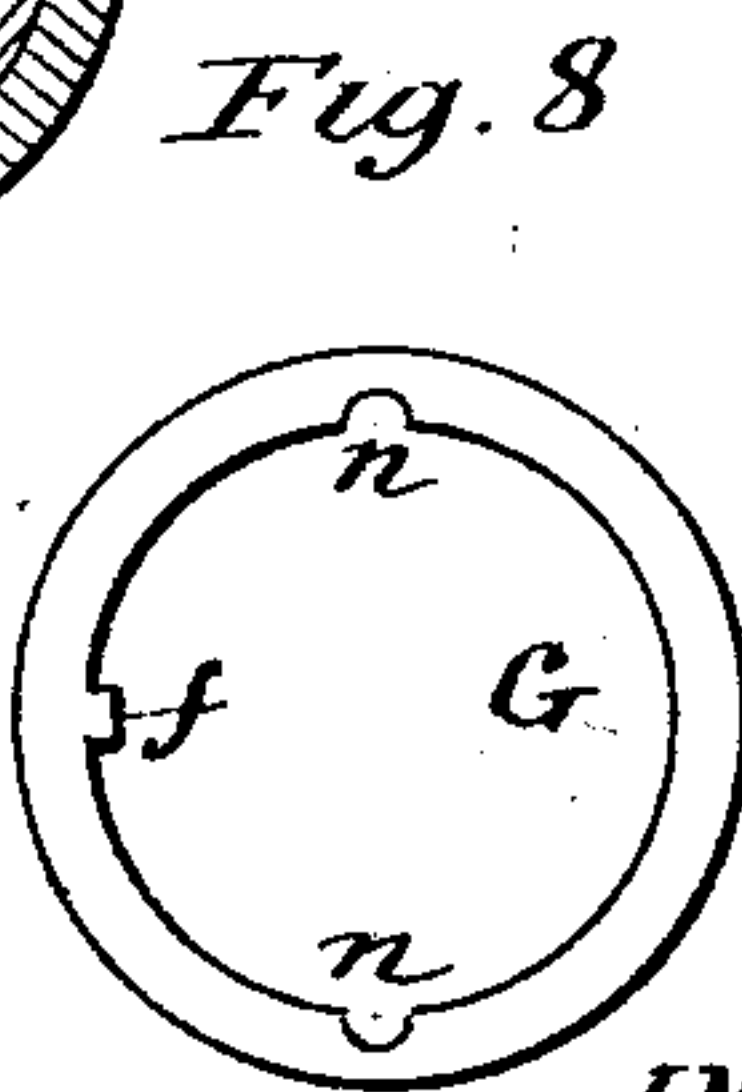
