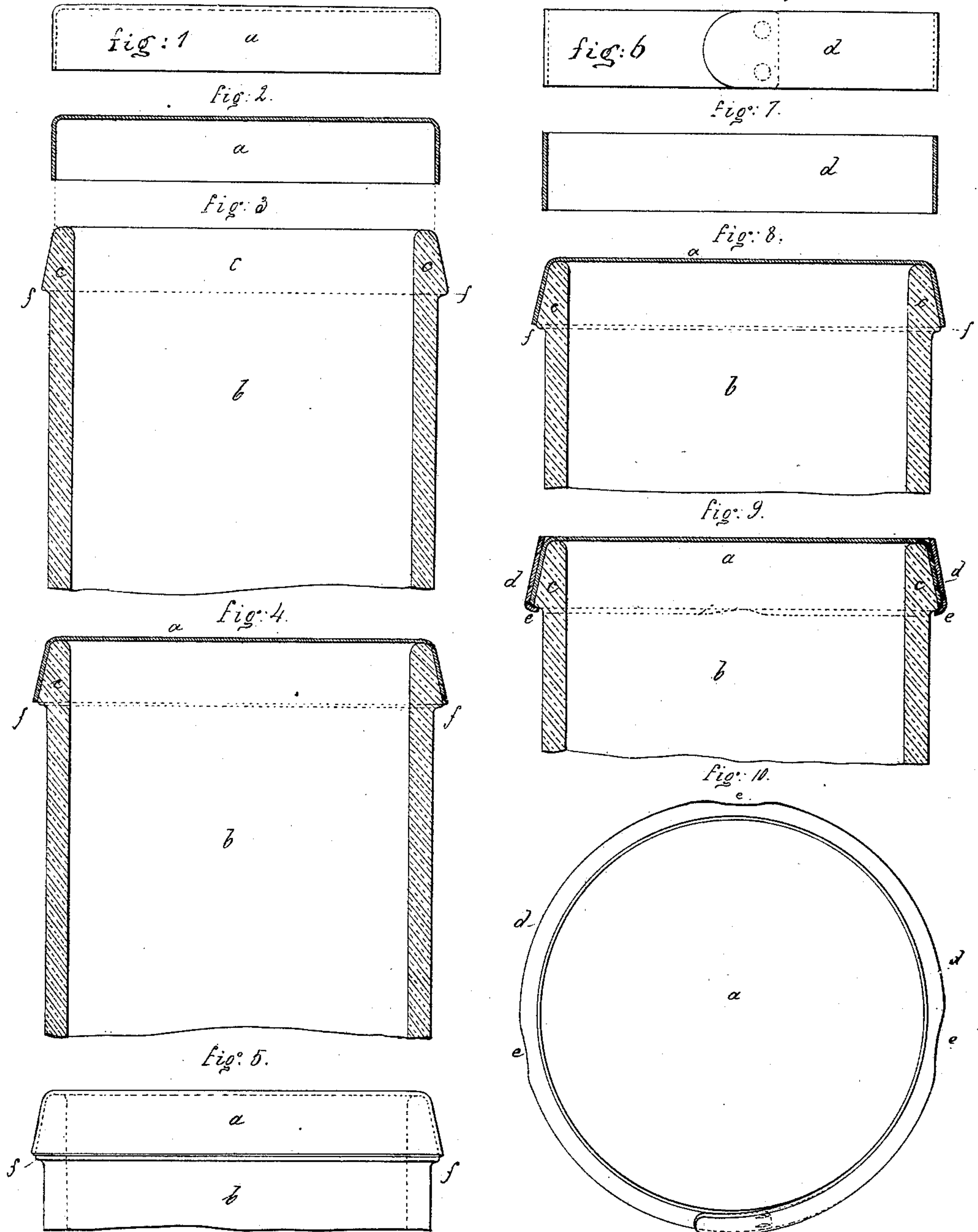


C. MARÉ.
Stoppering and Covering Bottles, Jars, and Pots.
No. 222,999. Patented Dec. 30, 1879.



Witnesses.

1. John C. Tunbridge
2. Willy J. C. Schultz.

Inventor

Charles Maré
by his attorney
A. Briesen

C. MARÉ.
Stoppering and Covering Bottles, Jars, and Pots.
No. 222,999. Patented Dec. 30, 1879.

Fig. 11



Fig. 12.

