No. 695,698. Patented Mar. 18, 1902.

H. C. OSBORN.

SEALED RECEPTACLE.

(Application filed Jan. 21, 1901.)

(No Model.)

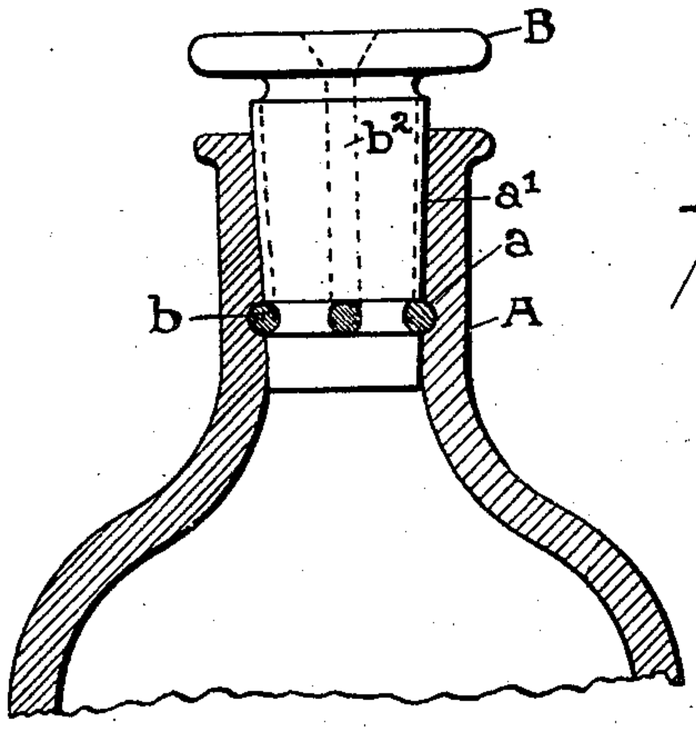


Fig. 1.

Fig. 2.

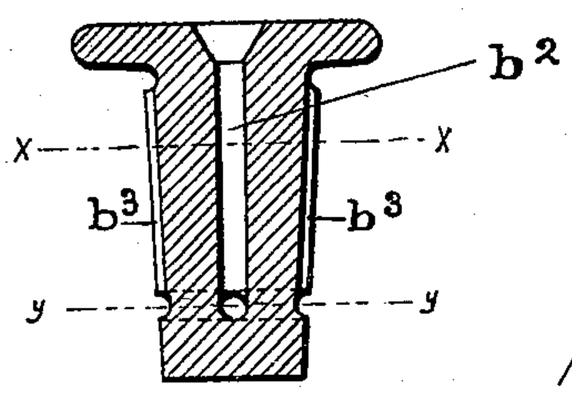


Fig. 3.

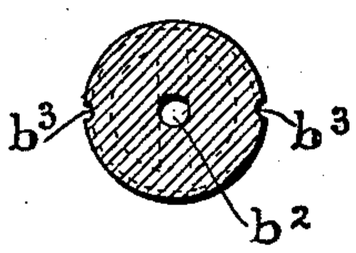
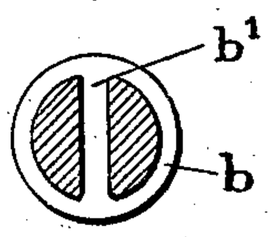


Fig. 4.



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UNITED STATES PATENT OFFICE.

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SEALED RECEPTACLE.

SPECIFICATION forming part of Letters Patent No. 695,698, dated March 18, 1902.

Application filed January 21, 1901. Serial No. 44,119. (No model.)

To all whom it may concern:

Be it known that I, HENRY C. OSBORN, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a new and useful Improvement in Sealed Receptacles, of which the following is a specification.

My invention relates to improvements in sealing bottles containing liquid or gas or other receptacles.

The special features of my invention are more specifically pointed out in the annexed claims.

