

No. 623,047.

Patented Apr. 11, 1899.

A. G. SNOWDON.
NON-REFILLABLE BOTTLE.

(Application filed Sept. 6, 1898.)

(No Model.)

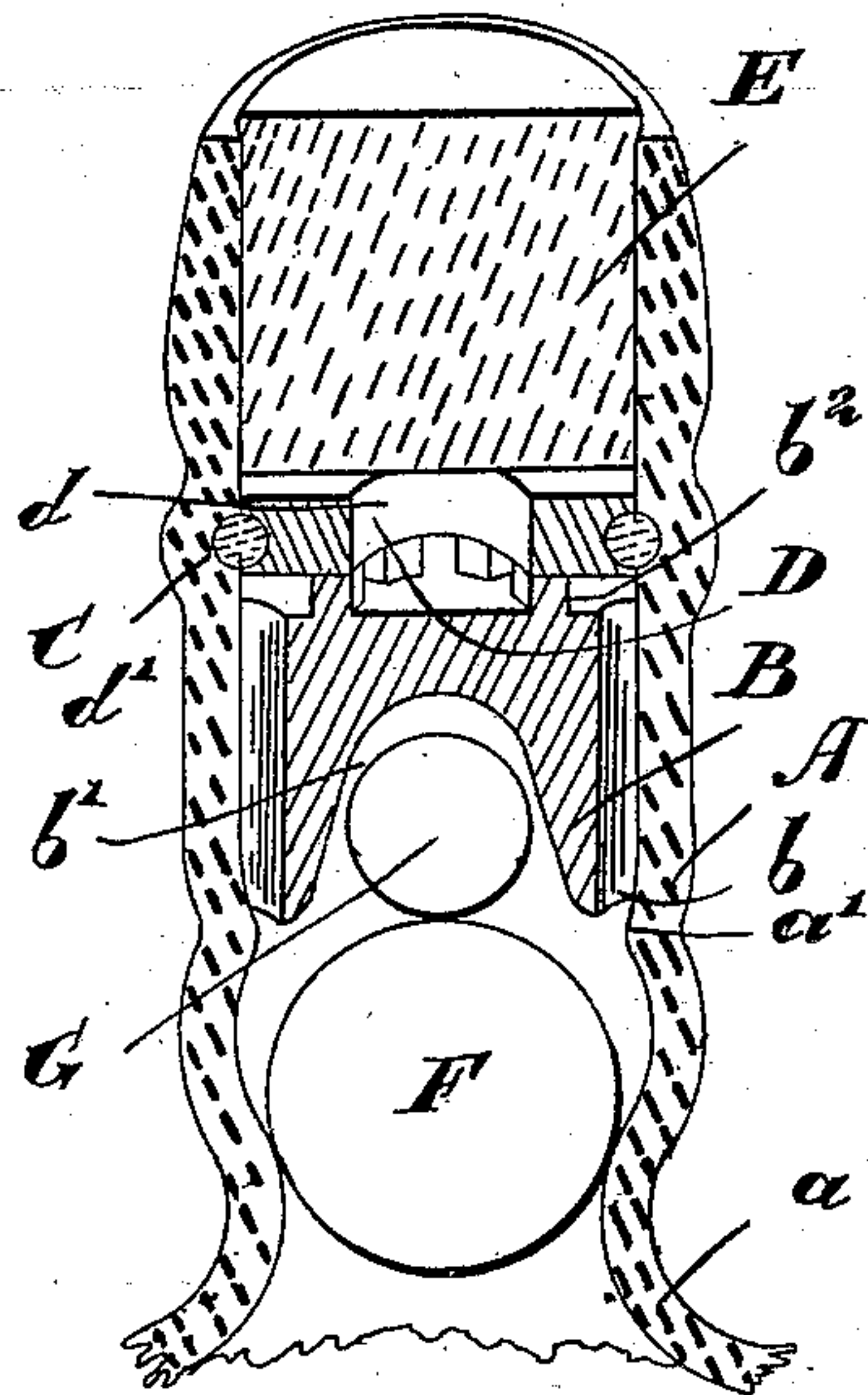


Fig. 1.

