

No. 754,608.

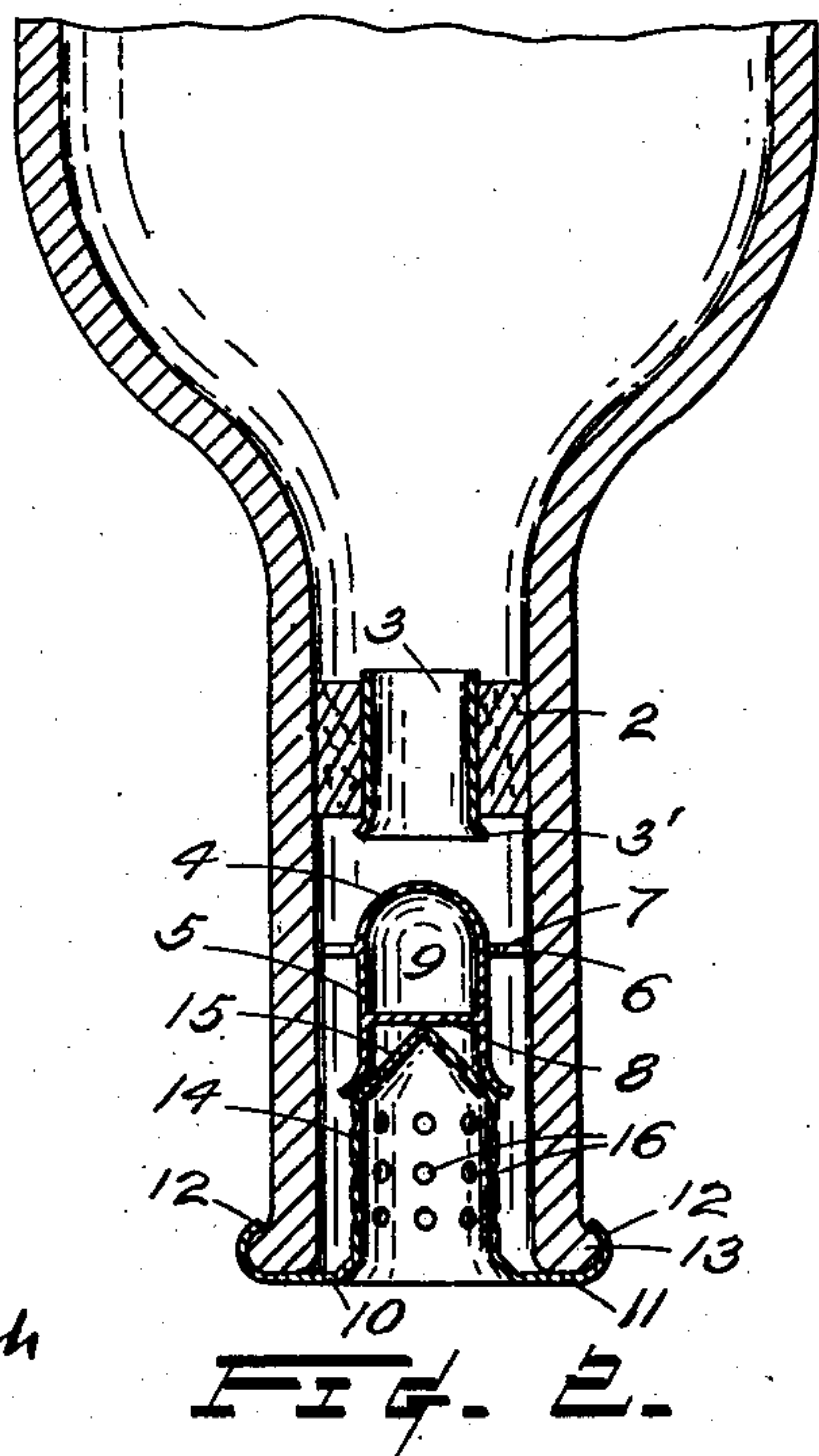