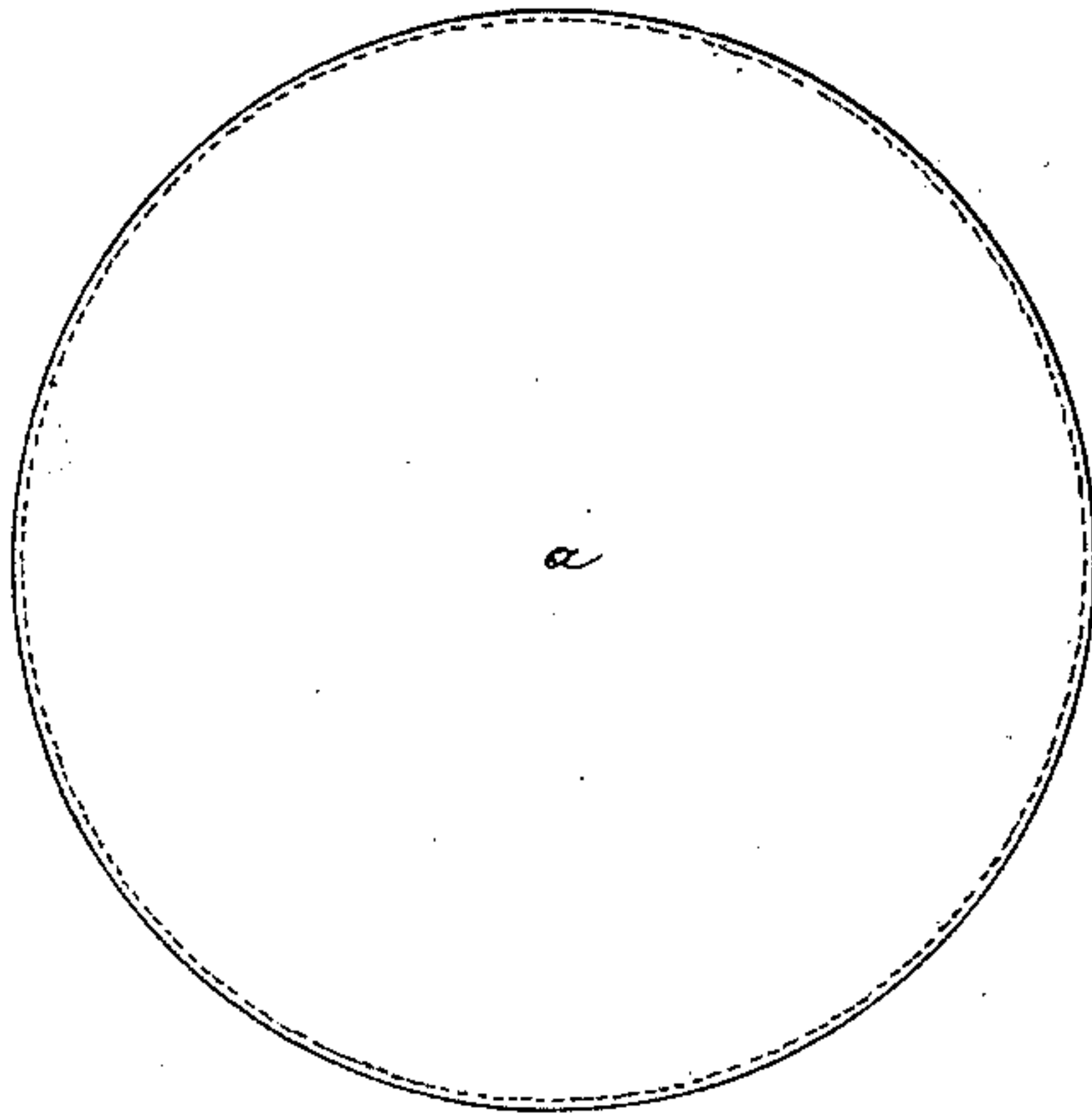


Fig. 13.

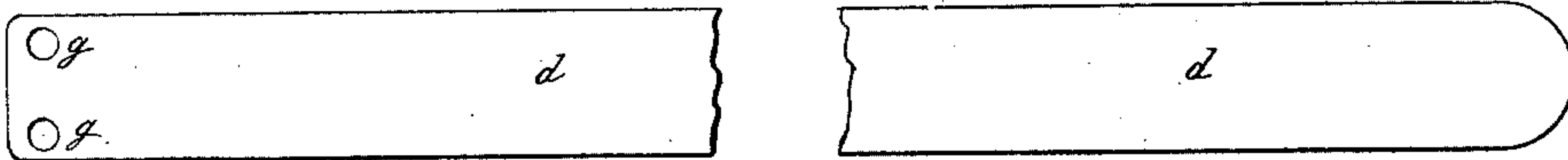


Fig. 14.

