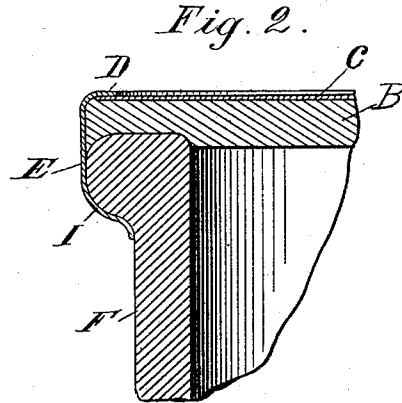
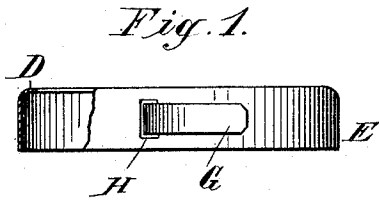


(No Model.)

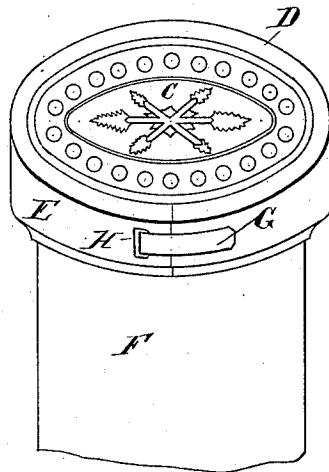
A. L. WEISSENTHANNER.  
HERMETICALLY SEALING VESSELS.

No. 509,834.

Patented Nov. 28, 1893.



*Fig. 3.*



*Attest.*  
C. L. Crib  
Samuel H. Fisher

*Inventor:*  
Alfred L. Weissenanner,  
by J. H. Mauro,  
his attorneys.

# UNITED STATES PATENT OFFICE.

ALFRED L. WEISSENTHANNER, OF PARIS, FRANCE, ASSIGNOR TO ACHILLE WEISSENTHANNER, OF SAME PLACE.

## HERMETICALLY SEALING VESSELS.

SPECIFICATION forming part of Letters Patent No. 509,834, dated November 28, 1893.

Application filed September 22, 1893. Serial No. 486,213. (No model.) Patented in France December 19, 1892, No. 210,638, and in England April 13, 1893, No. 7,597.

*To all whom it may concern:*

Be it known that I, ALFRED L. WEISSENTHANNER, a resident of Paris, France, have invented a new and useful Improvement in Hermetically Sealing Vessels, which improvement has been patented with my knowledge and consent in France (Patent No. 210,638, dated December 19, 1892) and in Great Britain, (No. 7,597, dated April 13, 1893,) and which is fully set forth in the following specification.

This invention has reference to means for hermetically closing jars and other receptacles, and is particularly intended for use in large establishments where fruits, vegetables, &c., are preserved in quantity, the invention being characterized by the following principal advantages, namely, the simplicity and cheapness of the device, the very great rapidity with which it can be applied, its efficiency in making an absolutely tight closure, and the ease with which the jar or receptacle can be opened. These results are due to the differences in construction and mode of application between the improved device herein described and those heretofore in use. The closure is, general features, similar to others previously known; that is to say, it comprises a cover or top composed of a metal plate, a packing disk, ring, or washer of compressible material, and a securing band for holding the cover in place upon the mouth of the jar, this band being fastened preferably by a tongue in one end entering and engaging an eye in the other. Heretofore closures of this description have been usually made in the following way: the cover or top has been made with a downwardly extending portion embracing the packing ring, and an outwardly projecting flange for engagement of the holding band. This cover being placed on the jar, the band, in an open or extended condition, is placed around the flange of the jar, and drawn as tightly as possible, to compress the packing ring, after which it is fastened by engaging the tongue in the eye. Slight variations of this method and means have been employed, but it is unnecessary to describe such variations at length. In all such devices the degree of compression of the packing ring depends upon

the force exerted in applying the holding band, and drawing its ends together, and obviously the operation of putting this band in place is necessarily slow.

According to the present invention the cover or top is a flat metal plate, and the packing disk, ring, or washer is interposed between it and the upper edge of the jar or vessel. The holding band is a ring with a straight vertical periphery having a flange bent inward at right angles at the top to engage and hold the flat cover. The band has its ends fastened before being applied to the jar or vessel, this being one of the main peculiarities of the invention, and is simply slipped in place over the cover and washer, the entire capsule being then placed on the jar and subjected to direct downward compression, which may be as great as a thousand pounds, thus insuring a perfectly air-tight closure. While the pressure is maintained, the lower edge of the band being brought by the pressure below the bulge or flange of the jar or vessel, is bent under the same.

The operations of applying downward pressure and turning in the edge of the band can be expeditiously performed by simple machinery, and a very important advantage of the invention is that a workman can easily close eight hundred vessels or jars an hour, as compared with about one hundred and fifty by the most expeditious of previously known methods.

It will be observed that, by my invention, there is no lateral compression by the holding band, that is, pressure at right angles to the axis of the vessel, in which direction a moderately great pressure would break a fragile jar. The band simply holds the cover against the upward thrust due to the compression of the packing disk. The tongue and eye or other detachable connections for the ends of the band are not used in applying it to the jar, but are simply employed for the ready removal of the cover.

The invention and its advantages will be more fully comprehended from the following detailed description, wherein reference is made to the accompanying drawings, in which—

Figure 1 is a side view partly in section, of the preferred form of holding band. Fig. 2 is a partial vertical section of the entire closure; and Fig. 3 is a perspective view of the top of a bottle having the invention applied thereto.

The holding band E is formed as shown, of a flat strip of metal, having at the top an inwardly extending flange D. Before its application to the jar the band is bent into the form of a ring and its meeting ends connected by a tongue G on one end, which is passed through an eye H near the other end, and bent back as shown in the drawings. The two ends may, of course, be connected by any means which will admit of ready disconnection when the jar is to be opened.

C represents the top-plate or cover which is simply a flat metal disk of proper size to cover the jar or vessel F, and B represents the compressible disk or washer of cork, rubber or other suitable material. It is evident that these devices, which constitute the entire closure, are extremely simple in construction, and may be produced in quantities very cheaply.

In closing a jar, the compressible disk B and plate C are placed over the mouth of the jar, which has a bulge or flange forming a shoulder beneath. As shown, this shoulder is curved, but it may be and frequently is square. These parts are held in place by the holding band E which has been slipped over the cover with its ends fastened together. It may fit rather loosely around the flange of the jar. Downward pressure is then applied until the lower

edge of the band E projects beneath the shoulder on the neck of the bottle, when this edge is bent in under the shoulder, as shown at I (Fig. 2), after which the pressure is released, and the hermetic closure of the jar is completed.

I have frequently in practice applied a pressure of one thousand pounds, compressing the disk or washer B to about one-fourth its normal thickness; but the amount of pressure will depend upon the thickness of the glass or other material of which the jar is composed.

Having now fully described my invention, what I claim is—

In the process of hermetically closing jars or vessels by means of a top plate or cover, compressible washer and holding band having detachable ends, the described improvement consisting in attaching the ends of the holding band together then slipping it over the neck of the vessel, the washer and top-plate being interposed, forcibly compressing the washer by downward pressure, and while said pressure is maintained locking the closure in place by bending the lower edge of said band under a shoulder on the neck of the vessel, as set forth.

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

ALFRED L. WEISSENTHANNER.

Witnesses:

PHILIP MAURO,  
SAMUEL H. FISHER.