

H.B. Fox,

Bottle Stopper.

No 55,438.

Patented June 5, 1866.

Fig. 1.

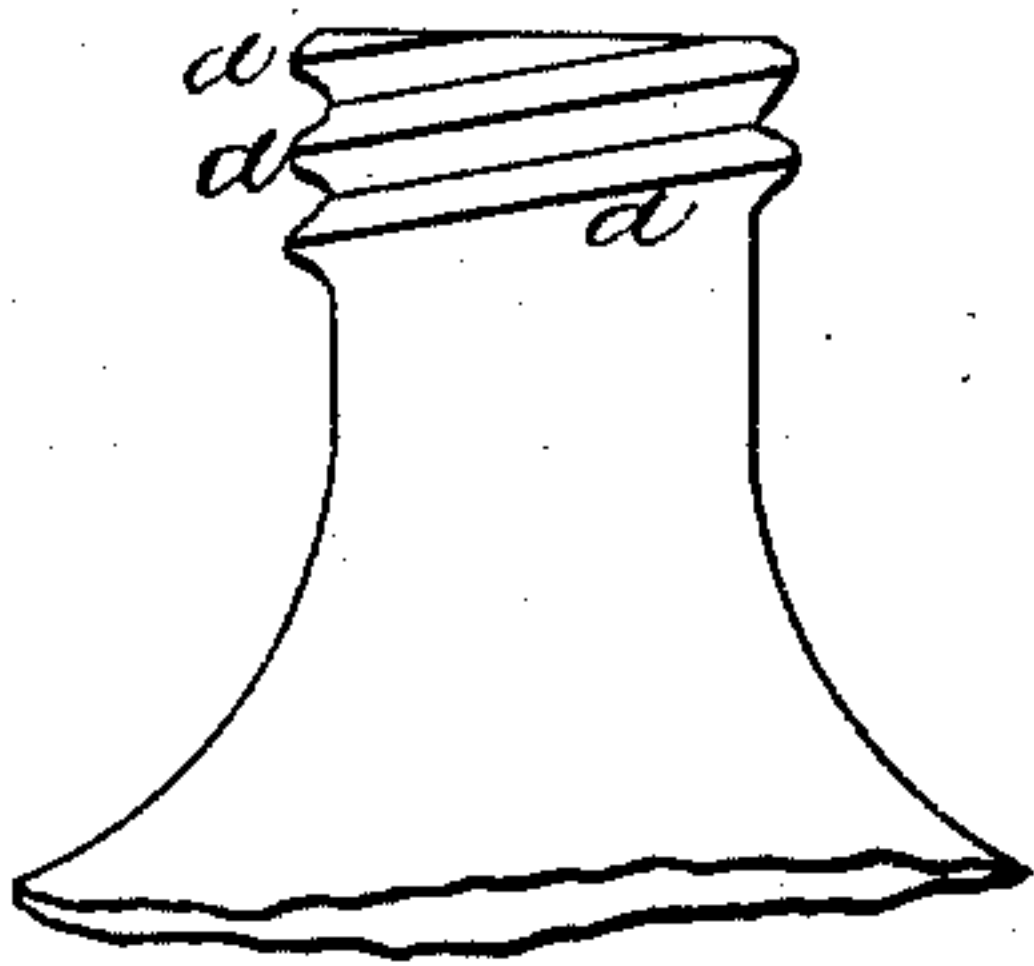


Fig. 2.

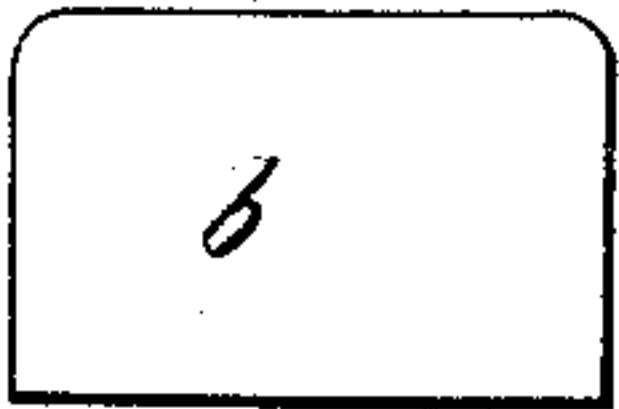


Fig. 3.

