

No. 699,198.

Patented May 6, 1902.

G. LISPENARD.
BOTTLE STOPPER.

(Application filed Oct. 30, 1899.)

(No Model.)

Fig. 1.

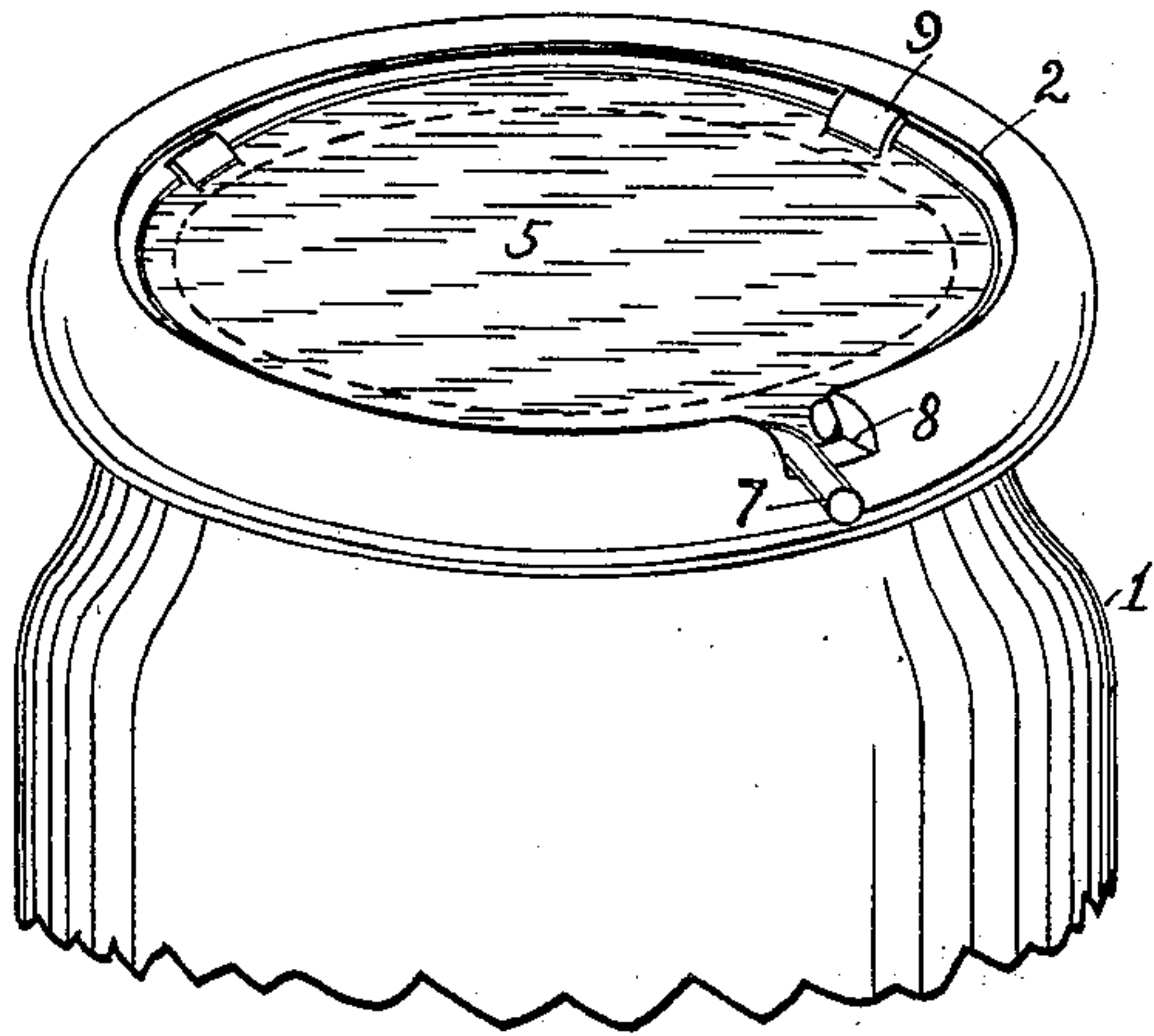


Fig. 2.

