

No. 745,380.

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J. F. PERRY, DEC'D.
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BOTTLE CLOSURE.

APPLICATION FILED JAN. 22, 1902.

NO MODEL.

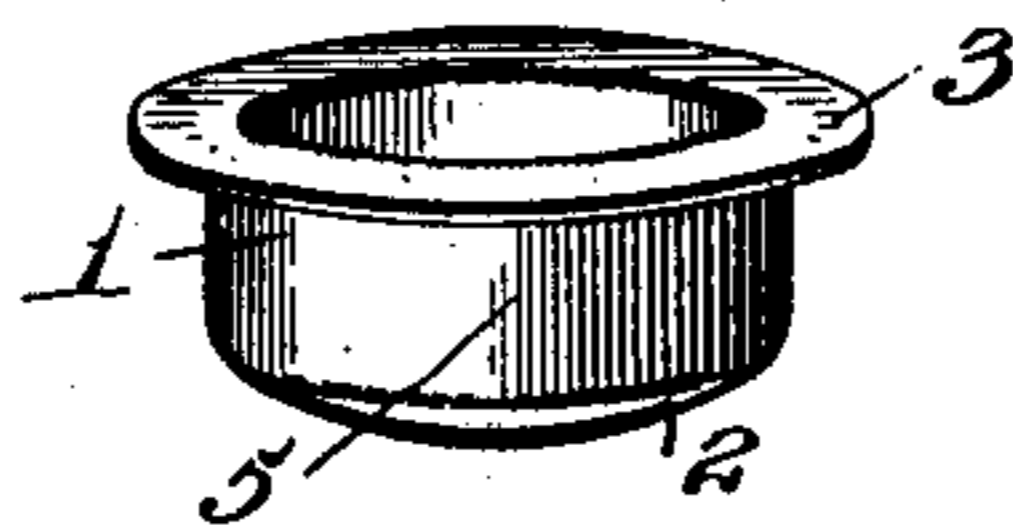
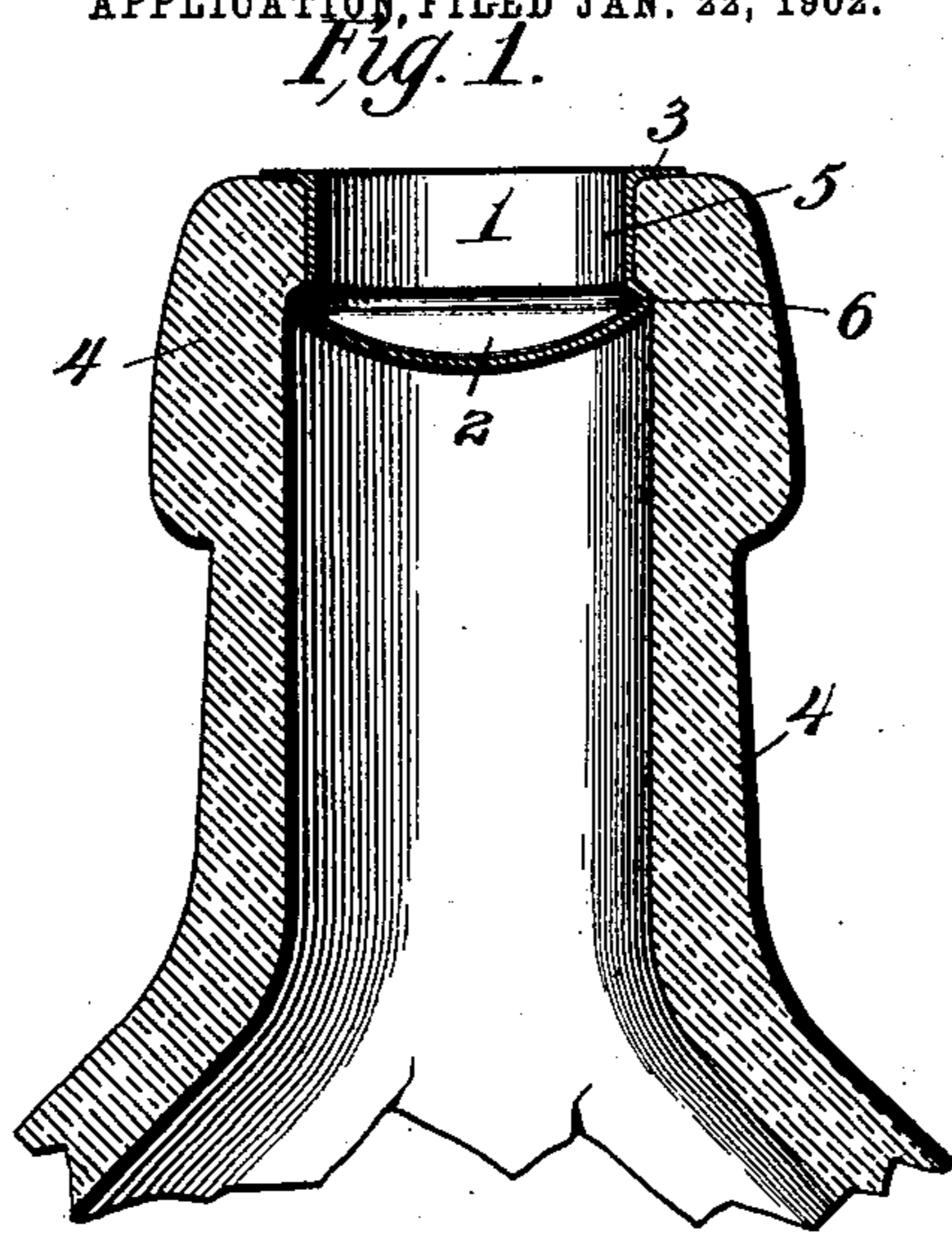


