

No. 699,626.

Patented May 6, 1902.

J. R. LATHAM.
NON-REFILLABLE BOTTLE.

(Application filed May 10, 1900.)

(No Model.)

Fig. 1.

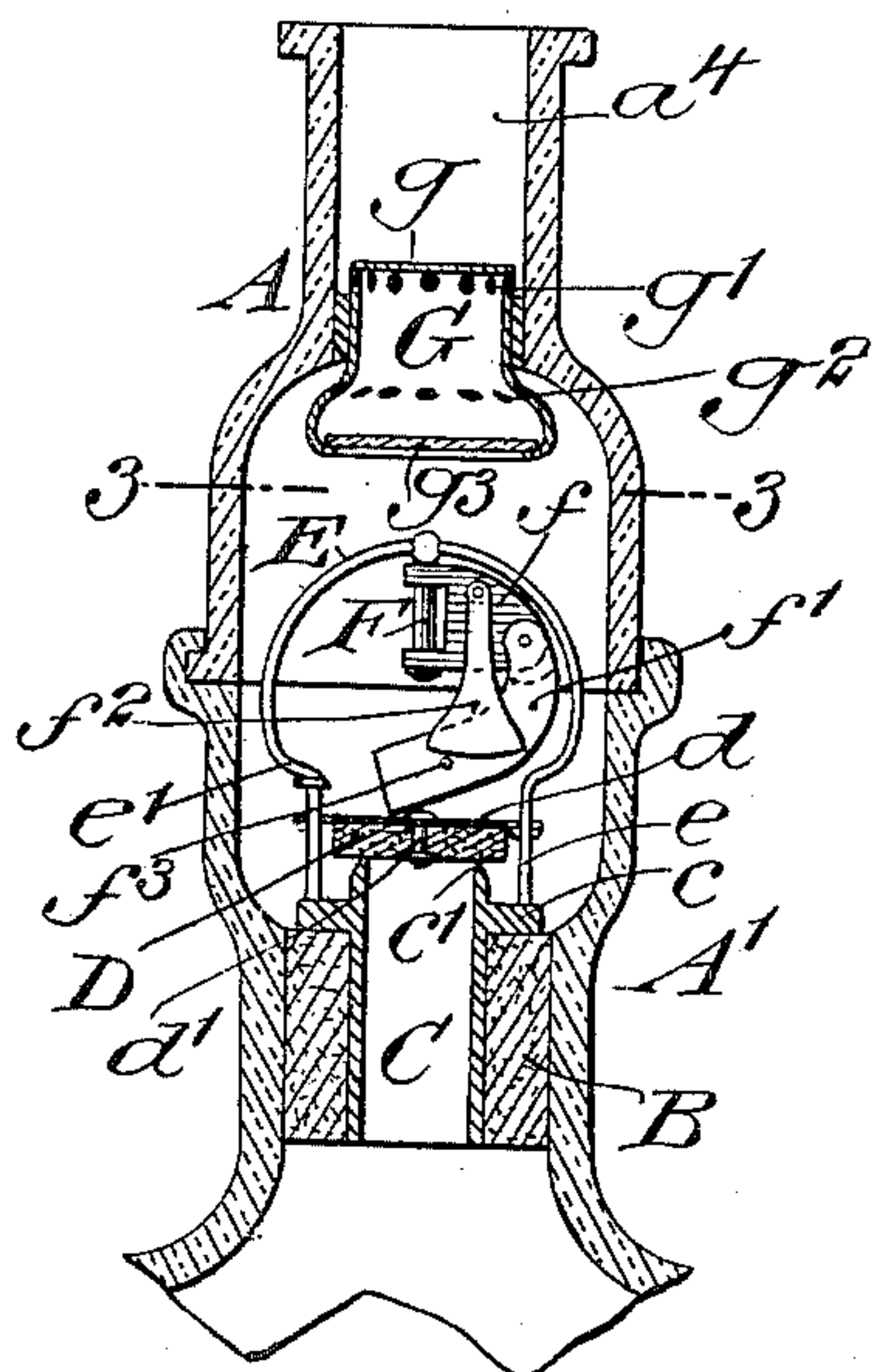


Fig. 2.