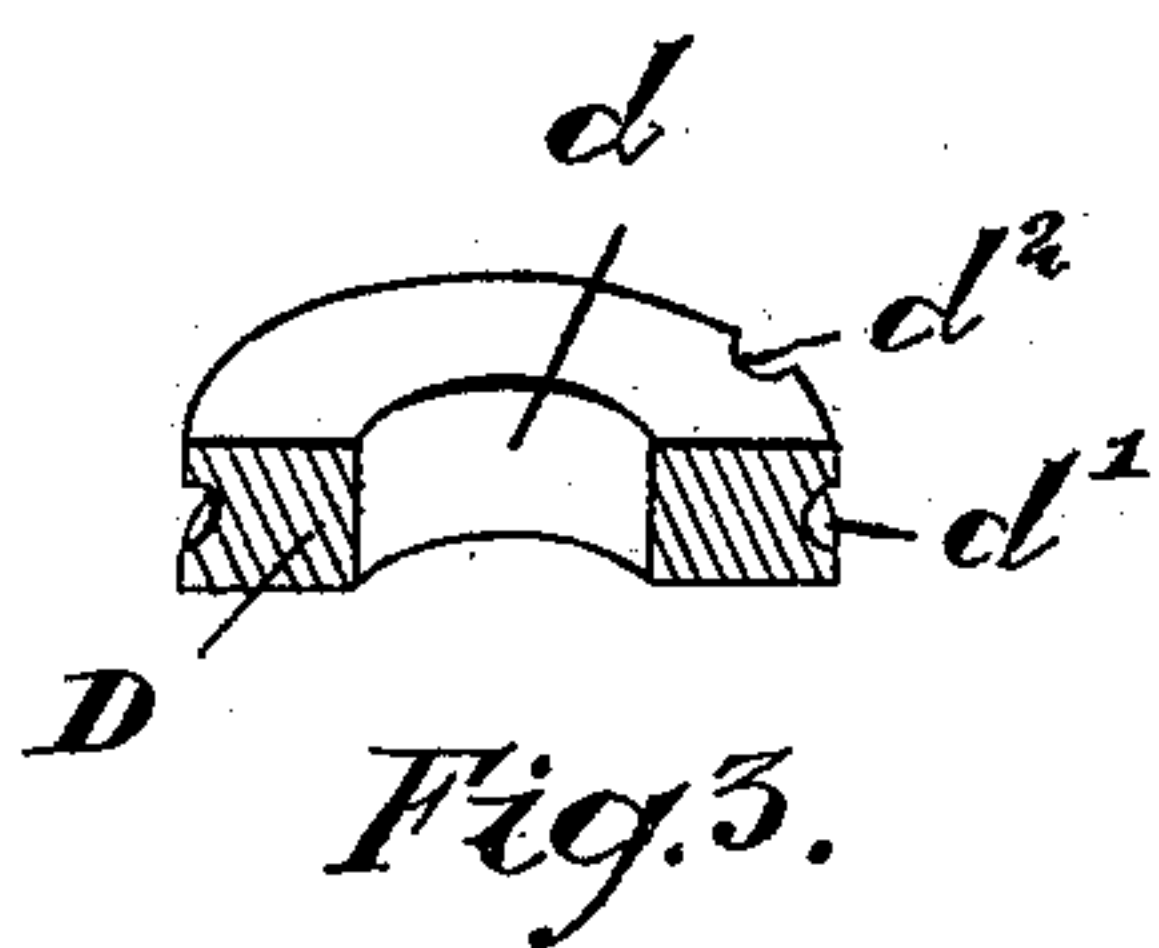


Fig. 3.

