

No. 781,408.

PATENTED JAN. 31, 1905.

J. S. DU BOIS.
JAR CLOSURE.

APPLICATION FILED JULY 23, 1903. RENEWED JULY 30, 1904.

Fig. 1.

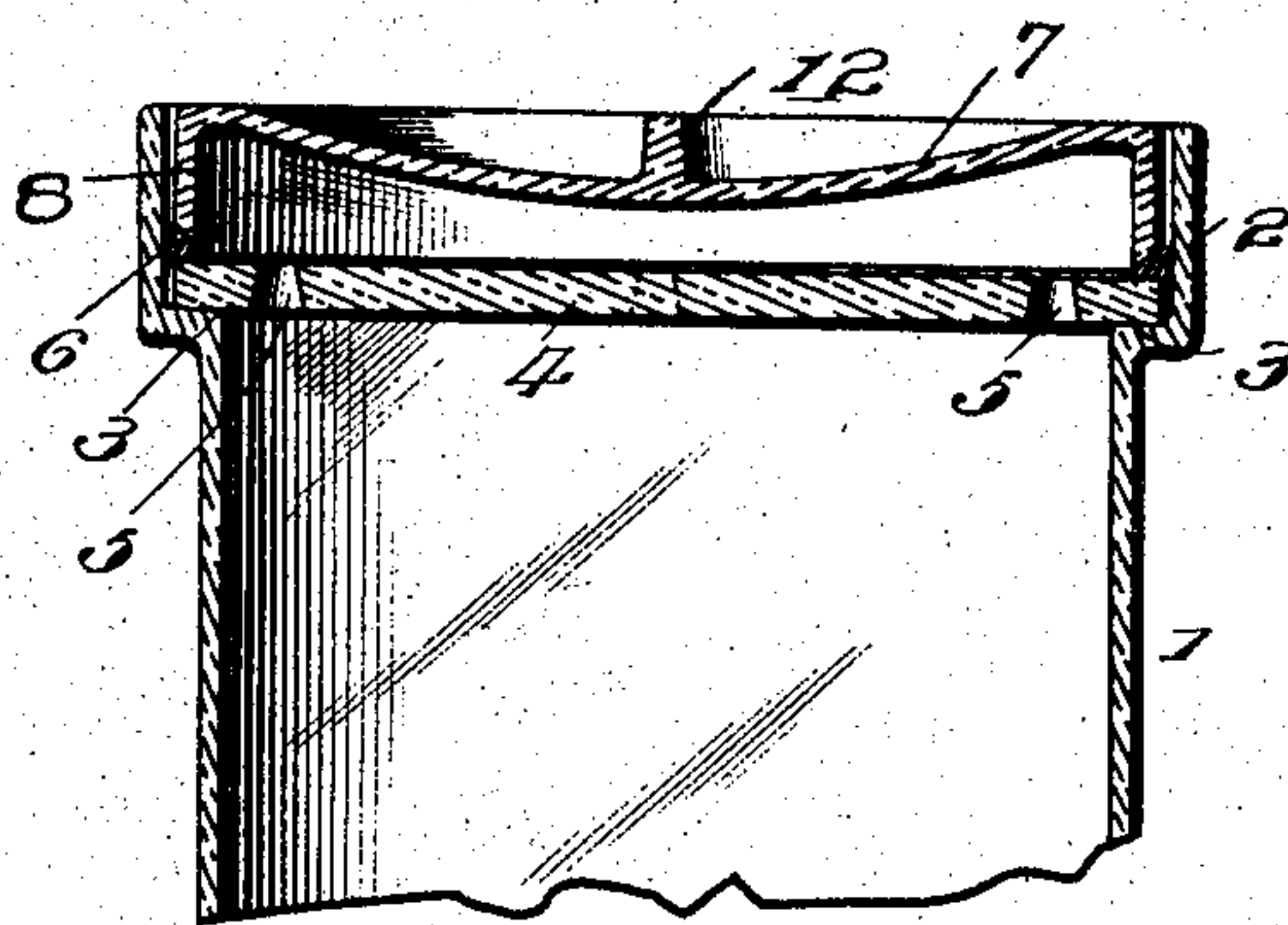


Fig. 3.