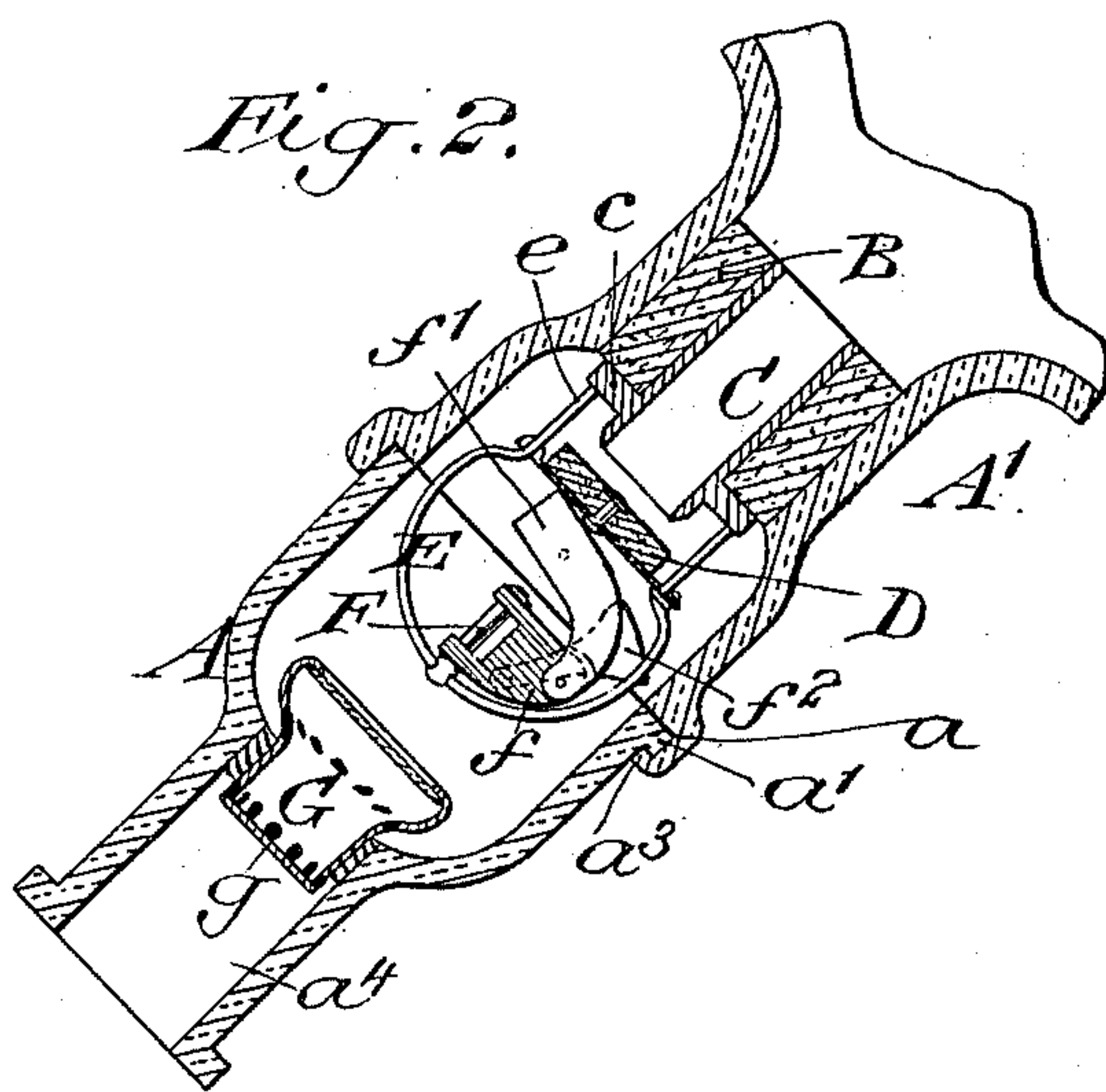


Fig. 3.

