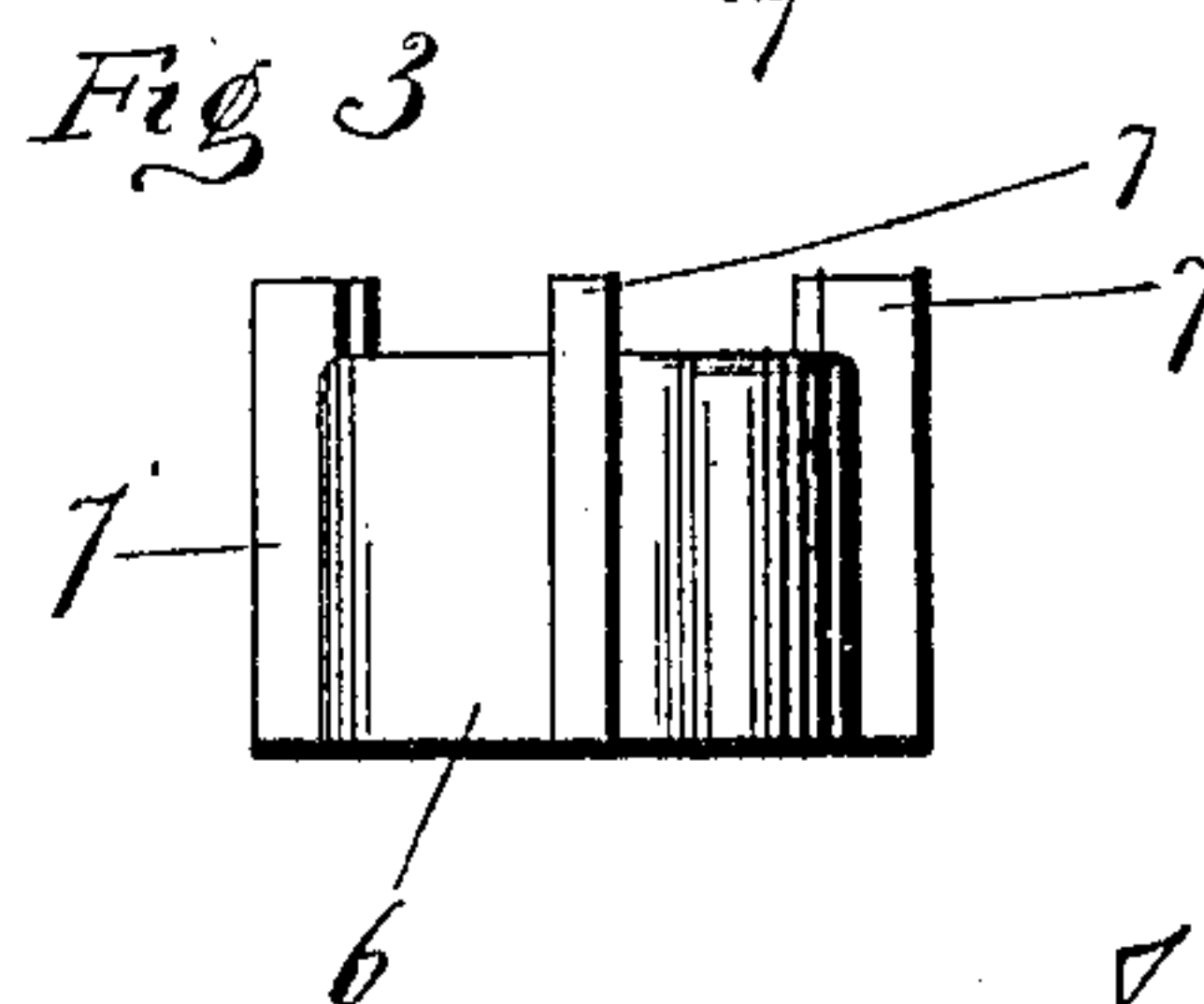