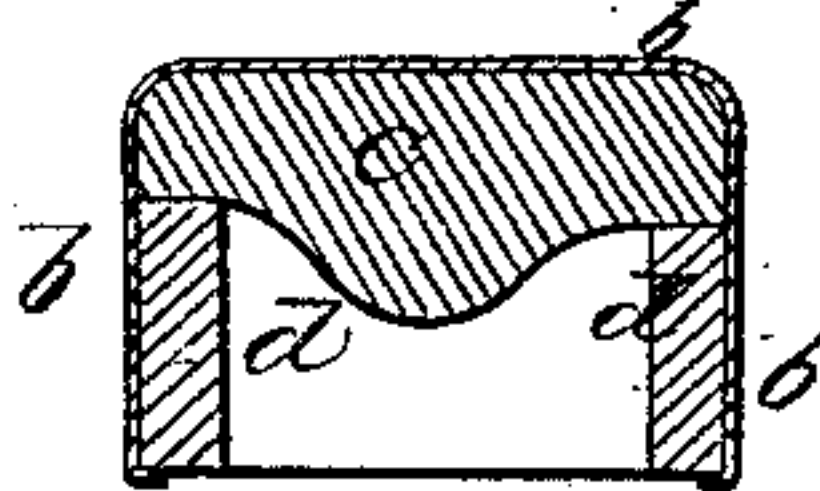


Fig. 4.

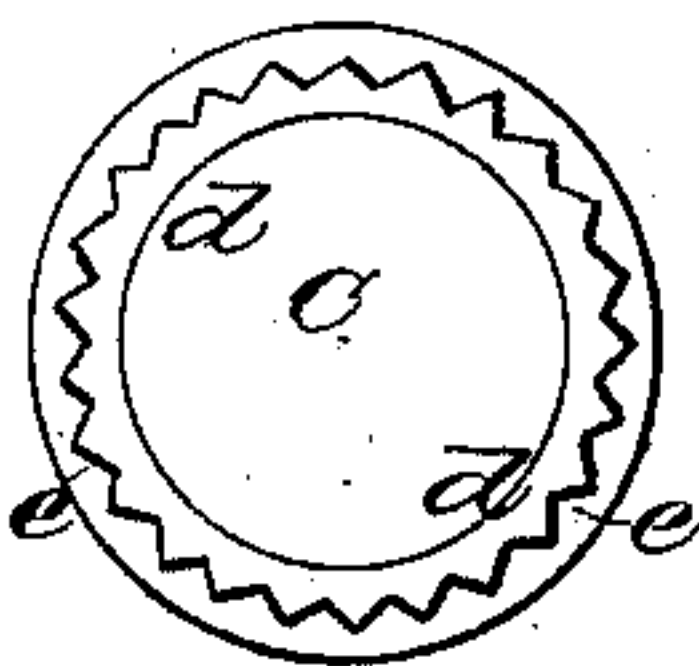


Fig. 5.