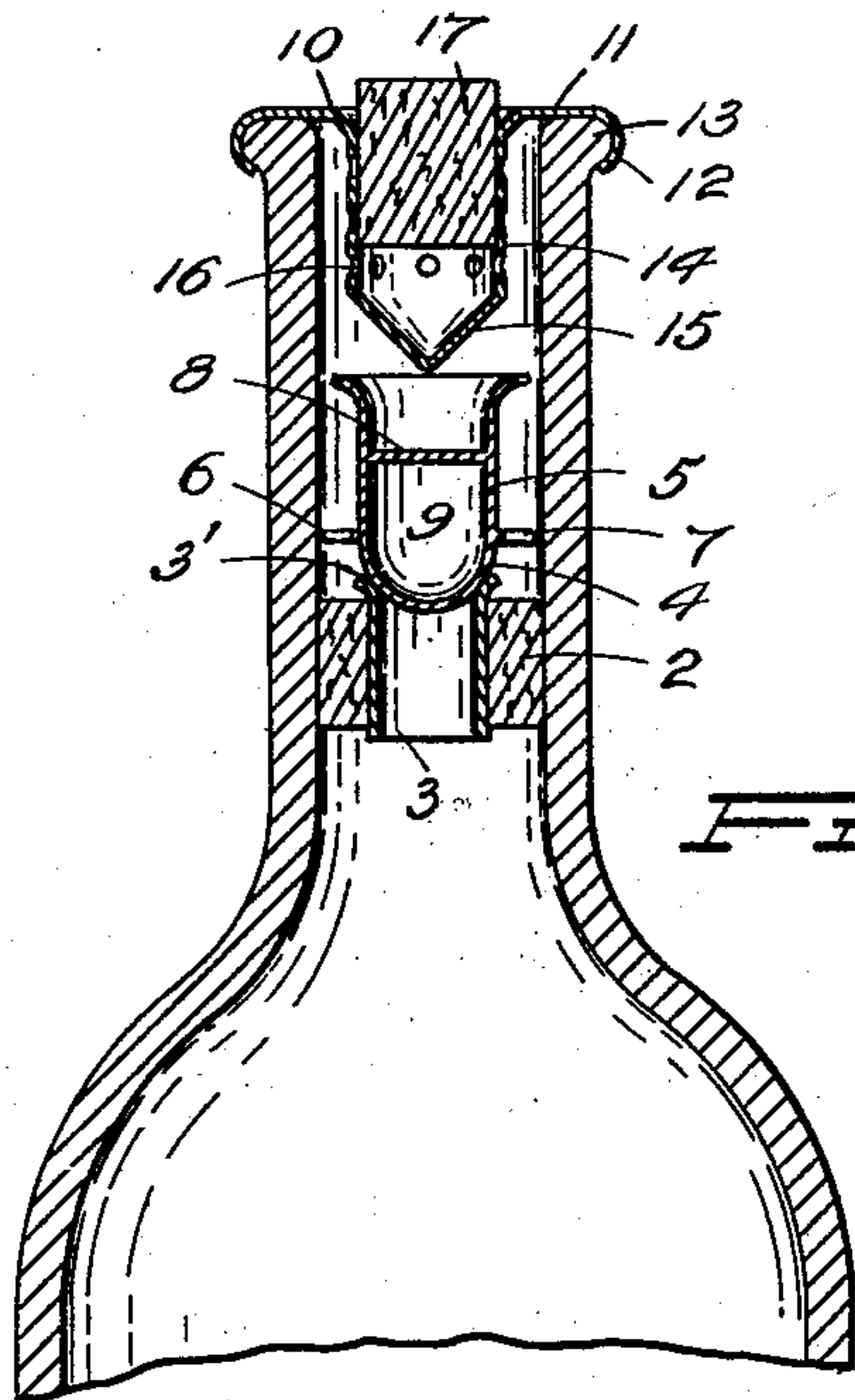