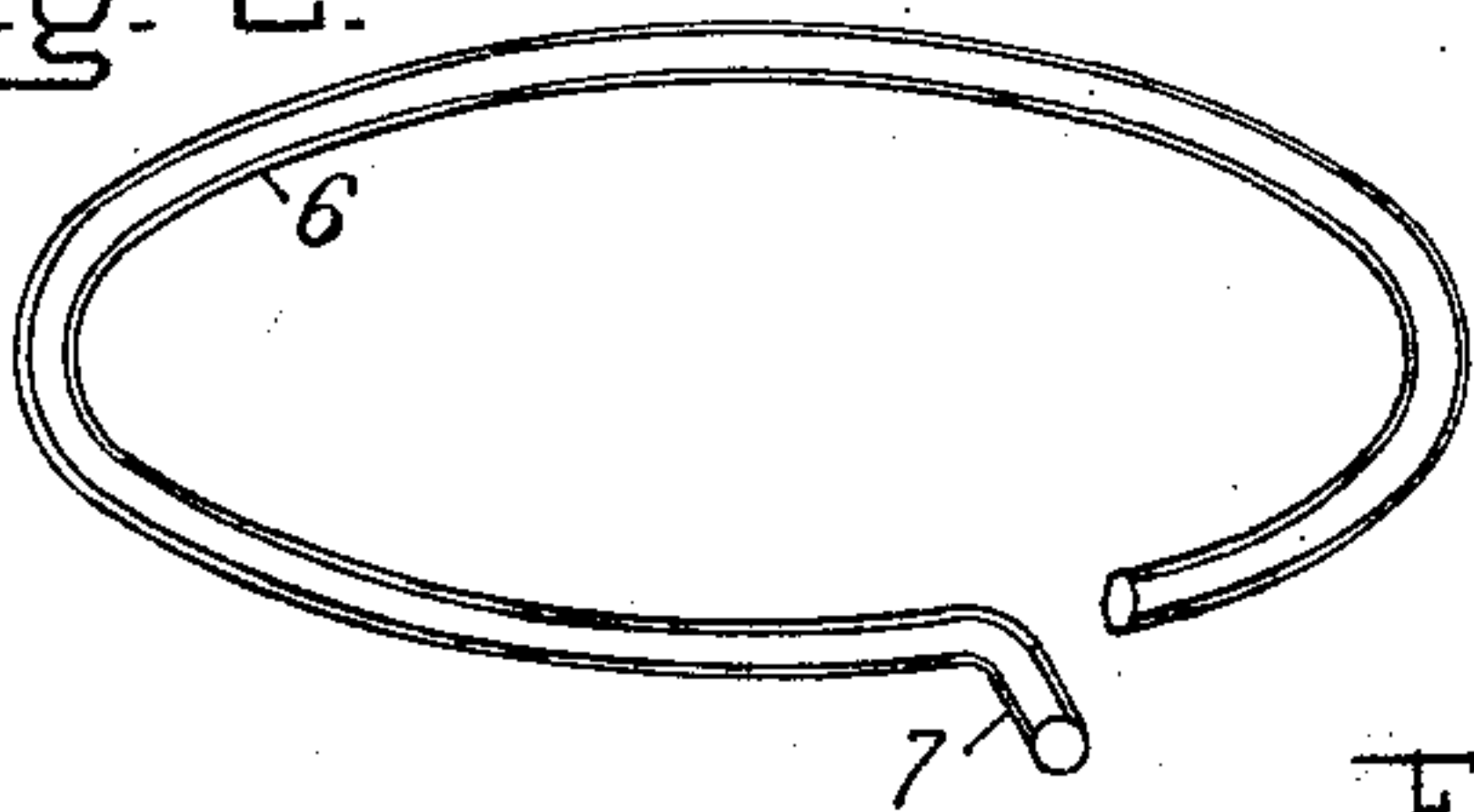


Fig. 3.

