

No. 798,451.

PATENTED AUG. 29, 1905.

G. T. ROSS.
NON-REFILLABLE BOTTLE.
APPLICATION FILED JUNE 11, 1904.

Fig. 1.

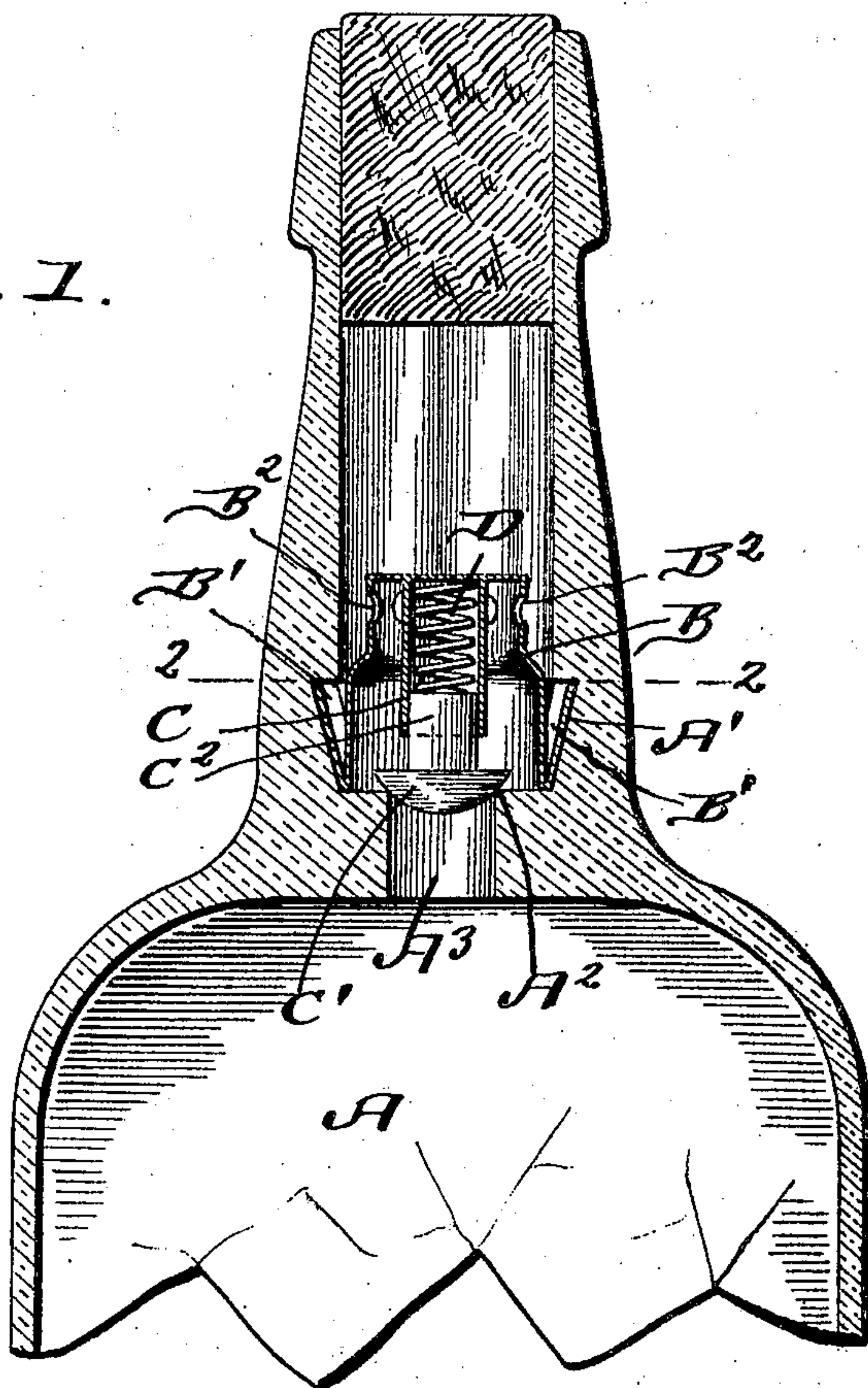


Fig. 2.

