

No. 617,395.

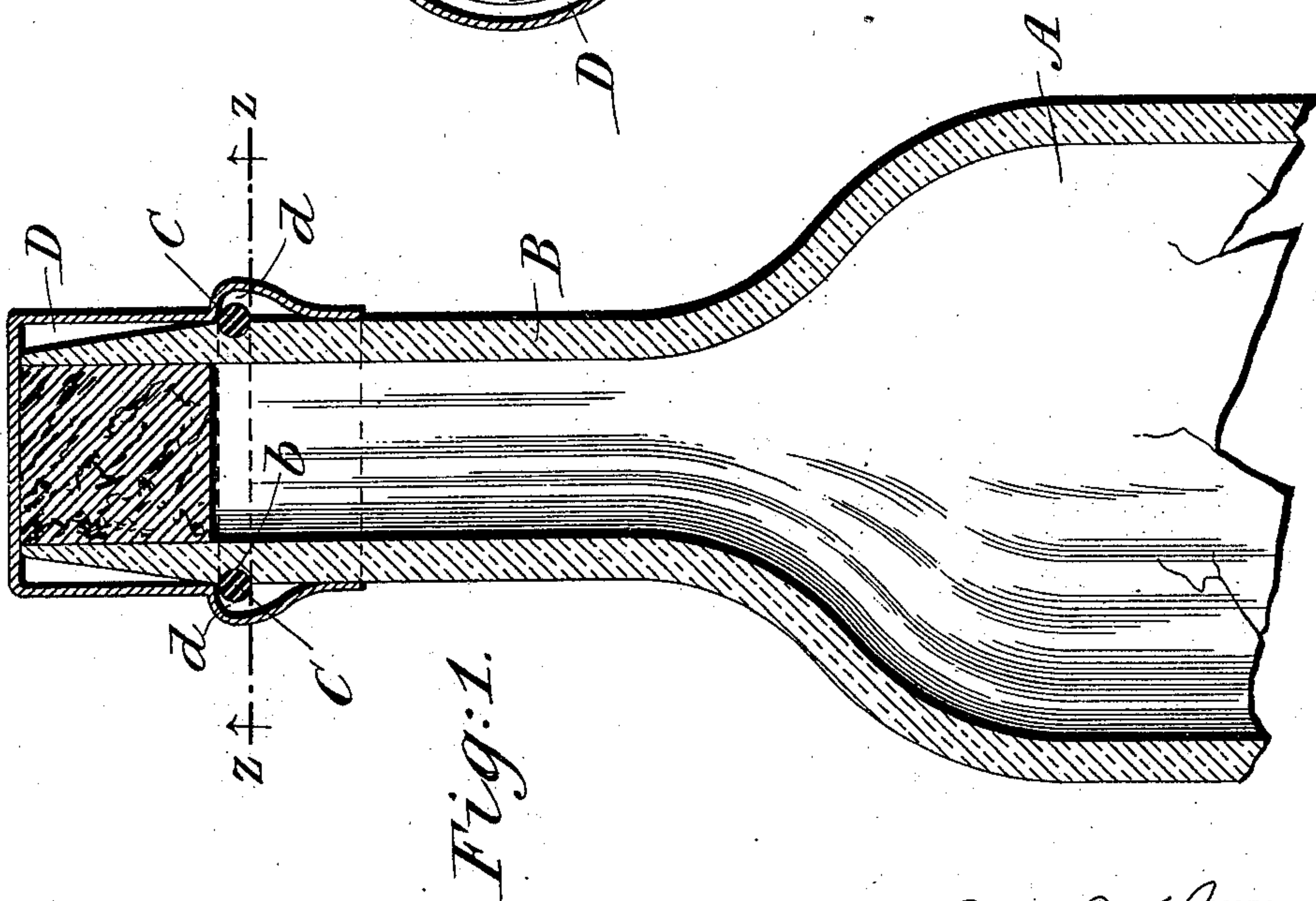
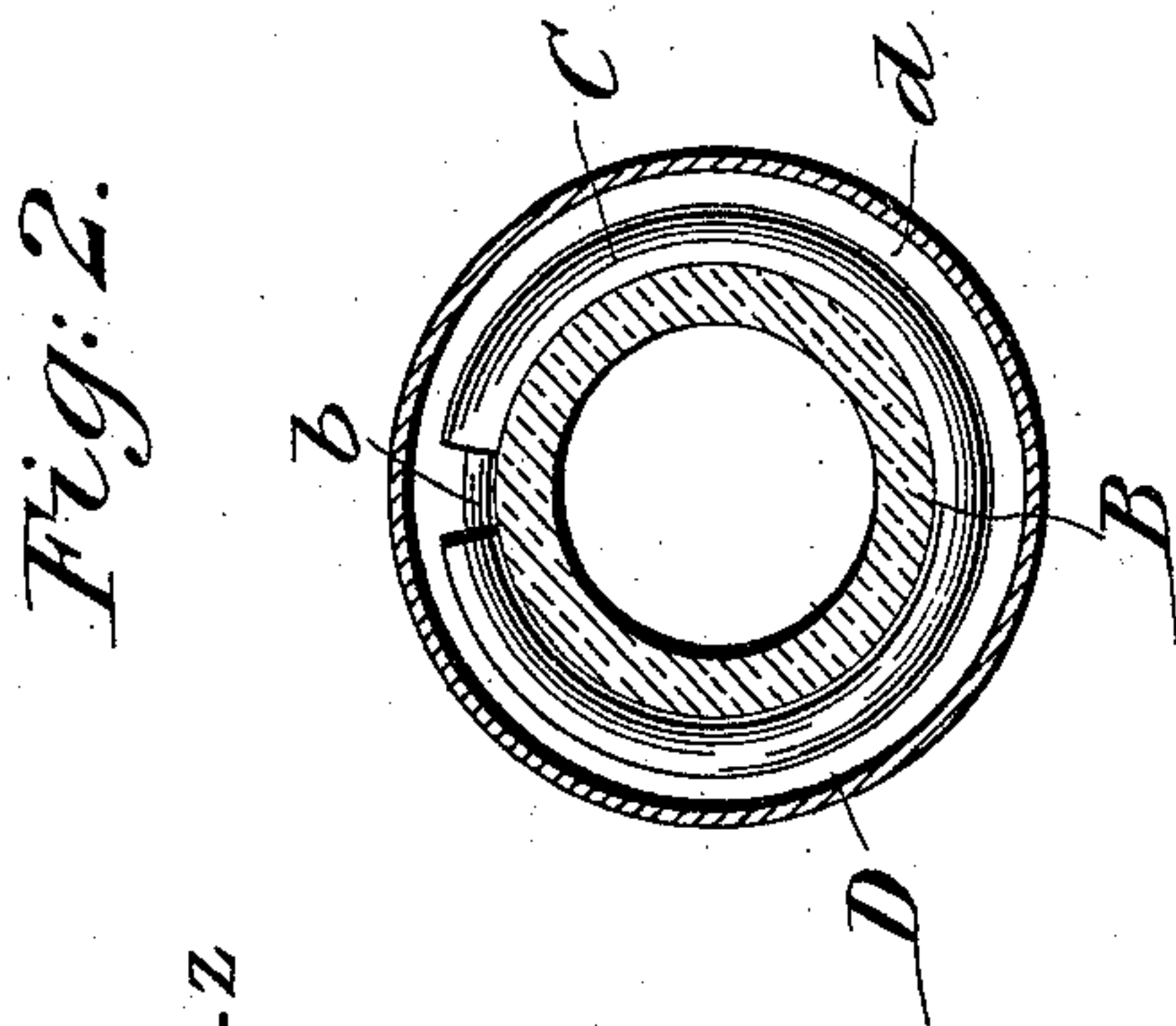