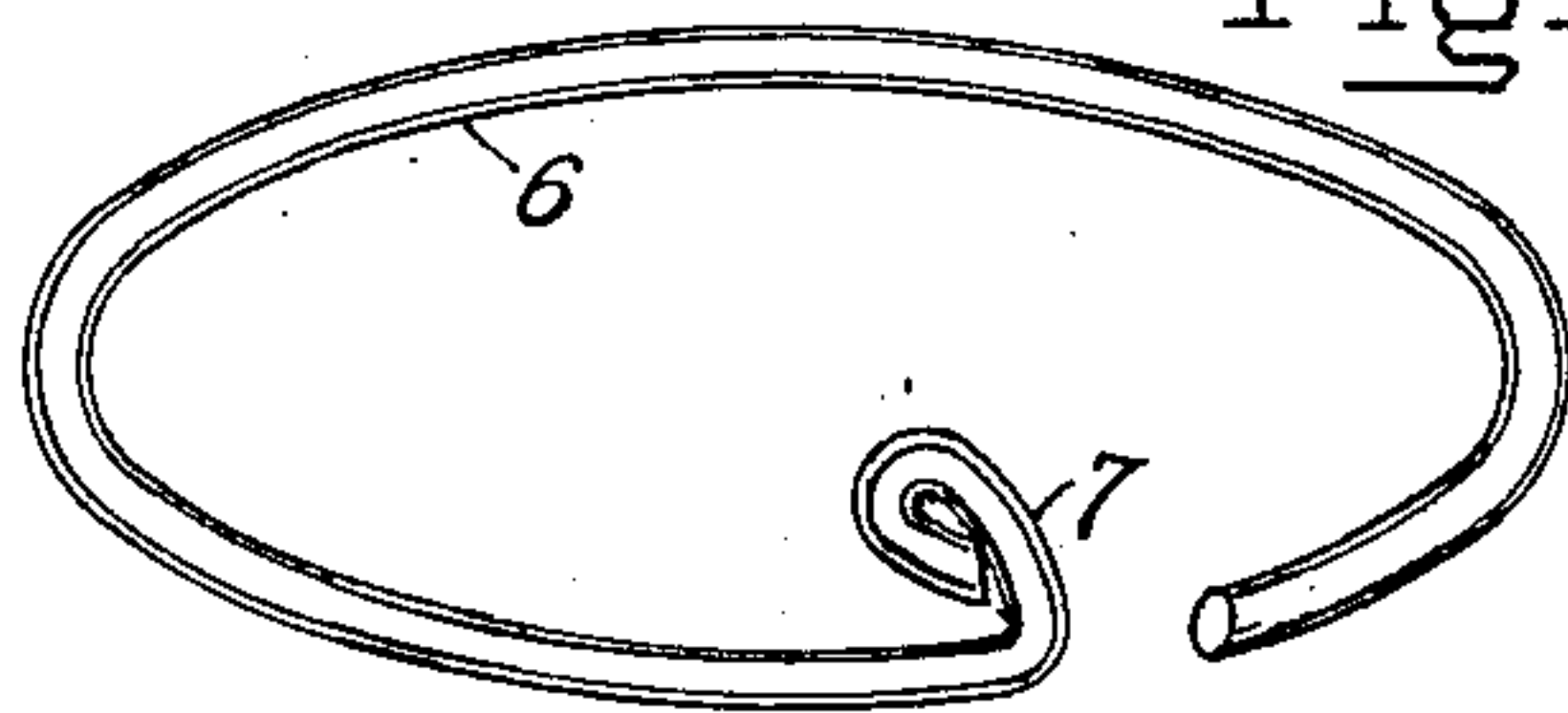


Fig. 4.

