L. P. MIDDLETON.

METHOD OF SEALING BOTTLES AND THE LIKE.

APPLICATION FILED JULY 12, 1918.

1,294,820. Patented Feb. 18, 1919.

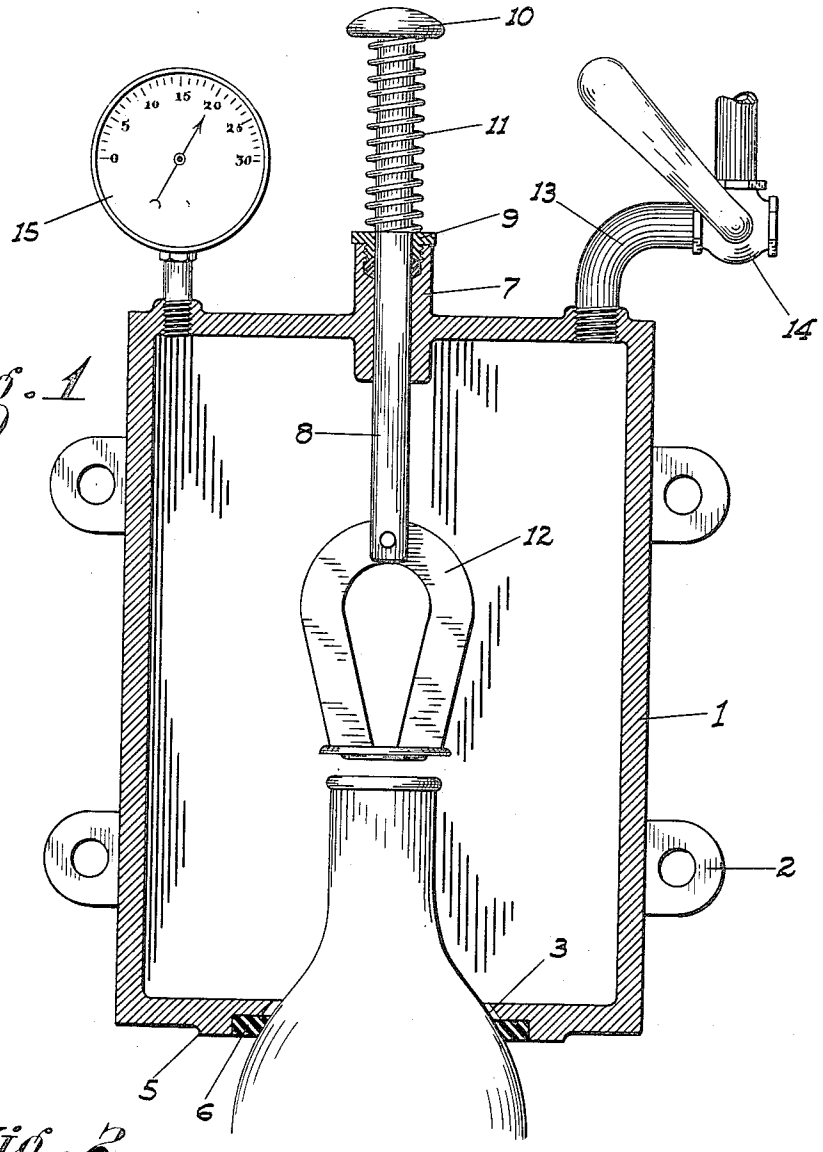
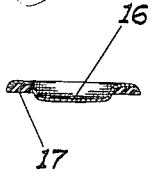


Fig. 1

Fig. 2



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METHOD OF SEALING BOTTLES AND THE LIKE.

1,294,820. Specification of Letters Patent. Patented Feb. 18, 1919.

Application filed July 12, 1918. Serial No. 244,514.

To all whom it may concern:

Be it known that I, LEE PENDER MIDDLETON, a citizen of the United States, residing at Roseville, in the county of Placer, State of California, have invented certain new and useful Improvements in Methods of Sealing Bottles and the like; and I do declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this application.

This invention relates to improvements in methods of sealing bottles and jars, especially those containing perishable food products such as fruit preserves, fruit juices and the like, the principal object being to produce a device by the use of which and with the aid of an ordinary vacuum pump such bottles and jars may be sealed in an absolutely air tight manner and without the need of cooking the fruit etc., before sealing up.

