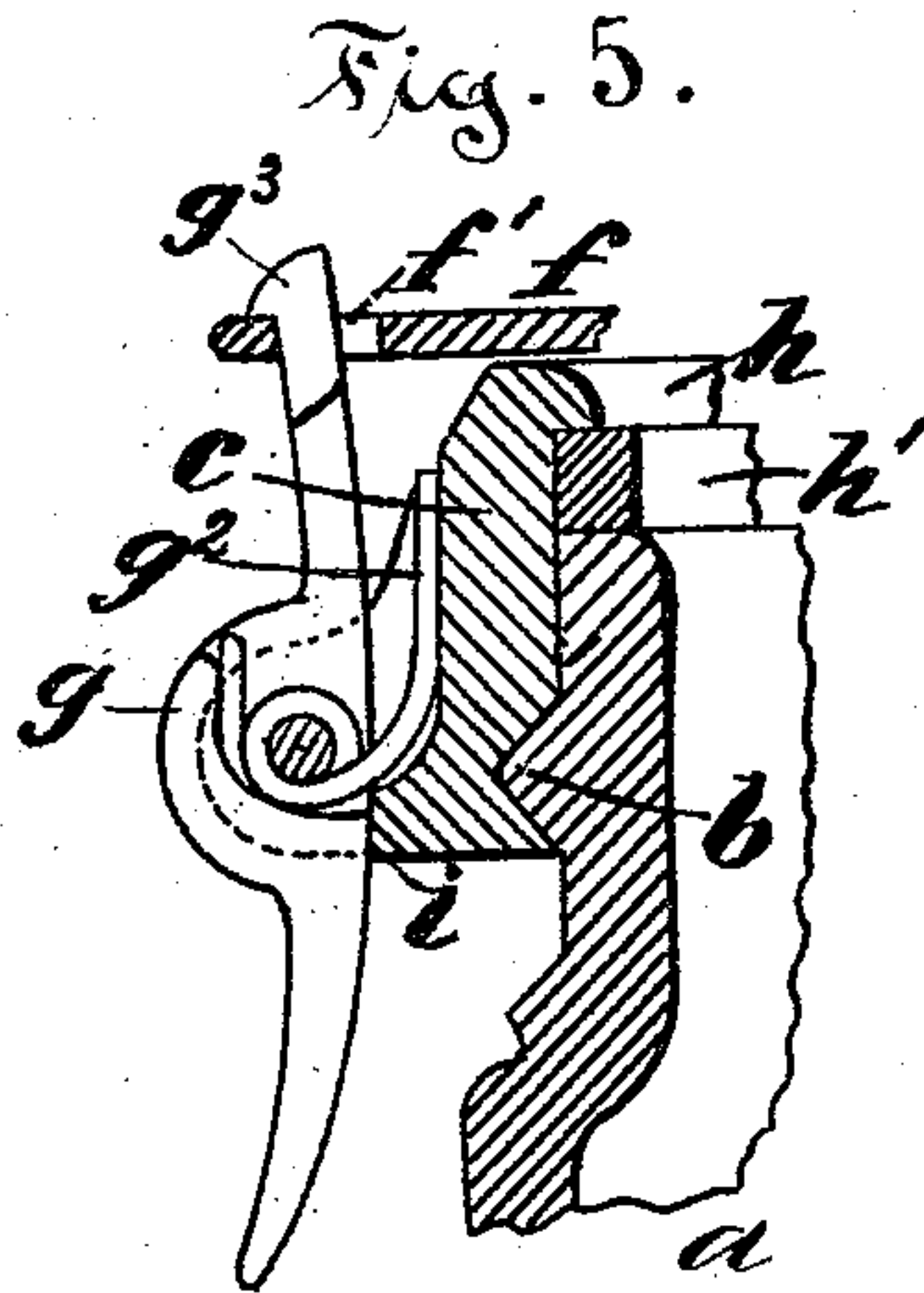
