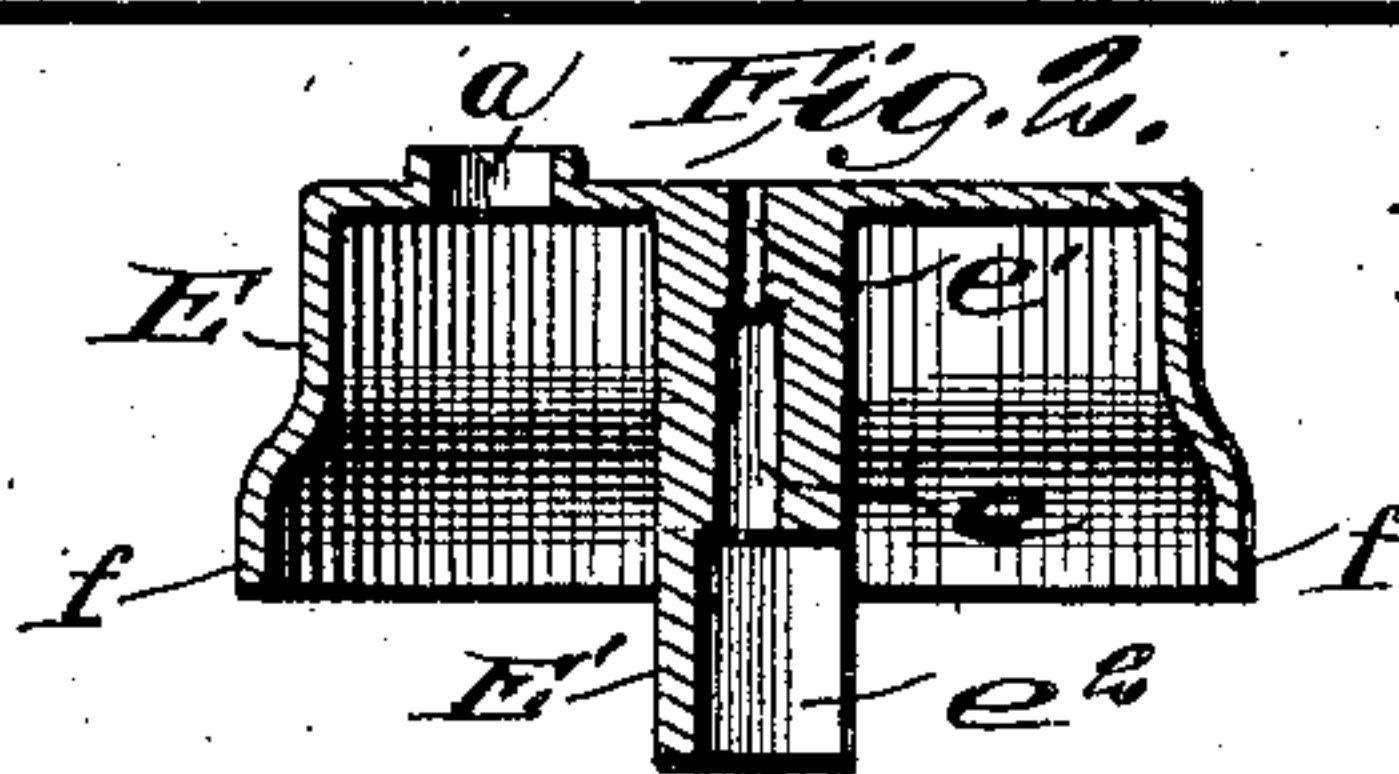
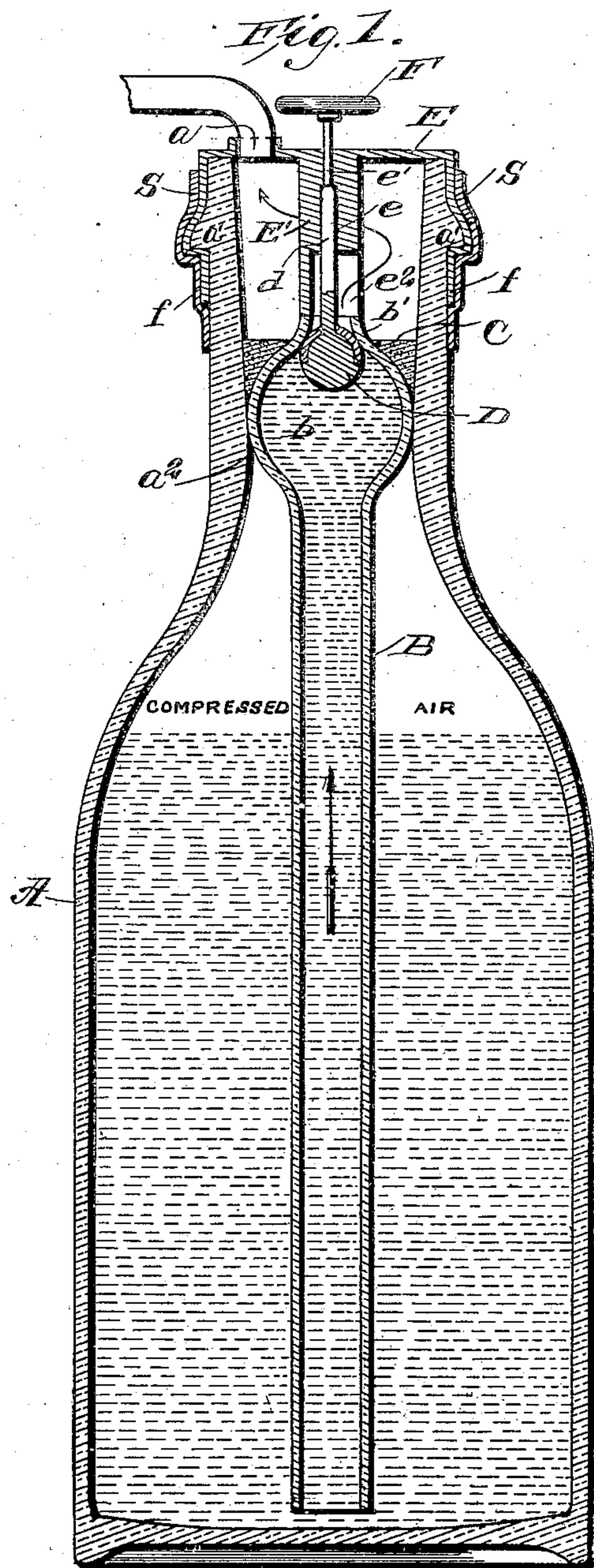


