

J. L. Mason,

Fruit Jars.

No 102,913.

Patented May. 10. 1870.

Fig: 1.

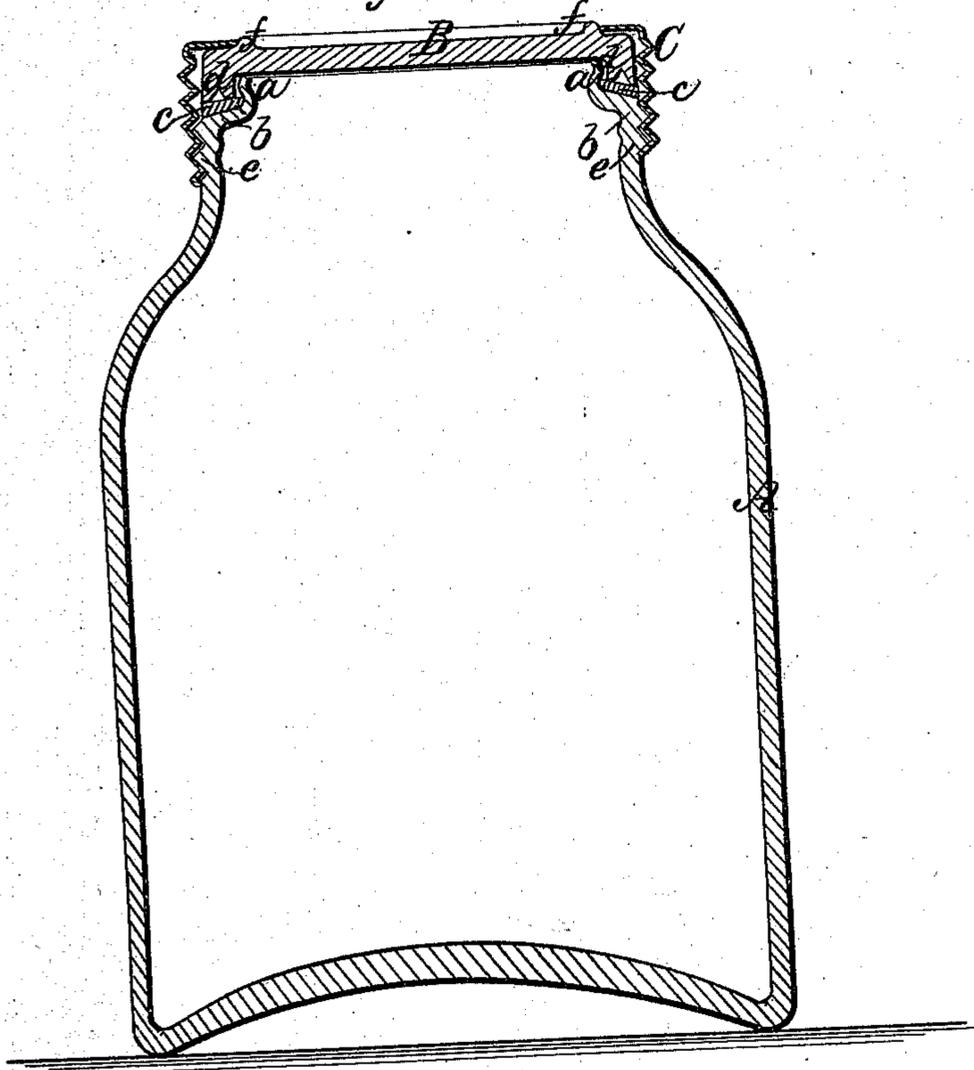
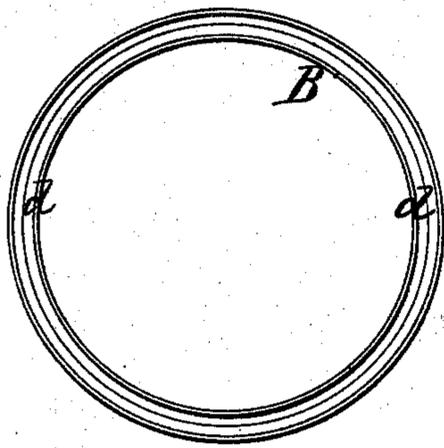


Fig: 2.



Witnesses;
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UNITED STATES PATENT OFFICE

JOHN L. MASON, OF NEW YORK, N. Y.

IMPROVEMENT IN FRUIT-JARS.