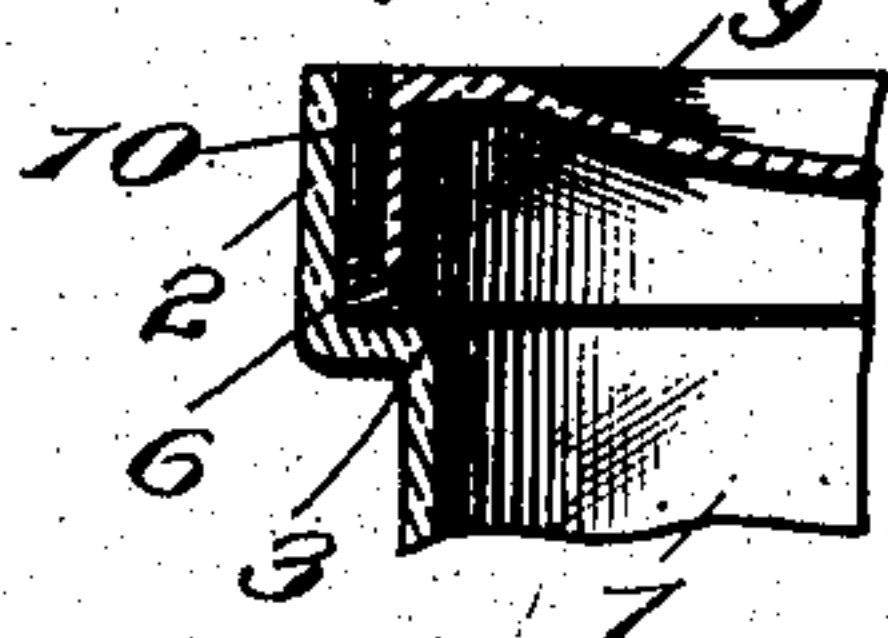


Fig. 4.

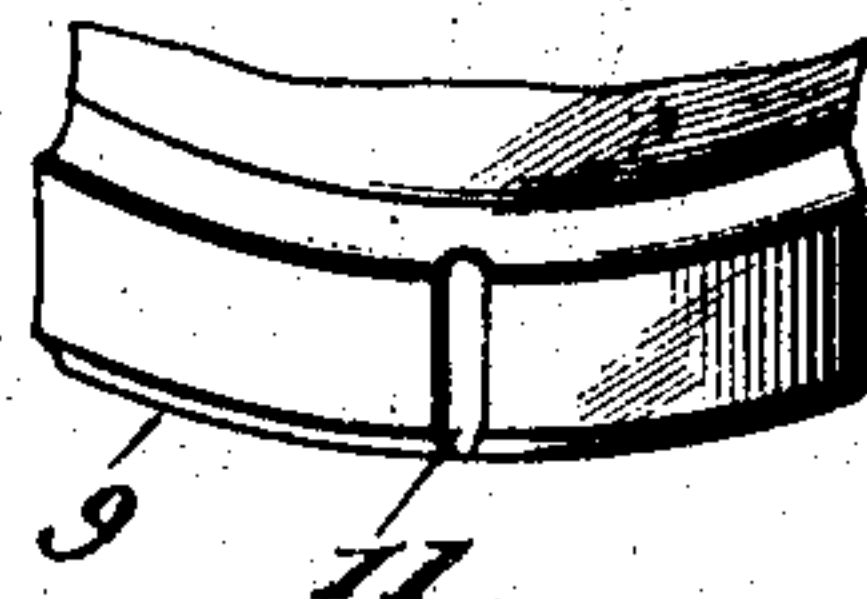
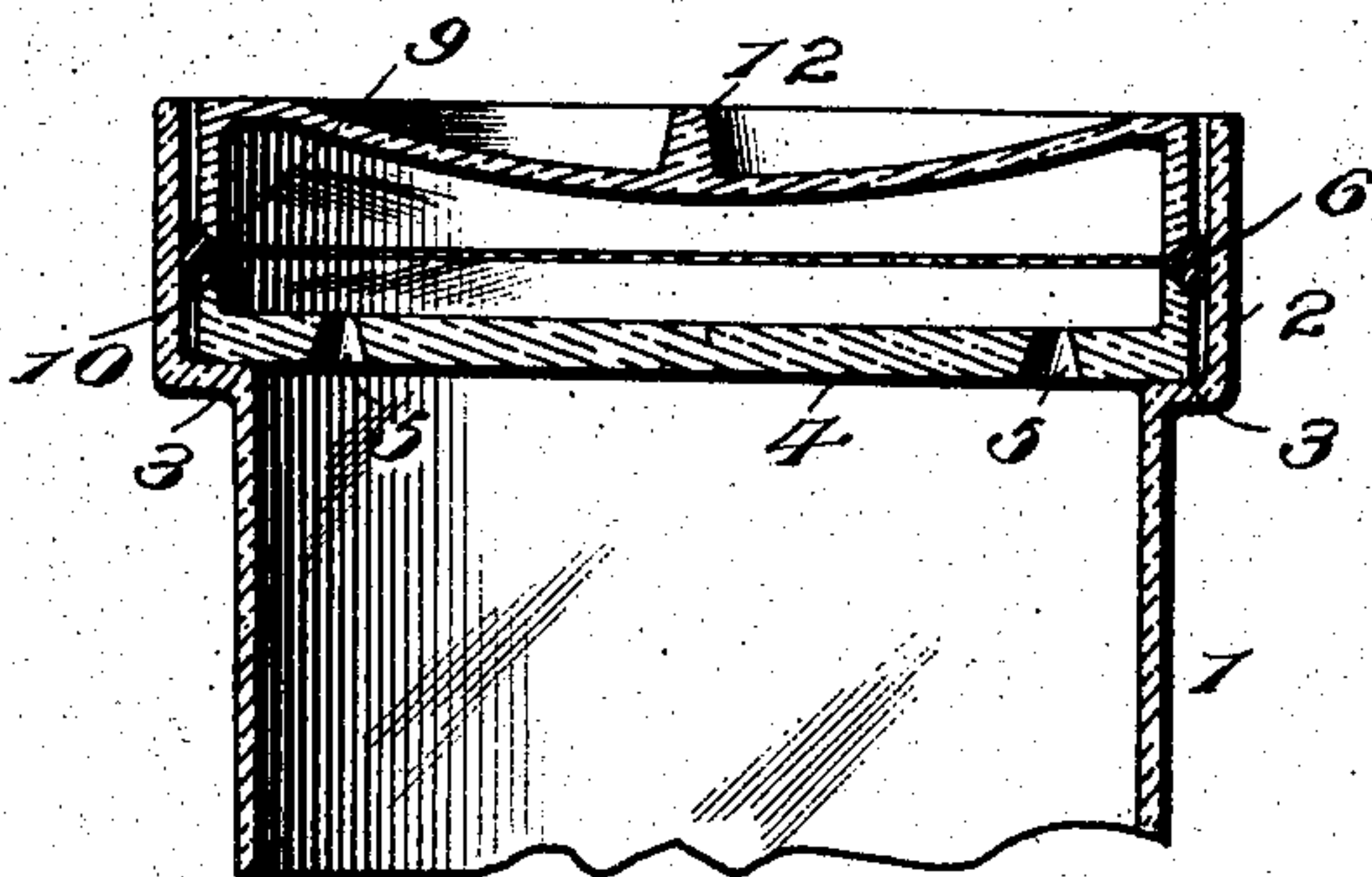