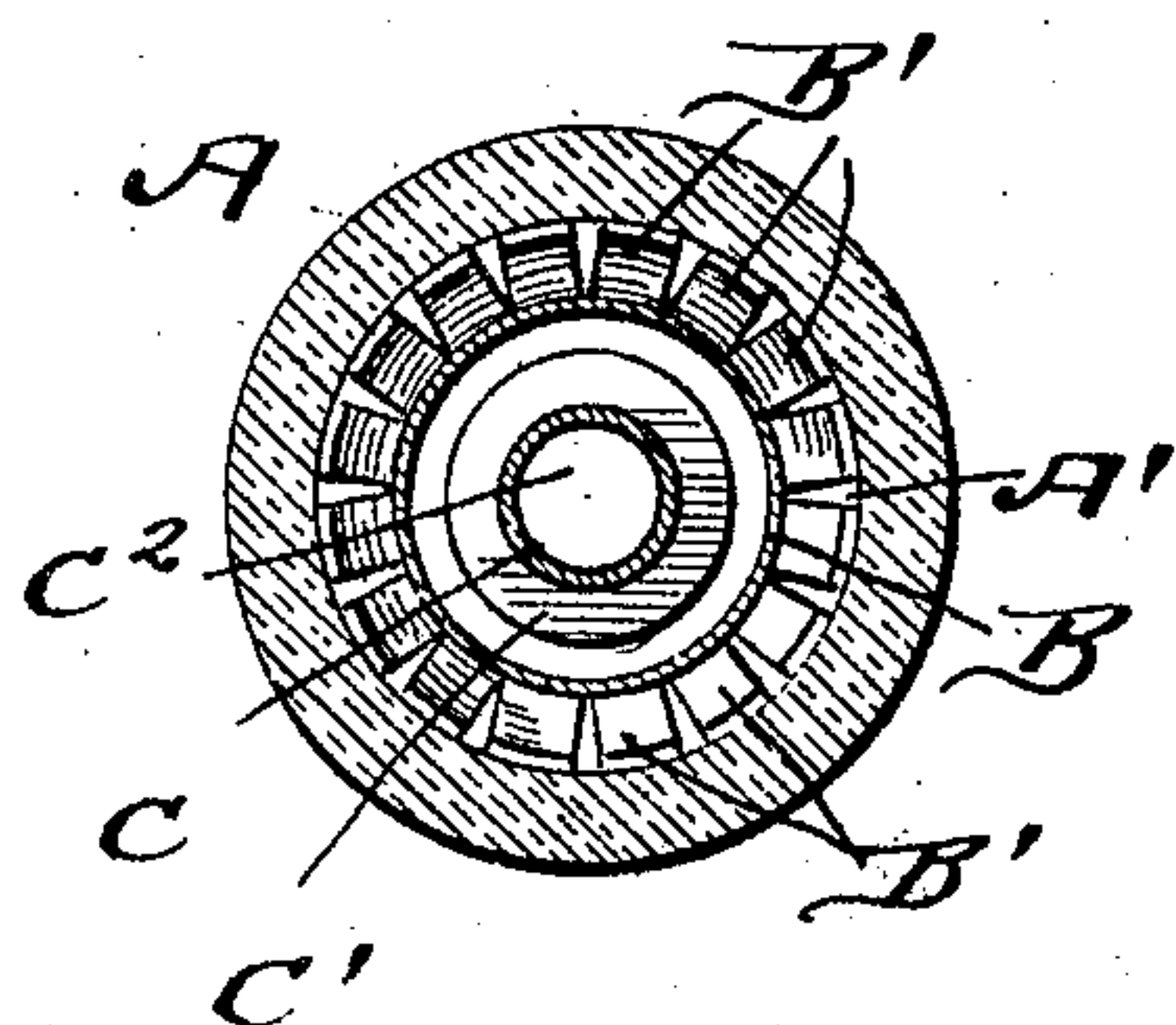


Fig. 3.