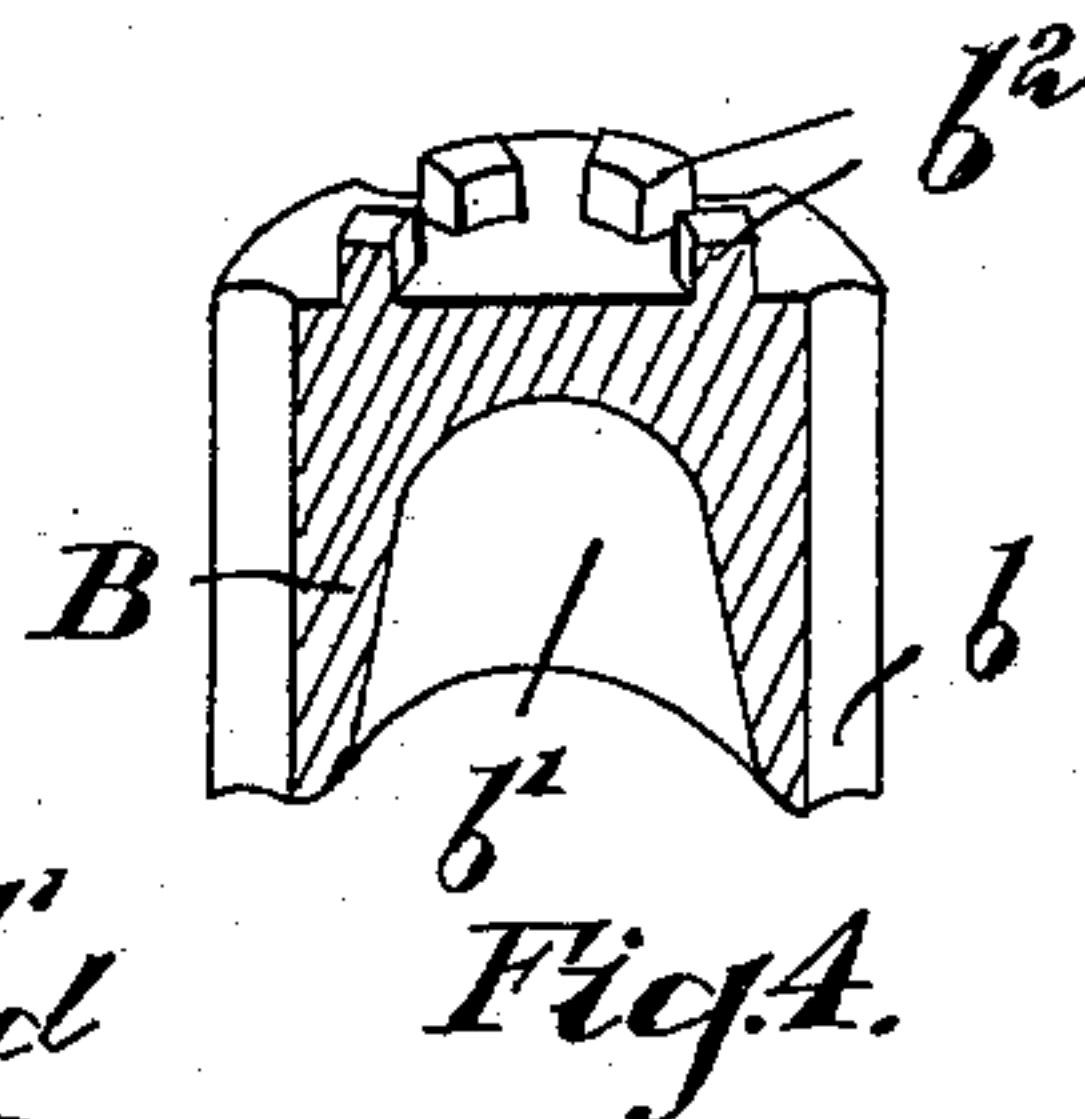


Fig. 4.

