No. 748,642. PATENTED JAN. 5, 1904.

C. H. NICHOLSON.

JAR CLOSURE.

APPLICATION FILED APR. 6, 1903.

NO MODEL.

Fig. 1.

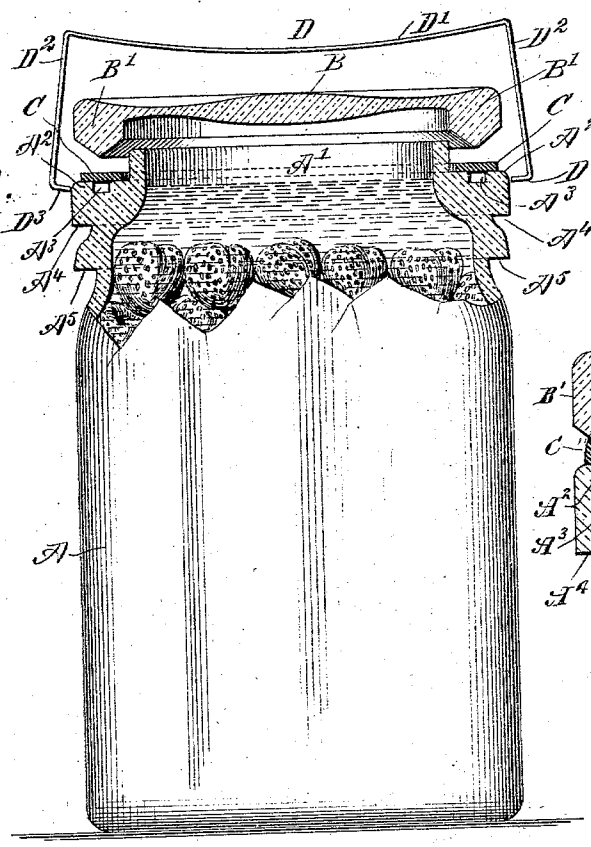


Fig. 5.

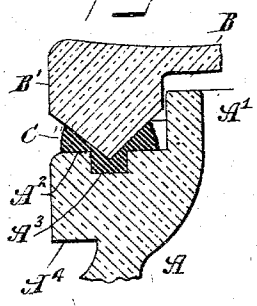


Fig. 2.

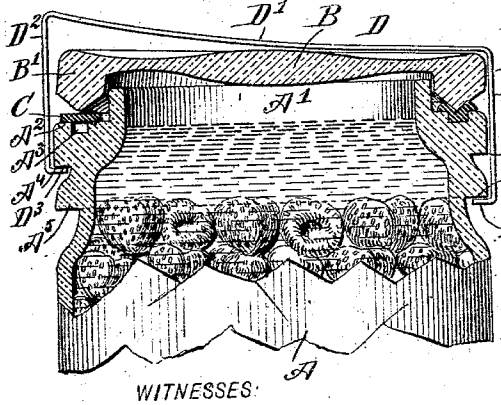


Fig. 3.

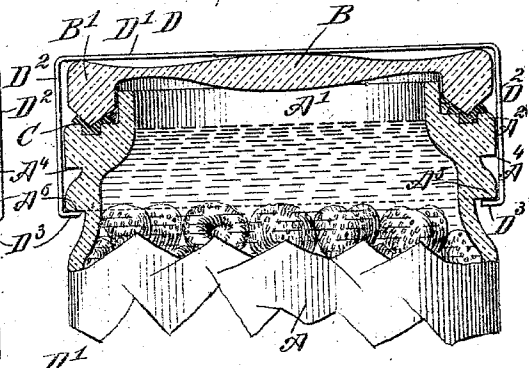
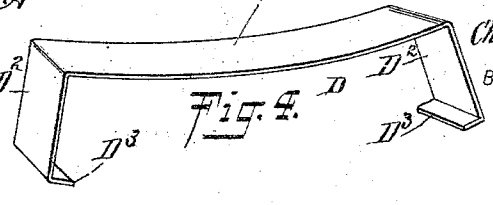


Fig. 4.



WITNESSES:

William P. Goebel.

Rud. J. Hoster.

INVENTOR

Charles Harold Nicholson

BY Munn & Co

ATTORNEYS.

No. 748,642. Patented January 5, 1904.

UNITED STATES PATENT OFFICE.

CHARLES HAROLD NICHOLSON, OF NEW YORK, N. Y.

JAR-CLOSURE.

SPECIFICATION forming part of Letters Patent No. 748,642, dated January 5, 1904.

Application filed April 6, 1903. Serial No. 151,305. (No model.)

To all whom it may concern:

Be it known that I, CHARLES HAROLD NICHOLSON, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Jar-Closure, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved jar-closure which is simple and durable in construction, cheap to manufacture, and arranged to hermetically seal the jar and preserve the contents thereof against deterioration.

The invention consists of novel features and parts and combinations of the same, as will be more fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a sectional side elevation of the improvement, showing the closure and jar separated. Fig. 2 is a sectional side elevation of the same, showing the closure in position on the jar previous to a final closing position. Fig. 3 is a like view of the same, showing the jar hermetically sealed. Fig. 4 is a perspective view of the locking-clamp, and Fig. 5 is an enlarged sectional side elevation of the improvement.

