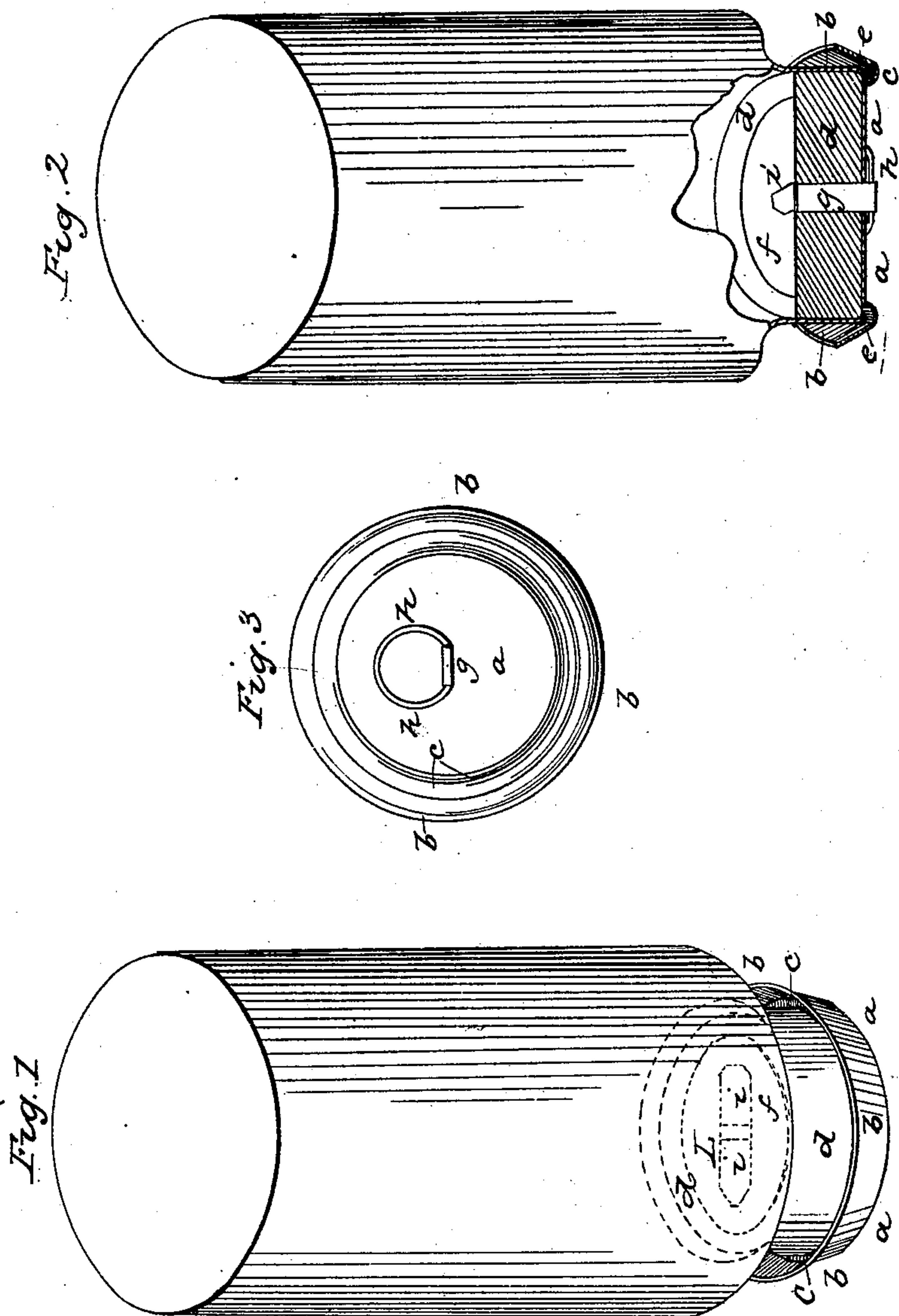


E. BENNETT.
Sealing Fruit Jars.

No. 18,078.

Patented Sept. 1, 1857.



UNITED STATES PATENT OFFICE.

EDWIN BENNETT, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN SEALING CANS.

Specification forming part of Letters Patent No. 18,078, dated September 1, 1857.

To all whom it may concern:

Be it known that I, EDWIN BENNETT, of the city and county of Baltimore, in the State of Maryland, have invented and made certain new and useful Improvements in Caps or Covers for the Hermetical Sealing of Jars and other Vessels; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification—

Figure 1 being a view of a jar turned downward or inverted. Fig. 2 shows a jar inverted and in section at its neck part. Fig. 3 is the cap or covering.

The nature of my improvements consists in constructing a metallic cap, *a a a a*, formed with a lip-rim, *b b b b*, and a groove or gutter, *c c c c c*, on the inside of the cap, and attached to the inside of said cap is a suitable stopper, of required size, formed of cork, as at *d d d d*, Fig. 2. This cork stopper is sufficiently large in diameter to extend partially over the groove or gutter, as at *e e*, Fig. 2, and on the upper side of the cork stopper is a metal washer, *f f*, or disk-like fastening-plate, and passing entirely through the metal cap, cork stopper, and washer is a metal strip, *g g*, having a ring, *h h*, on the outside of the cap, while the ends passing through the stopper are turned down or clinched on the outside of the washer, as at *i i*, Figs. 1 and 2.