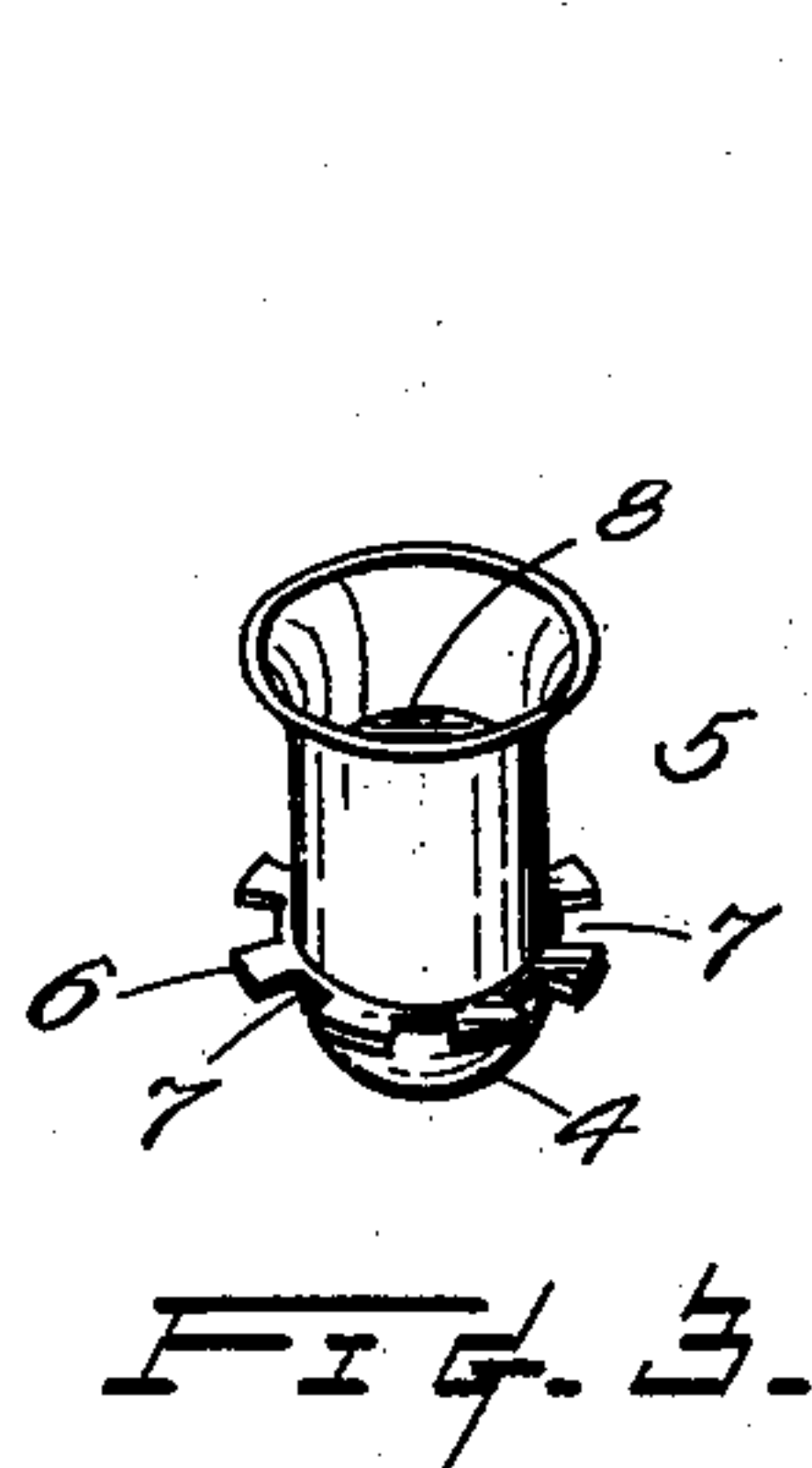
PATENTED MAR. 15, 1904.