While I am aware that the principle of vacuum sealing is old, I believe I have utilized this principle in a way novel to the art.

A further object of the invention has been to produce a device for the operation of my improved method which may be readily installed on farms, etc., so that much of the fruit usually wasted may be preserved indefinitely at a trifling expense.

As a third object, I have invented a method which will be inexpensive to employ and yet give extremely satisfactory results.

These objects I accomplish by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claim.

On the drawings similar characters of reference indicate corresponding parts in the several views.

Figure 1 is a front view partly in section, showing the device used for the sealing of bottles.

Fig. 2 is a sectional view of a bottle cap to be used with my improved method.

Referring now more particularly to the figures of reference on the drawings, the numeral 1 represents a casing of any suitable shape, which may be constructed of glass or metal as preferred. This casing has lugs 2 on the sides to adapt it to be screwed to the wall of a room.

The bottom of the casing is provided with a circular orifice 3 of such a diameter as to permit of the neck of a bottle 4 passing therethrough, but not the body.

A circular flange 5 extends downwardly from the bottom of the casing of larger diameter than the orifice 3 to receive and hold a rubber ring or washer 6, whose inner edge overlaps the orifice 3.

Centrally positioned in the top of the casing 1 with regard to the orifice 3 therein is a drilled boss 7, in which is slidably mounted a rod 8. Airtightness is assured by the stuffing box 9 in the boss 7. The upper end of the rod 8 has a button or cap 10 thereon, between which cap and the boss 8 is interposed a compression spring 11. Pivotally mounted on the lower end of the rod 8 is a magnet 12 of the usual horse-shoe type. The rod and magnet thereon are so positioned that they will normally rest about a quarter of an inch from the top of the bottle 4 when the same is inserted tightly in the orifice 3. A pipe 13 leads from the casing 1 to an ordinary vacuum pump and tank (not shown) in which pipe a suitable valve 14 is interposed near the casing 1, such valve being so constructed as to permit air being drawn out of the casing through the pipe 13 in one position, and permitting air being let into the casing from the outside in the other position of the valve.

A suitable vacuum gage 15 is connected with the casing 1 at any desired point.

The bottle cap to be used in connection with this method is a tin or zinc 16 preferably pressed out in the shape as shown having a rubber washer 17 seated in the groove of the cap and adapted to bear against the top edge of the bottle.

In operation, the bottle to be sealed is inserted in the orifice 3 and held tightly against the rubber ring 6, with the cap 16 loosely in place on top of the bottle. The magnet 12 will attract the cap and hold the same. The valve 14 is then turned so that all the air will be drawn out of the casing 1. When the desired vacuum has been attained, as can be told by a glance at the gage 15, the rod 8 is pressed down, forcing the cap 16 into the bottle. The cap is held there by pressure on the rod until air is admitted into the casing by means of the valve 14. As soon as this is accomplished, the pressure on the rod 8 is released, and the magnet 12 will then pull away from the cap, as the air pressure thereon will be greater than the strength of the magnet. The bottle is then taken out, when

the cap will be found to be tightly held in the bottle. The cap can, of course, be easily removed by puncturing the same, thus admitting air.

From the foregoing description it will be readily seen that I have produced such a device as substantially fulfils the object of the invention as set forth herein.

While I have described my method and the device used in connection therewith as applicable only to a bottle, it will be readily seen that a few minor changes in the design will adapt the same to be used with jars, etc., the only essential feature being the tin or zinc cap, as of course brass or porcelain caps would not be attracted to the magnet.

Having thus described my invention, what I claim as new and useful and desire to secure by Letters Patent is:

An apparatus for seating and sealing covers on bottles, jars and the like comprising a retort connected with suitable air exhausting means and provided with a gasketed orifice in the bottom thereof for the reception of the body of a bottle or jar therein, a spring pulled rod slidably mounted in the upper end of the retort central of the orifice, and a horseshoe magnet pivotally mounted to the lower end of the rod, the magnetized feet of the magnet being narrow in width and the pivotal point thereof being transversely of the feet, whereby a metallic jar cap suspended from the magnet will easily find its seat on the bottle or jar without necessitating the same to be exactly centralized relative to the magnet.

In testimony whereof I affix my signature in presence of a witness.

LEE PENDER MIDDLETON.

Witness:
VERDARIUM WARNER.