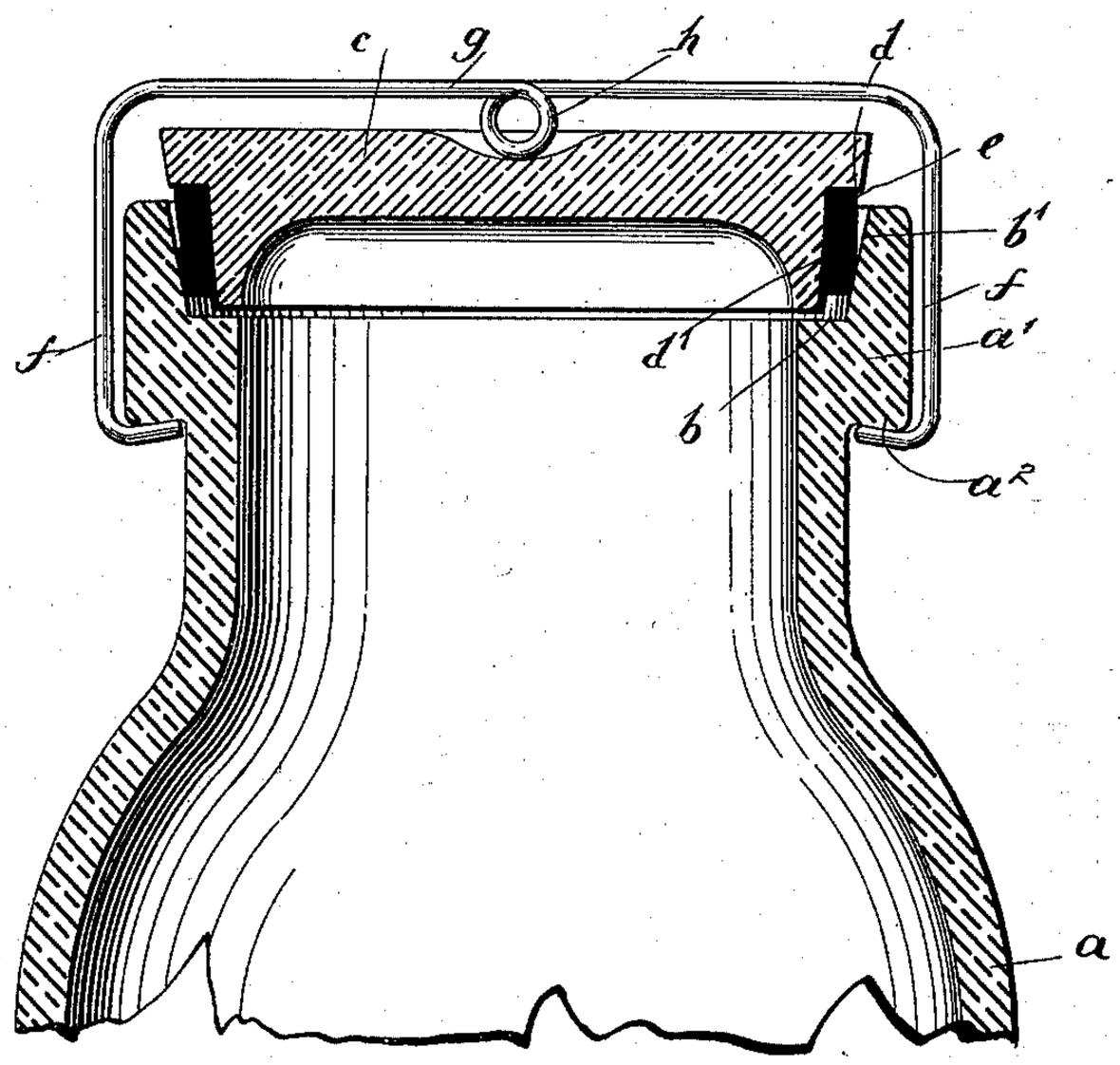
(No Model.)

J. P. LYON.

JAR AND TEMPORARY CLOSURE THEREFOR.

No. 603,910. Patented May 10, 1898.



WITNESSES:

Joshua Bergstrom

Isaac B. Mey.

INVENTOR

J. P. Lyon

BY

munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

JULIAN P. LYON, OF DETROIT, MICHIGAN.

JAR AND TEMPORARY CLOSURE THEREFOR.

SPECIFICATION forming part of Letters Patent No. 603,910, dated May 10, 1898.

Application filed August 21, 1897. Serial No. 649,025. (No model.)

To all whom it may concern:

Be it known that I, JULIAN P. LYON, of Detroit, in the county of Wayne and State of Michigan, have invented a new and Improved Jar and Temporary Closure Therefor, of which the following is a full, clear, and exact description.

This invention is a jar which may be held closed by the pressure of the atmosphere rather than by the pressure of a clamp such as is usually employed.

The invention also comprehends a temporary closure for the jar, which closure is useful during the preserving operation.

This specification is the disclosure of one form of my invention, while the claim defines the actual scope of the conception.

Reference is to be had to the accompanying drawing, forming a part of this specification, which drawing represents a sectional view of my invention.

The jar *a* may be of any desired form, the shape of the jar not having essential relation to my invention. The neck of the jar has an enlargement *a'*, forming a shoulder a^2, against which a clamp may bear if extraordinary security is desired, or if the use of the clamp may prove temporarily advantageous during the "processing" of the material to be preserved. A rabbet-groove is run around the interior of the enlargement *a'*, at the upper portion thereof, and has a bottom wall *b* and an upwardly and outwardly inclined side wall *b'* meeting the bottom wall *b*.