J. G. REDDICK.

NON-REFILLABLE STOPPER FOR BOTTLES.

APPLICATION FILED OCT. 28, 1903.

NO MODEL.



WITNESSES:

*Ross W. Tulloch*  
*W. Smith*

INVENTOR

*J. G. Reddick*

BY

*Pierre Barnes*  
ATTORNEY

# UNITED STATES PATENT OFFICE.

JOSEPH GRANT REDDICK, OF PORTLAND, OREGON.

## NON-REFILLABLE STOPPER FOR BOTTLES.

SPECIFICATION forming part of Letters Patent No. 754,608, dated March 15, 1904.

Application filed October 26, 1903. Serial No. 178,498. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH GRANT REDDICK, a citizen of the United States, residing at Portland, in the county of Multnomah and State of Oregon, have invented certain new and useful Improvements in Non-Refillable Stoppers for Bottles, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to bottle-stoppers, and specifically to an improvement in the non-refillable stopper shown and described in my application, Serial No. 161,478, filed June 15, 1903; and the object of the present invention is to render the device more convenient and efficient in operation and to provide additional safeguards to prevent the stopper being tampered with by unscrupulous persons. I will now proceed to describe the same with reference to the accompanying drawings, in which—

Figure 1 is a section through the upper part of a bottle with my invention attached and showing the valve closed. Fig. 2 is a similar but inverted view showing the valve open. Fig. 3 is a perspective view of the valve.

According to my improvements in the neck of a bottle and at some distance below its mouth I secure by the elasticity of an annular bushing 2, such as cork, a tube 3, the outer peripheral edge 3' of which providing a seat for the semispherical end 4 of a valve 5. The other end of the valve is made flaring with an intermediate cylindrical part and is provided adjacent the end 4 with an external collar 6 of somewhat less diameter than the inside of the bottle-neck and is serrated by a plurality of notches 7 to provide passages for the outflow of the bottle's contents. Extending across the inside of the valve-body is a partition 8, forming a compartment 9 therebeneath of less size than would be sufficient to furnish buoyancy capable of overcoming the weight of the valve to float the same should any liquid be introduced into the neck of the bottle from outside.

10 is a cap having a flange 11, whereby it is fixedly connected to the mouth of the bottle by turning its periphery 12 over the circular bead or rim 13 commonly found on bot-

ties, and a cylindrical portion 14, terminating in a cone 15, which is projected axially within the bottle-neck. The said cylindrical portion of the cap is provided with a number of relatively small apertures 16 for the egress of the bottle's contents, while the apex of the said taper end 15 furnishes a stop to limit the longitudinal movement or opening of the valve, which is prevented from toppling when the bottle is inclined in pouring out by the edge of the flared end coming in contact with the bottle. The said collar retains the valve central or approximately so, of the bottle-neck, and consequently insures the valve being seated properly when the bottle is in an upright position, as in Fig. 1. A cork 17 may be inserted by the bottler in the cylindrical opening of the cap to close the orifice thereof and prevent during shipment or while in storage the accidental discharge of the bottle's contents or the admission of dirt into the neck of the bottle and which stopper would be withdrawn before using the device.

The operation of the invention is apparent from the drawings, wherein it is seen that when the bottle is in the position shown in Fig. 1 the valve is closed, but is open and offers no obstruction to pouring out the contents of the bottle in the usual way. Should an attempt, however, be made to refill the bottle by holding the same inverted and trying to force liquid into the bottle, the pressure of the liquid so attempted to be forced into the bottle would operate to seat the valve, and thus effectually prevent its refilling. Furthermore, by the use of a cylindrical portion of the cap having a closed end and discharge-openings in its circular wall provision is made to prevent the insertion of a looped wire or other contrivance which might be used to hold the valve away from its seat for the purpose of refilling the bottle.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a device of the character described, the combination with an open-end valve, a seat for said valve, and means for securing said seat in the neck of a bottle, of a perforated cap having a cylindrical portion merging to a point



at its lower end adapted to receive the open end of the valve, and an annular flange projecting laterally from the cap and extending over and secured to the rim of the neck of the  
5 bottle.

2. In a device of the character described, in combination with a perforated cap having a pointed lower portion and secured in the mouth of a bottle, a valve having a closed compartment and an open end adapted to receive the  
10 point of the cap and provided with a rounded bottom, a flared valve-seat secured in the neck of the bottle and adapted to receive the rounded end of the valve, and projections formed on  
15 the valve for centering the same.

3. In a device of the character described, the combination with a perforated cap, of a cylindrical valve having a closed compartment and formed with a flared open end and rounded bottom and annular projections intermediate  
20 its ends, a valve-seat comprising a tube having a flared end adapted to receive the rounded end of the valve, and means for securing the valve-seat in the neck of a bottle.

In testimony whereof I affix my signature in  
25 presence of two witnesses.

JOSEPH GRANT REDDICK.

Witnesses:

A. R. MENDENHALL,  
OTTO W. NELSON.