

No. 624,393.

Patented May 2, 1899.

R. H. SMITH.  
NON-REFILLABLE BOTTLE.

(Application filed Oct. 6, 1898.)

(No Model.)

Fig. 1.

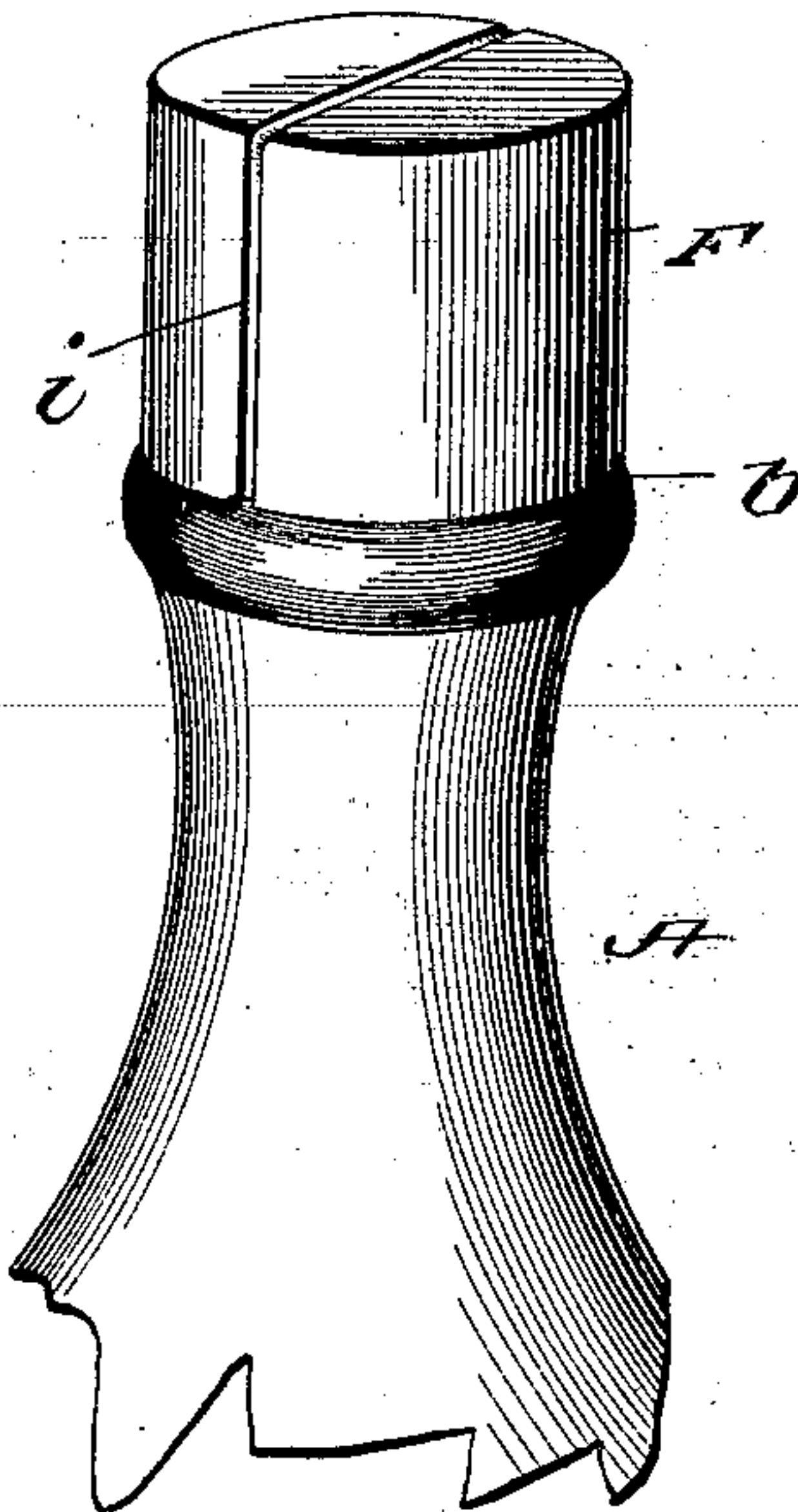


Fig. 2.