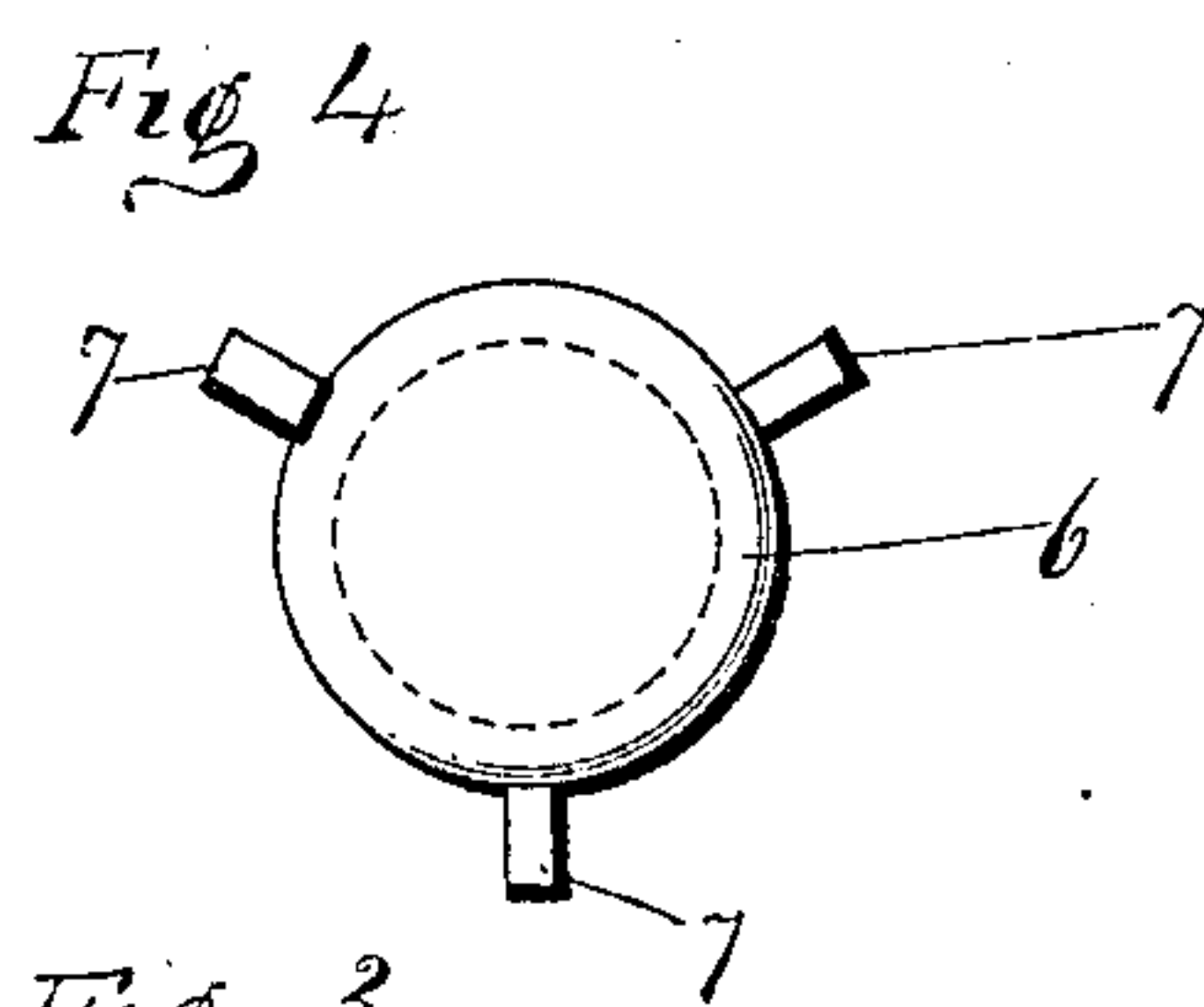