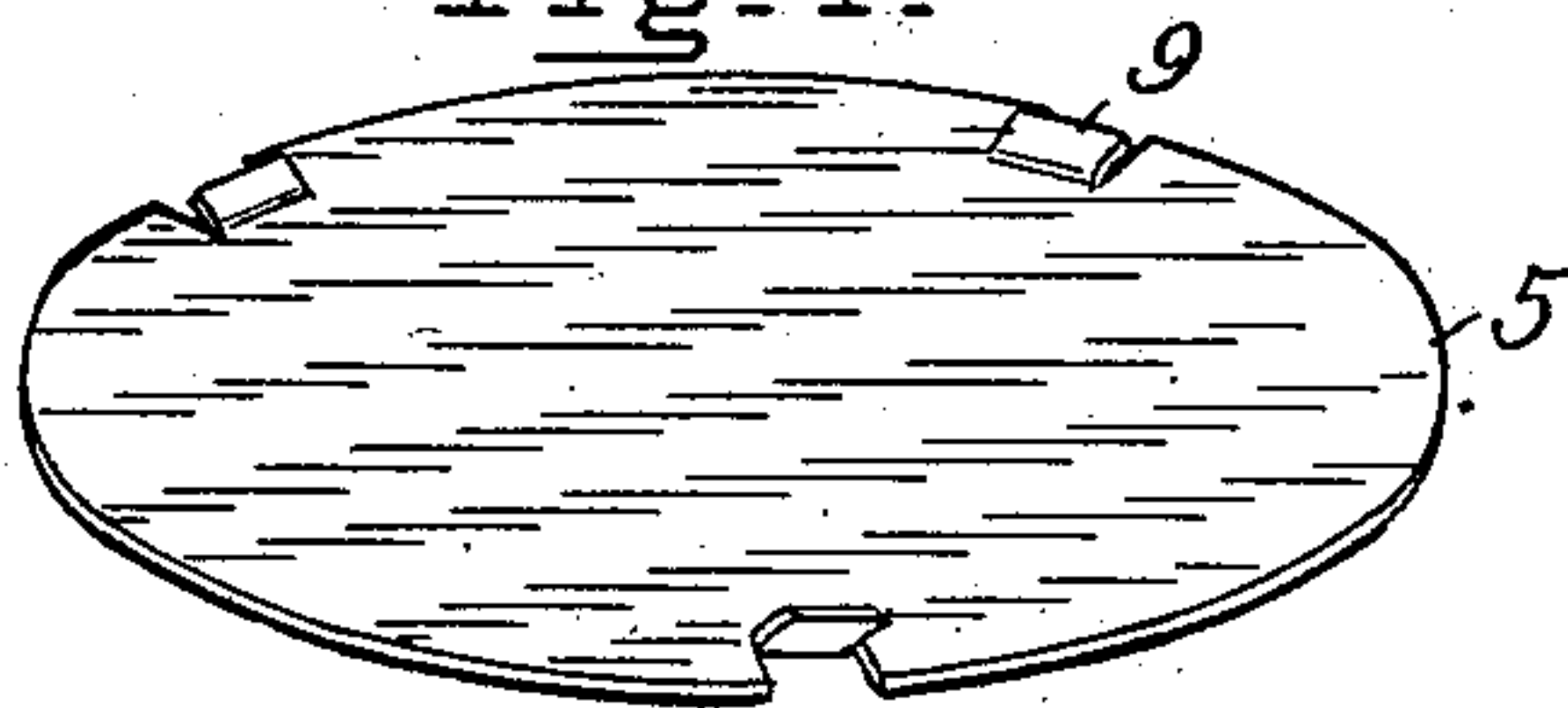
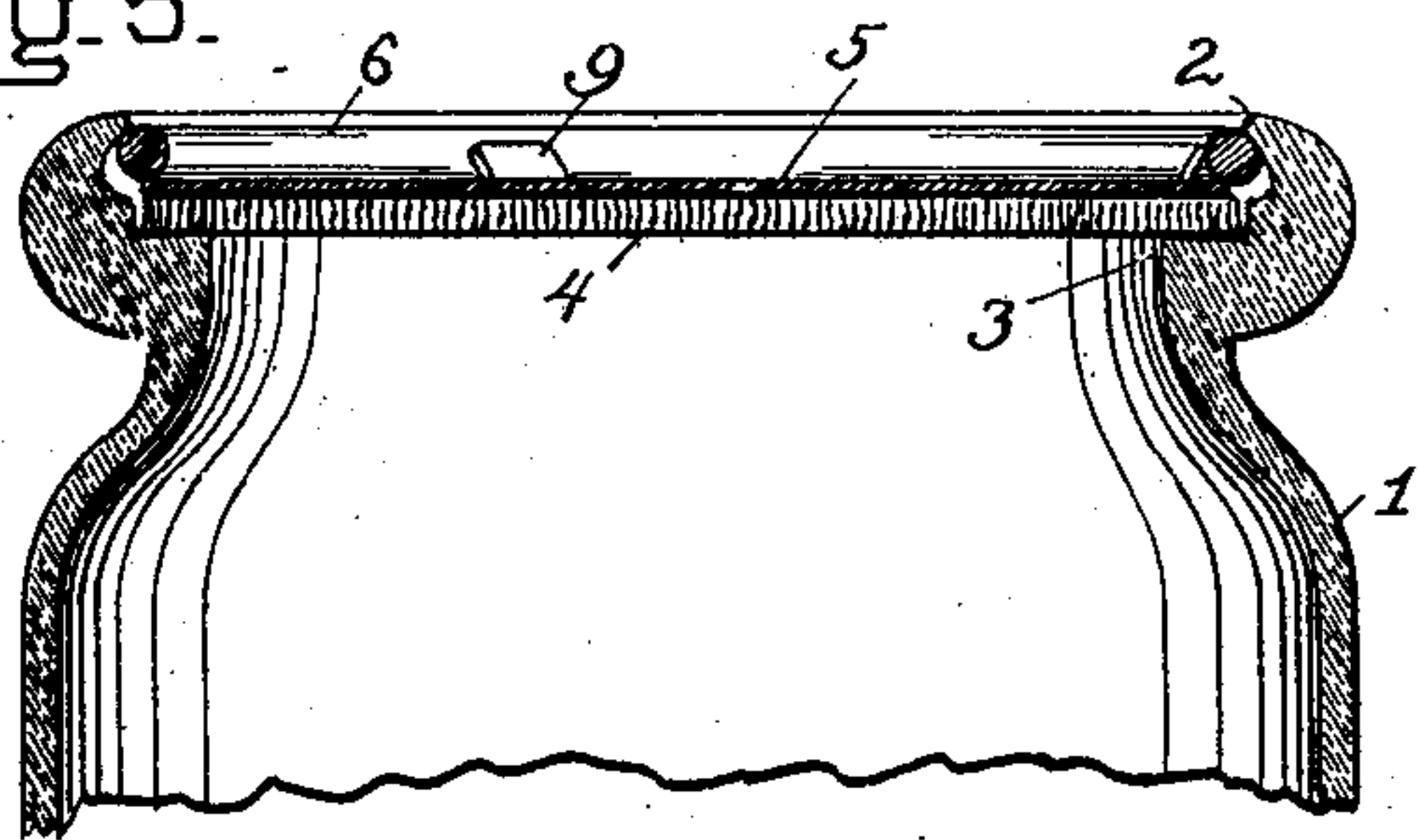