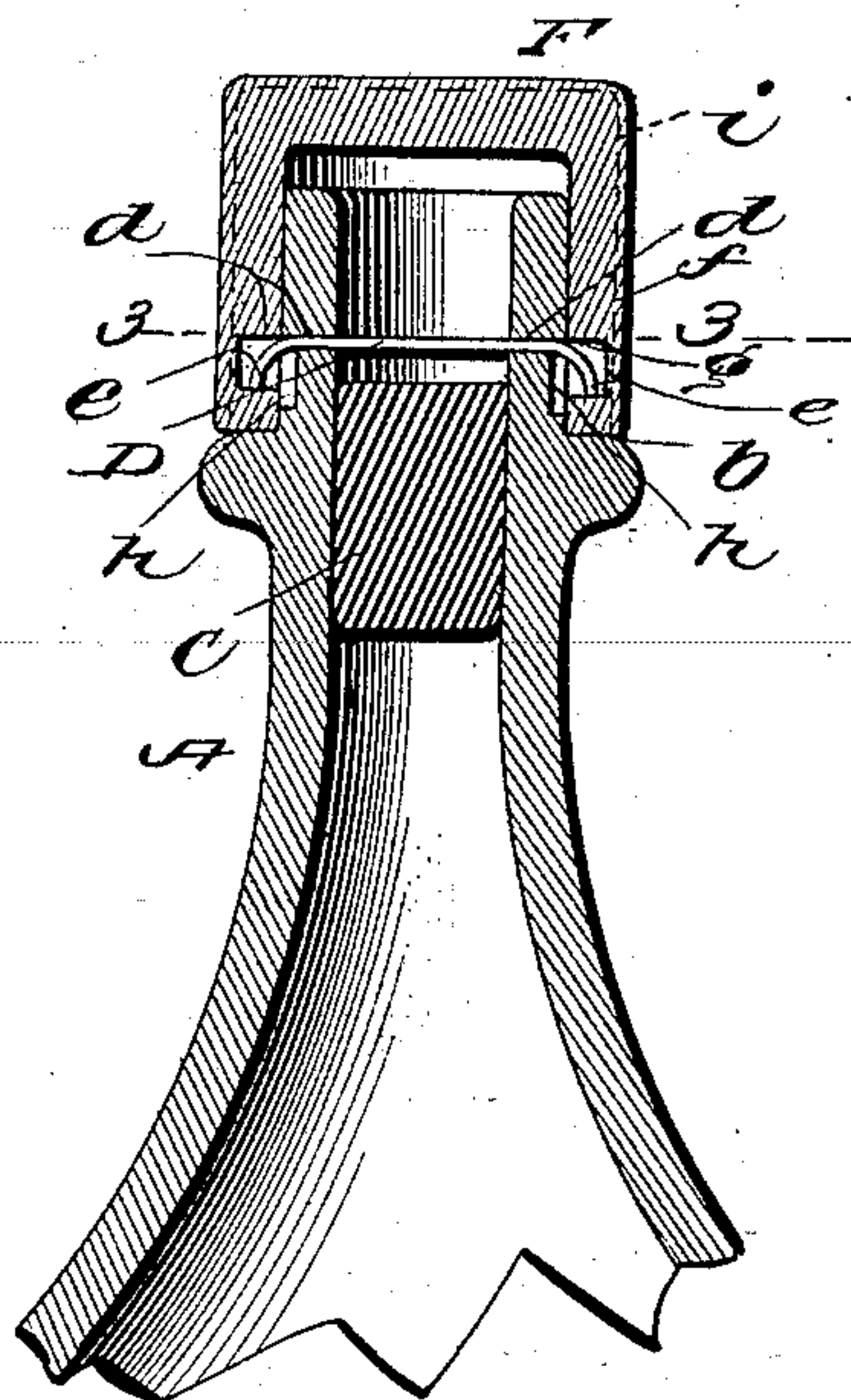


Fig. 4.