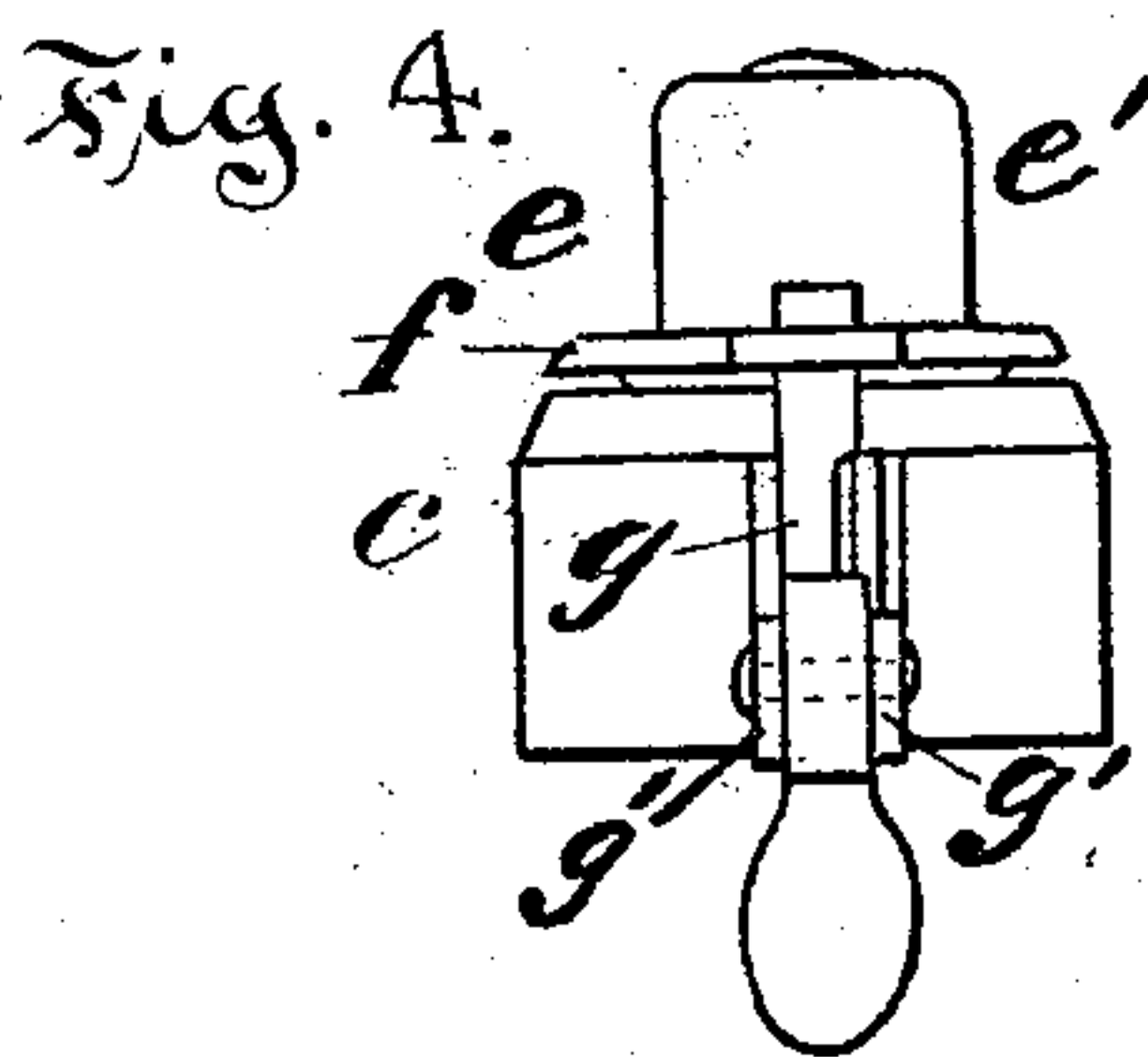