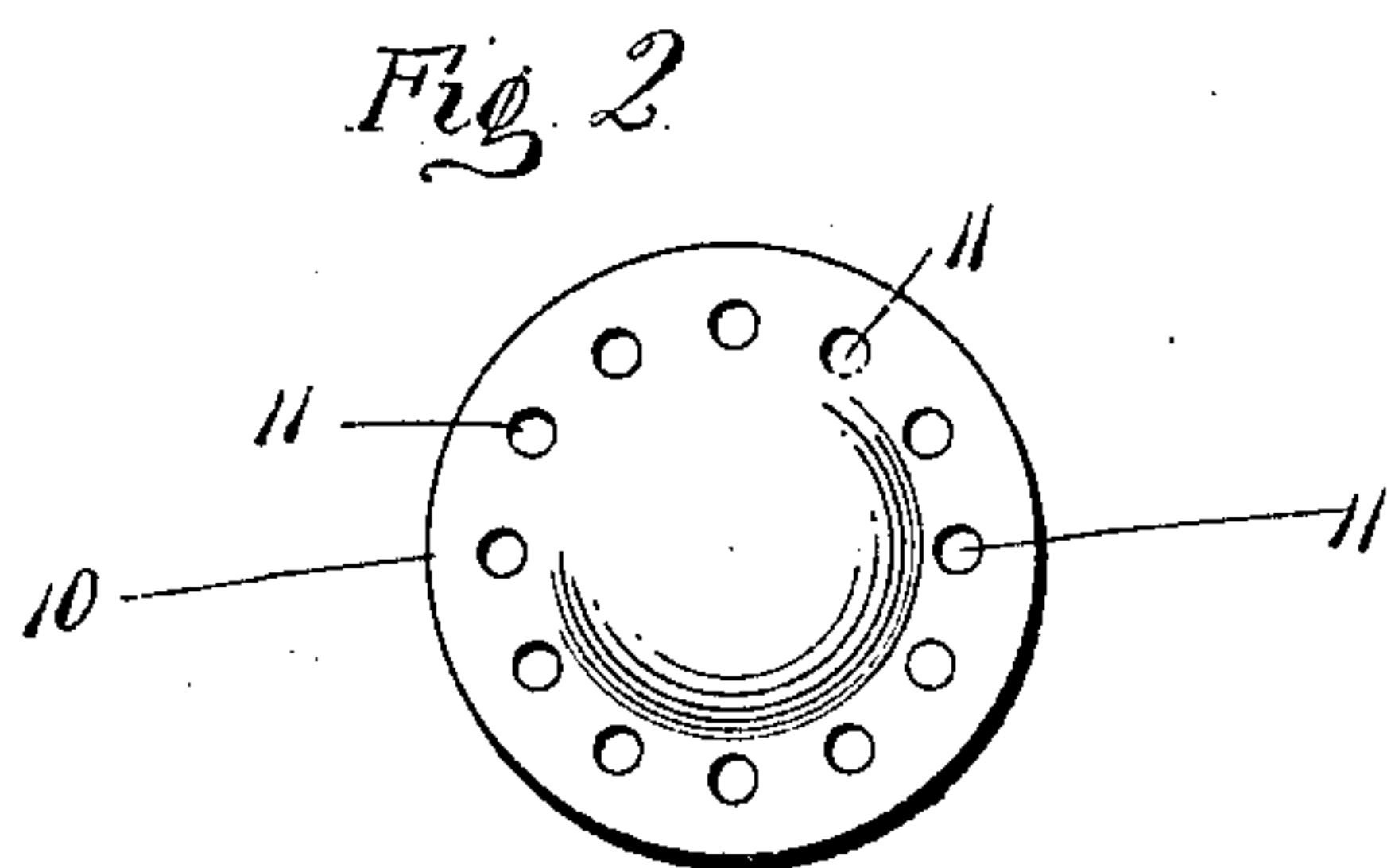