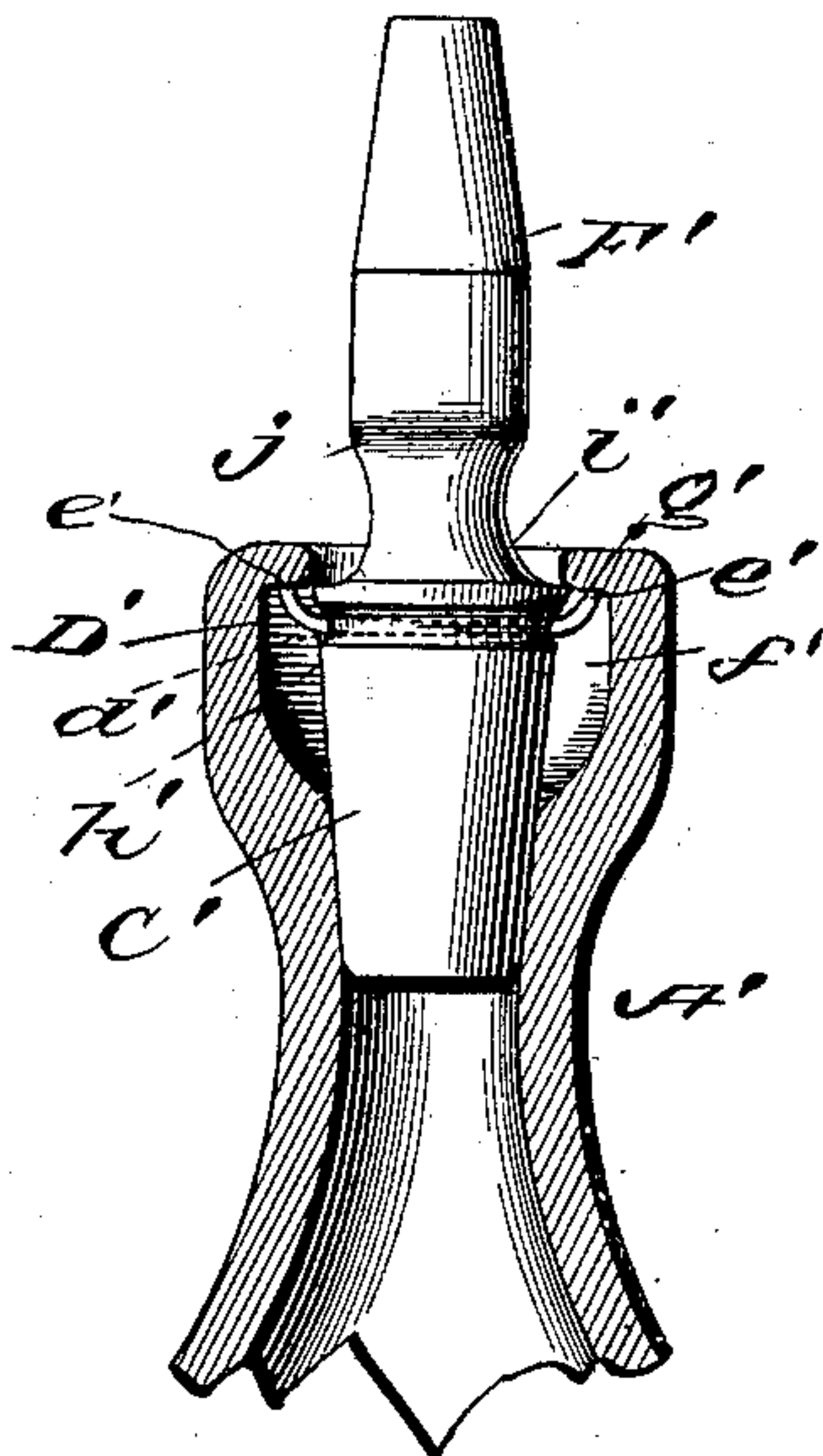


Fig. 3.