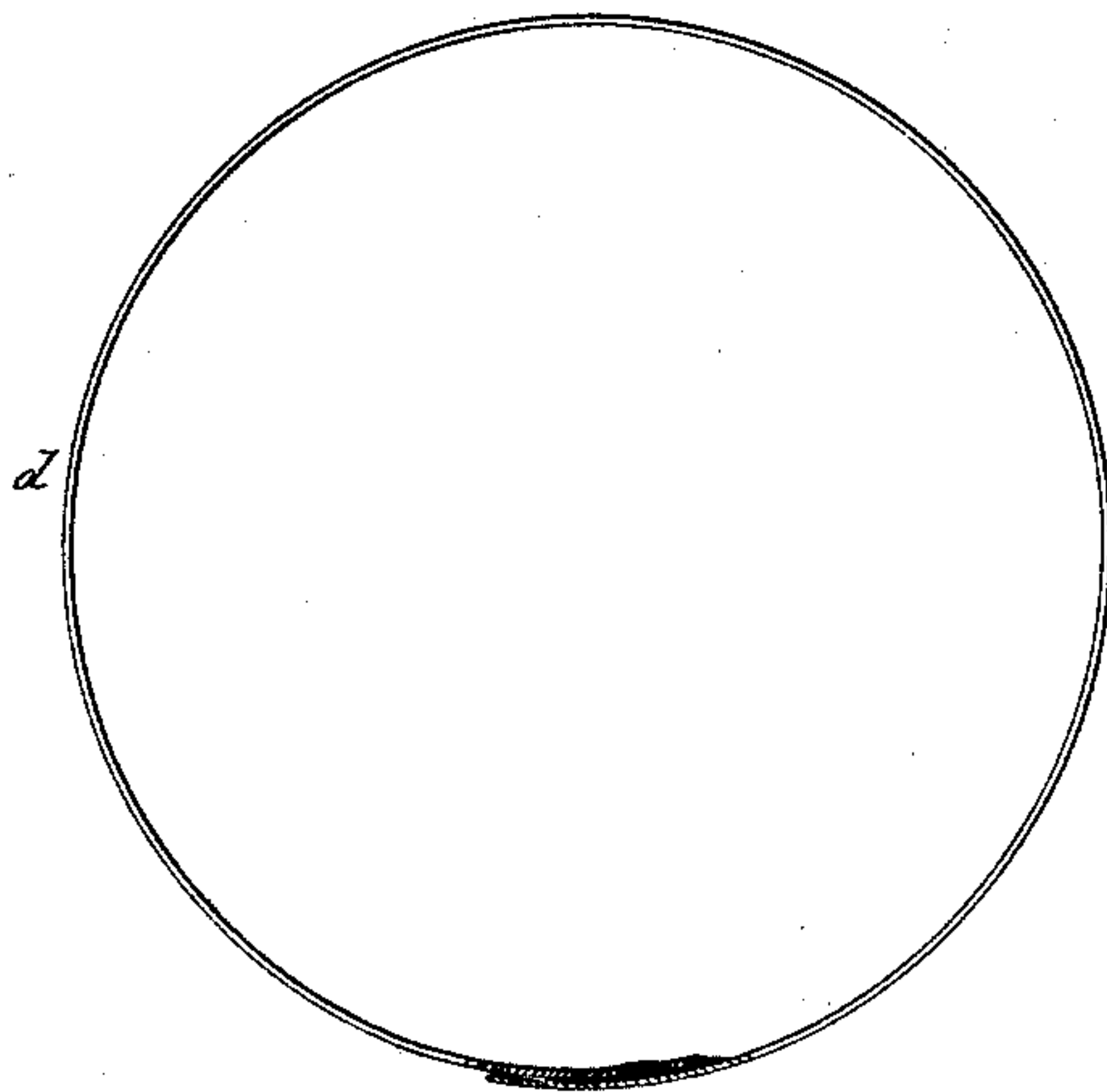
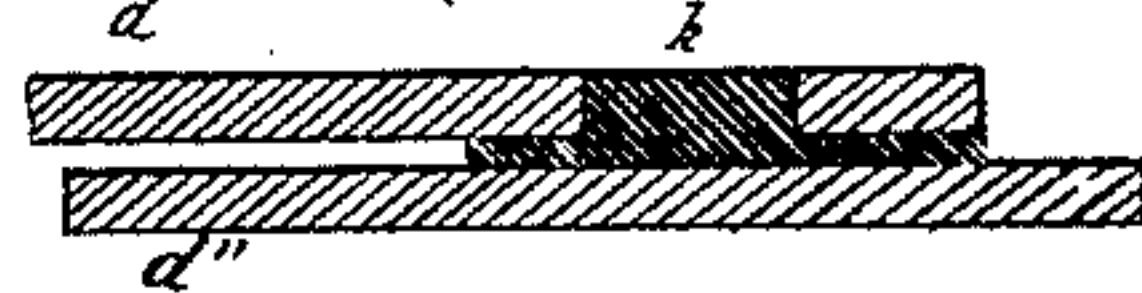


Fig. 15



Witnesses:

1. John C. Timbridge
2. Willy H. C. Schultz.

Inventor.

Charles Maré
by his attorney
A. J. Ziesen

C. MARÉ.

Stoppering and Covering Bottles, Jars, and Pots.

No. 222,999.