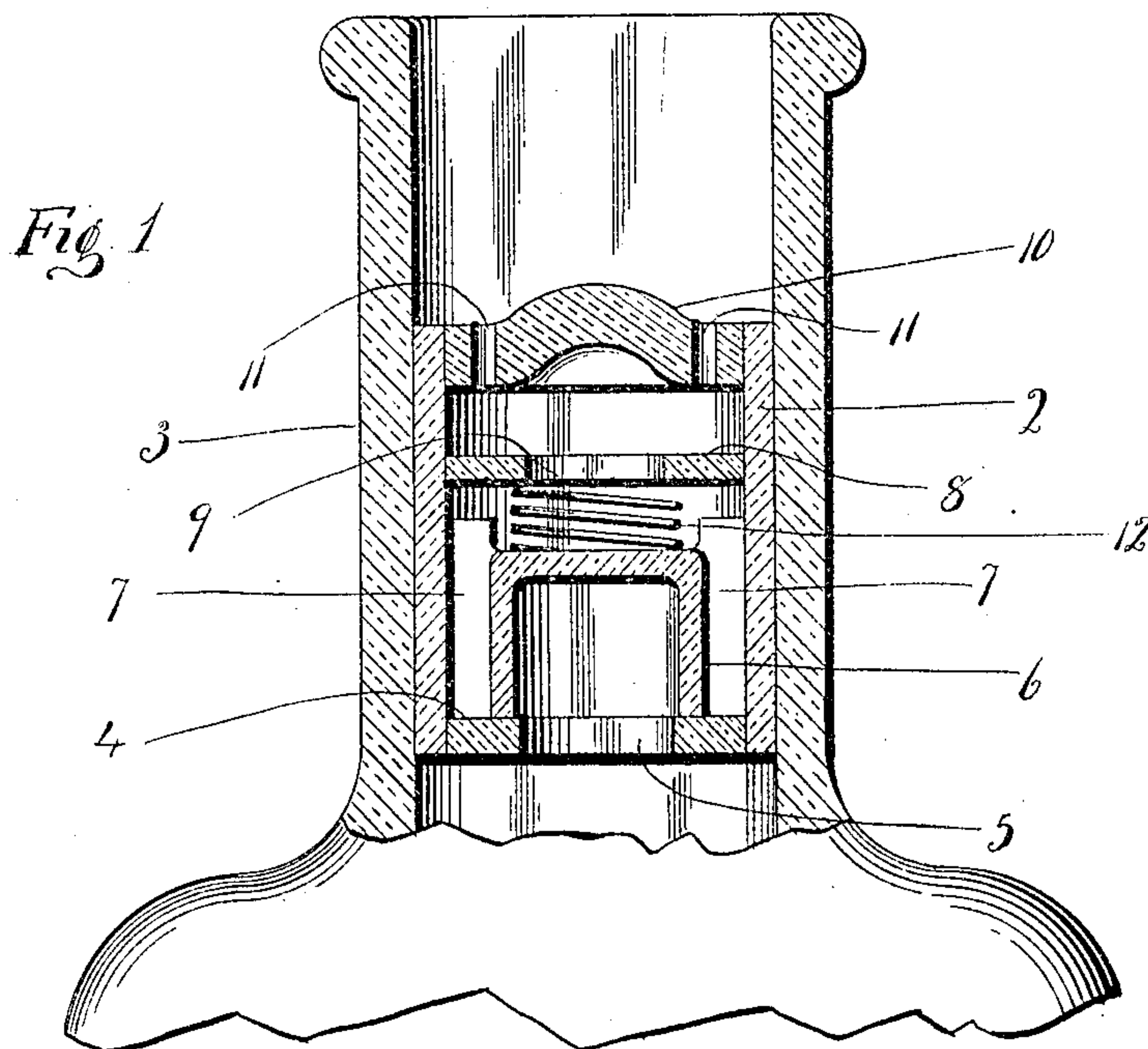