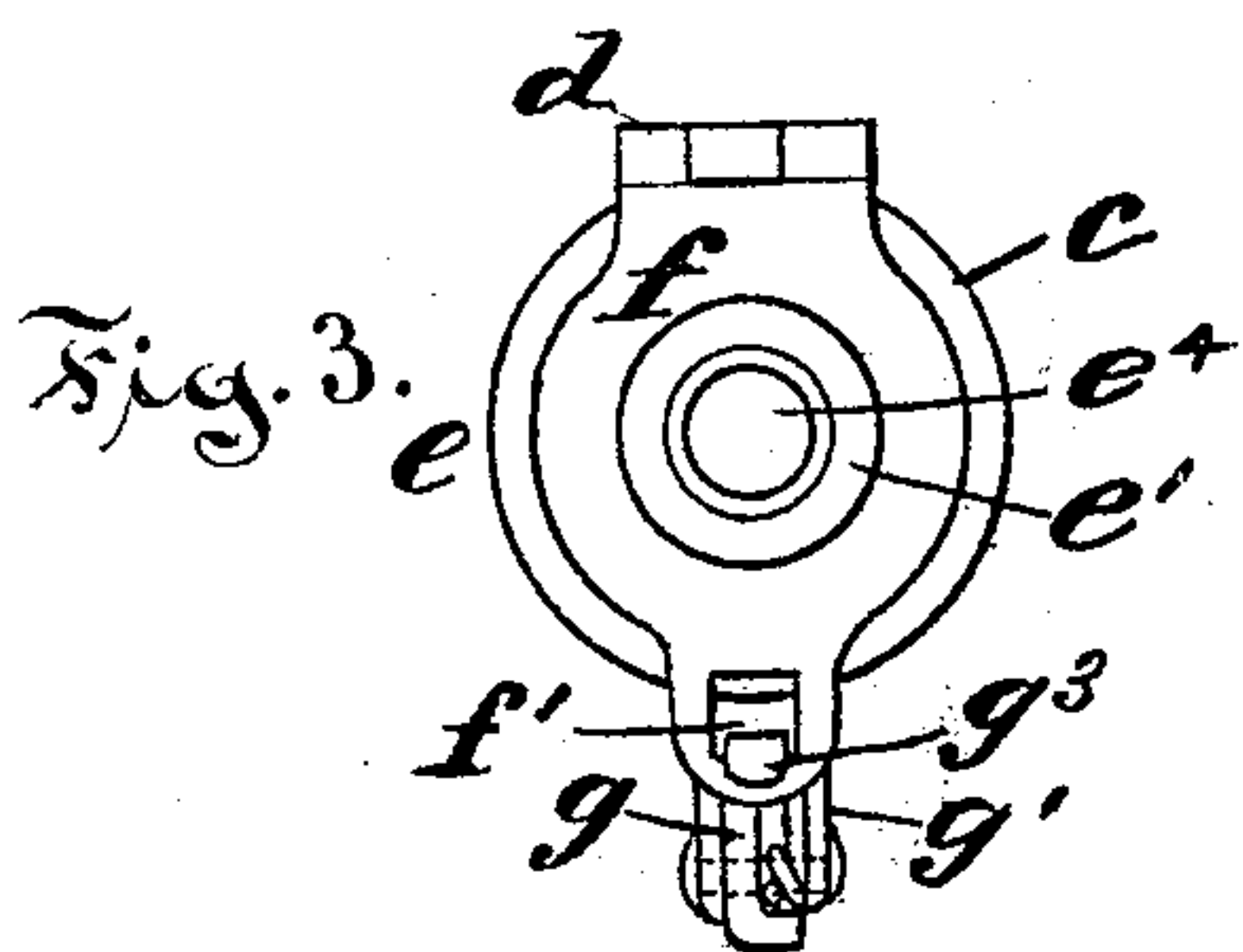