Patented Dec. 30, 1879.

Fig. 10.

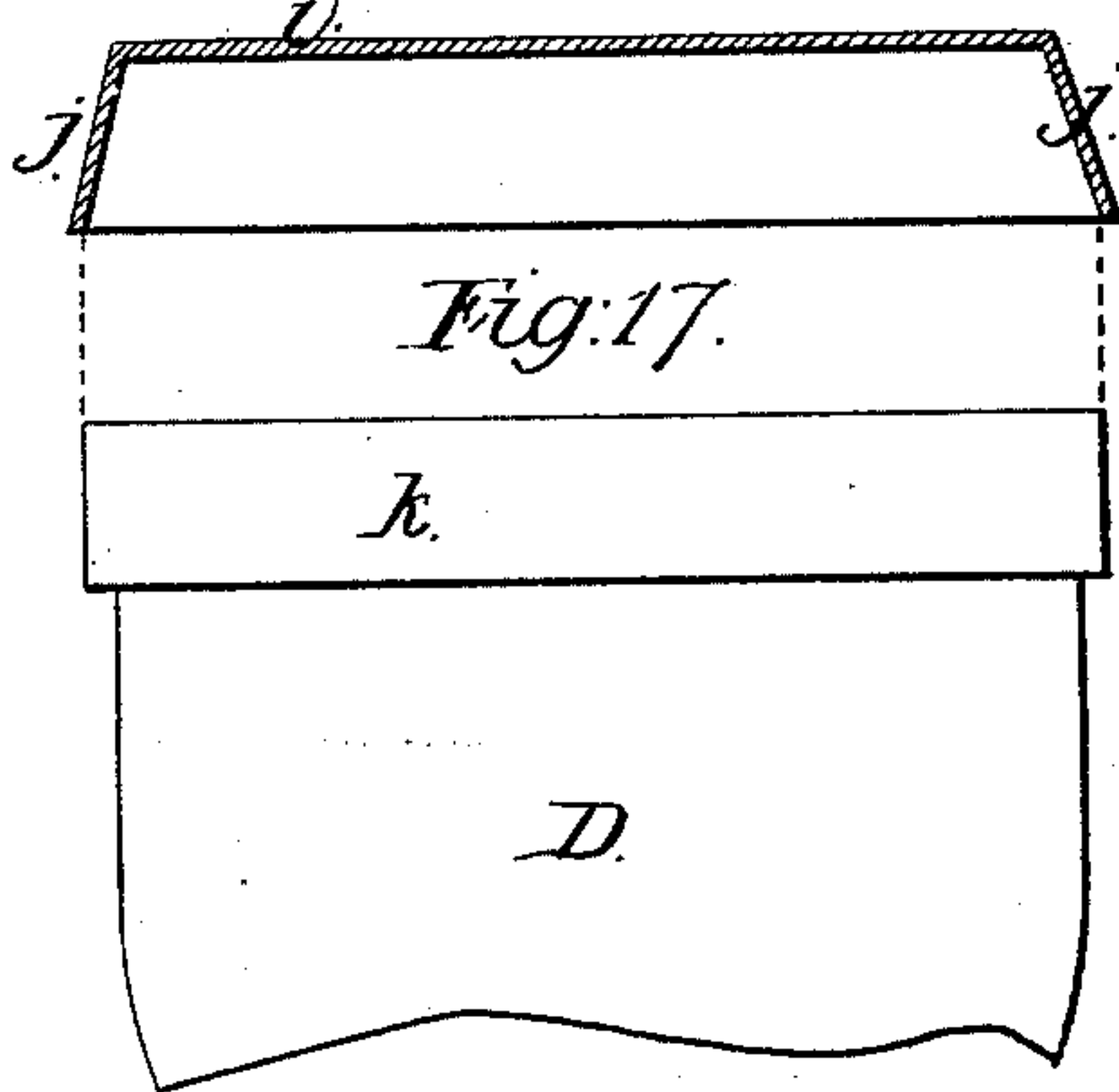