Heretofore it has been found very difficult to seal bottles containing acids, &c., against leakage by evaporation. This in the case of a great many expensive commodities has been a serious strain upon manufacturing chemists, as in case of long transit the quantity of the material delivered very frequently shows a serious shortage from that shipped, causing no small amount of confusion and annoyance on account of claims for alleged shortage in shipment, and in consequence in such correspondence there result serious misunderstandings and business estrangements, as well as large pecuniary losses to the manufacturers. My invention obviates these difficulties by providing bottles, jar, or other containing vessel with a cork or cover constructed so that the sealing material may be easily applied and the cork or cover as easily removed when desired.

With this end in view I illustrate in the accompanying drawings such instances of adaptation in my invention as will illustrate the underlying principles thereof without limiting myself to the specific proportion or design of the containing vessel.

Figure 1 is an elevation in cross-section of the containing vessel, showing the cover portion thereof in elevation only. Fig. 2 is a cross-sectional elevation of the cover alone. Fig. 3 is a horizontal cross-section of Fig. 2 on line $x\,x$. Fig. 4 is a horizontal cross-section of Fig. 2 on line $y\,y$.

In the instance of adaptation shown in the drawings the receiving-aperture a' of the containing vessel A has formed therein an annular groove a, and the aperture is made slightly tapered. The stopper B conforms in shape to the tapered hole a', and an annular groove b is formed therein, so as to register with the groove a when the parts are in an assembled relation. A lateral opening b' leads from the central duct b^2 radially toward the outer edge of the stopper B, where it connects with groove b. Upon the outer edge of the stopper B there is formed one or more grooves b^3, which lead from the groove b to the outside of the containing vessel A. The inlet end of the duct b^2 is enlarged somewhat, so as to afford easy admission of the sealing material.

The stopper B is placed upon the vessel in the ordinary manner, and after being so placed any kind of sealing material that is unaffected by acids, &c., is poured into the duct b^2, from which it flows through the duct b' and the grooves b and a. In order that the material will flow readily and will be free from air-bubbles, the air-vents b^3 are formed, which as the air in the different passages is expelled therethrough will also fill full of the sealing material. It will be seen that the sealing material is in no wise subject to any mechanical duty whatever in respect to the holding of the stopper in place, as the tapered retaining-walls on each side of the cover a and b are sufficient for this purpose.

The sealing material may be of beeswax or paraffin-wax or any material that is unaffected by any contents that may be placed within the vessel. It will be seen that as the sealing material solidifies a solid annular ring of such material will form within the grooves a and b, thereby producing in a very simple and efficient manner a solid body of sealing material between the cover B and the receptacle A.

My invention may be as readily adapted to sealing all kinds of receptacles as well as the form shown in the drawings, and it will be therefore understood that I do not limit myself to the specific form or construction shown.

What I claim is—

1. A receptacle having an open neck, with a circumferential groove formed on the inner wall of said neck, combined with a stopper having a circumferential groove which may register with the first when said stopper is seated, said stopper further having a diametrical transverse duct connecting opposite points of the circumferential groove of said

stopper and a central aperture connecting with said duct, the surface of said stopper having longitudinal grooves leading to said annular recess, substantially as described.

2. In glass or other containing vessels, a tapered receiving-aperture having an internal annular groove, in combination with the stopper therefor adapted to be placed within said aperture, a groove formed on the stopper so as to register with the groove formed around the receiving-aperture, a central opening leading from the outside of the stopper to about opposite the annular groove formed around the stopper and a radial duct connecting the same, substantially as set forth.

3. In glass or other sealing vessels a tapered filling-aperture, an annular groove formed therein, a stopper having tapering side walls, an annular groove formed in said stopper, an opening leading from the outside of the stopper to about opposite the annular groove in the side walls thereof, means of communication between said groove and said opening, in combination with one or more air-vents leading from the annular groove in the side walls of the stopper to a point of free access with the outside air.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HENRY C. OSBORN.

Witnesses:
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E. A. NELSON.