Fig. 3.

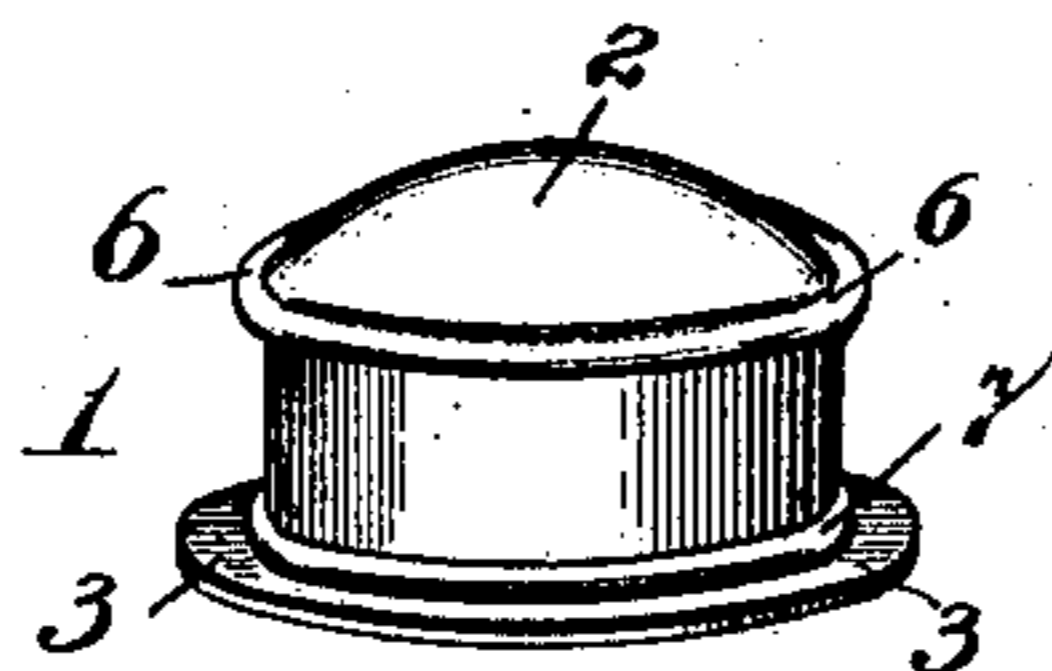