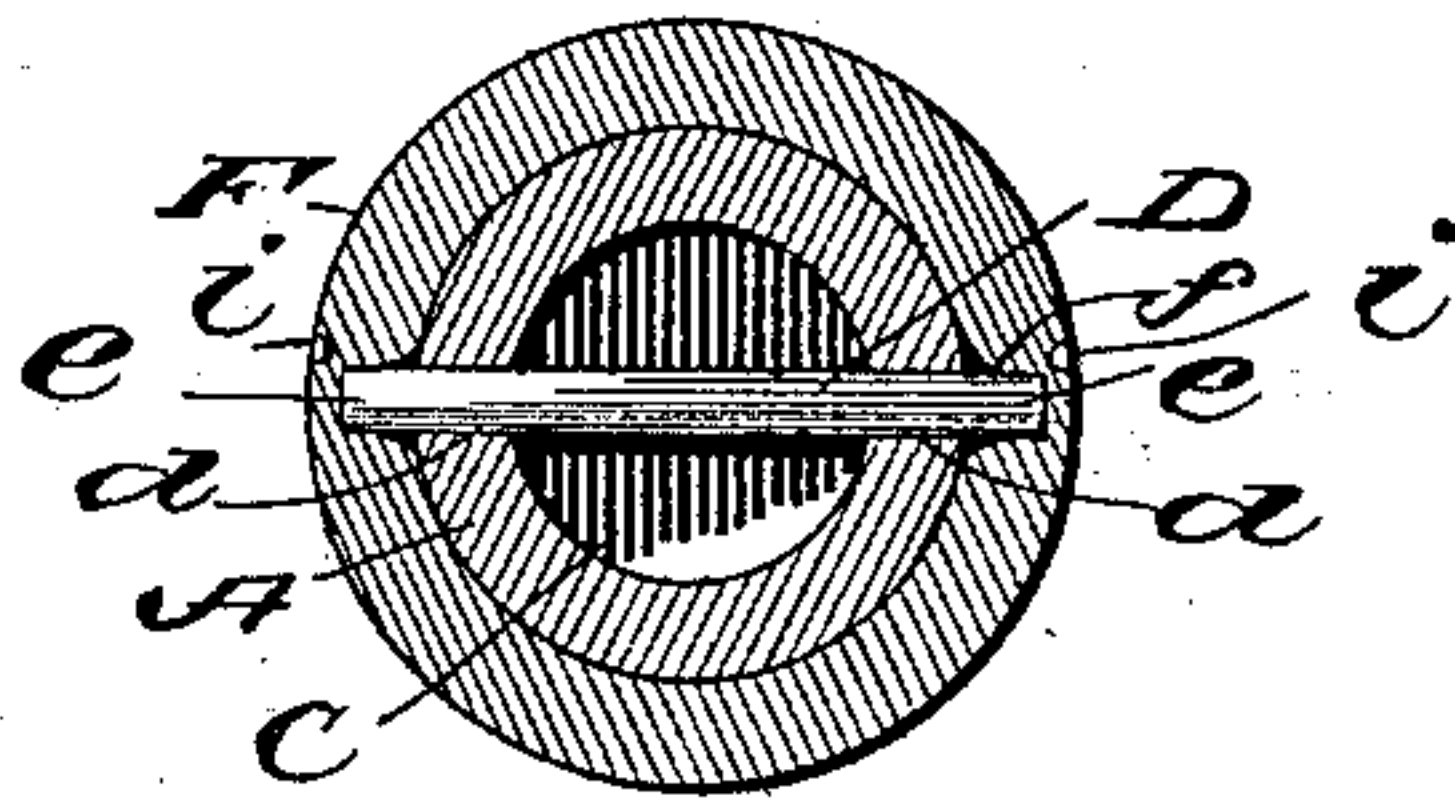
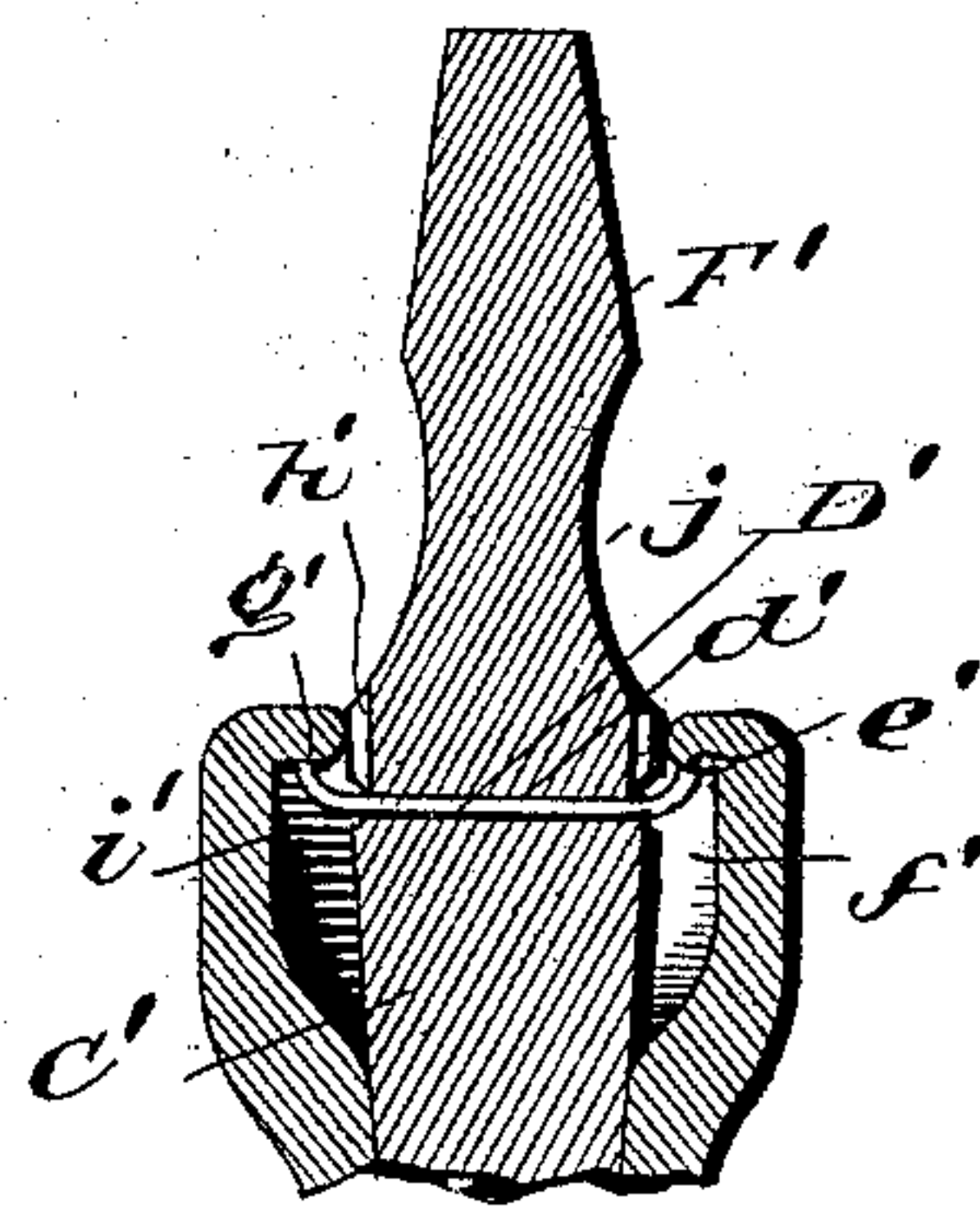