No. 845,579.

PATENTED FEB. 26, 1907.

H. N. ROTHWEILER.  
NON-REFILLABLE BOTTLE.  
APPLICATION FILED NOV. 26, 1906.



WITNESSES:  
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# UNITED STATES PATENT OFFICE.

HARVEY NELSON ROTHWEILER, OF SEATTLE, WASHINGTON.

## NON-REFILLABLE BOTTLE.

No. 845,579.

Specification of Letters Patent.

Patented Feb. 26, 1907.

Application filed November 26, 1906. Serial No. 345,117.

*To all whom it may concern:*

Be it known that I, HARVEY NELSON ROTHWEILER, a citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented a new and useful Improvement in Non-Refillable Bottles, of which the following is a specification.

My invention is in the nature of a non-refillable bottle designed for containing spirituous liquors, proprietary preparations, table condiments—such as catsup, sauces, &c.—and any other materials in liquid form in which the refilling of the bottles with a sur-  
reptitious substance is to be prevented.

My invention consists in the novel construction and arrangement of the bottle in combination with a valve, a sealing-cap, and dispensing devices designed to be filled and also discharged under an air-pressure, as hereinafter fully described with reference to the drawings, in which—

Figure 1 is a vertical central section of my new bottle, and Fig. 2 is a sectional detail of the cap.

A represents a glass bottle having its neck portion slightly contracted at  $a^2$  and having an external rib or projection  $a'$  a short distance below the mouth of the bottle.

B is a tube, of any desired material, but preferably of glass, and extending nearly the full length of the body of the bottle. This tube is swelled at  $b$  near its upper end to a larger diameter, which swelled portion forms a support for the tube, which rests upon the contracted portion  $a^2$  of the bottle-neck and holds the lower end of the tube concentrically in the bottle and suspended about one-quarter of an inch from the bottom. This tube is fixed firmly in the neck of the bottle by a filling of cement  $c$ , which surrounds the swelled portion of the tube and fills the space between the same and the inside surface of the bottle-neck.

The upper end  $b'$  of the tube B above the swelled portion is somewhat smaller in diameter than the lower part and forms at the point where it enters the swelled portion a valve-seat against which rests from internal pressure a valve D. This valve, as shown, is globular, but may be of any shape, and preferably has on its upper surface a soft packing of rubber or other material. The valve is made with a rigidly-attached stem  $d$ , which

may be made in one and the same piece with the valve or may be made separately and screwed in. The valve and stem may be made of glass, wood, hard rubber, metal, or any other desired material.