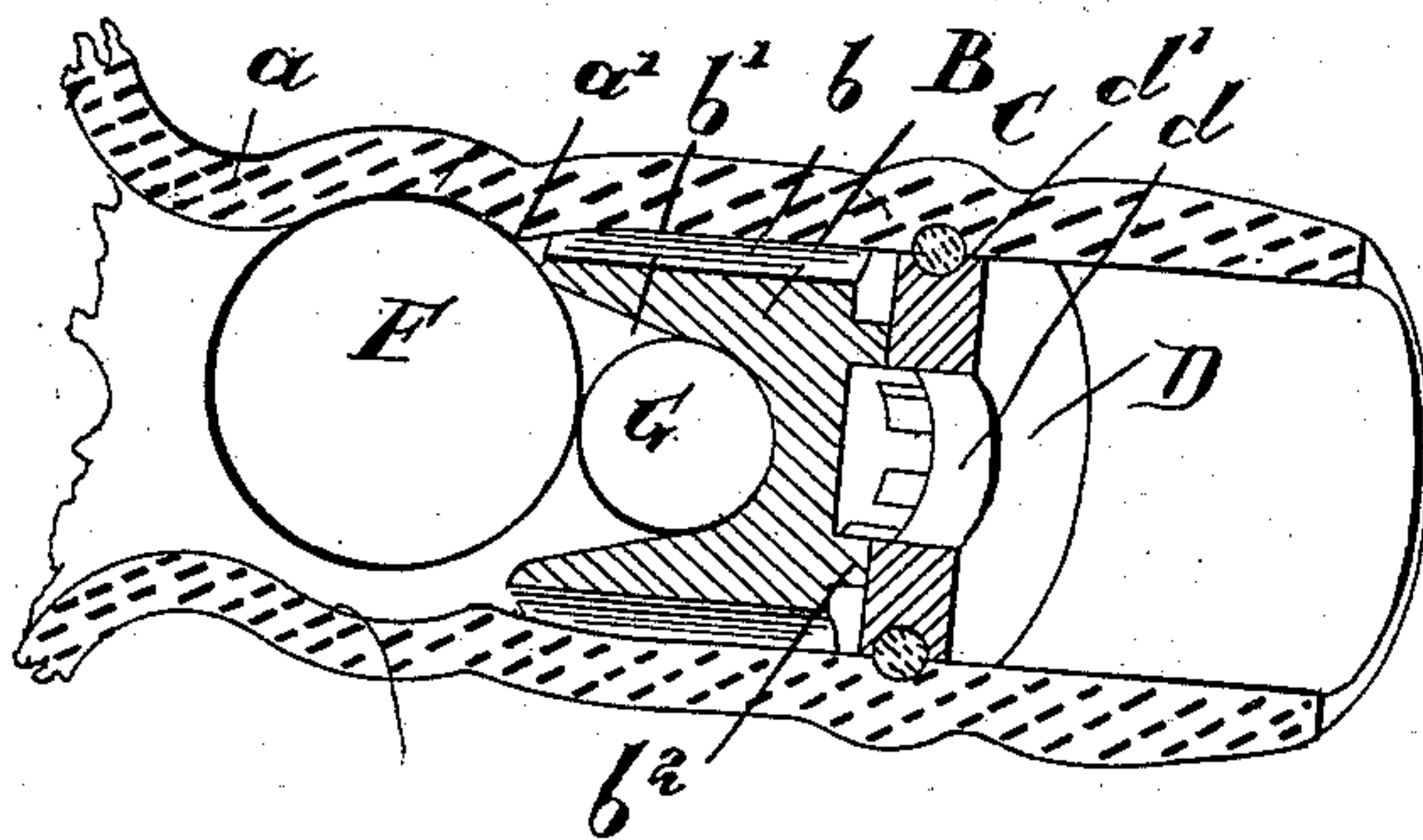


Fig. 2.

Witnesses.
Frank Plummer.
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UNITED STATES PATENT OFFICE.

ARCHIBALD GRANT SNOWDON, OF MONTREAL, CANADA, ASSIGNOR OF
THIRTY-SEVEN FIFTIETHS TO ALBERT EDWARD MORRIS AND JOHN
MICHAELS, OF SAME PLACE.

NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 623,047, dated April 11, 1899.

Application filed September 6, 1898. Serial No. 690,325. (No model.)

To all whom it may concern:

Be it known that I, ARCHIBALD GRANT SNOWDON, a subject of the Queen of Great Britain, residing at the city of Montreal, in the district of Montreal, Province of Quebec, Canada, have invented certain new and useful Improvements in Non-Refillable Bottles, of which the following is a full, clear, and exact description.

My invention relates to improvements in non-refillable bottles; and the object of the invention is to devise an extremely simple and cheap device whereby a bottle after having been emptied cannot be refilled again; and it consists, essentially, of forming the neck of the bottle in peculiar form and providing therein a stopper with tapered central opening beneath which are located the closing-balls and above which is located the protecting-ring to prevent the balls from being tampered with, the parts being arranged and constructed in detail as hereinafter more particularly explained.