The application of my cap is as follows, viz: When fruit or any other substances are inclosed in jars, cans, or other suitable receptacles provided for use, the combined cap and stopper, after the jar is filled, is placed over the mouth of the jar and forced in place, after which the jar is turned neck downward, as at Fig. 1, and having at hand melted beeswax or any other suitable composition matter, it is poured into the channel or space formed by the lip-rim *b b*, when the melted matter enters into the groove or gutter *c c*, Fig. 2, and beneath the edge of the stopper *d d* at *e e*. The whole space at *b c b c*, Fig. 2, must be filled with the melted substance, and this being done the jar is retained in its inverted position, as at Fig. 1.

It is a well-known fact that when fruits or any other substances are inclosed in vessels, jars, or other receptacles for preservation it is important to exclude every particle of

atmosphere, so as to guard against fermentation, and tending to mold or must, and it has been found by experience that all of the devices heretofore employed in closing and sealing of jars, cans, &c., have been more or less ineffectual or imperfect in operation, and not preventing the entrance of air after the articles have been apparently securely and perfectly sealed up air-tight. These defects or imperfections in sealing up may be accounted for by the fact that as all articles like conserves or fruits are generally inclosed while under the influence of heat or a higher degree than a natural temperature, for the purpose of expelling the common air therefrom, it is obvious that if any plastic or adhesive substance be used under such conditions, after the vessel and substances become diminished in temperature, there will be an irregular contraction, and consequently change of adhesiveness, under which circumstances the atmosphere will invariably penetrate the jar or receptacle, and ultimately produce injurious effects.

In the use of the numerous alleged improvements in sealing of fruit and other substances, it is well known that the danger of fermentation does not ensue so much from the small quantity of inclosed or confined air as it does from the introduction of an additional amount of atmospheric air, and owing to the above cause it has been found that articles inclosed in hermetically-sealed receptacles become more or less injured by the introduction of the atmosphere, even in the minutest quantity. Now, to completely obviate and overcome the liability of the introduction of air after the receptacle containing the inclosed substance is sealed, I have, in connection with the application of my combined cap and stopper, recourse to the following new and most successful mode of sealing up fruit and other substances—viz., the inversion or turning down the mouth and neck part of the jar containing the fruit and the retaining the jars or vessels used in said position, instead of using them, as ordinarily, in their usual proper position.

It will be found upon actual test that in the employment of my combined cap and stopper, together with the sealing material, (or common beeswax,) that by inverting the jar or vessel, that every particle of the confined air

that be left in the jar is either forced out by the pressure of the contents of the jar, or if any air should be retained it forces its way to the bottom of the jar, where there is generally more or less space, according as the jar is filled and its contents become compact. Now, it is obvious that so long as the jar remains turned bottom upward and the contents press downward upon the stopper part, and by the moisture of the contents continuously keeping the stopper swelled, and the wax having penetrated into the pores of the stopper, and also completely filled up the groove or gutter around the edge of the stopper at *e e*, there cannot, by the slightest possibility, be any ingress of the surrounding atmosphere, and consequently there can be no liability of shrinkage of stopper or sealing substance, and thus is accomplished in the only most effectual manner the hermetical sealing up of fruit, &c.

In the employment of my combined cap and stopper, I would advise the use entirely (if convenient) of glass vessels, for thereby, should there be by any accident must or mildew within the vessel, it may be then readily discovered through the glass. Again, it is believed that glass vessels can be furnished cheaper than suitable metal or earthenware vessels, and are not liable to pernicious effects incident to glazed and metallic surfaces.

In using jars with my combined cap and stopper, the mouths of the jars may be made sufficiently large, so as to admit of being kept in an upright position; or if small contracted-mouthed jars be used they may be held in position by strips of wood or any other suitable contrivance.

When it is desirable to open the jar, all that is necessary is simply to dip the cap part into warm water or apply heat moderately, when, turning the jar up in its true position, the cap-stopper may be drawn off by aid of the ring *h h* and without detaching the wax or sealing substance at all from the cap and stop-

per, and thereby entirely preventing any loss of the sealing substance, and without injury to the stopper and cap, all of which can be used repeatedly, and for a very great length of time.

When the jar or vessel is again to be sealed all that is required is merely to heat the cap slightly and force it over the mouth of the jar.

In the use of sealing devices heretofore employed, it is found necessary to apply, in addition to the cap and sealing reglets of metallic or fibrous substances, disks, and gaskets, thus rendering the sealing of vessels somewhat tedious and costly; but in my mode of sealing jars and other receptacles the trouble and cost are diminished at least one-half by not requiring any additional devices but simply the cap, stopper, and common beeswax.

My caps can be afforded for a mere trifle in cost compared to any others in use, and can be made of any required size or form, and to suit any kind of jar or other receptacle.

I am fully aware that caps and stoppers and other sealing devices have been employed in application to jars and vessels containing fruit or other substances, and consequently I do not claim any of said devices as known and used.

I am also aware that plastic and adhesive substances have been used and combined with caps and stoppers for various purposes; but I disclaim such materials and combinations.

What I do claim, however, as new and useful, and desire to secure by Letters Patent of the United States, is—

The construction of a cap, formed with a flaring lip-like rim, *b b b b*, and groove or gutter *c c*, and combined with a stopper part, *d d e e*, arranged and applied to an inverted jar or other receptacle, in the manner and for the purposes substantially as set forth.

EDWIN BENNETT. [L. S.]

Witnesses:

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