Fig. 5.



Witnesses

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Inventor  
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by *R. H. Kacey*  
his Attorney



# UNITED STATES PATENT OFFICE.

ROBERT H. SMITH, OF BEMENT, ILLINOIS.

## NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 624,393, dated May 2, 1899.

Application filed October 6, 1898. Serial No. 692,838. (No model.)

*To all whom it may concern:*

Be it known that I, ROBERT H. SMITH, a citizen of the United States, residing at Bement, in the county of Piatt and State of Illinois, have invented certain new and useful Improvements in Non-Refillable Bottles; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in non-refillable bottles and other liquid-containing vessels; and it consists in certain novel features of construction, combination, and arrangement of parts, which will be hereinafter more fully described, and particularly pointed out in the appended claims.

The object of the invention is to provide an improved construction of bottle of this character having a novel form of frangible guard or protecting device which is applied to the neck of the vessel over a cork or stopper inserted therein and which must first be destroyed, and thus rendered unfit for reuse before the said cork or stopper can be withdrawn and the contents of the vessel removed.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the neck of a bottle embodying my invention. Fig. 2 is a central vertical section thereof. Fig. 3 is a horizontal section on line 3 3 of Fig. 2. Fig. 4 is a vertical section through the neck of a bottle, showing a modified form of protecting device. Fig. 5 is a similar view, but showing the protecting device also in section.