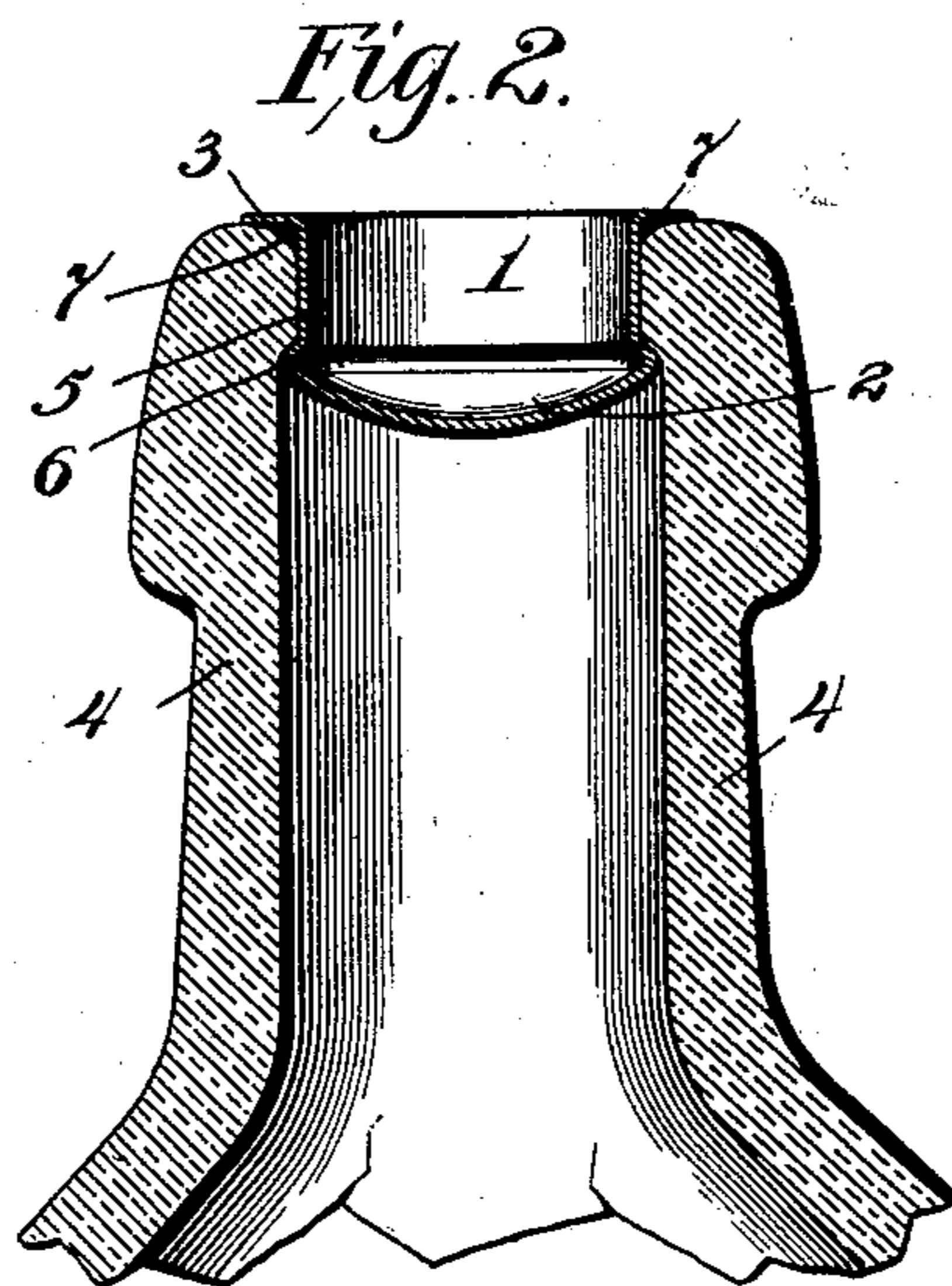


Fig. 4.