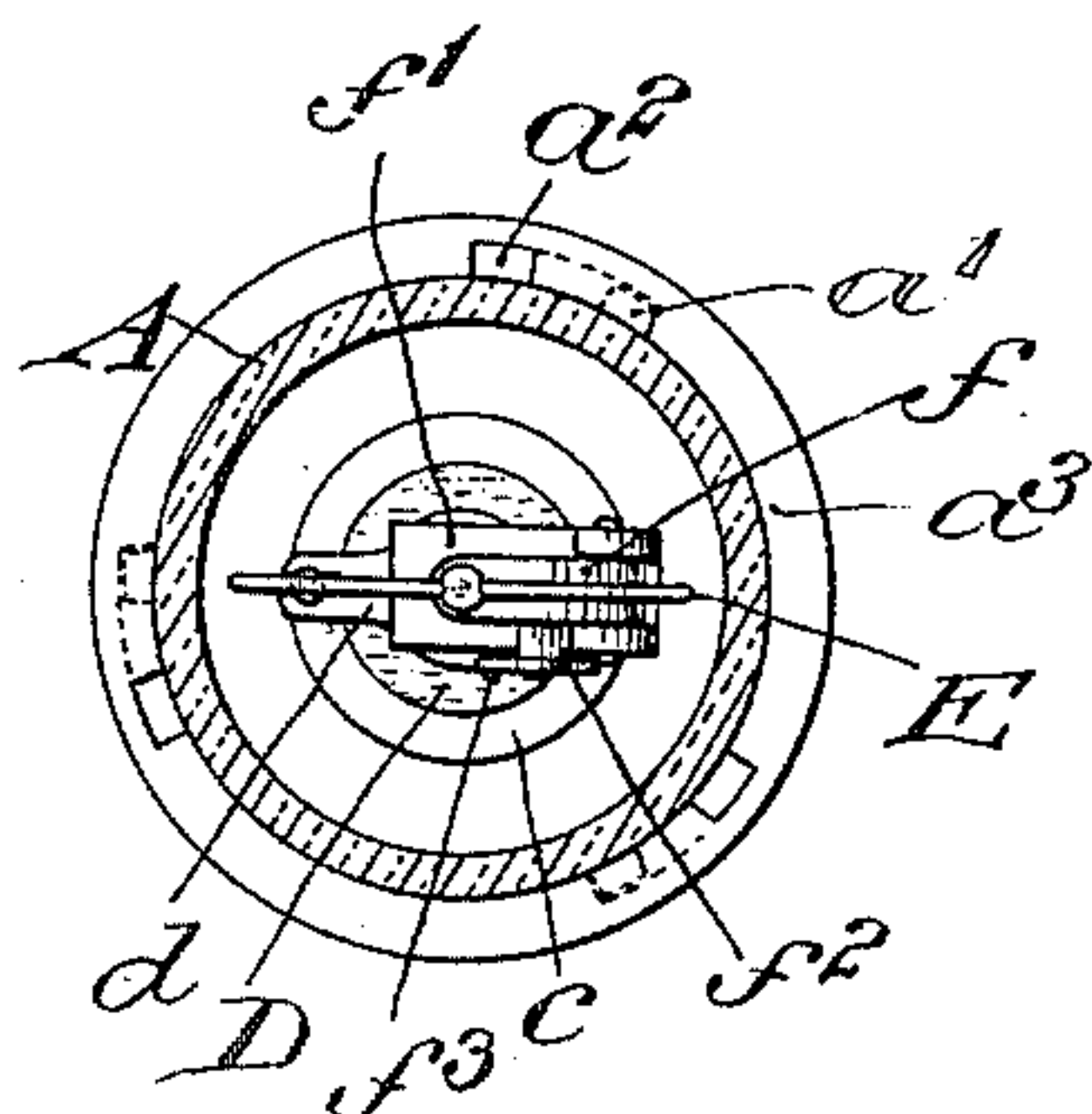
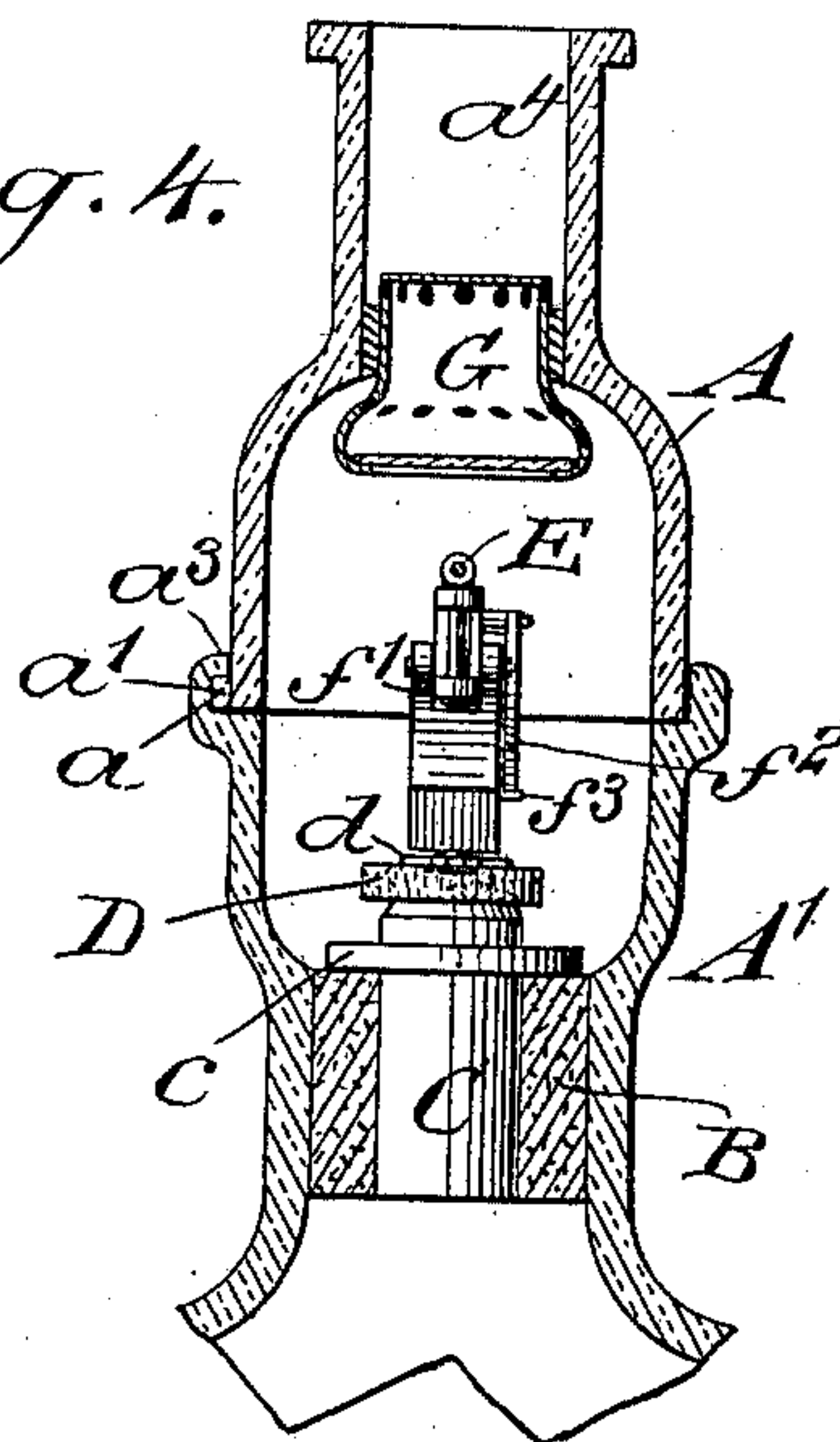