The jar A, to be closed by a cover B, is provided at the exterior of its mouth A′ with an approximately horizontally disposed annular shoulder A^2, formed in its surface with an annular groove A^3, spaced a distance from the sides of the shoulder, and on the latter is placed a packing-ring C, of rubber or other suitable flexible material, and engaged at the top directly above the groove A^3 by the V-shaped bottom edge of the annular rim B′ of the cover B to press the middle portion of the packing-ring C into the groove and in contact with the bottom thereof at the time the cover is moved into a final closed position, as will be readily understood by reference to Fig. 3.

By the arrangement described a hermetic sealing of the jar by the cover is obtained, as the packing-ring can readily conform to any unevenness on the shoulder A^2, and hence prevent the formation of the most minute air-passage to the interior of the jar by way of the joint between the jar and cover.

From the foregoing it will be seen that a perfect seal is not relied on by but one annular contact of the cover with the packing-ring and shoulder, but three independent seals are formed, one in the groove and the others on the sides of the shoulder adjacent to the groove, and the V-shaped bottom of the cover B has two surfaces in engagement with the top of the packing-ring.

Now defects may occur in all of the edges and surfaces formed at the joint, and still a hermetic seal will not be prevented, especially as each of the annular joints of contact forms a closure independent of the others. Hence unless all the defects occur in exactly the same part of the circumference of both the jar and cover to be directly over each other, and this is practically impossible, a tight seal must result in every instance, and consequently glassware useless for other purposes may be called perfect when this closure is used. This absolute certainty of a seal always resulting means an immense saving not only to the glass manufacturer, but to the packer of the goods in the jar, as a defect will sometimes be so slight that weeks or even months elapse before sufficient air is admitted to the interior of the jar to spoil the contents, and consequently such defect cannot be detected when the goods are put up by the manufacturer.

The cover B is provided with a locking device, such as a U-shaped spring-clamp D, extending with its middle portion D′ diametrically over the top of the cover B and having its sides D^2 formed with inwardly-extending lugs D^3, adapted to engage retainers in the form of annular shoulders A^4 A^5, formed exteriorly on the mouth A′ of the jar one above the other, as plainly indicated in the drawings. Now when the jar is filled with goods liable to spoil and air gains access to the contents of the jar it is desirable to form a vacuum in the mouth of the jar either by the use of a vacuum-pump or by heating and subsequently cooling the jar and its contents. In

either case the cover is placed in position on the jar as indicated in Fig. 2—that is, one of the lugs D^3 is engaged with the lowermost shoulder A^5, while the other lug of the spring-clamp is engaged with the shoulder A^4, so that one side of the V-shaped bottom of the rim B′ of the cover is firmly in engagement with the packing-ring and presses the same down in its groove, while the opposite side of the V-shaped rim-bottom rests but loosely on the packing-ring, and hence forms an escape for the air and gases rising within the jar during the heating process or when the air is exhausted from the jar by a vacuum-pump. When the heating is completed and the jar is allowed to cool, then the vacuum formed within the jar causes a final closing of the cover B by atmospheric pressure on the outside of the cover B, so that the latter moves into the position shown in Fig. 3, and the clamp D may be entirely removed, if desired. As a rule, however, the end of the clamp having the lug D^3 engaging the shoulder A^4 is pressed down, so that the lug D^3 engages the shoulder A^5, the same as the other lug, to securely lock the cover C against accidental opening.

When the jar is used for jams, pickles, or other products which do not require a vacuum to prevent fermentation, then the cover is placed first in the position shown in Fig. 2, and then a slight rap with a hammer or the like on the end of the clamp engaging the shoulder A^4 causes this end to move downward to engage the shoulder A^5, as indicated in Fig. 3. Thus the jar can be very quickly closed, and by the particular construction of the joint between the cover and the jar a hermetic sealing of the jar is obtained.

When it is desired to open the jar, an air-passage can easily be formed through the exposed rubber ring by inserting any sharp instrument under the outer beveled edge of the V-shaped rim of the cover.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A jar having a cover provided with locking means for engaging the jar, to hold the cover in a locked position when partly closed and when fully closed, as set forth.

2. A jar-closure comprising a jar having a plurality of retainers, and a cover for the jar, having locking means for engaging the retainers to hold the cover in position when partly closed, as set forth.

3. A jar-closure comprising a jar having a plurality of retainers, and a cover for the jar, having locking means for engaging the retainers, to hold the cover in position when partly closed and when finally closed, as set forth.

4. A jar-closure comprising a jar having a plurality of annular retainers, one above the other, and a cover for the jar, having a spring locking-clamp for engaging the retainers, to hold the cover in position when partly closed and when finally closed, as set forth.

5. In a jar-closure, the combination of a jar having a plurality of annular retainers and an annular shoulder formed with an annular groove spaced from the sides of the said shoulder, with a flexible annular packing-ring on the said shoulder, a cover having a flange provided with a V-shaped bottom for engaging the packing-ring over the said groove, to press the middle portion of the packing-ring into the groove, and a spring-clamp engaging the said cover and adapted to engage the annular retainers on the jar, the retainers being located one above the other, as set forth.

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

CHARLES HAROLD NICHOLSON.

Witnesses:
THEO. G. HOSTER,
EVERARD BOLTON MARSHALL.