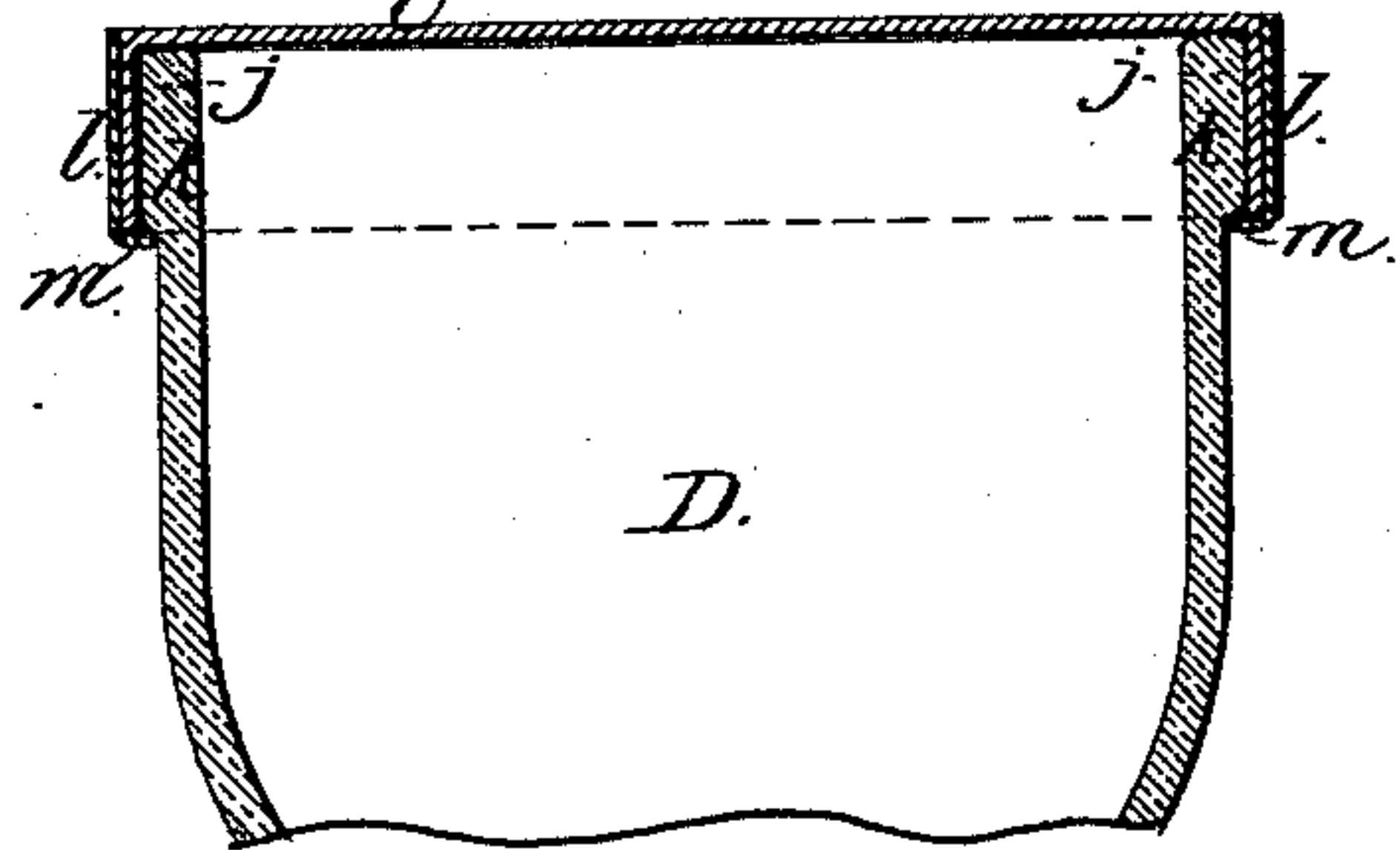