Over the mouth of the bottle and above the tube B is secured a cap E, of metal or any desired material. This cap is provided with a central projection  $E'$ , extending down to the upper end  $b'$  of the tube B. This projection is formed with a central hole through it, the lower portion  $e$  of which is somewhat larger than the upper portion  $e'$ . In the cap E at one side of the center is formed an outlet-opening  $a$ , having a short nipple, to which, if desired, a curved dispensing-spout may be attached, as shown. The lower portion of the projection  $E'$  from the cap is formed with an opening  $e^2$  in its side. The cap E is tightly fitted over the mouth of the bottle and has an overlapping flange  $f$ , that extends down the outside of the bottle-neck and is crimped or compressed around the external rib  $a'$  to hold the cap against being forced off. When the cap E is thus seated over the mouth of the bottle, its central hole  $e$  receives the upper end of the valve-stem  $d$ , the valve being held to its seat by the pressure of an air-cushion in the bottle.

To dispense the contents of the bottle, it is only necessary to press down the valve D, and then the liquid passes up through the end  $b'$  of the tube and out through the opening  $e^2$  in the side of the projection  $E'$  and thence out through nipple  $a$ . For this purpose a detachable dispensing-key F is provided, whose stem is of a size to pass through the smaller  $e'$  in the projection  $E'$  and whose top part is fashioned into a button. This key may have either a plain stem or it may be screw-threaded. By pressing upon this button after the stem is inserted in the hole  $e'$  the valve-stem  $d$  is forced down with valve D against the internal pressure of the bottle. The valve D is made small enough to be forced through the lower open end of the tube when inserting the same, and when it reaches the enlarged chamber  $b$  it moves freely and sensitively to the depression of the key.

In filling the bottle it is intended to do so under an air-pressure of sixty pounds, more or less, and a suitable filling apparatus is designed to enter the neck of the bottle and



seize and hold the valve-stem *d*, so that the valve will not be allowed to pass beyond the enlarged chamber. As there is a permanent cushion of air above the liquid in the bottle, it will be seen that this air-cushion forces the liquid contents of the bottle up the tube B whenever the valve D is depressed. If there is any attempt to refill the bottle, the valve D will enter the tube B below, and its stem will leave the opening *e*, and the valve cannot again close upwardly on its seat. If the valve passes down to the bottom of the tube, it will then strike against the bottom of the bottle and will be expanded to a tight fit that will prevent the passage of any liquid into the surrounding space in the bottle.

The stem of the dispensing-button F is made relatively short, so that the button will strike the top of the cap before the valve-stem is out of its hole *e*, thus preventing the valve-stem from getting out of place, which would prevent the proper closing of the valve on its seat.

A manufacturer's seal S is secured around the top of the bottle-cap, which seal must be broken in any attempt to remove the cap and refill the bottle. This seal, as shown, is constructed as a ring which embraces the cap from above the rib *a'* to a point below flange *f* and which is broken in any attempt to release the flange *f* of the cap from the rib.

I claim—

1. A bottle having in its neck a central pendent tube opening into the bottom of the bottle and having at its upper end an enlarged portion terminating in a valve-seat, a valve located in this enlarged portion and having a stem extending above the same and a cap with a hole through it in line with the valve-stem.

2. A bottle having a contracted neck portion and a central tube with an enlarged valve-chamber suspended upon the contract-

ed portion of the bottle-neck and cemented therein, a downwardly-opening valve in the valve-chamber and means for opening the same.

3. A bottle having a central tube suspended in the neck and opening into the bottom of the bottle, said tube being made with an enlarged valve-chamber and having a depressible valve therein and a cap arranged over the mouth of the bottle and having a central projection with an opening through it and also a lateral opening at its lower end.

4. A bottle having in its neck a suspended tube opening into the bottom of the bottle, enlarged at its upper end to form a valve-chamber and having above the valve-chamber an opening smaller than the diameter of the tube and a valve arranged in the valve-chamber and made smaller than the lower portion of the tube and larger than the outlet at the top of the tube.

5. A bottle having in its neck a suspended tube opening into the bottom of the bottle and an enlarged valve-chamber at its upper end with a contracted upper end, a valve in the valve-chamber and a cap for the bottle with a central stem extending to the top of the tube and having a central hole for giving access to the valve.

6. A bottle having in its neck a suspended tube opening into the bottom of the bottle and an enlarged valve-chamber in its upper end, a valve in the valve-chamber having an upwardly-projecting stem and a cap having a downward projection formed with a central opening of two diameters, the lower one being of larger diameter and receiving the valve-stem.

HARVEY NELSON ROTHWEILER.

Witnesses:

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