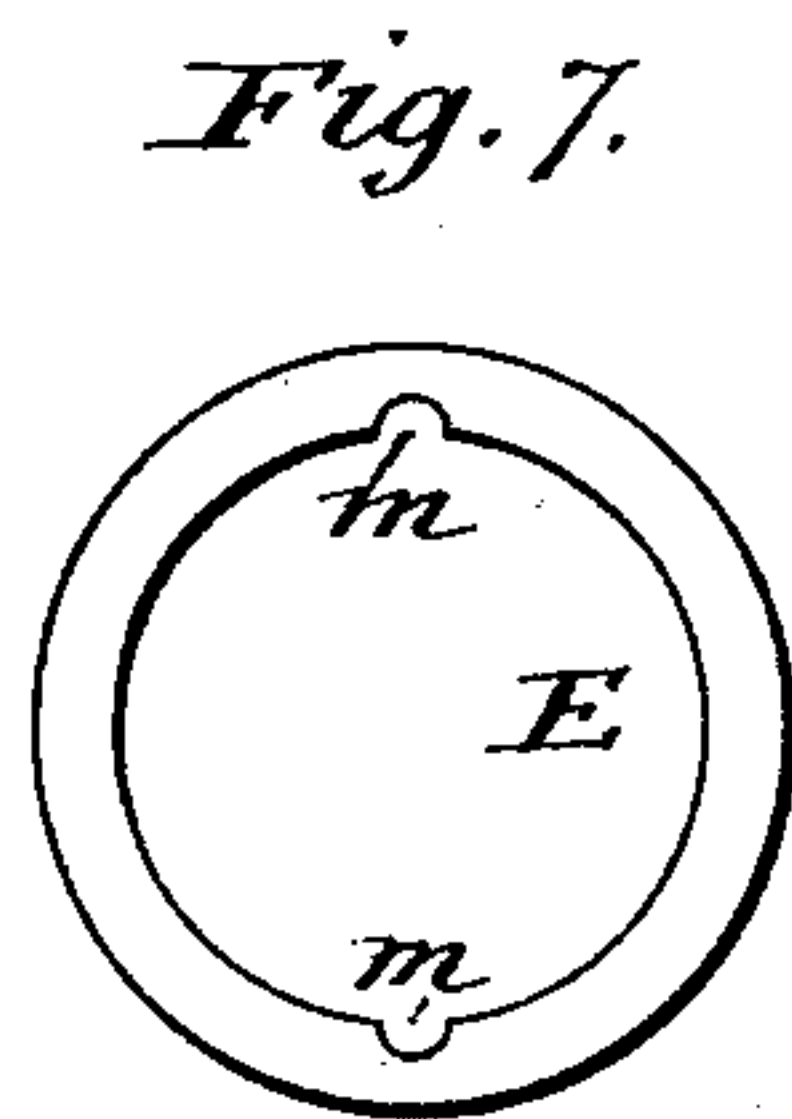