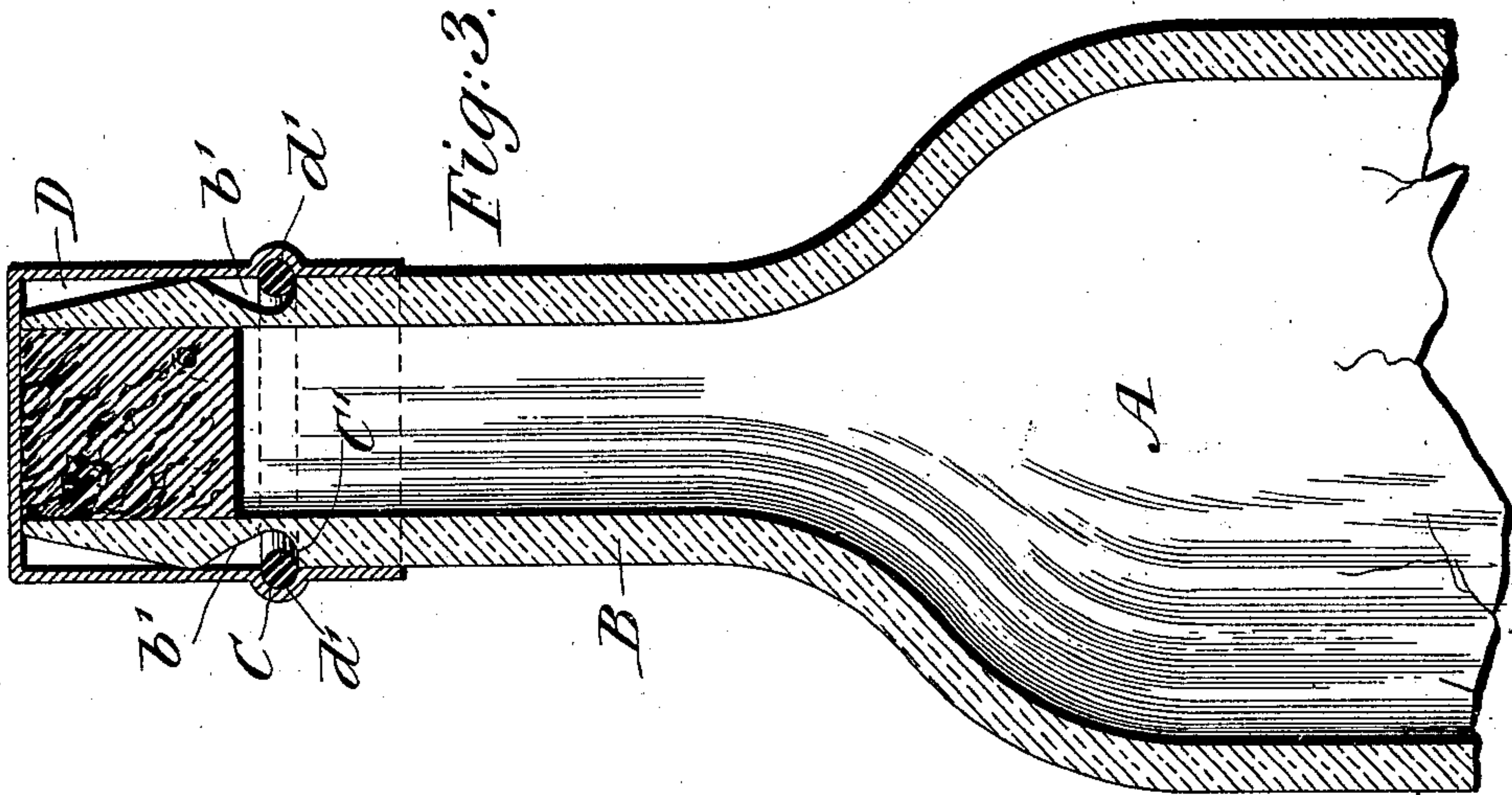
Patented Jan. 10, 1899.