Fig. 5.



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UNITED STATES PATENT OFFICE.

GEORGE LISPENARD, OF BROOKLYN, NEW YORK, ASSIGNOR OF ONE-HALF
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BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 699,198, dated May 6, 1902.

Application filed October 30, 1899. Serial No. 735,191. (No model.)

To all whom it may concern:

Be it known that I, GEORGE LISPENARD, a citizen of the United States of America, and a resident of the borough of Brooklyn, in the city of New York, county of Kings, and State of New York, have invented certain new and useful Improvements in Bottle-Stoppers, of which the following is a specification.

The object of my invention is to provide bottles or other vessels, such as fruit-jars, with a stopper, together with a suitable fastening, which shall be convenient of application and removal and which can be used again. The construction is such that the stopper is firmly and hermetically held in place in the mouth of the bottle.

To this end the mouth of the bottle is adapted to my invention by providing it with an inwardly-projecting lip and by providing below the lip a seat for the stopper of smaller diameter than the lip, so that the stopper therefor may be small enough to pass the lip at the mouth. The stopper is of cork or other compressible material and is provided with a top of sheet metal. A locking-wire formed into a ring is fitted between the inwardly-projecting lip and the sheet-metal top. This wire, forming nearly a complete ring, rests against substantially the entire periphery of the stopper and exerts a uniform pressure around the periphery. This uniform pressure around the periphery effectually prevents the stopper from springing away from its seat at any point, and thereby imperfectly sealing the bottle, as is the case with forms of stopper-fastenings in which the cork is held at two or three points only. Although the wire is formed into a ring, the ends are not brought together and joined in the ring, and the ring can consequently be readily closed smaller for insertion into and dislodgment from its locking position.

Referring to the accompanying sheet of drawings, which forms a part of this specification, Figure 1 is a perspective view showing the mouth of a jar or bottle closed with a stopper and locking-wire in accordance with my invention. Fig. 2 is a perspective view of one form of locking-wire. Fig. 3 is a perspective view of another form of locking-wire. Fig. 4 is a perspective view of the

sheet-metal top to the stopper. Fig. 5 is a vertical section through the jar.

The bottle 1 has an annular groove inside the neck and close to the mouth, so that an inwardly-projecting lip 2 will be formed at the mouth. The under side of this lip is beveled, as shown. Within the mouth and below the groove is a shoulder 3, the diameter of which is somewhat less than the diameter of the lip.