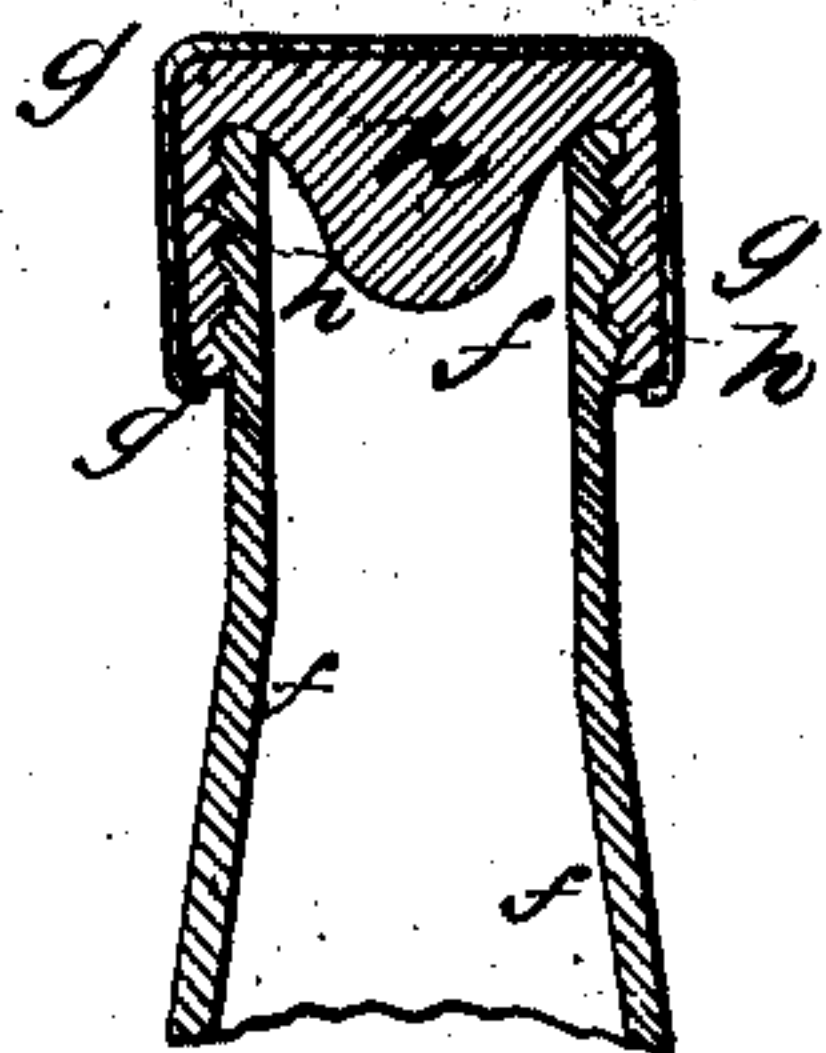


Fig. 6.



Fig. 7.

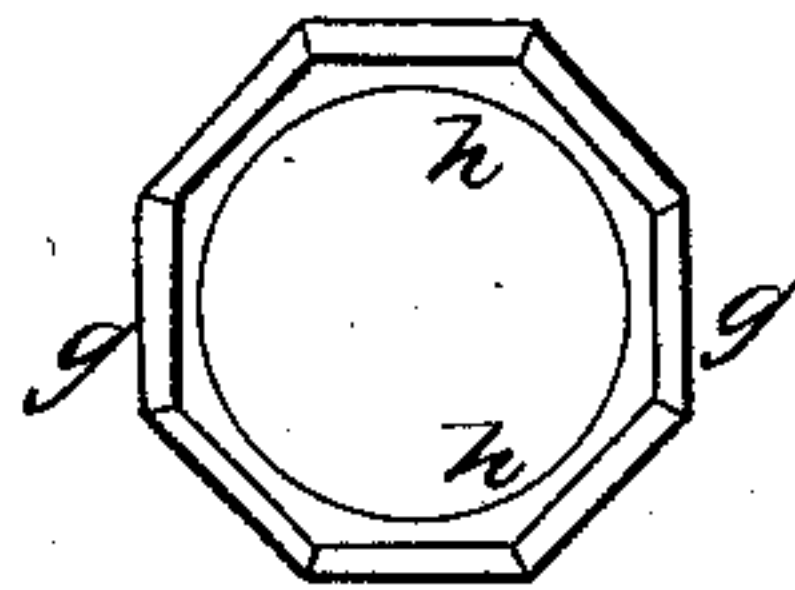


Fig. 8.