J. J. HANLON & J. REUBER.

NON-REFILLABLE BOTTLE.

(Application filed Mar. 22, 1898.)

(No Model.)



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN J. HANLON AND JOSEPH REUBER, OF ALLENTOWN, PENNSYLVANIA.

NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 617,395, dated January 10, 1899.

Application filed March 22, 1898. Serial No. 674,773. (No model.)

To all whom it may concern:

Be it known that we, JOHN J. HANLON and JOSEPH REUBER, citizens of the United States, residing at Allentown, in the county of Lehigh, State of Pennsylvania, have invented a new and useful Improvement in Non-Refillable Bottles, which improvement is fully set forth in the following specification and accompanying drawings.

Our invention relates to certain improvements in bottles, and particularly to that class known as "non-refillable" bottles, the object being to provide the neck of the bottle with a peculiarly-constructed frangible cap adapted to cover the mouth thereof after the bottle has been filled and corked, said cap being held in place by a novel construction of locking device and the whole being so constructed and arranged that the removal of the cap is rendered impossible without its destruction, thus affording outward evidence that the bottle has been opened or otherwise tampered with, and consequently preventing any fraudulent use or refilling of the same; and to this end our invention comprises a bottle having its neck provided with an annular groove in the exterior thereof, a frangible cap having an internal groove or swell adapted to register or aline with the groove of said neck and form a surrounding chamber, and a spring arranged within said chamber to retain the cap in place and prevent its removal.

It further consists of novel details of construction, all as will be hereinafter fully described, and particularly pointed out in the claims.