WITNESSES:
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JOHN F. PERRY, OF CHICAGO, ILLINOIS; HIRAM BARBER ADMINISTRATOR
OF SAID PERRY, DECEASED.

BOTTLE-CLOSURE.

SPECIFICATION forming part of Letters Patent No. 745,380, dated December 1, 1903.

Application filed January 22, 1902. Serial No. 90,790. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. PERRY, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have made certain new and useful Improvements in Bottle-Closures, of which the following is a specification.

My invention is an improvement in that class of bottle-closures in which a seal of some form engages a fillet or shoulder of a bottle-neck, so that its dislodgement is prevented, save by a tool suitable for the purpose.

The details of construction, arrangement, and combination of parts are as hereinafter described.

In the accompanying drawings, Figure 1 is a longitudinal section of a bottle-neck and my improved seal applied thereto. Fig. 2 is a similar section of a bottle-neck with my improved seal and a gasket applied thereto. Fig. 3 is a perspective view of my improved seal in its primary form—that is to say, in the form in which it is produced ready for attachment to a bottle-neck. Fig. 4 is a perspective view of the seal inverted and in the form it assumes after it has been secured in a bottle-neck, a gasket being also shown applied thereto.

My improved metallic seal is produced from a thin disk of suitable ductile metal, and its primary form is represented in Fig. 3, it being cup-like in shape, having a cylindrical body 1, a rounded or conical base 2, and a radial top flange 3. The bottle-neck 4 is produced with an internal shoulder or fillet 5, arranged adjacent to its mouth. The width or vertical depth of such shoulder or fillet is practically such as the length of the body 1 of the seal. The said body is adapted to fit snugly in the mouth of the bottle-neck, and when the seal is in due position the flange 3 rests upon the top of the neck, as shown in Fig. 1. The seal may be forced into the neck by means of a tool forming an attachment of a bottling-machine or by a detached tool of suitable construction. When the seal has been thus ap-

plied, it is expanded laterally to produce a rib or bulge 6, adjacent to its rounded base 2, which bulge underlies and is in close contact with the shoulder 5 of the bottle-neck. This bulge is produced by spinning—that is to say, by a tool of suitable construction, which is inserted in the seal and presses the metal laterally, the ductility of the latter enabling this to be done with facility. It is apparent that the seal is thus secured firmly in place, the fillet or shoulder of the bottle-neck being pressed tightly on its opposite edges by the flange and bulge or rib 6 of the seal. It will be seen that the convexity 2 of the seal is a highly-important feature, since it enables the seal to successfully resist any degree of pressure to which it may be subjected by reason of the expansion of the gaseous contents of the bottle to which it may be applied—that is to say, pressure upon the part 2, tending to force the cone upward. The result is a corresponding lateral pressure on the bulge or rib 6, and by consequence a firmer contact of the latter with the shoulder 5 of the bottle-neck. It is obvious that were the base 2 of the seal flat or concave in the upward direction a high degree of pressure might force the base upward sufficiently to withdraw the lateral bulge or rib 6 from due engagement with the shoulder 5, and thus effect dislodgement of the seal in case it be made of very thin ductile metal.

In the case of some kinds of liquids it may be desirable to apply a gasket 7, as shown in Fig. 2. This may be constructed of rubber, and is in the form of a ring (see Fig. 4) which encircles the body 1 of the seal at a point adjacent to its flange 3. When practically applied, it therefore lies between such flange and the upper edge of the mouth of the bottle, as shown in Fig. 2. It is preferable that the angle of the mouth or edge of the same at this point should be reduced, as shown in Fig. 2, in order to accommodate the gasket and still enable the flange of the seal to rest directly upon the bottle-neck.

What I claim is—

The combination, with a bottle-neck having a circular internal shoulder and its mouth beveled at the inner edge, of the cup-like metallic seal having a convex base and a lateral
5 projection, or bulge, at the edge of said base for engagement with said shoulder, and a horizontal top flange lying flat upon the top

of the bottle, and an elastic gasket interposed between the beveled portion of the bottle-mouth and the internal angle of the cap.
JOHN F. PERRY.

Witnesses:

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