Figure 1 is a sectional perspective view showing the neck portion of the bottle provided with my improved device. Fig. 2 is a view of the neck portion, showing it tipped in the position it would assume when the liquor has been poured out. Fig. 3 is a detail of the protecting-ring. Fig. 4 is a detail of the stopper.

In the drawings like letters of reference indicate corresponding parts in each figure.

It will be noticed in my construction of bottle that the neck thereof, although slightly more ornamental, is essentially as strong and durable and as symmetrical as the necks of ordinary bottles now in use. The lower portion of the neck A, near the top, however, is provided with an inward swell α , and above this a slight inward swell α' , these being all the radical changes that it is necessary to effect in the interior formation of the neck when the bottle is being made.

B is the stopper, which is made of porcelain, glass, or any other suitable material and is placed in the neck, so that the bottom thereof abuts the internal shoulder α' , and

thereby prevents the stopper from sinking any farther.

b are a series of peripheral passage-ways in the stopper.

b' is an opening extending up into the stopper from the bottom.

b^2 are a series of projections located circumferentially within the passage-ways b' and forming part of the stopper B. The projections b^2 are flush with each other and each projection is diametrically opposite a passage-way b' .

C is an internal groove in the neck.

D is the protecting-ring, made, preferably, of porcelain, glass, or other suitable material, which is provided with a central opening d and an internal groove d' . The protecting-ring D is pushed down the neck until it rests upon the upwardly-extending projections b^2 , at which position the groove d' is opposite the groove C in the neck.

d^2 is an aperture made in the protecting-ring, through which a suitable cement is poured into the grooves C and d' , thereby when the grooves are filled with the cement securely keying the ring to the neck, so that it is absolutely impossible to withdraw such ring without breaking the neck of the bottle.

E is a cork, which may be of any suitable material, being put in to close the orifice at the top of the neck in the usual manner.

F is a buoyant ball, either made hollow or solid, but preferably of rubber, coated with any suitable protecting-cover which will not be affected by the liquid in the bottle, and G is a weighty ball which is located in the recess b' and normally rests upon the top of the ball F.

It will be seen that by means of the protective ring D the balls F and G cannot be tampered with by inserting a wire or in any other way. When the bottle is tipped in the position shown in Fig. 2, so that the neck is practically horizontal, the ball will float on the liquid in the position shown in the drawings, thereby permitting the egress of the liquid through a crescent-shaped orifice around the ball and out through the passage-way b' ,

between the projections b^2 , and through the ring D. The force of the liquid, of course, in the egress will maintain the buoyant ball F and weighty ball G in the position shown in Fig. 2; but should any attempt be made to force the liquid inwardly either by submerging the bottle or turning it to the horizontal and applying force to eject the liquid such force, together with the weighty ball and the inflow of the liquid, will force the buoyant ball against the seat on the shoulder a , and thereby clearly prevent the ingress into the bottle proper.

When the bottle has been emptied of its contents, such bottle may be returned to the manufacturer, and all the parts of my device may be utilized over again by simply destroying the bottle. It will thus be seen that the first cost of my device is practically the only cost and that in any subsequent bottles in which it is placed the cost will practically be reduced down to *nil*.

What I claim as my invention is—

In a non-refillable bottle, the combination

with the neck provided with a reduced inwardly-extending annular swell, the inwardly-extending shoulder above the same and the inner groove above such shoulder, of the stopper provided with a bottom tapered aperture and peripheral passage-ways and upwardly-extending projections diametrically opposite such passage-ways, the buoyant ball F and weighty ball G designed to fit within the bottom aperture and the protecting-ring designed to rest upon the top projections and provided with a peripheral groove coincident with the groove in the neck, a recess extending through the upper portion of the ring into the groove and a suitable cement filling for the coincident grooves whereby the ring is irremovably secured in position as and for the purpose specified.

Signed at Montreal this 27th day of August, 1898.

ARCHIBALD GRANT SNOWDON.

In presence of—

FRANK PLUMMER,
CLARENCE MEDLEY.