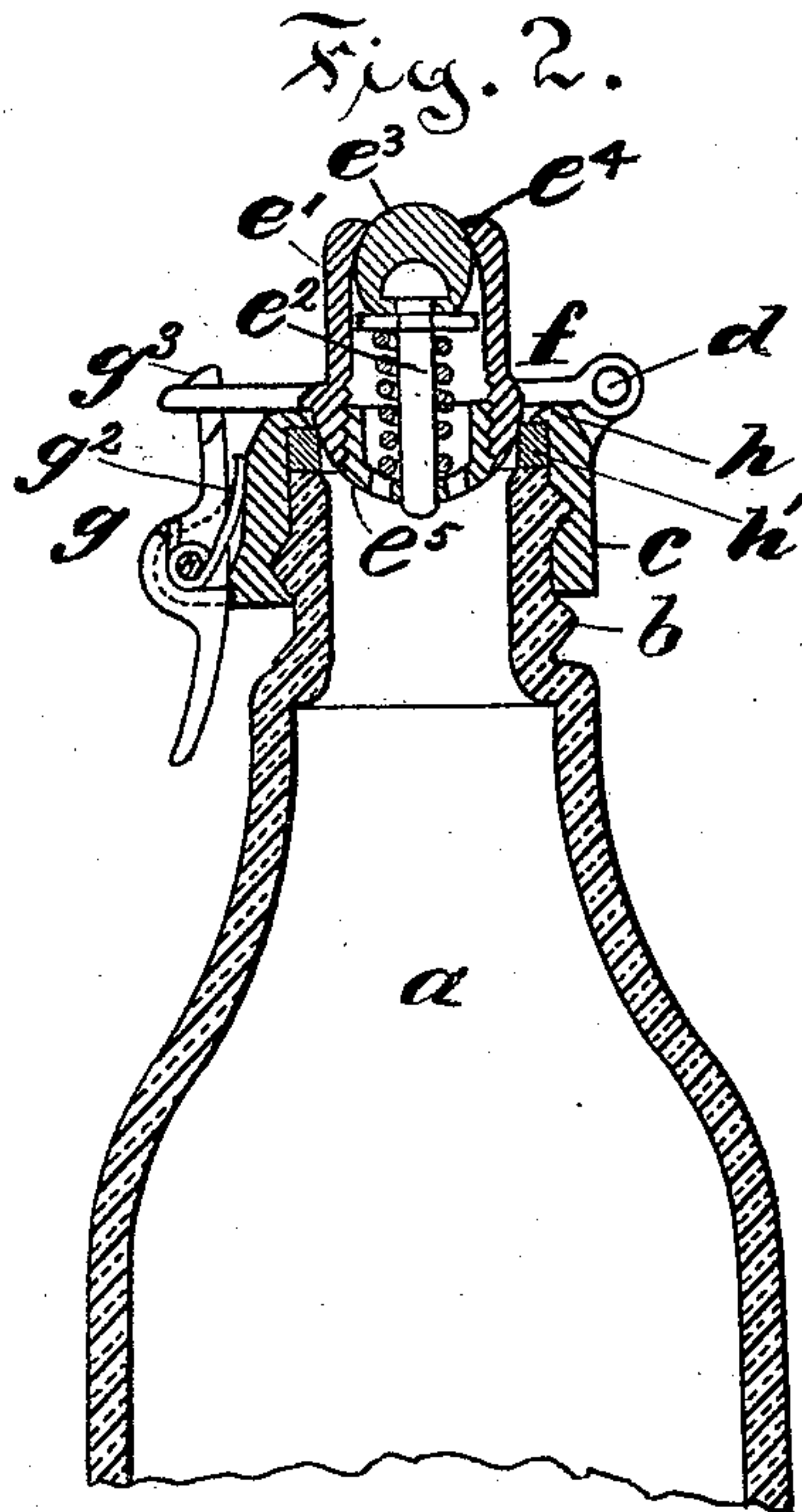