Fig. 4.



Witnesses:
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UNITED STATES PATENT OFFICE.

JAMES RYDER LATHAM, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO
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NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 699,626, dated May 6, 1902.

Application filed May 10, 1900. Serial No. 16,128. (No model.)

To all whom it may concern:

Be it known that I, JAMES RYDER LATHAM, a citizen of the United States, and a resident of the borough of Manhattan, in the city and State of New York, have invented a new and useful Non-Refillable Bottle, of which the following is a specification.

My invention relates to a non-refillable bottle, with the object in view of providing a simple and effective means for preventing the filling of a bottle after it has once been emptied without breaking or destroying the parts sufficiently to give evidence of its having been refilled.

In presenting a practical embodiment of my invention I have illustrated the neck of the bottle only, it being understood that the body of the bottle may be of any well-known or approved form and also that the neck may assume other shapes than the particular one here presented.

Figure 1 is a vertical section showing the position of the parts when the valve is closed. Fig. 2 is a view of the same, showing the position of the parts when the bottle has been tilted into pouring position. Fig. 3 is a transverse section along the line 3 3 of Fig. 1, and Fig. 4 is a vertical section taken in a plane at right angles to that in which Fig. 1 is taken.

The neck of the bottle is here shown as formed in two parts, the upper part or section being denoted by A and the lower part or section by A'. The lower section A' may be integral with the body of the bottle itself. The two parts A A' are assembled by what is known in the art as a "bayonet-joint," the lower section being provided with undercut portions *a* for the reception of lugs *a'* on the upper section, the latter being arranged to drop through openings *a²* in the top of the rim *a³* of the lower section, and then by giving the upper section a short rotary movement with respect to the lower section the said lugs *a'* will be thrown into the undercut portion *a* of the lower section, as clearly indicated in Figs. 3 and 4, in which portion they may be locked by inserting cement into the openings *a²*, and the joint may be further tightened by a layer of cement interposed between the engaging ends of the upper and

lower sections A A' throughout the entire periphery of their ends.