Fig. 9.

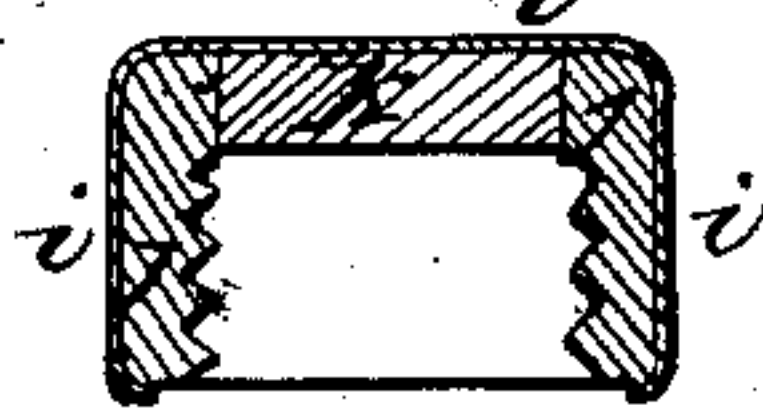


Fig. 10.

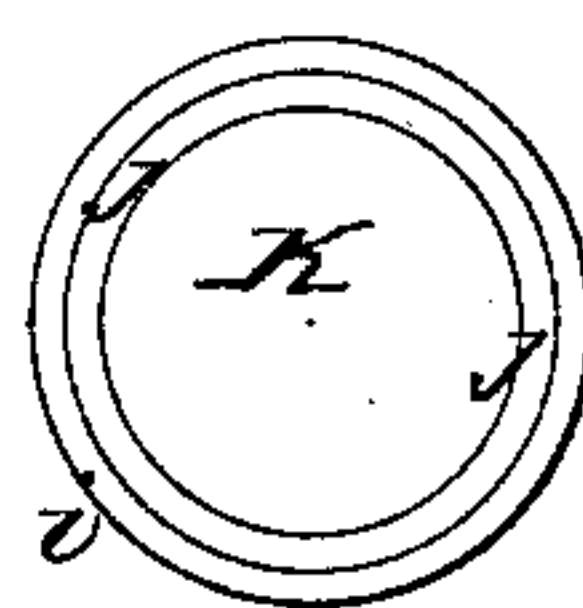
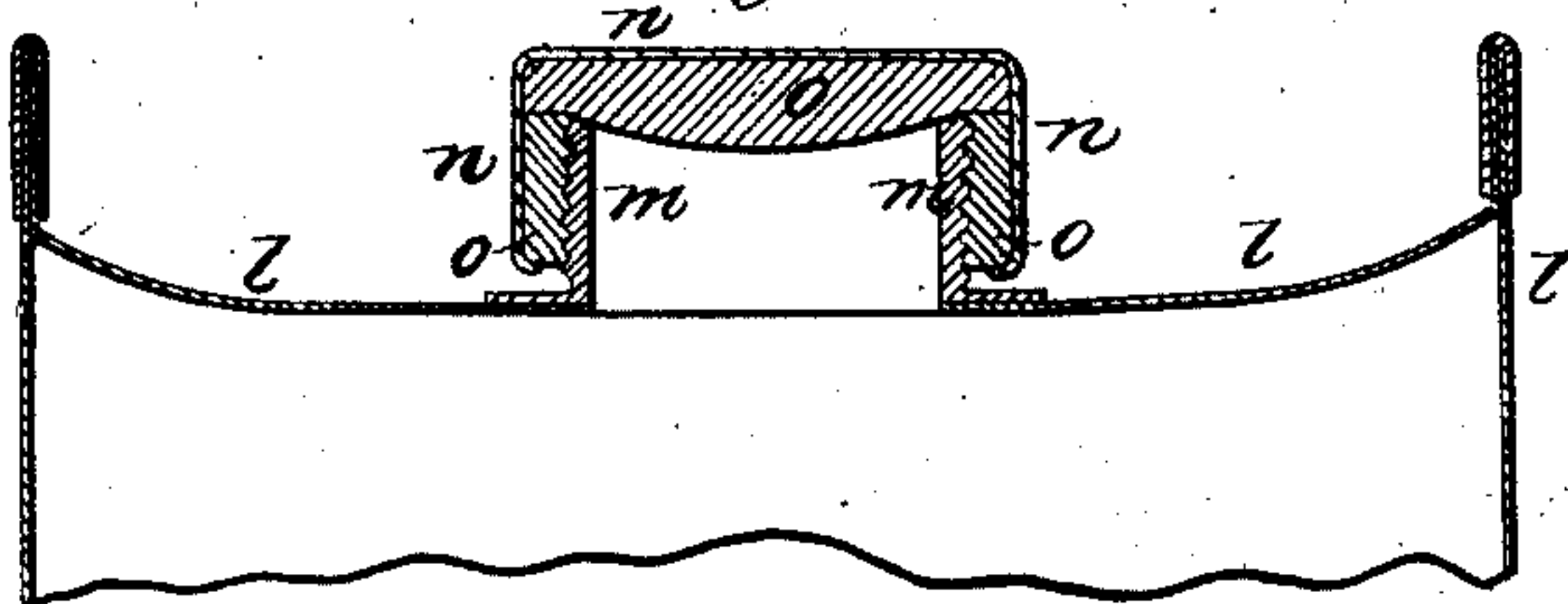