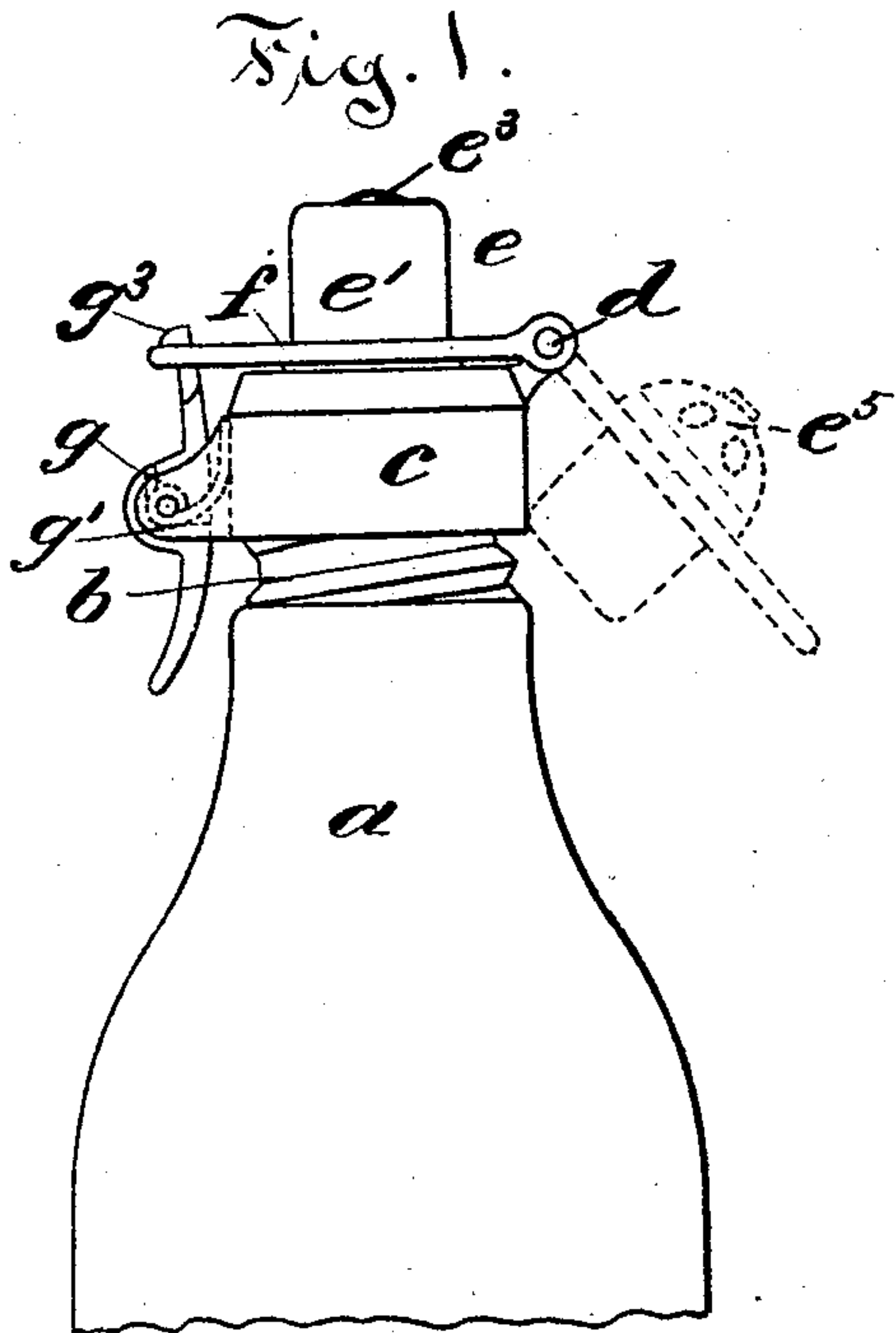