In the lower section A' there is fixed intermediate of the neck-space and the interior of the body of the bottle a cork B, centrally in which there is set a tube C, having a flange *c* overlapping the top of the cork B. The upper end of the tube C is preferably reduced to a knife-edge, as at *c'*, to form a seat for a cork valve D. The cork valve D is preferably of disk form, as shown, and is intended to rest with its face pressing against the knife-edge *c'* of the seat to effect a closure, the body of cork D being sufficient to float the valve to its seat whenever the bottle shall be tilted with its mouth below the horizontal plane and water forced into it in that position.

The disk valve D is provided with a backing consisting of a thin strip or plate of metal *d*, fastened to the cork in the present instance by means of a bolt or pin *d'* extending through the center of the disk, the opposite ends of the plate or strip *d* having a loose engagement with the upright portions of a bail E, which may be conveniently made of wire and the opposite ends of which are fixed in the flange *c* of the tube C. The opposite ends of the bail E preferably extend parallel and directly upward from the flange *c*, as shown at *e*, to a distance sufficient to give the valve D a full-open position, then extend outwardly, forming shoulders, as at *e'*, to limit the movement of the valve in a direction to open. The bail E also serves as a support for the gravity closing device. In the present instance the pintle-pin F depends from the crown of the bail, and to it is hinged a laterally-swinging support *f*. To the support *f* a vertically-swinging weighted arm *f'* is hinged, the free end of the arm *f'* being adapted to rest about centrally on the valve D to hold it to its seat, and there is also pivoted to the swinging piece *f* a lock or catch *f²*, which is adapted to swing into position over a pin *f³* on the side of the weighted lever when the lever is in its locking position and the bottle upright, as clearly shown in Fig. 1.

The arrangement of parts is such that the weighted arm *f'* will rest upon and hold the

valve D to its seat whenever the bottle is in a position ranging from upright to forty-five degrees below the horizontal, and the float-valve D will tend to seat itself in the event of liquid being put into the nozzle with the attempt of forcing it past the valve into the bottle whenever the bottle is in a position between the horizontal and the reverse position. This provides double means for holding the valve closed throughout a considerable part of the tilted position of the bottle between the upright and reverse—viz., from horizontal to a position forty-five degrees below the horizontal—and, furthermore, in the event of undertaking to form a vacuum within the bottle and feeding liquid thereto the float-valve will quickly seat under the influence of the vacuum, absolutely preventing the passage of any liquid into it.

To prevent tampering with the weighted arm f^1 , lock-catch f^2 , and valve D, I provide the nozzle of the bottle above the valve and its operating parts with a hollow plug G, having its lower end enlarged beyond the diameter of the neck a^4 of the section A, the said plug G being provided with an imperforate top g , with a series of lateral openings g^1 near the top, with a series of lateral openings g^2 within the neck-space, and with an imperforate glass plate g^3 seated in its lower end and free to rotate therein. The lower end of the plug G may be imperforate or open, as may be desired. The glass plate g^3 being free to rotate will serve as a guard against any attempt to drill a hole through it to get a wire into engagement with the parts below for disturbing them.

What I claim is—

1. The combination with the neck of a bottle provided with a passage-way for opening

communication between the interior of the neck and the interior of the body of the bottle, of a float-valve for closing said passage-way, guides for directing the float-valve to its seat, a pivoted weight for holding the valve closed under the influence of gravity and a pivoted gravity-catch for locking the weight in position to close the valve, substantially as set forth.

2. The combination with the neck of a bottle provided with a passage-way opening communication between the interior of the neck and interior of the body of the bottle, of a float-valve, guides for directing the float-valve toward and away from its seat to close the aforesaid passage-way, a weight for holding the valve closed under the influence of gravity, the said weight being pivoted to swing vertically, a horizontally-swinging piece forming a support for the vertically-swinging weight and a swinging gravity-catch for locking the weight, substantially as set forth.

3. The combination with the neck of a bottle provided with a passage-way for opening communication between the interior of the neck and the interior of the body of the bottle and means for automatically closing said passage-way, of a guard located between said closing means and the nozzle of the bottle, the said guard comprising a perforated support and a glass plate loosely held on said perforated support, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 7th day of April, 1900.

JAMES RYDER LATHAM.

Witnesses:

FREDK. HAYNES,
EDWARD VIESER.