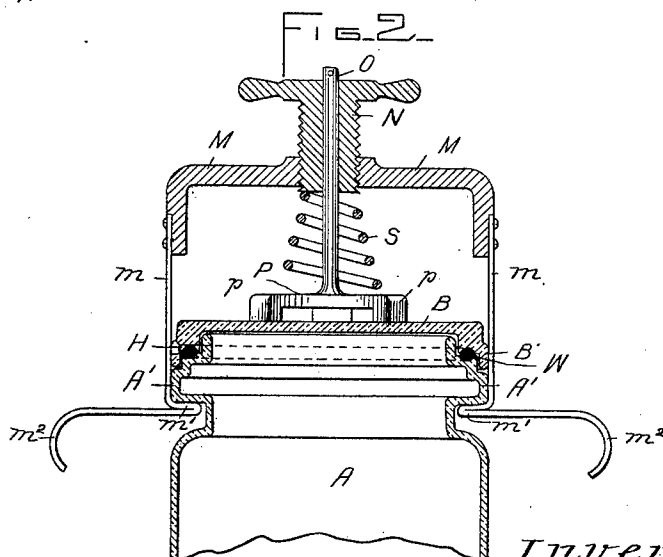
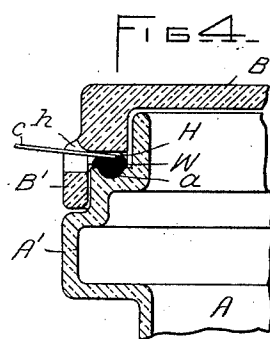
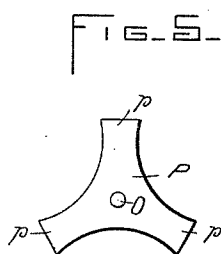
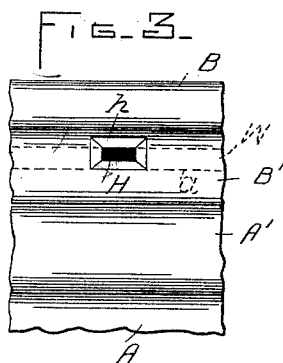
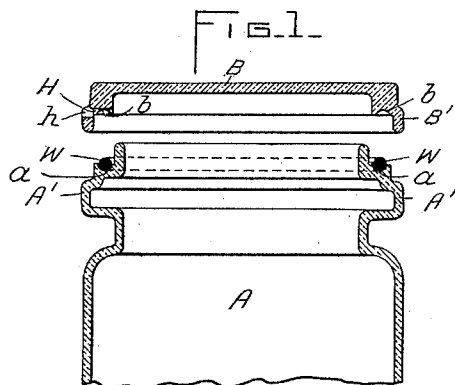


(No Model.)

F. JOYNSON & W. HARRISON.  
STOPPERING AND HERMETIC CLOSING OF JARS, &c.

No. 595,311.

Patented Dec. 14, 1897.



Witnesses:

E. B. Holton

Edmund

Inventors:

Frederick Johnson  
William Harrison

By

Heuvelink

their Attorney

# UNITED STATES PATENT OFFICE.

FREDERICK JOYNSON AND WILLIAM HARRISON, OF WARRINGTON,  
ENGLAND.

## STOPPERING AND HERMETIC CLOSING FOR JARS, &c.

SPECIFICATION forming part of Letters Patent No. 595,311, dated December 14, 1897.

Application filed April 21, 1897. Serial No. 633,202. (No model.) Patented in England February 24, 1896, No. 4,158; in France December 4, 1896, No. 261,887, and in Belgium December 4, 1896, No. 124,949.

*To all whom it may concern:*

Be it known that we, FREDERICK JOYNSON, residing at Heatherlea, Penketh, and WILLIAM HARRISON, residing at 196 Padgate Lane, Warrington, in the county of Lancaster, England, subjects of the Queen of Great Britain and Ireland, have invented certain new and useful Improvements in and Relating to the Stoppering and Hermetic Closing of Jars and other Receptacles, (for which we have obtained patents in Great Britain, No. 4,158, dated February 24, 1896; in France, No. 261,887, dated December 4, 1896, and in Belgium, No. 124,949, dated December 4, 1896,) of which the following is a specification.