The bottle is closed by a disk 4, of cork or other suitable material, of such diameter that it will pass the lip at the mouth, but will rest upon the shoulder. The disk of cork is strengthened by a sheet-metal top 5 of the same size. The cork disk and sheet-metal top constitute the stopper to the bottle; but it is not essential to some features of this invention that the stopper be of more than one substance, or that it be of any particular shape, or that it be seated to the bottle in any particular way, except that when in place the top of the stopper at its edges should be slightly below the under side of the inwardly-projecting lip, so that the lip and the top of the stopper form an interior annular groove. A locking-wire 6, formed into a ring, fits partly into the groove thus formed, the upper side of the ring bearing against the under side of the lip and the under side of the ring bearing against the top of the stopper. The wire though bent into substantially a complete circle is not joined at the ends, so as to make an endless ring, but the ends are left free, and one end 7 is bent away from the ring either outwardly, as shown in Figs. 1 and 2, or inwardly, as shown in Fig. 3, whereby it can be seized and the ring thereby dislodged from its locking position. The wire is formed into a circle somewhat larger than the groove, so that it will tend to expand when applied to the bottle and firmly wedge itself into the groove. In practice I have found that the under side of the lip may be beveled fifty degrees or even more and that the wire may project under the lip to the extent of only a third of its diameter. With this relation the wire can be easily lifted out of the groove by the projecting end, and yet will not be dislodged by any pressure applied uniformly to the under side of the stopper, such as would

arise from the expansion of the contents of the bottle.

In the form shown in Fig. 1 the bottle-mouth is notched at 8 and the outwardly-turned end of the wire is laid through the notch. The end of the wire needs to project through the notch only slightly, since by holding the bottle in the hand and bearing down on the bottle, with the end of the wire resting on the edge of a table, the dislodgment of the wire is easily effected.

In removing the locking-wire to open the bottle, since the slot has a free vertical opening and the ring engages under a beveled lip, an upward pressure on the projecting end of the wires causes the adjoining end of the ring to be cammed inwardly by the bevel of the lip. The ring is then lifted spirally out of its seat and dislodged progressively around the lip of the bottle.

For convenience in assembling the parts the sheet-metal disk has three tongues 9 formed on its periphery. The locking-wire may consequently be laid on the disk and the two put on the bottle at one handling.

It is obvious that a disk 5, provided with the tongues 9, may be used in connection with the form of wire ring shown in Fig. 3 without departure from my invention.

I have illustrated my invention in a form and size especially suited to fruit-jars; but it is equally applicable to bottles the mouths of which are much smaller and which may or may not have a shoulder to support the cork.

Having described my invention and without limiting myself to the precise details set forth, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination with a bottle provided with an inwardly-projecting beveled lip at the mouth thereof, a shoulder within the mouth and below the lip and a notch in the bottle-mouth with a free vertical opening, of a stopper seated on the shoulder, and a locking-wire ring fitted between the lip and the top of the stopper, one end of the wire forming the ring being bent outwardly and laid through the

notch, whereby the end of the wire can be lifted vertically through the notch and the ring adjoining the end cammed inwardly by the bevel of the lip when the end is lifted, substantially as described.

2. The combination with a bottle provided with an inwardly-projecting beveled lip at the mouth thereof, a shoulder within the mouth and below the lip and a notch in the bottle-mouth with a free vertical opening, of a stopper seated on the shoulder, and a locking-wire ring fitted between the lip and the top of the stopper, one end of the wire forming the ring being bent outwardly and laid through the notch, whereby the end of the wire can be lifted vertically through the notch and the ring adjoining the end cammed inwardly by the bevel of the lip when the end is lifted, and the opposite end of the ring being separated from the body of the ring by an interval whereby the diameter of the ring may be reduced to permit its ready disengagement from its locking position, substantially as described.

3. The combination with a bottle, provided with an inwardly-projecting lip at the mouth thereof, of a stopper, composed of a sealing-disk and a superimposed metal cover-disk fitting the mouth of the bottle, the metal cover-disk having tongues projecting therefrom at intervals on its periphery, and a locking-wire ring fitted between the lip and the cover-plate of the stopper and held beneath the tongues of the latter, the ends of the wire not being joined into a ring, and a space being left between one end of the wire and the opposite part of the ring, whereby the diameter of the ring may be reduced to permit its ready dislodgment from its locked position, substantially as described.

Signed by me in the borough of Manhattan, New York, this 27th day of October, 1899.

GEORGE LISPENARD.

Witnesses:

FREDERICK RECHT,
FRANK H. VILLIE.