Specification forming part of Letters Patent No. 102,913, dated May 10, 1870.

To all whom it may concern:

Be it known that I, JOHN L. MASON, of New York, 165 Spring street, county of New York, State of New York, have invented a new and useful Improvement in Fruit-Jars; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which drawing—

Figure 1 represents a central section of this invention. Fig. 2 is an inverted plan of the cover detached.

Similar letters indicate corresponding parts.

This invention relates to a new and improved construction of jars or other vessels designed for the preservation of fruit and other substances which are seriously affected by exposure to air, whereby India-rubber packing-rings or gaskets can be employed in making tight joints without exposing the rubber to the contents of the jars, and whereby flat horizontal shoulders formed outside of the jars are adapted to afford bases, upon which to receive said rubber packing-rings upon the exterior of the jars above the continuous glass screw, and whereby flanged caps or covers can be used, the flanges of which are adapted to fit over annular ribs or flanges surrounding the mouths of the jars, and whereby flexible flanged screw-rings, made of thin metal, are adapted to confine the caps or covers down firmly in place over the mouths of the jars, and upon the said rubber packing-rings placed upon the said shoulders formed outside of the jars, all of which elements I employ, as will be hereinafter described, to produce hermetical joints, and, at the same time, prevent the contents of jars having any chemical or other effect upon the packing-rings.

In the year 1861, N. S. Gilbert, and in 1862, Thomas G. Otterson, obtained Letters Patent of the United States for methods of sealing preserve-jars, wherein are described methods of making a tight joint by constructing around the outside of jars, just below an annular rib or flange, a horizontal annular shoulder, upon which was seated an annular India-rubber packing-gasket. Upon this gasket the beveled

flange of a cover was pressed and temporarily held by a yoke and screw, or clamp. Otterson states that the screw-clamp "may be applied when the jar is filled and hot, and after it has cooled the clamp may be removed and applied to another jar." This clamp, used by Otterson, is found objectionable on account of the pressure of the screw (acting upon the center of the cover) frequently breaking a cover, and also because of the want of some positive means for holding the narrow-hooked gripping-ends of the clamp in place beneath their shoulder, and preventing the clamp from casually losing its hold by lateral displacement. Otterson uses his hooked screw-clamp as a temporary means for holding the cover down in place, and depends upon the partial vacuum produced in a jar, by the cooling of its contents, to keep the cover in place.

In Gilbert's patent, a very similar arrangement to Otterson's is seen; but, instead of using a central screw to produce the pressure, Gilbert fits his yoke or clamp, which is made of rigid metal, around a central collet projecting from the top or cover of the jar, and turns this clamp or yoke about said "collet."

Neither Gilbert nor Otterson construct the jar with a continuous screw-thread; nor do they depend upon a flexible metal screw-ring. Therefore I regard both of the devices named as different from mine, and I lay no claim to such constructions as they show.

In the year 1865, Charles Imlay obtained a patent for a mode of sealing preserve-jars, wherein he describes a method which enables him to partially overcome the difficulty above alluded to in reference to Otterson's jars. Imlay forms a screw-thread upon the upper portion of a jar, and confines the cap of the jar in place by means of a flexible metal screw-ring, a flange on which bears down upon the said cap or cover. On this jar an internal shoulder is formed for receiving upon it an India-rubber packing-ring, which ring is, in this case, necessarily exposed to the action of the contents of the jar, which often injures the ring, as well as communicates an unpleasant taste to said contents. Said internal shoulder can only be formed by a cylindrical plug inserted into the mouth of a jar while the

glass is hot, and it is necessarily so arranged within the circumference of the threaded surface on the jar that the flange of the screw-ring will act to a disadvantage in drawing the cover down to its seat.

Gillender and Bennett also obtained a patent, in the year 1865, for a preserve-jar, wherein they combined a flexible metal screw-ring for confining the cover of a jar in place, with an India-rubber packing ring or gasket interposed between the extreme upper edge of the jar and its cover. This plan necessitated a careful grinding of the upper edge of the jar to adapt it for receiving a rubber ring, so that a tight joint might be made. This operation of grinding not only greatly increases the expense of a jar, but, in almost every instance, leaves flaws in the ground edge, which prevent the formation of a properly-tight joint with India rubber or any other like packing; besides which, the rubber packing will be so exposed to the contents of the jar as to become injured itself, and also impart a bad taste to fruit confined in the jar.