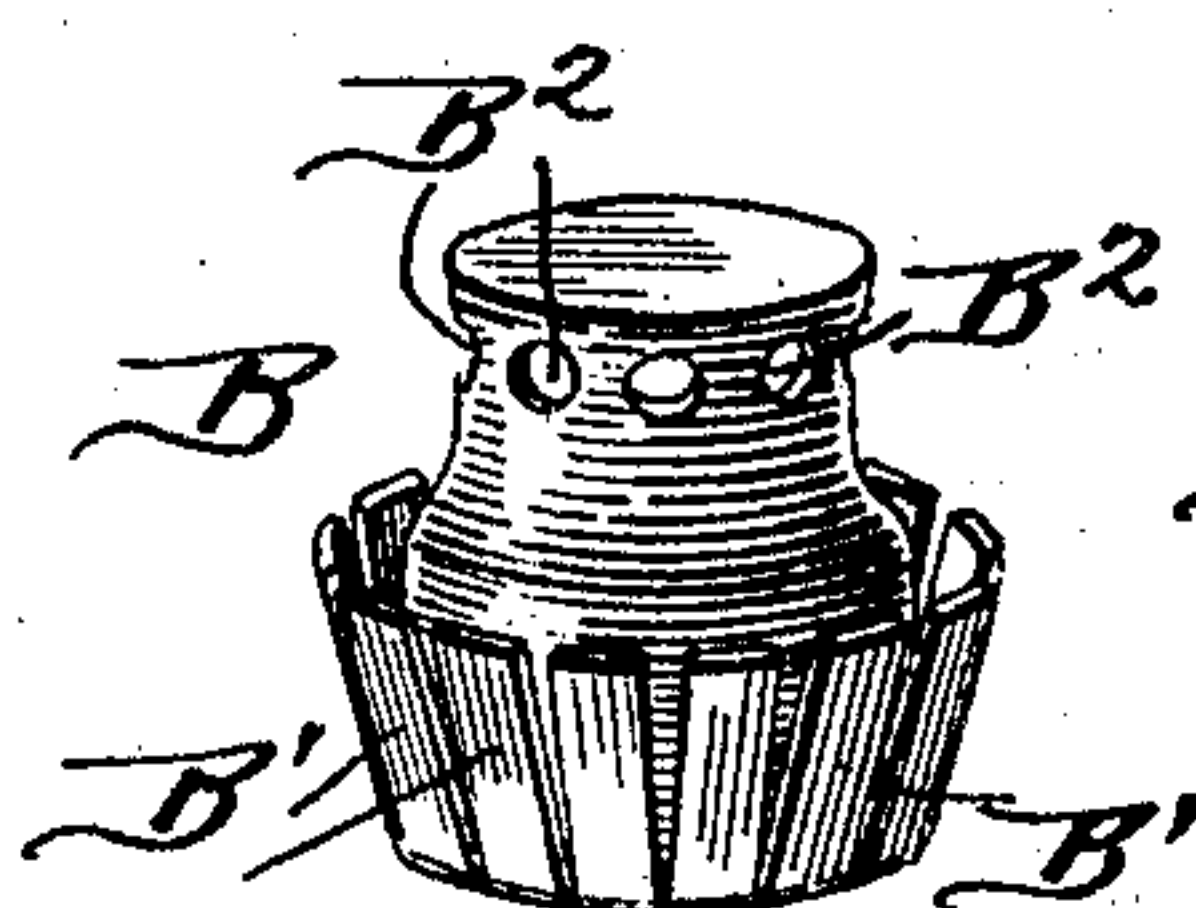


Fig. 4.