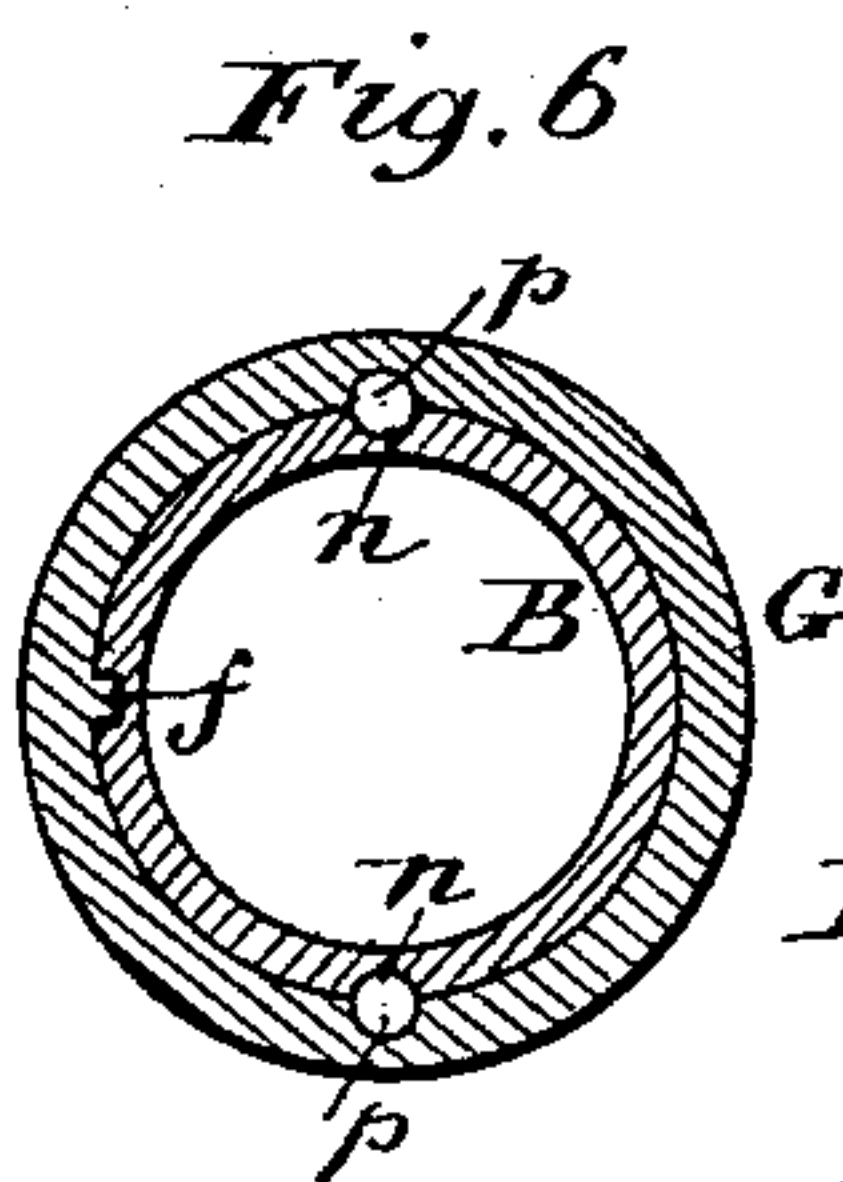
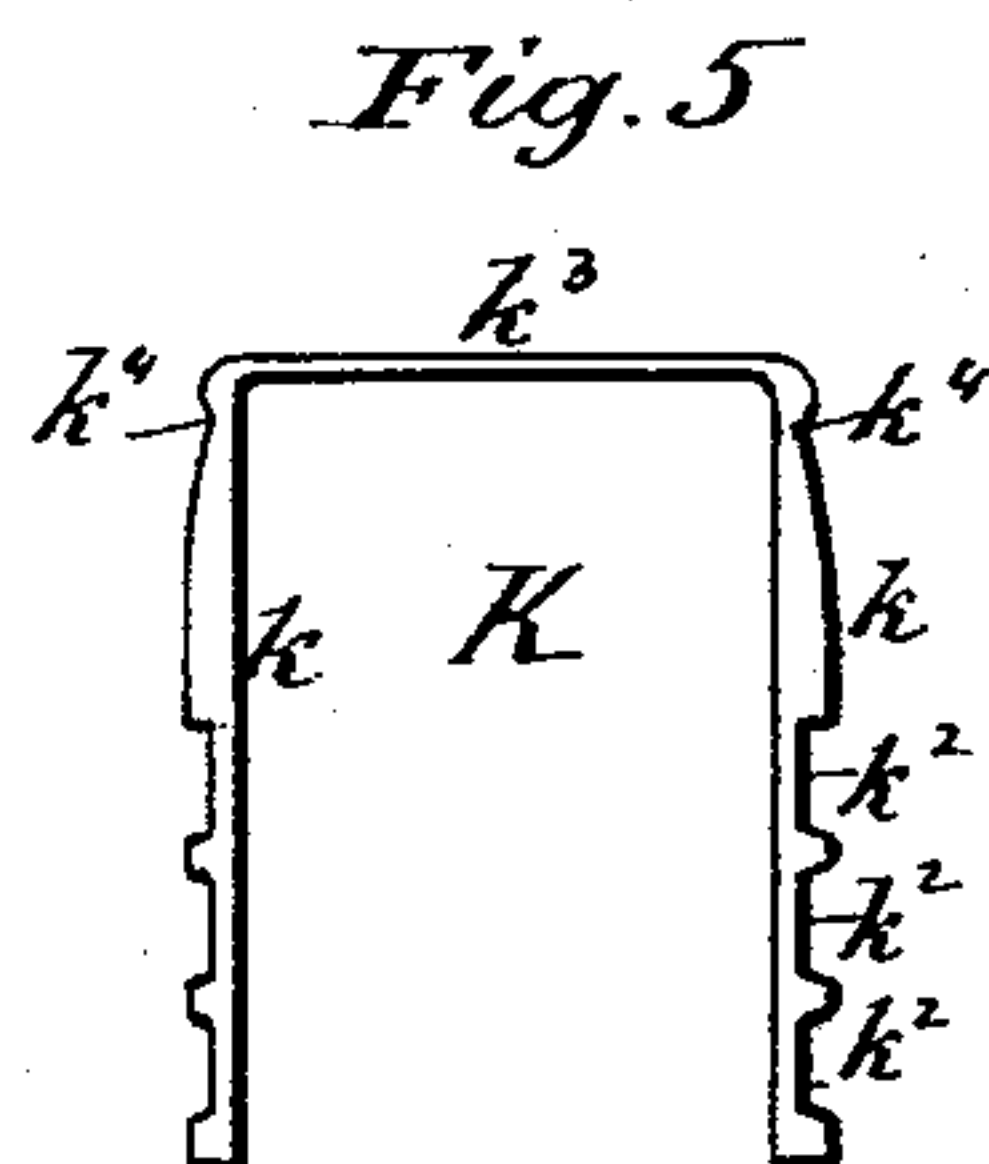