To obviate all of the objections above mentioned, I combine the following elements; to wit: a metallic flanged screw-ring for confining the cover in place; a flanged cover which will receive within it the mouth of the jar; and also an India-rubber packing-ring, which is fitted upon an external shoulder upon the jar at the upper terminus of a continuous glass screw-thread, and interposed between the said screw-ring and outer surface of the jar, as will be hereinafter more fully explained.

To enable others skilled in the art to understand my invention, I will describe its construction and operation.

In the annexed drawings, A represents a jar, which is made of glass or other vitreous material, and provided with a cover, B, also made of glass or other vitreous material. The neck of the jar is constructed with an annular flange or rib, *a*, and with a flat horizontal shoulder, *b*, which latter serves as an external support for a packing-ring, *c*, of India rubber or other suitable material; and the cover B is made cup-shaped, or with a broad rim, *d*, which, when this cover is adjusted in place on the jar, as shown in Fig. 1, catches over or receives within it the rib or flange *a*, and bears on the packing-ring *c*. By the combined action of the two rims or flanges *a* and *d*, the cover is held centrally in position, and prevented from dropping off accidentally. The bottom edge of the rim *d* is, preferably, grooved or provided with one or more annular beads, so that when the cover is pressed down on the packing-ring a very tight joint is produced by the embedding of said beads into the rubber packing. The outer surface of the neck of the jar is constructed with a screw-thread, *e*, which terminates at its upper end in the external gasket-shoulder *b*, which thread is adapted for receiving a metallic

flanged screw-ring, C, which is produced of sheet metal by spinning, rolling, or any other suitable process. The internal annular flange C', or the top of the screw-ring C, extends over a portion of the cover B, so that in the act of screwing this ring in place upon the screw-threaded portion *e*, beneath the external shoulder *b*, the bottom of the flanged portion of cover B will be drawn firmly in contact with the rubber ring or gasket *c* on shoulder *b*, and thus make a tight joint outside of the jar, and between the screw-ring C and flange or rib *a* of the jar, as shown in Fig. 1. The central opening through the top of the screw-ring C receives through it a bead, *f*, formed on the top surface of the cover B, which assists in keeping the latter in a concentric position on the jar; and the bead *f* will serve as a foot for the jar, if the jar is turned upside down.

It will be seen, from the above description, that I employ a gasket-receiving shoulder, *b*, which is formed upon the exterior of the jar, at the upper terminus of the glass screw thereof, and a cup-shaped cover, B, which receives the upper end *a* of the jar within it, so that the rim *d* will reach down upon the gasket on said shoulder, in combination with a flexible metallic flanged screw-ring, which will not only confine the cover B in its place on a jar, but which affords a convenient as well as a safe means for forcibly confining this cover in place, and compressing the gasket *c* between the rim *d* of the cover B and externally-formed shoulder *b*, and also inclosing the joint thus produced outside of the jar.

The said flanged screw-ring C, being made of thin sheet metal, will be sufficiently flexible to readily yield and accommodate itself to any irregularities of the thread *e* formed on the jar, and also to that part of the cover directly over the gasket *c*, upon which it acts while holding the cover in place; and, while this is the case, it is obvious that such a screw-fastening will not be liable to break the cover, nor the thread on a jar, either in applying it to or removing it from a jar, or during the contraction and expansion of the glass. Another advantage growing out of my improvement is the isolation of the glass screw-thread from the gases or juices within the jar, and thus there is no liability of the screw becoming gummed and fastened so tight as to render it difficult to turn it when desirable.

Separately considered, I do not claim a metallic flexible screw-ring or cap, C, for holding a cover on a preserve-jar, nor an external gasket-receiving shoulder upon a preserve-jar, except when such gasket-shoulder is at the top of a continuous glass screw. Neither do I claim the combination of a screw-ring cap with a packing-ring, so applied to a jar that a portion or the whole of such packing-ring is exposed within the jar, nor when the gasket-shoulder is at the base of the glass screw, as in my patent of 1858; but

What I do claim as new, and desire to secure by Letters Patent, is—

The combination, first, of the shoulder *b* to receive a gasket outside and a little below the top of the jar; second, of the cover *B*, with the rim *d* extending down outside of the top, to press upon the gasket *c*; and, third, of the screw-ring or screw-cap *C*, with its screw-

threads operating upon those of the jar below the gasket-shoulder; all substantially as above set forth and described.

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Witnesses:

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