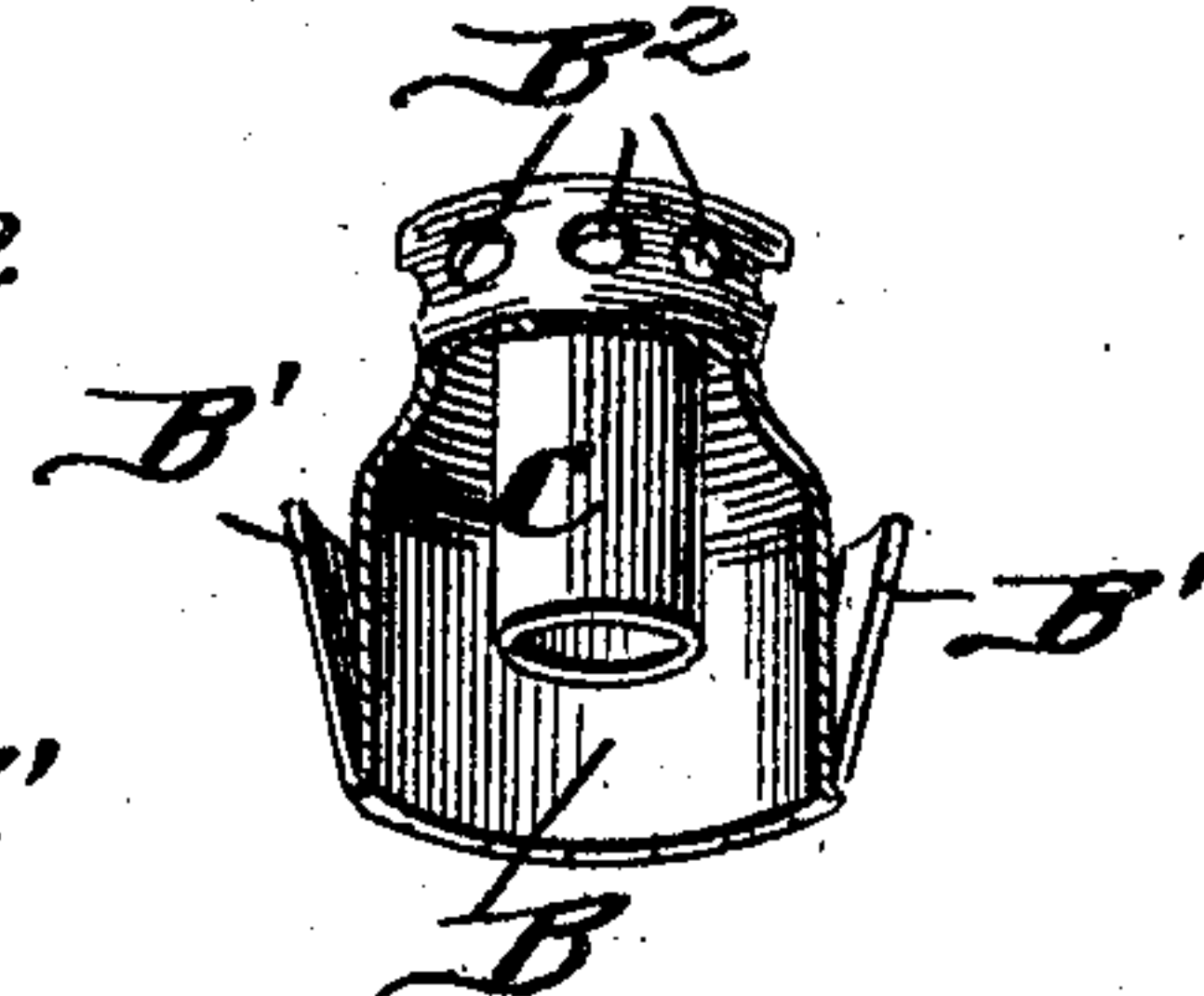
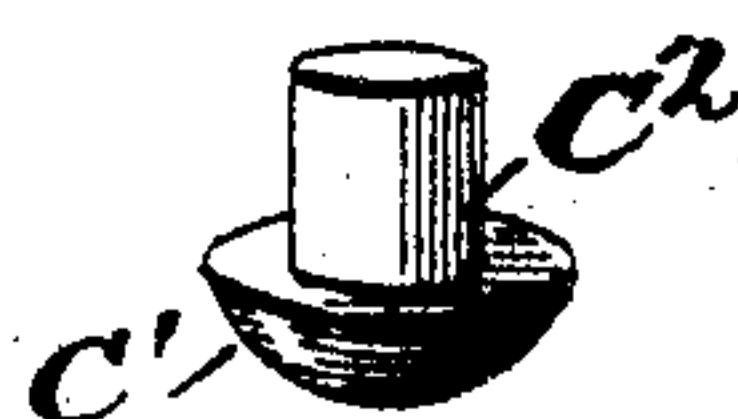


Fig. 5.