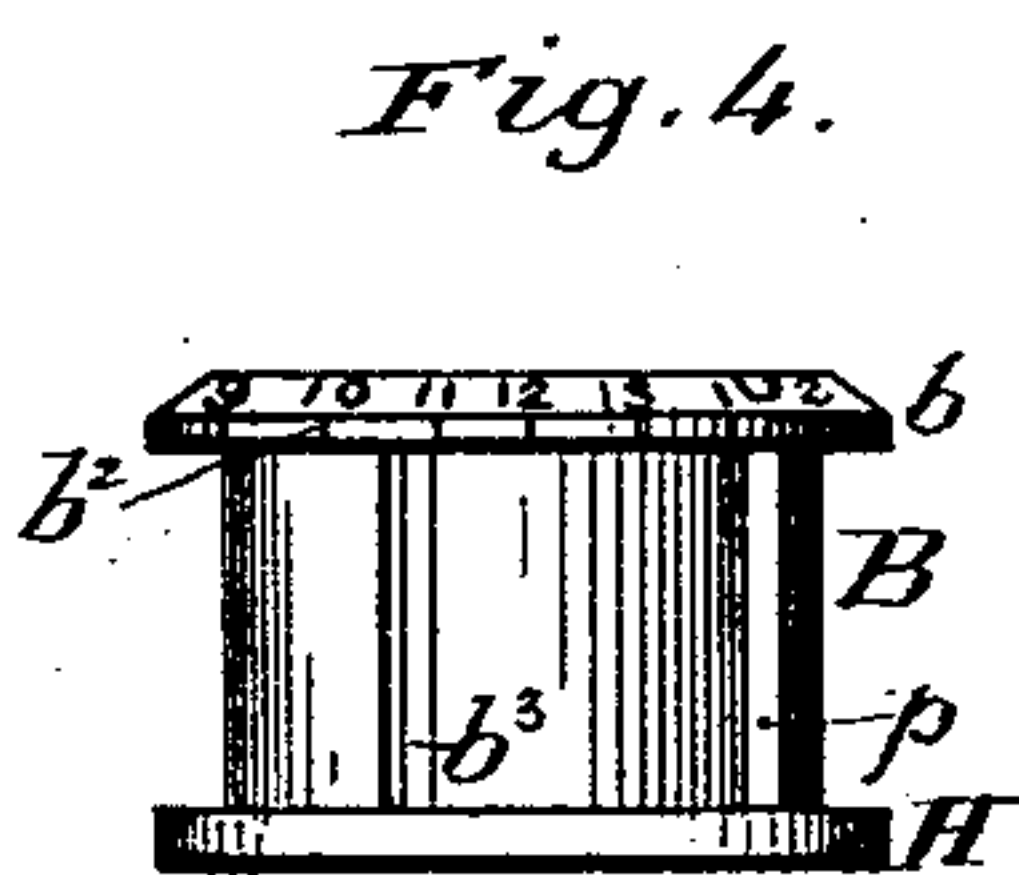