T. G. CLIFFORD.
NON-REFILLABLE BOTTLE.
APPLICATION FILED JUNE 21, 1909.

944,015.

Patented Dec. 21, 1909.



Witnesses
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C. L. Weed

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Att'y

UNITED STATES PATENT OFFICE.

THOMAS G. CLIFFORD, OF NEW YORK, N. Y., ASSIGNOR OF TWO-THIRDS TO WILLIAM CRANSTOUN, OF STRATFORD, CONNECTICUT, AND GARRETT F. ROSE, OF NEW YORK, N. Y.

NON-REFILLABLE BOTTLE.

944,015.

Specification of Letters Patent.

Patented Dec. 21, 1909.

Application filed June 21, 1909. Serial No. 503,300.

To all whom it may concern:

Be it known that I, THOMAS G. CLIFFORD, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented a new and useful Improvement in Non-Refillable Bottles; and I do hereby declare the following, when taken in connection with the accompanying drawings and the numerals of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1 a sectional view of a non-refillable bottle embodying my invention. Fig. 2 a plan view of the top-plate, detached. Fig. 3 a side view of the valve, detached. Fig. 4 a top or plan view of the same.

This invention relates to an improvement in non-refillable bottles, and particularly to the sliding valve type, the object being a simple arrangement of parts to prevent the refilling of bottles; and the invention consists in the construction hereinafter described and particularly recited in the claim.

In carrying out my invention I employ a cylindrical sleeve or casing 2 adapted to fit within the neck 3 of a bottle which is of any approved design, and at a point so far below the upper end of the neck that space is provided for the insertion of a cork. At the bottom of the casing is a valve-seat 4. This is of disk-like character having a central opening 5. Resting upon this valve-seat is a valve 6. This valve is of inverted cup shape and is provided with several radially extending wings 7, preferably three in number, as shown in Fig. 4 of the drawings. These wings project slightly above the top of the valve 6, and the wings closely fit within the sleeve 2 so as to hold the valve centrally over the valve-seat and yet it is free to move up and down in the casing. Above the valve is a partition 8 having a central opening 9. This partition limits the upward movement of the valve. The top of the sleeve or casing is closed by a cap-plate 10 bowed in transverse section and provided near its periphery with a series of small openings 11. The device may be formed

from glass or metal and the parts permanently connected and adapted to be securely cemented within the neck of the bottle after the bottle has been filled. Inverting the bottle will cause the valve to move toward the partition allowing the contents of the bottle to escape through the opening 5, between the wings 7, through the opening 9 of the partition 8, and through the perforations 11 and so that the contents may be freely poured from the bottle; but if attempt is made to refill, the valve 6 will close the opening 5 so that the liquid will not flow into the bottle, and the top-plate prevents access to the valve by wires or other devices so that the valve cannot be tampered with. If desired, a spiral spring 12 may be located between the partition and valve, and tending to hold the valve in a closed position, this spring being a light spring which will yield against the pressure of liquid flowing out of the bottle.

This device is extremely simple both in construction and operation, and consequently could be produced at very low cost.

I claim:—

A non-refillable bottle comprising a sleeve adapted to be fitted within the neck of a bottle, a valve seat secured to the lower end of said sleeve and formed with a central opening, a top plate secured to the outer end of said sleeve, bowed in transverse section and formed near its periphery with an annular series of perforations, a partition between the valve seat and top plate, said partition formed with a central opening, an inverted cup-shaped valve located between the valve seat and partition and adapted to rest upon the seat around said opening to close the same, said valve formed with a series of rigidly extending wings which bear against the inner walls of the sleeve and project above the top of the valve to limit the upward movement of said valve.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

THOMAS G. CLIFFORD.

Witnesses:

JULIUS C. LUTTGE,
JOHN H. DARRAGH.