(No Model.)

F. B. THATCHER.
BOTTLE STOPPER.

No. 517,968.

Patented Apr. 10, 1894.



Witnesses:
Joseph Arthur Cantin.
W. E. Whitney

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UNITED STATES PATENT OFFICE.

FREDERICK B. THATCHER, OF PROVIDENCE, RHODE ISLAND.

BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 517,968, dated April 10, 1894.

Application filed March 16, 1893. Serial No. 466,300. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK B. THATCHER, of Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Bottle-Stoppers, of which the following is a full, clear, and exact description, whereby any one skilled in the art can make and use the same.

10 This invention relates to bottle stoppers, the object of the invention being to provide a device for closing the mouth of the bottle or like vessel, of such construction and arrangement of parts that it may be readily operated with one hand and thereby facilitate the work and save time in filling and sealing the bottle or vessel.

20 To this end my invention consists in the details of the several parts making up the stopper as a whole and in the combination of such parts as more particularly hereinafter described and pointed out in the claim.

Referring to the drawings: Figure 1 is a detail view in side elevation of the upper part 25 of a vessel provided with a stopper embodying my invention, the dotted lines showing the stopple thrown to one side. Fig. 2 is a view in central vertical section of the same. Fig. 3 is a detail top view of the stopper removed from the vessel. Fig. 4 is a detail front view of the stopper. Fig. 5 is a detail view in section on enlarged scale, showing a detail of a portion of the stopper attached to the bottle and the spring controlled latch.

30 In the accompanying drawings the letter *a* denotes a bottle or like vessel having on the neck an external thread *b*. Secured to this threaded neck of the vessel is a collar *c* which has an inside thread to correspond with and fit the threads on the neck. A stopple *e*, preferably having a base plate *f*, is secured on one side to the collar as by means of a hinge *d*. In the drawings this collar *c* is shown as having a flange *h* that overhangs the top of the bottle and the annular packing *h'* is interposed between the said flange and the edge of the mouth of the bottle in such manner that the joint between the flanged collar and the edge of the bottle will be rendered air tight and at the same time a flexible seat will be afforded for the stopple. The stopple *e* is

shown as having a tubular portion *e'* in which is located a valve, on the stem *e²* of which is secured a flexible valve *e³* adapted and arranged to close the opening *e⁴* in the tube *e'*, 55 a spiral spring being interposed between a shoulder on the valve stem and the perforated base *e⁵* that is secured to the bottom of the chamber as shown. A latch *g* is supported on the collar on the opposite side from the hinge, preferably by pivoting it between the ears *g'*, a spring *g²* being arranged to hold the latch normally at the outer limit of its play. The upper end of the latch projects above the level of the collar and has a hooked end *g³* on 65 which the stopple is engaged by the extension of the hooked end through an opening in the stopple or the plate supporting it. In the form shown this latch is constructed as a lever with its lower end extending downward 70 along the side of the neck of the bottle and turned slightly outward so as to enable the lever to be disengaged from the stopple by thrusting a finger underneath the lever and between it and the side of the bottle. The extent of swinging movement of the latch *g* is determined by means of a stop *i* upon the lower edge of the collar *c*. The opening *f'* in the plate *f* of the stopper is preferably rounded or beveled at its lower front edge and the hooked end of the lever *g* will be beveled substantially as shown in the drawings so as to insure the entrance of this end of the lever into the opening when the stopper is pressed down to close the mouth of the bottle. 85

By the construction herein described and shown in the drawings it will be seen that the opening and closing of the stopper is extremely simple as the bottle when held in one hand can be opened by extending the thumb 90 or a finger upward underneath the lower end of the lever which will throw the latch out of engagement with the stopple and allow it to be thrown upward and over. The stopple may be closed in like manner when the bottle is held in one hand by simply using a finger for that purpose, care being taken to press the stopper down firmly upon the lever until the hooked end is engaged in the socket. 95

I claim as my invention—

The combination in a threaded stopper of the collar *c* having projections or ears *g'* and

the stop *i* as shown, the stopple *e* having the projecting plate *f* with the opening *f'* formed therein, the hinge connection *d* between the collar and stopple, the latch *g* pivoted between the ears *g'* and having an outturned hook adapted to engage an opening in the plate *f* of the stopple, and the spring *g*² normally pressing the lower end of the lever in-

ward and the upper end of the latch outward in engagement with the plate of the stopple, so all substantially as described.

FREDERICK B. THATCHER.

Witnesses:

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FRANK H. WILDES.