The object of our invention is to construct the mouths and covers and to effect the stoppering of jars and other receptacles intended to contain goods in vacuum in such manner as to make and maintain an air-tight joint and to facilitate the admission of air for destruction of the vacuum when required to remove the cover without injuring any part, and, further, to provide means for adjusting pressure on the cover during the cooking or heating process.

We will describe our invention with reference to the accompanying drawings, in which—

Figure 1 is a section through the upper part of a jar and its detached cover. Fig. 2 is a section through same with cover in position, showing also our adjustable spring-pressure appliance in position ready for the cooking process. Figs. 3 and 4 are respectively an enlarged elevation and section showing the means for destroying vacuum, and Fig. 5 is a plan of the pressure-plate.

According to our improvements just below the mouth of the jar A we form a ledge A', upon which is a regular and even flat or concave seating or bed *a*, adapted to receive a well-fitting rubber or yielding washer W, preferably circular in its cross-section. The rim B' of the cover B is extended downward to completely cover this washer, and on its inner side is formed an inwardly-projecting seating *b* of form (and diameter, if the jar be circular) corresponding to the seating *a* upon

the jar-neck above referred to, so that when the washer W is placed in position and the jar closed by vacuum or otherwise the washer W will be compressed between the two seatings *ab* and expanded, so that a perfectly air-tight joint is assured, the washer W being then entirely inclosed and inaccessible. For the purpose of destroying vacuum at required times we pierce or mold a hole H through the downwardly-projecting rim B' of the cover B in such a position as to come exactly opposite to the washer W when same is compressed, so that the hole H is then completely stopped up and rendered air-tight by said washer. By means of any suitable instrument, such as *c* in Fig. 4, passed through this hole H the washer W can be pressed down and locally displaced sufficiently to admit air in the direction of the arrow and destroy the vacuum.

The receptacles and covers may be of any suitable material, but in glass or cast covers we prefer to mold a recess in the rim B' of cover B, as at *h*, Figs. 3 and 4, where the hole H is made. When opening the jar, it is desirable to use a blunt or flat pointed instrument which will not cut or puncture the washer, and thus nothing is injured and all the parts may be used again.

Our improved adjustable spring-pressure appliance consists of a foot-plate P, preferably with three feet *p p p*. It has a spindle O, passing up through a hole in a screwed adjusting-nut N, working in a threaded bearing formed in a cross-yoke or stirrup M, which has at each side a downwardly-extending spring-leg *m*, formed with a hook at *m'*, said hook being adapted to catch under the jar-shoulder A', above referred to, at diametrically opposite points of the jar, and each leg *m* is provided with a hand-piece *m*<sup>2</sup> for easy attachment and removal of the device. Between the base of said nut N and the surface of plate P, around spindle O, is interposed a spring S, the compression of which and consequent tension on the legs *m' m'* and pressure on the cover B is regulated and adjusted by turning the screwed nut N.

When the operation of cooking and closing by vacuum is to be performed, the cover B,

with the pressure appliance, are placed in positions, as illustrated. Then the compression of spring S is adjusted by screw-nut N as nearly as can be guessed. The jar is next subjected to heat, and the gases generated readily escape when the pressure exceeds that of the resistance of the spring S. If this proceeds too freely, the nut N is further screwed down, and vice versa, and thus just the exact degree of pressure is obtained and air is prevented from entering the jar. After the cooking and cooling processes the pressure device may be removed and the jar is hermetically closed.

Having now described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In combination in a closure for jars and the like, the jar having a horizontal seating-face with a groove therein, the cap B having also a horizontal seating-face with a groove therein and with the flange B' fitting down outside of the horizontal seating-face on the

jar, said flange having a lateral opening therein connecting with the groove in the horizontal face of the cap, and the rubber packing in the grooves and between the horizontal faces of the cap and jar, substantially as described.

2. In combination with the flanged jar, its cover, arms to engage under the flange, a presser to engage the cover at two or more points, a spring thereon, a yoke connected with the arms and a handled screw-nut passing through the yoke and pressing upon the spring of the presser-plate whereby the arms with the yoke will be moved upwardly while the presser will be forced downwardly, substantially as described.

In witness whereof we have hereunto set our hands in presence of two witnesses.

FREDERICK JOYNSON.

WILLIAM HARRISON.

Witnesses:

N. E. BROTHERTON,

CHARLES E. MOTT.