Fig. 11.



Witnesses

John King

John Darrow

Inventor

Howard Bush, Fox

UNITED STATES PATENT OFFICE.

HOWARD BUSBY FOX, OF OXTON, ENGLAND.

IMPROVED BOTTLE-STOPPER.

Specification forming part of Letters Patent No. 55,438, dated June 5, 1866.

To all whom it may concern:

Be it known that I, HOWARD BUSBY FOX, of Oxtton, in the county of Chester, in that part of Her Britannic Majesty's dominions called England, gentleman, have invented a certain new and useful Improvement in Closing the Mouths of Certain Bottles and Vessels; and I do hereby declare that the following is a full and exact description of the construction and use thereof, reference being had to the accompanying sheet of drawings and to the figures and letters of reference thereon—that is to say:

The bottles or vessels to be closed according to my invention are those which have a screw or helical thread formed on or attached to the outer surfaces of their necks or filling-openings. They (the said bottles and vessels) can be made of glass, earthenware, metal, or other material, of the ordinary shapes, and be used for containing liquids of almost every kind. Among the bottles may be mentioned those for containing wine, ale, cider, aerated and other waters, and among the vessels those known as "drums," "tins," and "casks" for containing oils and paints.

I will first describe what I consider the best means of carrying out my invention, and will afterward designate the points which I believe to be new.

For closing the mouth of a bottle or vessel of the kind above described I employ a cap, made of metal, wood, or other rigid material, lined with cork, india-rubber, or other flexible substance or material of a character suitable for the liquid to be placed in the bottle or vessel. The flexible lining, when a few turns are given to a cap over the neck of a bottle or vessel, yields and accommodates itself to the form thereof, and provides the following (among other) advantages: Perfect and permanent closing of the bottle or vessel, with less breakage than under the present system of forcing corks into bottles, convenience in opening the said bottles or vessels without a corkscrew, a tight fit of the cap to the bottle or vessel along the threads as well as at the edge or rim of the neck, and economy, for the same cap and its elastic lining may be used many times.