Fig. 2.



Inventor

Josiah S. Du Bois

By Augustus S. Skonoghan,

Attorney

Witnesses
H. H. Richmond

UNITED STATES PATENT OFFICE.

JOSIAH S. DU BOIS, OF CAMDEN, NEW JERSEY.

JAR-CLOSURE.

SPECIFICATION forming part of Letters Patent No. 781,408, dated January 31, 1905.

Application filed July 23, 1903. Renewed July 30, 1904. Serial No. 218,918.

To all whom it may concern:

Be it known that I, JOSIAH S. DU BOIS, a citizen of the United States, residing at Camden, in the county of Camden and State of New Jersey, have invented a new and useful Jar-Closure, of which the following is a specification.

The principal object of the invention is the provision of a simple, inexpensive, and efficient closure for fruit-jars and the like, such closure acting solely by the pressure of the atmosphere upon a vacuum.

The closure may or may not be used in conjunction with means for maintaining the fruit or other preserved substance immersed in the preserving syrup or fluid, according as may be desired. Means may also be provided for breaking the vacuum when it is desired to remove the cap or cover.

To the ends stated the invention consists in the novel closure hereinafter described and claimed.

The nature, characteristic features, and scope of the invention will be more clearly understood from the following description, taken in connection with the accompanying drawings, forming a part hereof, wherein—

Figure 1 is a vertical sectional view of a portion of a jar, showing my improved closure applied. Fig. 2 is a varied form of the closure. Fig. 3 is a sectional detail showing the arrangement of the closure when the immersing means is not employed; and Fig. 4 is a detail of the cap or cover, showing its peripheral recess, which may constitute a means whereby the vacuum may be reached and broken.

Referring to the drawings, 1 designates the jar, which may be of any suitable shape, having the vertically-projected external flange or rim 2 and the internal ledge or ring-seat 3 at the base of said flange. When used, the immerser 4 is seated upon the ledge 3, and it may be of any suitable form, that shown in Fig. 1 being a disk having perforations 5.

6 denotes a rubber packing ring or gasket which is interposed between the upper outer edge of the immerser and the cap or cover of the jar or when the immerser is not employed

resting upon the ledge or ring-seat 3, as illustrated in Fig. 3.

