This invention relates to a device for use in sealing preserving jars and other containers, one of the objects being to provide a device whereby air can be withdrawn from the space between the contents of the container and the lid or closure.

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It is a well known fact that when air is withdrawn from a container, hermetic sealing is assured if the lid or closure fits snugly on the container. It is also well known that where vacuum sealing is employed, corrosion is reduced because if any portion of the lid is of metal, there will be no moist air thereunder such as frequently causes deterioration of metal. Vacuum sealing also prevents discoloration and prolongs the natural color of the product and has the further advantage of preventing the formation of molds within the sealed container.

Because of the advantages stated, the present invention has been devised for the purpose of attaining them.

A further object is to provide a sealing means whereby the person canning foodstuffs or the like may ascertain whether the seal of the container is air-tight before finally clamping the lid in place. This is important to know at the time of canning in order that other gaskets may be employed or any necessary changes made to effect a tight seal should it be found that the jar is not properly sealed. Thus waste of food due to imperfect sealing is eliminated.

Another object is to provide a vacuumizing device which is simple in construction and so easy to operate that no mechanical or technical skill is required, thus rendering the article particularly advantageous for use by housewives.

A still further object is to provide a device of this character which, because of its simplicity and few parts, can be manufactured at low cost so as to be available to the widest possible class of consumers.

A further object is to provide a sealing device of the vacuum chamber of which is capable of distortion, thereby to aid in expelling the air in its interior, and being also collapsible to form a pressure member for holding down the lid from the exterior after the air has been withdrawn from the container and while atmospheric pressure is being admitted above the lid.

A further object is to provide a sealing device having a sealing edge which cooperates with the body of the jar, the said device being easily distortable for the purpose of breaking its seal with the jar at any point around its circumference simply by lifting it with a finger-tip.

A further object is to provide a sealing device of this type which does not require a specially designed jar or other container but is applicable to and intended for use with jars of a type or types which have long been in production and on the market and have gained widespread distribution to the consumer.

With the foregoing and other objects in view which will appear as the description proceeds, the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claim, it being understood that changes may be made in the construction and arrangement of parts without departing from the spirit of the invention as claimed.

In the accompanying drawing the preferred form of the invention has been shown.

In said drawing:

Figure 1 is a vertical section through the upper portion of a closed jar showing the sealing device in position thereon prior to the withdrawal of air.

Figure 2 is a plan view, the bulb or suction device being removed.

Figure 3 is a view similar to Figure 1 showing the relative positions of the parts after the air has been withdrawn and prior to the removal of the device.

Referring to the figures by characters of reference I designates a dome-like cap formed preferably of soft rubber, pliable rubberized fabric or any other suitable material and this cap may be provided at its center with a handle 2 in the form of an outstanding knob or the like.

The wall of the cap curves inwardly adjacent to the open end of the cap, as shown at 3 and extending around the open end of the cap is an annular enlargement forming a slightly tapered seat 4. Another annular enlargement 5 may be formed about the cap above and adjacent to the seat 4 and this latter enlargement may have a groove or channel 6 in the upper surface thereof, although a flat shoulder could be used instead.

A nipple 7 is seated in the cap and suitably anchored therein, this nipple constituting a connection between the cap and the tubular stem 8 of a bulb 9 or other suction device the outlet end 10 of which is provided with a check valve 11 of any desired construction.

It will be noted that a rounded thickened portion or abutment 12 is formed within the cap directly beneath the knob or handle 2. This is for the purpose hereinafter pointed out.

After the container C, which can be a jar or
the like, has been filled with the material to be preserved, a sealing gasket G and a lid L are placed in position, it being understood that these parts rest lightly on the container. The cap 1 is then placed around the upper end of the container so that the seat 4 will rest upon the bead or shoulder B usually formed around the neck of a container. By pressing downwardly with the fingers against the flange or shoulder B, all portions of the seat 4 can be caused to fit firmly upon bead or shoulder B so as to insure a tight seal with the outer surface of the jar or the container. The operator next actuates the suction device 9 which operates to withdraw air from within the cap and likewise from within the container C, this air being free to flow between the lid and container and past the loosely seated gasket G. As air is thus withdrawn the cap 1 will collapse so that the bulge or enlargement 12 will move downwardly into contact with and press upon the lid L as shown in Figure 3.

Following this withdrawal of air in the manner stated, the operator presses downwardly with one hand on the knob 2 so as to hold the lid tightly upon its gasket G. At the same time the fingers of the same hand are extended down over the side of the collapsed cap so that the tips can come under the protruding portion of seat 4. By then placing the tips of the fingers of the other hand under this seat 4 at a point diametrically opposite where the other fingers are engaging the seat, all of the fingers can be used simultaneously to raise the seat 4 from contact with the bead or shoulder B. It is to be understood, however, that the seal can be broken by lifting under the sealing edge 4 at any one point. Thus outside air is permitted to enter the chamber with the result that the cap 1 will be loosened and can be removed from the jar. The air rushing into the chamber at atmospheric pressure exerts sufficient pressure on top of the jar lid to hold the air-tight seal which had been maintained previously by the pressure of the operator's hand on the knob 2. After removing the cap 1 from the jar it will be found that the lid adheres firmly to the jar because of the vacuum within the container and the force of atmospheric pressure on the top of the lid.

After the sealing device has been removed tests can be made to determine whether the seal is air-tight. One way of testing is to grasp around the edges of the lid with the fingers and if it remains sufficiently tight to lift the jar the operator is assured that there is no leakage of air and that a proper vacuum exists in the jar. After the test any suitable means can be used for clamping the lid in place.

It is to be understood of course that various changes may be made in the procedure above outlined and, as before pointed out, changes may also be made in the construction of the parts within the scope of the invention as claimed.

What is claimed is:

A vacuumizing device for containers including a collapsible cap of pliable material proportioned to receive the lid and adjacent end of the container to be sealed, said cap having an inwardly extended portion at the center thereof for contact with the center of the lid when the cap is collapsed, said cap having an annular seat at its open end for engagement with a portion of the container, said seat being proportioned to project outwardly from that portion of the container with which it is engaged, and means on the cap at the center thereof for receiving pressure from the palm of the hand of the user, thereby to force the inwardly projecting portion against the lid to hold the lid firmly on its container, the distance between the seat on the cap and the pressure-receiving portion being such that the fingers of the hand exerting pressure on the cap can be utilized for engaging the projecting portion of the seat to strip said seat and the adjacent part of the cap off of the container while pressure is being maintained on the lid, and means for exhausting air from the cap, said means being located at a point removed from the pressure-receiving portion of the cap.

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