an inwardly-tapering wall above said engaging means, said tapering wall and said shoulder adapted to coöperate to press the sealing material into engagement with the flange of the cover.

10. A vessel having a downwardly-facing shoulder around its neck and threads below said shoulder, combined with a cover for said vessel and a sealing-ring therein to coöperate with said shoulder and threads.

11. A vessel having a downwardly-facing shoulder around its neck, with an inwardly-tapering face above said shoulder and threads on the neck below said shoulder, combined with a cover for said vessel and a sealing-ring therein to coöperate with said shoulder and threads.

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

WILLIAM B. FENN.

Witnesses:

ULYSSES R. PETERS,

BENJ. FINCKEL.