Figure 1 represents a longitudinal section of the upper portion of a bottle embodying our invention. Fig. 2 represents a transverse section taken on line $z z$, Fig. 1. Fig. 3 represents a longitudinal section of another embodiment of the principle of our invention.

Similar letters of reference indicate corresponding parts in the figures.

Referring to the drawings, A designates a bottle, and B the neck thereof, which latter is provided on its exterior with an annular groove b , adapted to receive a spring or resilient split ring C.

D designates a cap, made of glass or other frangible material, which is designed to cover the mouth of the bottle, the same being pro-

vided with an internal groove or swell d , which registers or alines with the annular groove of the neck of the bottle when the cap is in place thereon, thereby forming a surrounding chamber, and the lower and intermediate portions of the cap are contracted to fit the neck of the bottle snugly. When the cap is about to be applied to the neck of the bottle, the spring C, which has first been placed within the groove d of the cap, will pass down over the inclined mouth of the bottle until it engages with the groove b , at which point it projects sufficiently beyond the periphery of the neck and into the groove or swell d of the cap to effectually prevent the removal of the latter without breaking and destroying the same. The depth of the groove in the cap readily admits of the expansion of the spring without injury to the cap, as will be apparent.

The spring C is in the form of a divided ring and may be made of any desired metal, or it may be made of rubber, in which event it will be unnecessary to divide it, and in practice it is made somewhat smaller in diameter than the diameter of the groove b , so that when the mouth of the bottle passes into the cap and the spring is properly seated therein its outer edge will project beyond the periphery of the neck, and thus insure its engagement with the lower contracted end of the cap, as above described.

It will be apparent that when the cap is being removed the lower tapered portion thereof will gradually engage the spring C, causing it to press more closely against the neck of the bottle, as well as to force the lower contracted edge of the cap outwardly, thus completely breaking and destroying the same.

In Fig. 3 the annular groove in the neck of the bottle differs slightly from that just described, said groove being now indicated as b' and being considerably enlarged and formed with a sharp shoulder or lower edge C' , while its upper portion tapers gradually outward until it reaches the periphery of the neck, where it presents a comparatively sharp edge which snugly fits the cap, thus forming a similar surrounding chamber to that just described with relation to Fig. 1.

The cap desirable for use in connection with this construction of bottle is formed with an internal groove d' only large enough to re-

ceive a portion of the spring or resilient ring, which in this instance is preferably made of wire, and in applying the cap the spring is first placed within the groove *b'* of the neck, 5 so that as the mouth of the bottle enters the cap the spring will be pressed downwardly and into the groove by the lower edge of the cap until said lower edge shall have passed beyond the spring and the groove *d'* therein 10 shall align with the groove in the neck, said latter groove being sufficiently deep to enable it to be placed on the neck of the bottle without breaking. Thus the cap is secured to the neck, and in removing it the resilient 15 ring will be drawn up the tapered portion of the groove *b'* corresponding to the tapered portion of the cap D, but in reverse position, thereby causing said ring to press outwardly against the cap as it rises, and thus destroy 20 the same.

It will thus be seen that our invention provides in a simple and inexpensive construction a non-refillable bottle which is particularly well adapted for the purposes intended 25 and which will effectually prevent the fraudulent use thereof, a practice which is detrimental not only to the bottler, but also to the public in general.

While we have herein shown and described 30 our invention as applied to a bottle, it is obvious that it may be applied to demijohns, ballot-boxes, and other devices where it is de-

sirable to protect the owner and to detect at a glance when the cap has been removed or otherwise tampered with.

It will be evident that the spring or resilient ring employed may be made of wire, rubber, or other suitable material, with or without glass or other beads or balls strung thereupon.

Having thus described our invention, what 40 we claim as new, and desire to secure by Letters Patent, is—

1. A bottle for the purpose described having its neck provided with an annular groove, a frangible cap adapted to cover the mouth 45 of the bottle, said cap having an annular swell adapted to register with said groove and a surrounding tapered chamber common to said cap and neck and a spring or ring arranged within said chamber.

2. A bottle for the purpose described having its neck provided with an annular groove, a frangible cap adapted to cover the mouth 50 of the bottle, said cap tapering gradually near its lower edge to form an annular swell or enlargement adapted to register with the 55 groove in said neck and provide an internal surrounding chamber and a spring arranged in said chamber.

JOHN J. HANLON.
JOSEPH REUBER.

Witnesses:

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PATRICK HANLON.