Fig. 17.

k.

D.

Fig. 20.



D.

Fig. 18.

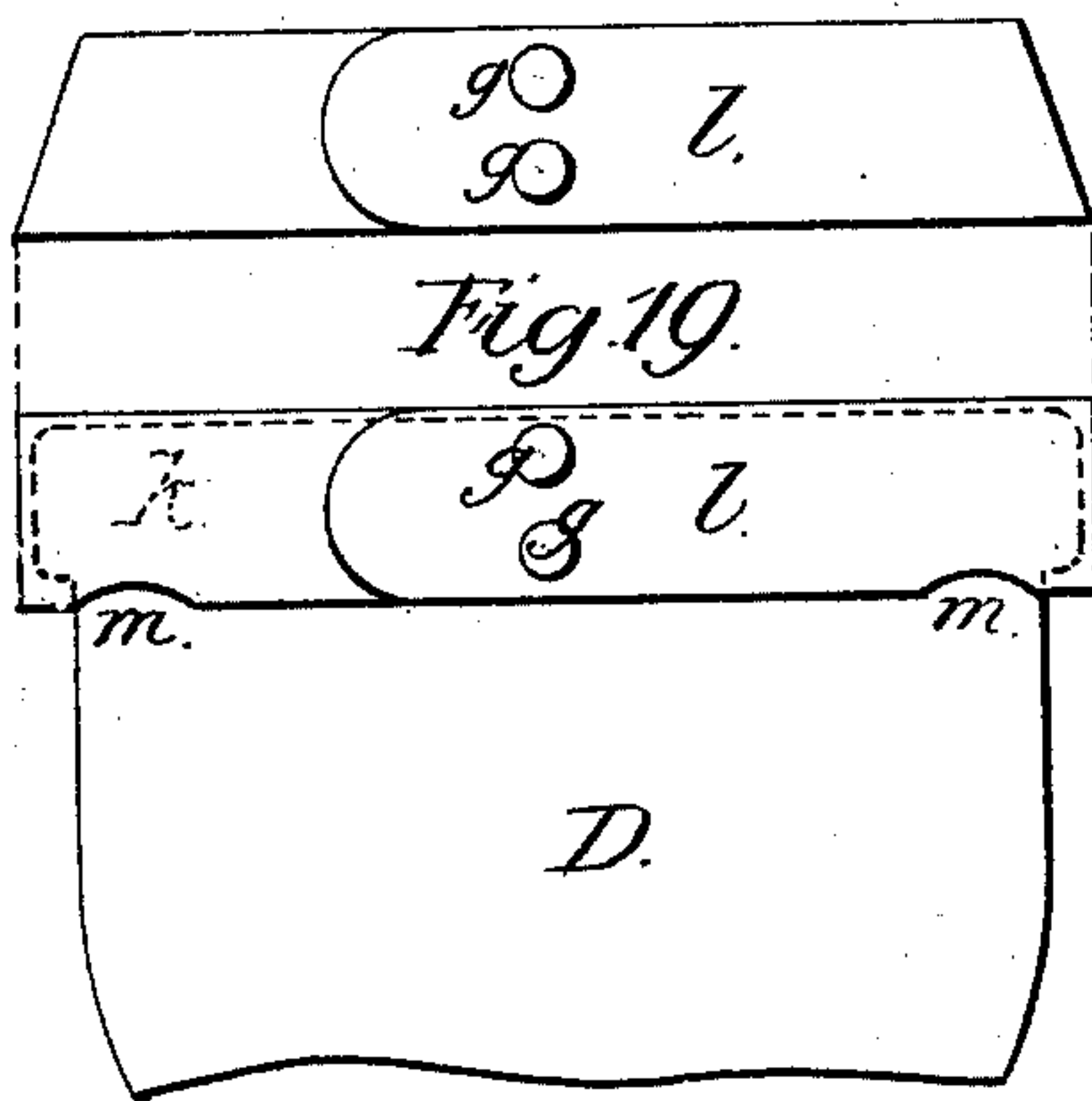


Fig. 19.

k.

m.

D.

Fig. 21.

