

No. 773,597.

PATENTED NOV. 1, 1904.

F. SCHINDHELM.
NON-REFILLABLE BOTTLE.
APPLICATION FILED JUNE 24, 1903.

NO MODEL.

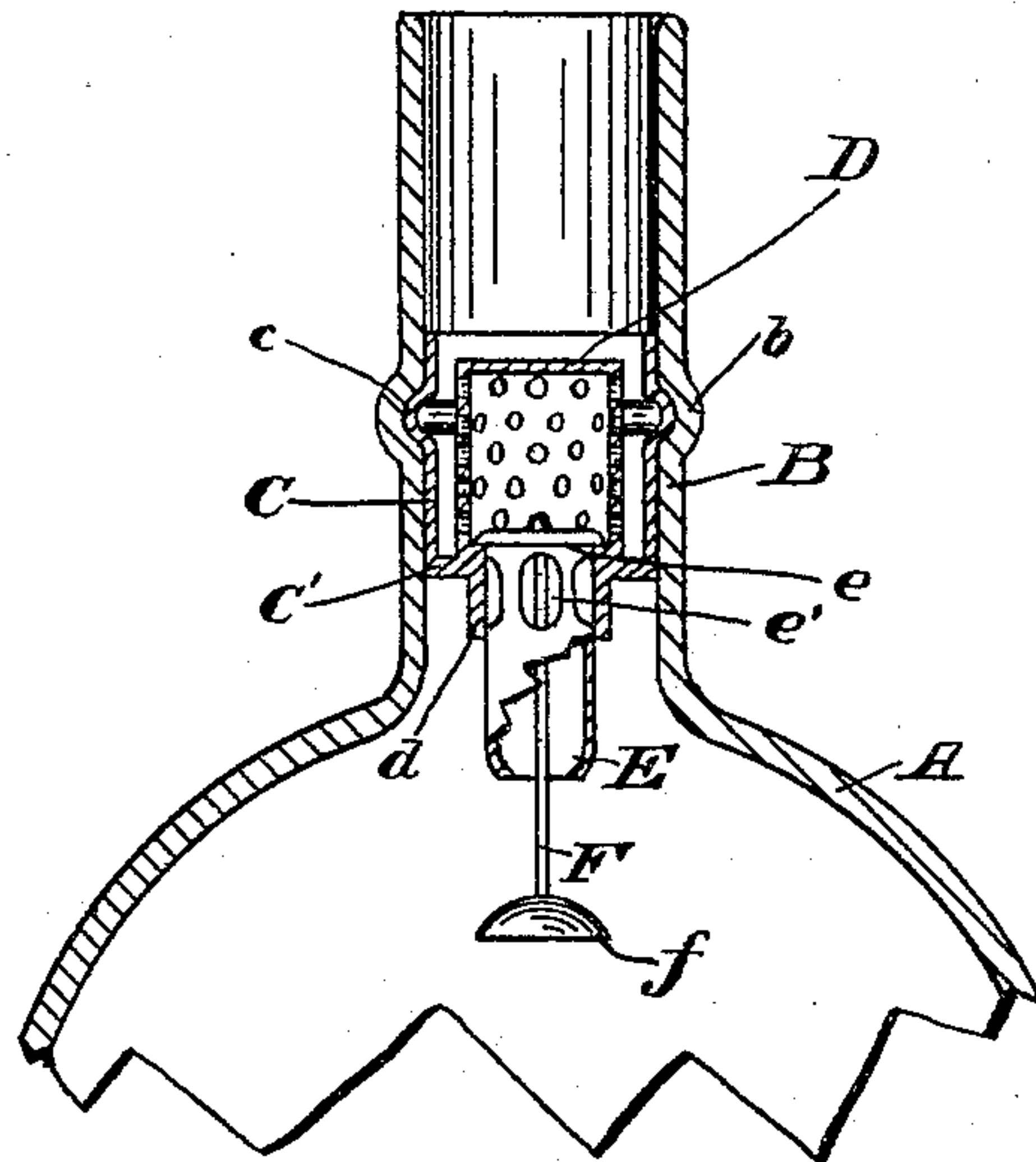


Fig. 1.