A portion of my invention relates to preparing the lower edge or rim of the metallic portion of the cap with teeth, to facilitate its bending inward upon and into the lower edge of

the soft lining. The extension of the soft lining downward within the cap affords the advantages above enumerated, while the serrated or pectinated edge of the metallic portion of the cap allows it to be very firmly confined, not only to prevent the escape of the said soft material, but also to prevent its turning therein.

The sheet of drawings contains illustrations of parts of bottles, and of a vessel constructed as hereinbefore mentioned, and of the means for closing the same, all of which latter are made of tinned iron lined with cork. These substances I have found to answer well.

Figure 1 is a side elevation of part of the neck of a glass bottle with about two turns of a thread or screw, *a*, thereon. Such a form is suitable for wine or ale.

Fig. 2 is a side elevation of a cylindrical cap, *b*, adapted for Fig. 1.

Fig. 3 is a vertical section of Fig. 2, showing the cork fitted in in the manner which I have found most convenient. *c* is the top block, with convex bearing-surface to enter the mouth of the bottle or vessel, and *d* the circumference-lining, left smooth on the surface, which, when in use, is in contact with the screw or thread. It will be observed *c* is of the same diameter as the inside of the cap, and *d* abuts against *c*.

Fig. 4 shows the overfolded and pectinated edge *e*. There are several advantages in notching the edge. It allows the part to be readily folded over. It prevents the cap from leaving the side cork lining and prevents the cap from turning round on or without the said lining.

In these views like letters denote the same parts.

Fig. 5 is a vertical section of part of a glass bottle with a screw or helical thread thereon of increasing pitch, covered by a hexagonal cap lined with solid cork.

Fig. 6 is a side elevation, and Fig. 7 an under-side view, of the said cap. *f* denotes the bottle; *g*, the hexagonal cap with overfolded edge, and *h* the cork. The piece of cork removed to form the recess which passes over the mouth or neck of the bottle or vessel could be cut out solid or bored out by the means in general use among cork-manufacturers.

Fig. 8 shows a side elevation, Fig. 9 a vertical section, and Fig. 10 an under-side view, of

a cylindrical cap, *i*, with milled edge to bind the said cap and the cork lining together. *j* is the circumference-lining. It passes from top to bottom of the cap, with female screw formed on its bearing-surface. *k* is a disk-like top piece.

Fig. 11 is a vertical section of a metallic drum, *l*, with screwed filling-opening *m*, closed by a cap, *n*, lined, as in Fig. 3, with cork *o*.

In the modifications of my invention shown and described, as in all others, (and the forms and relative proportions might be variously altered,) shellac or other adhesive substance or substances might be used between the cap and its lining for the double purpose of securing the latter to the former and thoroughly closing up all the pores or openings in that surface of the lining next to the cap.

In constructing caps, under my invention, of metal, stamps and dies of the ordinary kind can be employed; if made of wood, they could be turned; and if of glass, earthenware, or ebonite, they could be cast in molds, and so with other materials.

In closing a bottle or vessel it is only necessary to give the cap a number of turns equivalent to the number of screw-threads thereon.

Having now fully and exactly described my said invention and shown details thereof by

the drawings, I would have it clearly understood that I do not claim the rigid cap, *per se*, nor the same when partly lined with a flexible material.

What I do claim is—

1. The within-described soft-lined cap *b c d*, adapted to close the mouths of bottles or vessels, having a screw-thread formed on the outer surfaces of said mouths, by screwing thereon, and to fit tightly, not only upon the edge, but also along the surfaces of the screw-threads, substantially as and for the purpose herein specified.

2. In connection with the above, the divided or serrated edge *e* of the rigid portion of the cap *b*, to facilitate the bending inward thereof to confine the soft lining, substantially as herein specified.

Signed and sealed by the said HOWARD BUSBY FOX, at Liverpool, in the county of Lancaster, England, this 12th day of January, A. D. 1866.

HOWARD BUSBY FOX.

Before us—

JOHN P. KING,
Patent Agent, Liverpool.

JOHN DAVIES,
His Clerk.