The cap *c* of the jar has a rabbet-groove formed around its periphery and at the lower portion thereof, so that the portion of the cap that lies inward from the rabbet-groove may project into the rabbet-groove of the jar. The rabbet-groove in the cap *c* has a top wall *d* and a downwardly-extending under wall *d'*.

A gasket *e* is stretched around the wall *d'* of the rabbet-groove in the cap *c*. The upper edge of the gasket bears against the wall *d*, while the elasticity of the gasket holds the gasket firmly against the wall *d'*. When the jar has been filled and it is desired to seal the jar, the cap *c* is placed in the position shown in the drawing, so as to engage the outer surface of the gasket *e* with the wall *b'* of the groove in the enlargement *a'* of the jar. The processing or preparation of the material in the jar is such as to exhaust the air from the jar, producing a partial vacuum therein. This is common in the art of preserving. The pressure of the atmosphere bearing down upon the cap *c* forces the cap downward until the lower face of the cap, just inward from the rabbet-groove therein, bears upon the shoulder or wall *b*. When this position is assumed, the cap has reached the limit of its inward movement. The movement of the cap inward compresses the gasket *e* between the walls *d'* and *b'*, which walls form an angular space the thickness of which tapers downward. Consequently the downward movement of the cap, carrying with it the gasket, forces the gasket into this tapering space and maintains an absolutely hermetic seal. The cap is held in this closed position by the pressure of the atmosphere. If desired, a fastener may be used, but the pressure of the atmosphere is sufficient to hold the cap in closed position. The wall or shoulder *b* not only insures the cap going to the correct position, but, being snugly engaged by the cap, forms a supplemental closure which prevents the contents of the jar from contacting with the gasket.

When the cap is in closed position, the shoulder or wall *d* of the rabbet-groove in the cap occupies a position out of contact with the upper extremity of the enlargement *a*. Now since the gasket *e* lies snugly against this wall *d* a portion of the gasket is always exposed through the space intervening the parts *d* and *a'*. Consequently when it is desired to raise the cap in opening the jar a knife-blade or analogous instrument may be inserted through the said space and engaged with the gasket, so as to raise the gasket slightly in the space between the walls *b'* and *d'*, lifting the gasket from the narrow or lower portion of said space to the larger or upper portion of the space. This operation may also be effected by pushing the instrument down along the wall *b'* to the wall or shoulder *b* and lifting the gasket. When this is done, the vacuum within the jar is broken, and the cap may readily be lifted from the jar. It is important, therefore, that the construction should be such as to permit ready access to the gasket, else it would be impossible to unseal the jar without breaking portions of the

cap or jar. The drawing shows the cap not quite engaged with the wall *b* of the rabbet-groove in the jar. Consequently the cap is shown in the position which it assumes just before the hermetic sealing of the jar is effected.

The fastener consists in a length of resilient wire having its end portions *f* bent downward and inward to engage under the shoulder a^2 of the enlargement a' of the jar. The intermediate or main portion *g* of the fastener is run horizontally across the cap *c* and is formed at its middle with an eye or loop *h*, which extends downward to engage the cap *c* and preferably in a concavity therein. The portion *h* is not necessarily an eye or loop, since its function is simply to form a downwardly-extended portion in the fastener, which downwardly-extended portion may engage the center of the cap *c* to the exclusion of the main portion *g*. Consequently any downward bend in the main portion will serve the same function—that is, of engaging only the center of the cap. Now in the processing or cooking of the fruit the fruit is put in the jar and the cap *c* placed loosely on the jar. The fastener is next placed in position. When the contents of the jar begin to boil, the steam-pressure exerts itself against the bottom of the cap and in attempting to escape slightly raises the cap. This raising of the cap is possible owing to the structure of the fastener, which, being out of engagement with the edges of the cap and engaged only at the center, yields to upward pressure of the cap sufficiently to permit the escape of the steam, but not sufficiently to allow the displacement of the cap. When after continued processing the air in the jar becomes exhausted, the cap is gradually drawn down firmly on its seat, and finally the jar is hermetically sealed by the pressure of the atmosphere, owing to the peculiar formation of the jar and cap. The fastening is now no longer useful and may be removed and applied to a second jar in the work of processing.

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

A jar, the upper portion or neck of which is provided with a rabbet-groove located in the inner wall of said upper portion or neck, the rabbet-groove having a bottom wall and an upwardly and outwardly inclined side wall running up from the bottom wall, a jar having a cap, the periphery of which is provided at its lower portion with a rabbet-groove having a top and an inner side wall, the rabbeted portion of the cap being capable of projecting into the rabbet-groove of the jar, and the lower face of the cap being capable of bearing upon the bottom wall of the rabbet-groove in the jar, and the jar having a ring-gasket lying in the rabbet-groove of the cap, the gasket bearing against the top and side walls of the rabbet-groove in the cap, and the gasket being crowded firmly into the space between the side walls of the rabbet-grooves of the jar and in the cap, as the cap is moved downward, whereby to hermetically seal the jar, and the upper wall of the rabbet-groove in the cap being located out of contact with the jar when the cap is in closed position to permit access to the gasket for breaking the vacuum held thereby.

JULIAN P. LYON.

Witnesses:
MELLIE VAN LOON,
VIRGIL N. MACK.