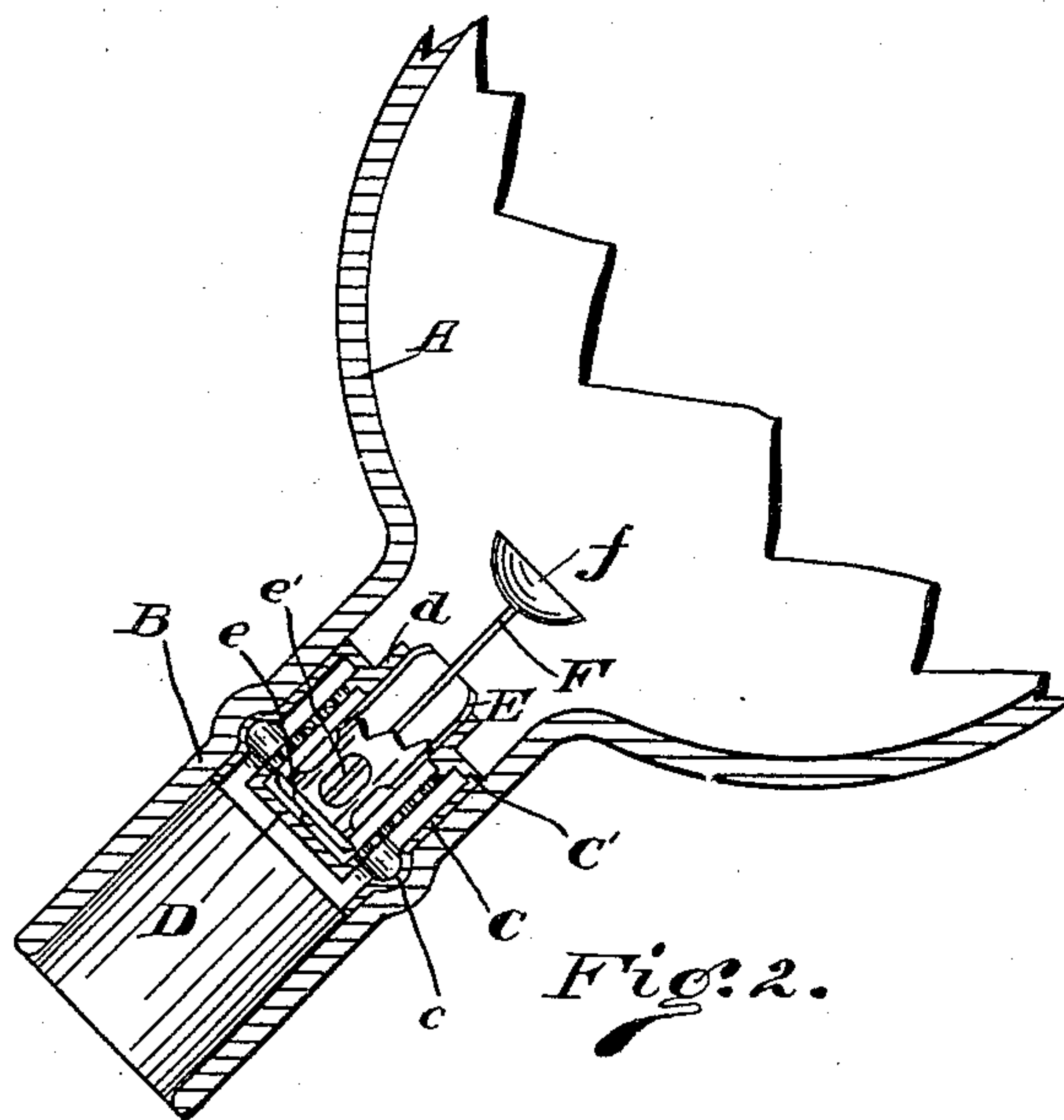


Fig. 2.

Witnesses
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UNITED STATES PATENT OFFICE.

FRANZ SCHINDHELM, OF CINCINNATI, OHIO, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE SUCCESS NON-REFILLABLE BOTTLE STOPPER COMPANY, OF CINCINNATI, OHIO.

NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 773,597, dated November 1, 1904.

Application filed June 24, 1903. Serial No. 162,858. (No model.)

To all whom it may concern:

Be it known that I, FRANZ SCHINDHELM, a citizen of the United States, and a resident of Cincinnati, in the county of Hamilton and State of Ohio, have invented a certain new and useful Improvement in Non-Refillable Bottles, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of my specification.

The object of my invention is to provide an appliance for a bottle which will permit it to be emptied without trouble, but will prevent any possibility of its being refilled without destroying the bottle or the appliance itself. It is simple and economical in construction and effective in operation, and so cheap that it can be made at a price which is not prohibitive of its use. Its advantages will appear more fully as I proceed with my specification.