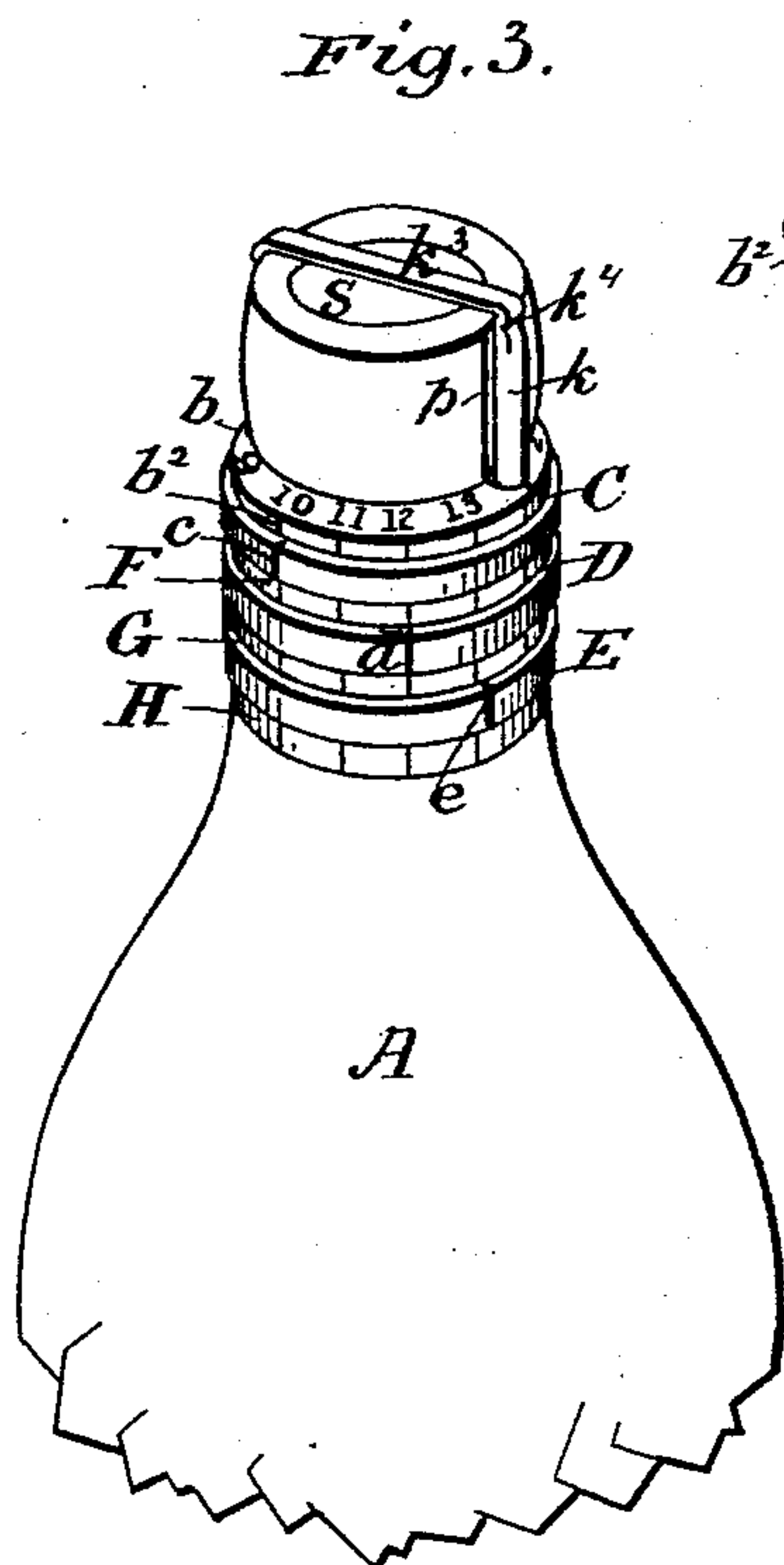