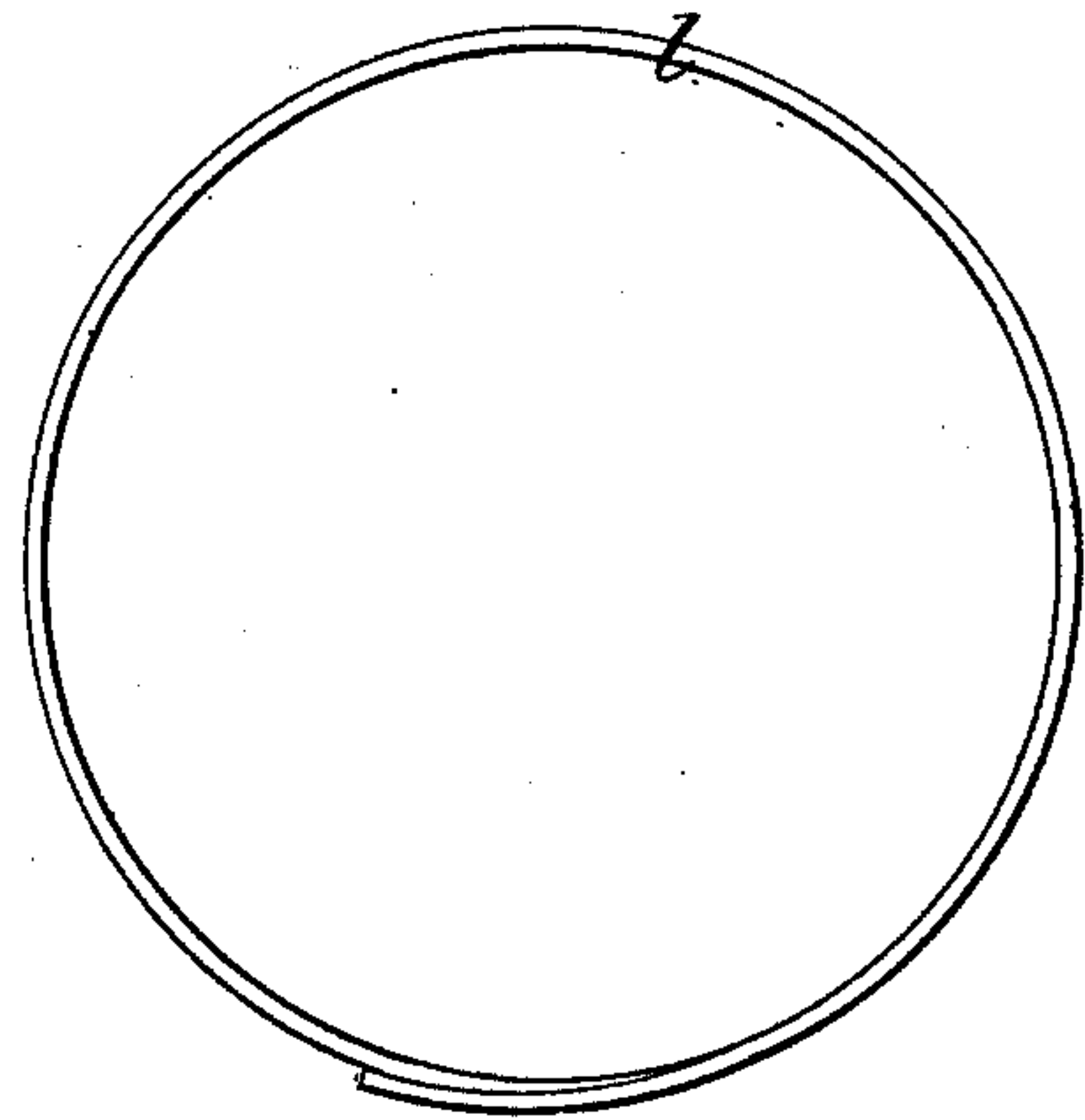


Fig. 22.



Fig. 23.



Witnesses:

Willy S. C. Schultze.
John C. Tunbridge

Inventor:

Charles Maré
by his attorney
A. B. Briesen

UNITED STATES PATENT OFFICE.

CHARLES MARÉ, OF NANTES, FRANCE.

IMPROVEMENT IN STOPPERING AND COVERING BOTTLES, JARS, AND POTS.

Specification forming part of Letters Patent No. **222,999**, dated December 30, 1879; application filed August 8, 1879; patented in France, March 14, 1876; patented in England, October 15, 1878.

To all whom it may concern:

Be it known that I, CHARLES MARÉ, of Nantes, France, have invented Improvements in Stoppering and Covering Bottles, Jars, Pots, and other similar vessels; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed sheets of drawings.

This invention relates to improved means of hermetically closing all kinds of bottles, jars, pots, and other wide-mouthed vessels of metal, glass, earthenware, or other material, and more especially those intended to contain preserved food.

This invention consists in a hollow cap or cover of tin-plate, tin, india-rubber, parchment, pasteboard, or other suitable material, made of a form to fit upon the mouth of the vessel, and with a continuous rim that surrounds the bead of the vessel, in combination with metallic clamping hook or band forcibly applied around the rim of the cap or cover in such a way that the said hoop or band is slightly stretched or drawn out diametrically, while axially it remains rigid in being forced over the rim of the cap or cover, which is thereby tightly pressed against the bead of the vessel and a perfect and continuous closure insured.

In order to render the binding-hoop still more effectual in its action, the mouth of the vessel may be formed externally with a slightly-coned rim, upon which the cylindrical hoop is forced, and in being thus forced is thereby splayed or expanded diametrically, and caused to conform to the conical form of the rim, between which and the hoop or band the sides or flanges of the cap or cover are very tightly clipped. In this case the lower edge of the binding-hoop is bent under the shoulder of the rim at two or more places, to prevent the hoop's slipping off or being forced off by the internal pressure when the contents of the vessel are boiled. If, however, the rim round the bottle-mouth is not conical externally, but cylindrical, the band or hoop would be of conical form, its largest internal diameter being equal to the external diameter of the said rim, so that on forcing the hoop over the cap or cover applied on the mouth of the vessel it will be stretched diametrically, as be-

fore, and made to conform to the cylindrical form of the rim. The hoop may, as in the former case, be bent at intervals under the shoulder of the rim.

An advantage of this invention is the facility with which the vessel may be opened without damaging the cap or cover, which, once the binding-hoop is removed, becomes (more especially when made of soft material) a loose cap that may be removed and applied at will. The hoop or band is made of a strip of metal—tin-plate, for example—having several holes punched in it at one end. This end is overlapped by the other end and the two soldered together, the solder passing through these holes, so as to resemble a riveted joint, whereby an additional hold is obtained.

The hoop or band thus formed is forced over the rim of the cap or cover placed over the mouth of the vessel, as hereinbefore described, and it is easily detached therefrom by inserting the blade of a knife at the joint and prying it apart, leaving the cap adhering to the mouth of the vessel, from which it may, however, be readily removed with the hand.

The accompanying drawings show an example of the invention, as applied to closing a vessel having a conical rim around the mouth, the several parts being also separately shown in detail.

The same letters of reference indicate the same parts in all the figures.