7 designates the cap or cover, and, as clearly represented in the drawings, it is provided with a depending peripheral flange or rim 8, which is slightly smaller than the inner diameter of the jar-flange 2 and may therefore enter the mouth of the jar and cooperate with the gasket 6 to form a seal. The bottom edge of said flange is substantially a knife-edge 9, the inclination being inward, so that when it engages the packing-ring or gasket it has a tendency to force the same outward or against the rim of the jar, as well as against the immerser or ring-seat, according as the one or the other is the support for said gasket. The stated tendency is somewhat augmented in the construction represented in Fig. 2, wherein the flange of the cap or cover is opposed by a similar flange 10 of the immerser, so that when the cover is applied with the immerser and gasket in their respective positions the gasket is compressed in a V-shaped mass against the rim of the jar.

It will be noted that the flange of the cover of the jar also functionates a distance-piece for maintaining a suitable space between the cap or cover and the immerser to accommodate the syrup or preserving fluid.

The sealing of the jar may be accomplished by the aid of heat and then effecting a reduction in pressure in the jar by permitting the contents thereof to cool. I prefer, however, to employ in this connection the sealing apparatus described in United States Letters Patent No. 553,976, granted to me February 4, 1896. In said apparatus a main receptacle is employed provided with an air-tight cover and otherwise made impervious to the atmosphere, so that a vacuum or partial vacuum may be maintained within the said receptacle for any given period of time. The jars are introduced into said receptacle with their covers resting upon the gasket 6. When the exhaustion of the jar is complete, the pressure of the atmosphere causes the flange of the cover to compress the gasket in the manner above explained. When it is desired to break the vacuum in order to remove the cap or

cover, the jar may either be heated or an awl or other pointed instrument may be inserted through a recess 11, formed in the periphery of the cap or cover, and said instrument caused
5 to penetrate the packing-ring or gasket 6, so as to permit the entrance of air.

The cover may also be provided with a rib or projection 12, which not only tends to strengthen it, but is also a convenient means
10 of applying and removing the cover.

It will be obvious to those skilled in the art to which the invention relates that modifications may be made in details without departing from the spirit and scope of the same.
15 Hence I do not limit myself to the precise construction and arrangement of parts hereinbefore described, and illustrated in the accompanying drawings; but,

Having described the nature and objects of the invention, what I claim as new, and desire
20 to secure by Letters Patent, is—

1. The combination of a jar having an internal ledge or seat, an immerser supported thereby, a packing-ring resting upon the outer upper edge of said immerser, and a cap or cover
25 having a depending peripheral flange terminating in a knife-edge adapted to force the packing-ring outwardly against the wall of the jar under the influence of atmospheric pressure, substantially as specified.
30

2. The combination of a jar, a cap or cover having a depending peripheral flange or skirt adapted to enter the mouth of the jar, a support, a packing-ring interposed between said
35 skirt and support, said skirt terminating in a knife-edge adapted to force the packing-ring outwardly against the wall of the jar under the pressure of the atmosphere, and means whereby said packing-ring is accessible to an
40 instrument for breaking the seal, substantially as specified.

3. The combination of a jar, a cap or cover having a depending peripheral flange or skirt adapted to enter the mouth of the jar, a support, and a packing-ring interposed between
45 said skirt and support, said skirt terminating in a knife-edge adapted to force the packing-

ring outwardly against the wall of the jar under the pressure of the atmosphere, substantially as specified.

4. The combination of a jar having an internal ledge or seat and an external flange or rim rising above the same, a perforate disk or immerser supported by said ledge, a cap or cover
55 having a depending peripheral flange or skirt adapted to enter the mouth of the jar, and a packing-ring interposed between said disk and skirt, said skirt terminating in a knife-edge adapted to force the packing-ring outwardly against the wall of the jar under the influence of
60 atmospheric pressure, substantially as specified.

5. The combination of a jar having an internal ledge or seat and an external flange or rim rising above the same, an immerser supported
65 by said ledge, a cap, said immerser and cap having oppositely-disposed coincident flanges or rims whereof both terminate in knife-edges, and a packing-ring interposed between said flanges and forced thereby under atmospheric
70 pressure against the rim of the jar, substantially as specified.

6. In a self-sealing vacuum-jar, the combination of a cover adapted and arranged to be closed by atmospheric pressure, a disk below
75 the cover, the arrangement being such that a space is provided between the two, and a packing-ring interposed between said disk and cover, said cover having a depending peripheral flange or skirt terminating in a knife-edge
80 adapted to force the packing-ring outwardly against the wall of the jar under the pressure of the atmosphere and also having a peripheral notch or recess whereby said packing-ring is accessible to an instrument for breaking
85 the seal, substantially as specified.

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

JOSIAH S. DU BOIS.

Witnesses:

WM. J. JACKSON,
K. M. RICHMOND.