In the drawings, Figure 1 is vertical section through a bottle with my improvement attached. Fig. 2 is a similar section showing the same in an inverted position as it would appear when in the act of being emptied.

A is a bottle having a neck B, provided at some point near its upper edge with an internal annular groove *b*, which serves, as will presently appear, to hold in place the attachment which prevents it from being refilled.

C is a metallic shell adapted to fit closely within the neck of the bottle and provided with an annular rib *c*, which fits in the groove *b* in the bottle-neck and holds the shell in position. The shell C is provided at its bottom with an annular offset *C'*, to which is secured a perforated cap D.

At the base of the cap D and within the same is secured a short tube *d*, within which slides a cylindrical valve E, provided with an extended cap *e*, which normally rests upon the top of the tube *d*. The valve is provided with openings *e'* a short distance below the cap *e*, and also has secured to it a rod F, which depends downward below the lower end of the valve, where it is provided with a concavo-convex disk *f*.

The operation of the mechanism is appar-

ent from the description. Normally the valve is in the position shown in Fig. 1, with the extended edges of the cap *e* resting on the top of the tube *d*. It is apparent from the drawings that when in this position nothing can be poured into the bottle, as the ports *e'* are entirely covered by the tube *d*. When, however, the bottle is tipped in order to pour out its contents, the valve E drops into the cap D, thereby uncovering the ports *e'*, said movement of the valve being insured by the disk *f*, against which the contents of the bottle bear or drop, and thus force the valve open. This condition of the valve is shown in Fig. 2, where it is apparent that the contents of the bottle may readily flow into the valve-cylinder E, thence through the ports *e'* and through the perforations in the cap D, whence they flow out of the mouth of the bottle. The air readily enters through such ports as are uppermost and are not filled by the liquid.

Although I do not limit myself to metal or any particular substance of which to make my improvement, I prefer to use aluminium, as this metal is non-corrosive, and there is thus no danger of rust interfering with the operation of the device. The appliance for preventing refilling may be fastened in other ways than the manner shown. It may also be used nearer the mouth of the bottle and then be covered by any one of the ordinary caps now in use; but it may be placed lower down in the neck of the bottle, as illustrated in the drawings, and then the usual cork put in.

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

1. The combination with a bottle, a shell secured within the neck of same provided with an annular flange at the bottom, a perforated cap secured to said flange, and a tubular valve provided with ports, said valve being normally seated below the perforations in said cap.

2. The combination with a bottle, of a shell secured in the neck thereof provided with an annular flange at its bottom, a perforated cap secured to said flange, a tubular valve pro-

vided with ports, said valve being normally seated below the perforations in said cap, and a disk secured to said valve at a distance below its mouth, substantially as and for the purpose described.

3. The combination with a bottle, of a tubular perforated cap with means for supporting the same within the neck of said bottle, an annular chamber closed at the bottom separating said cap from the inner walls of the neck of the bottle, a tubular valve-seat below the perforations in said cap, a tubular valve normally seated therein and provided with ports normally closed when the valve is seated, substantially as described.

4. The combination with a bottle, of a perforated tubular cap supported in the neck thereof, a chamber closed at the bottom surrounding said tubular cap, a tubular valve-seat below the perforations of said cap and a tubular valve provided with ports normally closed when the valve is seated, substantially as and for the purpose described.

5. The combination with a bottle, of a perforated tubular cap supported in the neck thereof, a chamber closed at the bottom surrounding said cap, a tubular valve normally

seated at the base of said cap and provided with ports normally closed when said valve is seated, and a disk supported from said valve at a distance below the lower end thereof, substantially as and for the purpose described.

6. The combination with a bottle of a shell supported within the neck thereof, an annular flange at the bottom of said shell, a perforated tubular cap supported within said shell, a tubular valve-seat secured to said flange at the base of said cap, and a tubular valve provided with ports seated within said tube, substantially as and for the purpose described.

7. The combination with a bottle, of a shell secured within the neck thereof, an annular flange at the bottom said shell, a perforated tubular cap secured to said flange, a tubular valve-seat secured at the base of said cap, a valve provided with ports normally closed when the valve is seated, and a disk secured to said valve at a distance below the lower end thereof, substantially as and for the purpose described.

FRANZ SCHINDHELM.

Witnesses:

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