Figure 1 is an elevation of the cap or cover, and Fig. 2 a section of same. Fig. 3 is a section of a vessel with a coned rim around the mouth, upon which the cap or cover is to be applied, as shown in the section Fig. 4, and in elevation in Fig. 5. Figs. 6 and 7 show an elevation and section of the hoop or band. Fig. 8 is a section of the vessel with a coned rim, and the cap or cover applied thereon. Fig. 9 is a section showing the hoop or band forced upon the cap or cover and turned under the shoulder of the rim at three points. Fig. 10 is a plan of Fig. 9, and Figs. 11 and 12 an elevation and plan of the cap or cover separately. Fig. 13 shows the metal strip of which the hoop or band is formed. Fig. 14 is a plan of the hoop or band formed of the strip Fig. 13, and Fig. 15 is a longitudinal section of the joint drawn to a larger scale. Fig. 16

is a section of a conical cap intended for application on a cylindrical rim. Fig. 17 is the mouth of a bottle or jar provided with a cylindrical rim. Fig. 18 is an elevation of a conical hoop, which is intended to be applied over the coned cap and cylindrical rim of the bottle. Fig. 19 is an elevation of the coned hoop after being stretched over the cap and the mouth of the bottle. Fig. 20 is a sectional view of the mouth of the bottle, with the cap and hoop in position on the same. Fig. 21 is a plan of the hoop after being stretched over the cap and the mouth of the bottle; and Figs. 22 and 23 are a plan and sectional views of a binding-hoop provided with holes at both ends, so that the said ends can be connected together by soldering through the holes.

a is a cap or cover made with cylindrical sides, which conform exactly to the conical rim *c* of vessel *b*. *d* is a hoop or band, which is forced over the cap *a* after it is applied to the coned rim *c*, and which is also bent under the shoulder *f* of rim *c* at several points *e* of its circumference. *g* are holes punched in one or both ends of strips *d*, Figs. 14, 15, 22, and 23, into which solder *h* is run to unite the two ends and form the hoop or band.

The joint *h* may be easily broken by inserting a knife between the parts *d'* *d''*, or by making the end *d''* sufficiently long to be seized between the finger and thumb. The band may be stripped off without other aid.

In the modification shown in Figs. 16 and 21 *i* is a cap or cover, which has a coned rim, *j*, the longest diameter of said rim *j* being equal to the external diameter of the cylindrical rim *k* of the bottle *D*. The cap *i* is applied to the mouth of the bottle *D* by stretching the coned rim *j* down over the rim *k*, so that said cap and its coned rim will fit closely down over the mouth of the bottle and against the rim in the manner shown in Fig. 20.

l, Fig. 18, is the coned clamping hoop or band, the longest internal diameter whereof equals the external diameter of the cap when on the rim *k* of the bottle. This hoop *l* is applied to the cap *i* after said cap is placed over the mouth of the bottle or jar, and by forcing said hoop *l* down over the cap and around the rim *k* it stretches laterally or diametrically, and conforms to the shape of the rim, and at the same time it presses the rim of the cap against the cylindrical rim *k* of the jar, so that both the coned rim of the cap *i* and the

coned hoop assume a cylindrical form, as shown in Figs. 19, 20, and 21.

After the coned hoop *l* is forced down it may be secured in place by bending the lower edge of said hoop at several points under the shoulder of the rim *k*, as shown at *m*. This band or hoop is removed in the manner heretofore described, either by cutting the solder with a knife or by pulling the two ends apart.

It will be observed that in forcing the hoops *d* and *l* down over the cap and rim they are expanded laterally or diametrically, while axially, or in the direction of the width of the hoop, they remain rigid.

Further, it will be observed that the rim of the cap and the hoop are so arranged that when prepared to be placed over the mouth of the bottle they are at an angle to the rim of the mouth of the bottle; but when the cap and clamping-hoop are put in place on the head of the vessel the rim of the cap and the clamping-hoop assume positions parallel to each other and to the rim of the vessel's mouth or head.

I claim—

1. The combination of a hollow cap, covering the mouth or head of the vessel, with the diametrically-expansile and axially-rigid binding-hoop, clamping forcibly around and confining the continuous expansible rim or sides of the cap between itself and the head of the vessel, substantially as herein shown and described.

2. The combination of the hollow cap *a*, having a continuous expansible rim or sides surrounding the head of the vessel, with the axially-rigid and diametrically-expansible hoop *d*, having lips *e* turned inward beneath the rim of the vessel, substantially as herein shown and described.

3. The combination of a cover having a continuous expansible rim or sides and a clamping-band rigid axially and expansible diametrically with a jar-mouth, the contours of the cover-rim or sides and of the clamping-band on the one hand, and of the jar-mouth on the other hand, being at an angle to each other when in position to be united, and parallel to each other when united, as and for the purpose set forth.

CHARLES MARÉ.

Witnesses:

JULES H. GADECEAU,
GEORGE GIFFORD.