

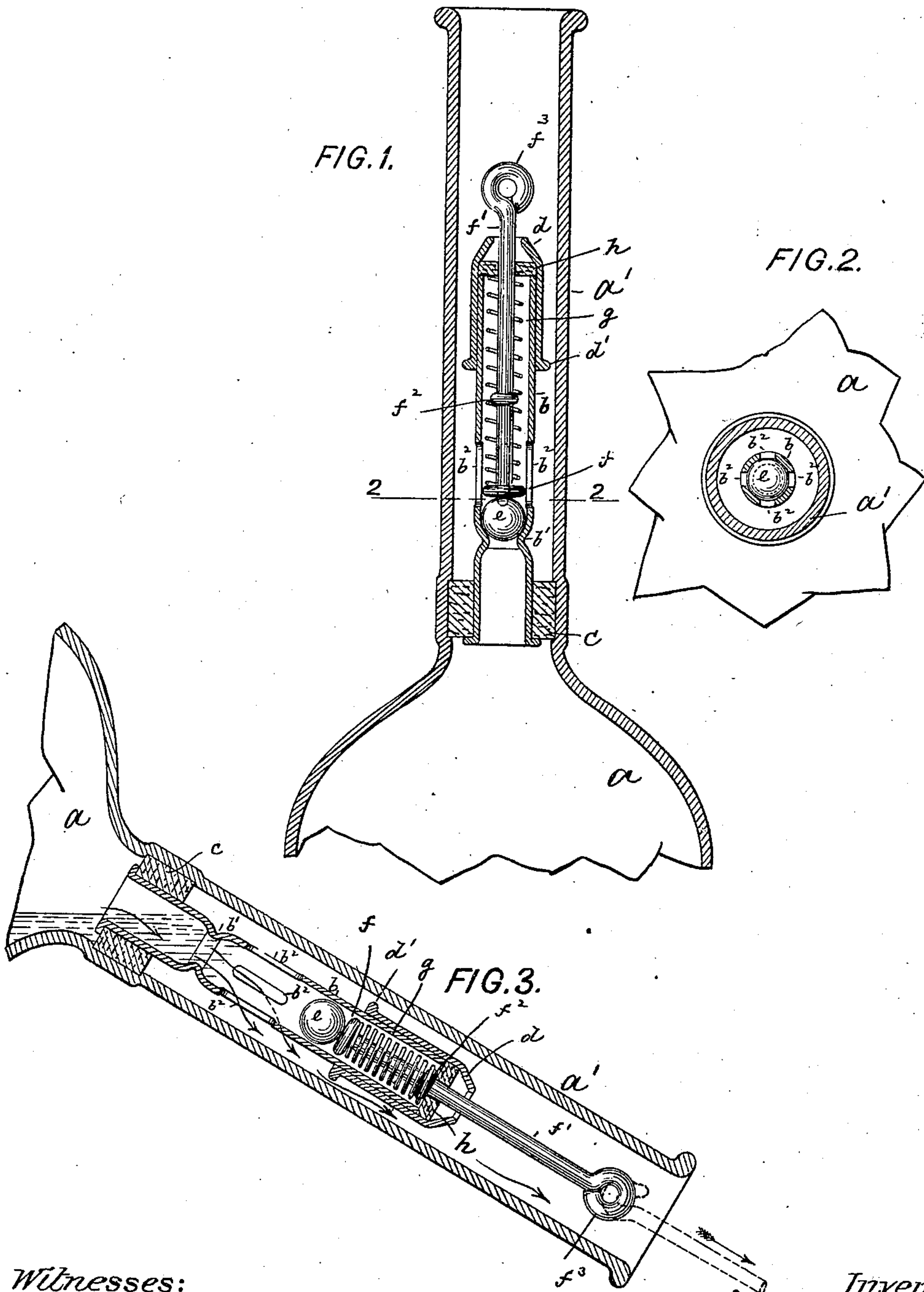
No. 680,416.

Patented Aug. 13, 1901.

F. KUHLES.
NON-REFILLABLE BOTTLE.

(Application filed June 1, 1901.)

(No Model.)



Witnesses:
John Becker.
Edward Ray.

Inventor:
Friedrich Kuhles
by his attorneys
Roeder & Briesew

UNITED STATES PATENT OFFICE.

FRIEDRICH KUHLES, OF MAYWOOD, NEW JERSEY.

NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 680,416, dated August 13, 1901.

Application filed June 1, 1901. Serial No. 62,728. (No model.)

To all whom it may concern:

Be it known that I, FRIEDRICH KUHLES, a citizen of the United States, and a resident of Maywood, Bergen county, New Jersey, have invented certain new and useful Improvements in Non-Refillable Bottles, of which the following is a specification.

This invention relates to a non-refillable bottle which is so constructed that the valve that controls the outlet-orifices is firmly held to its seat by means of a spring-plunger that closes the valve air-tight. The plunger may be lifted by means of a suitable tool whenever the contents of the bottle are to be poured out.

In the accompanying drawings, Figure 1 is a vertical longitudinal section of the upper portion of a bottle provided with my improvement, showing the valve seated. Fig. 2 is an enlarged cross-section on line 2 2, Fig. 1; and Fig. 3, a vertical longitudinal section similar to Fig. 1, but showing the valve unseated.

The letter *a* represents a bottle having a neck *a'*. Within this neck is contained a tube *b*, that passes through a stopper *c*, fitted within a recess of the neck. The tube *b* is contracted at *b'* to form a valve-seat and is provided with exit-ports *b²* above such seat. At its upper end the tube is embraced by a perforated cap *d*, cemented thereto and provided with a flange or collar *d'*, which prevents the introduction of a hook or wire for the purpose of lifting the valve while the bottle is in an upright position. A ball-valve *e* normally rests upon the seat *b'* of tube *b* below the ports *b²*, so as to interrupt communication between the interior of the bottle and such ports.

Within the tube *b* is arranged a plunger *f*, the rod *f'* of which is embraced by a spring *g*, which tends to hold the plunger firmly against the valve. A stop *f²* on plunger-rod *f'* is adapted to limit the movement of the plunger by striking a perforated plug *h*, fitted to the upper end of the tube. At its upper end the plunger-rod *f'* is provided with an eye *f³*, adapted to be engaged by a hook or similar tool *i*, by means of which the plunger may be raised to liberate the valve.

When the contents of the bottle are to be poured out, the plunger is raised by means of the hook *i* and the bottle is tilted, Fig. 3, so that the valve *e* will become unseated and the liquid is free to flow out through the ports *b²*. Upon the release of the plunger-rod and the righting of the bottle the valve will again become seated and spurious refilling will be prevented.

The plunger closes the valve so tightly that the latter constitutes a stopper and prevents the ingress of air to the interior of the bottle.

What I claim is—

A non-refillable bottle provided with a tube having a valve-seat and exit-ports, a valve seated within said tube, a spring-plunger bearing upon the valve, means for limiting the play of said plunger, an eye at the upper end of the plunger-rod, and a flanged cap surrounding the tube, substantially as specified.

Signed by me at New York city, county and State of New York, this 29th day of May, 1901.

FRIEDRICH KUHLES.

Witnesses:

F. V. BRIESEN,
WILLIAM SCHÜLZ.