Inventor

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Witnesses

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UNITED STATES PATENT OFFICE.

GEORGE T. ROSS, OF ST. LOUIS, MISSOURI.

NON-REFILLABLE BOTTLE.

No. 798,451.

Specification of Letters Patent.

Patented Aug. 29, 1905.

Application filed June 11, 1904. Serial No. 212,107.

To all whom it may concern:

Be it known that I, GEORGE T. ROSS, a citizen of the United States, residing in the city of St. Louis and the State of Missouri, have
5 invented a new and useful Improvement in Non-Refillable Bottles, of which the following is a specification.

This invention relates to a valve and valve-cage adapted to be inserted in the neck of a
10 bottle, whereby the bottle cannot be filled after the insertion of the said valve and cage; and the invention also has for its object the automatic locking of the valve and cage in position.

15 The invention consists in the novel features of construction hereinafter described, particularly pointed out in the claim, and shown in the accompanying drawings, in which—

20 Figure 1 is a vertical section, the valve being shown in elevation. Fig. 2 is a section on the line 2 2 of Fig. 1. Fig. 3 is a detail perspective view of the valve-cage. Fig. 4 is a detail perspective view of the cage, parts being broken away to show the interior. Fig.
25 5 is a detail perspective view of the valve.

In the drawings, A represents a bottle having an annular groove A' formed in the neck of the bottle and a valve-seat A² formed immediately below and adjacent the groove. On
30 the seat A² rests my valve-cage B, which is cylindrical in form and preferably of metal. The cage B is closed at the top and open at the bottom. In practice I prefer to employ a spring metal and make the cage B of a cylinder longer than the cage proper, slotting
35 the cylinder longitudinally from its open end and bending the slotted portion or arms formed by the slotting process back upon the outer face of the cylinder. These spring-
40 arms B' will have a tendency to spring away from the cylinder and form a circle of radiating arms about the cylinder pointing outwardly and upwardly. Adjacent its closed upper end the cage B is perforated, as shown
45 at B². A cylindrical sleeve C is arranged centrally in the cage B, depending from the top or roof of the cage, the sleeve being open at its lower end. A sphero-conical valve C' is adapted to seat itself in the valve-seat and
50 to close the bore of the bottle-neck below the

groove A', which portion of the bore of the bottle-neck is contracted, as shown at A³.

A cylindrical stem C² is formed integral with the valve C' and is adapted to work in the sleeve C, which forms a guide for the
55 stem. A light coil-spring is arranged in the upper end of the sleeve (shown at D) and bears downwardly on the upper end of the valve-stem C², tending to hold the valve C' to the seat A².
60

The operation of the device is as follows: The bottle is first filled and the cage B with the valve in position is inserted in the bottle-neck until the valve engages the seat A². As soon as the cage reaches this position the
65 spring-arms B' will spring outwardly, their ends resting in the groove A', and the cage B will be locked against withdrawal. The spring D will normally hold the valve in position to close the bore A³, leading into the
70 bottle through the valve-seat A². When the bottle is decanted, the weight of the liquid in the bottle will overcome the pressure of the light spring D and the valve will be unseated. The contents of the bottle will escape through
75 the bore A³ and out the perforations B², passing around the valve. When the bottle has been emptied, the valve will reseal itself and cannot again be unseated by decanting the
80 bottle, as the valve is not unseated by gravity. Any attempt to pump or otherwise force liquid into the bottle would only seat the valve the tighter.

Having thus fully described my invention, what I consider new, and desire to secure by
85 Letters Patent, is—

A device of the kind described comprising a valve-cage closed at the top and perforated on the sides, spring-arms extending upwardly and outwardly from the cage, a sleeve within
90 the cage and downwardly open, a valve having a stem adapted to work within the said sleeve, and a spring arranged in the upper portion of the sleeve and adapted to bear on the valve-stem, as and for the purpose set forth.

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Witnesses:

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