Referring now more particularly to Figs. 1, 2, and 3 of the drawings, A represents the neck of a bottle or other liquid-containing vessel of suitable form and construction, at the base of which is formed an annular external shoulder *b*. The neck is sealed by a cork or stopper C, which is pushed down into the lower portion thereof, and above this cork or stopper the neck is provided at opposite sides with openings *d*, arranged in transverse alinement and forming a passage for the reception of a locking device consisting of a comparatively stiff plate or ribbon spring D, extending across the neck and having its ends *e* projecting laterally thereof. The neck is inclosed by a frangible cap F, which is sup-

ported by the shoulder *b* and provided on its interior with sockets or recesses *f* for the reception of the ends of the locking-spring, which engage with shoulders *g*, formed thereby. The cap constitutes a guard or protecting device which covers the cork or stopper and prevents access thereto and is held firmly in place by the spring, so that it can only be removed by fracturing it when it is desired to withdraw the cork. When the cap is applied to the neck, the projecting ends of the locking-spring are forced downwardly thereby into vertical recesses *h*, formed in the neck below the openings *d*, and are held in such position until the lower edge of the cap comes into contact with the shoulder *b*, when they snap into the sockets *f* and lock the cap. The extremities of the springs when forced downwardly in this manner are bent at an angle to the body portion of the plate and spring outward sufficiently to snap into the said sockets, against the shoulders of which the end edges thereof bear, so as to effectually resist bending in the reverse direction when an attempt is made to remove the cap. In order to facilitate the breaking of the cap, I preferably provide the same with a fracturing-groove *i*, extending across the crown and down the sides thereof adjacent to the said sockets *f*. By placing a pointed tool into the crown portion of this groove and tapping the same the cap may be readily and neatly broken into two parts in the plane of the locking-spring and removed to expose the spring and stopper for withdrawal without liability of crushing the cap or cutting the hands of the operator.

In the modifications shown in Figs. 4 and 5 the bottle-neck A' is enlarged in its upper portion to form a chamber *f'* and provided with an inturned flange or rim edge which overhangs said chamber and forms a shoulder *g'*. The stopper C' in this instance is inserted into the contracted lower portion of the neck and formed integrally with an auxiliary or superimposed stopper or plug F', constituting a frangible guard or protecting device therefor. The upper end of this guard projects exteriorly, while the lower portion thereof extends down into the said chamber *f'* and is provided with a transverse passage *d'*, through which extends a short distance a



locking-spring D', similar in all respects to the spring shown in Figs. 1, 2, and 3. The projecting ends *e'* of this spring are adapted to yield upwardly when the stopper and guard are applied and fold into recesses *h'*, formed in said guard, and then spring outwardly at an angle to the body portion of the spring to engage the shoulder *g'* to lock both the stopper and guard against withdrawal. The guard is weakened in the plane of the spring and at its point of juncture with the stopper by forming it with a circumferential fracturing-groove *i'*, so that it may be readily removed by tapping it against a hard object or striking it with a suitable tool to expose the spring, which latter may then be forcibly taken out and the stopper drawn. If desired, however, the rim edge of the neck may also be broken off simultaneously with the auxiliary stopper or guard, and the latter may be formed independently of the stopper. It will be seen that this auxiliary stopper or plug embodies all the essential features of and performs the same function as the guard-cap shown in Figs. 1, 2, and 3.

From the foregoing description it will be apparent that the contents of the bottle cannot be removed until the guard is broken off and that the absence of said guard will be evidence of the fact that the bottle has been filled and emptied.

If desired, corresponding trade-marks or designs may be blown into the bottle and guard to further insure the genuineness of the contents and detection of an incomplete or substitute guard and deter unscrupulous persons from refilling the bottle with spurious articles.

Having thus described the invention, what is claimed as new is—

1. A bottle or other vessel of the character described, having a neck and a frangible seal-protecting device guarding the mouth thereof and provided with a fracturing-groove, one of said parts being provided with an internal locking shoulder or shoulders and the other with a transverse passage and vertical side recesses adjacent thereto, a stopper in the neck below the guard or protecting device, and a ribbon or plate spring extending through said passage in line with the groove in the guard and having its ends extended laterally and adapted to fold into said recesses and bent at an angle to the body portion of the spring to engage the said shoulder or shoulders when the guard is applied to the neck, substantially as described.

2. A bottle or other vessel of the character described, having a neck provided with openings at opposite sides thereof arranged in transverse alinement and vertical recesses adjacent thereto, a cap inclosing the neck and provided with a fracturing-groove extending down the sides and across the top thereof and with internal locking-shoulders, a plate-spring extended through the openings in the neck in line with the groove and having its ends projecting laterally therefrom and adapted to fold down into said recesses and bent at an angle to engage the shoulders in the cap when the latter is applied to the neck, and a stopper in the neck below said spring, substantially as described.

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

ROBERT H. SMITH.

Witnesses:

PAGE PROCTOR,  
PETER LIVINGSTON.