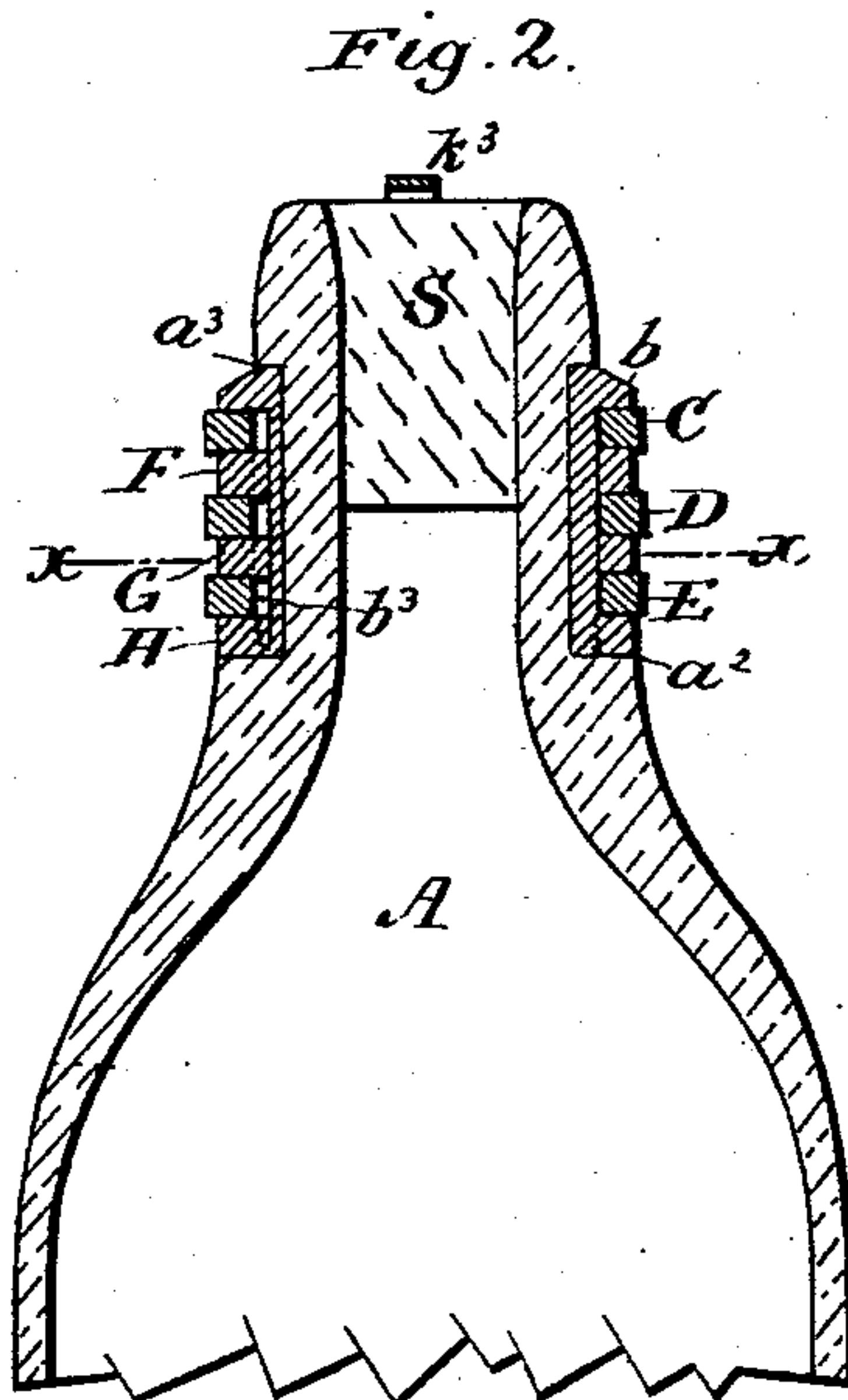
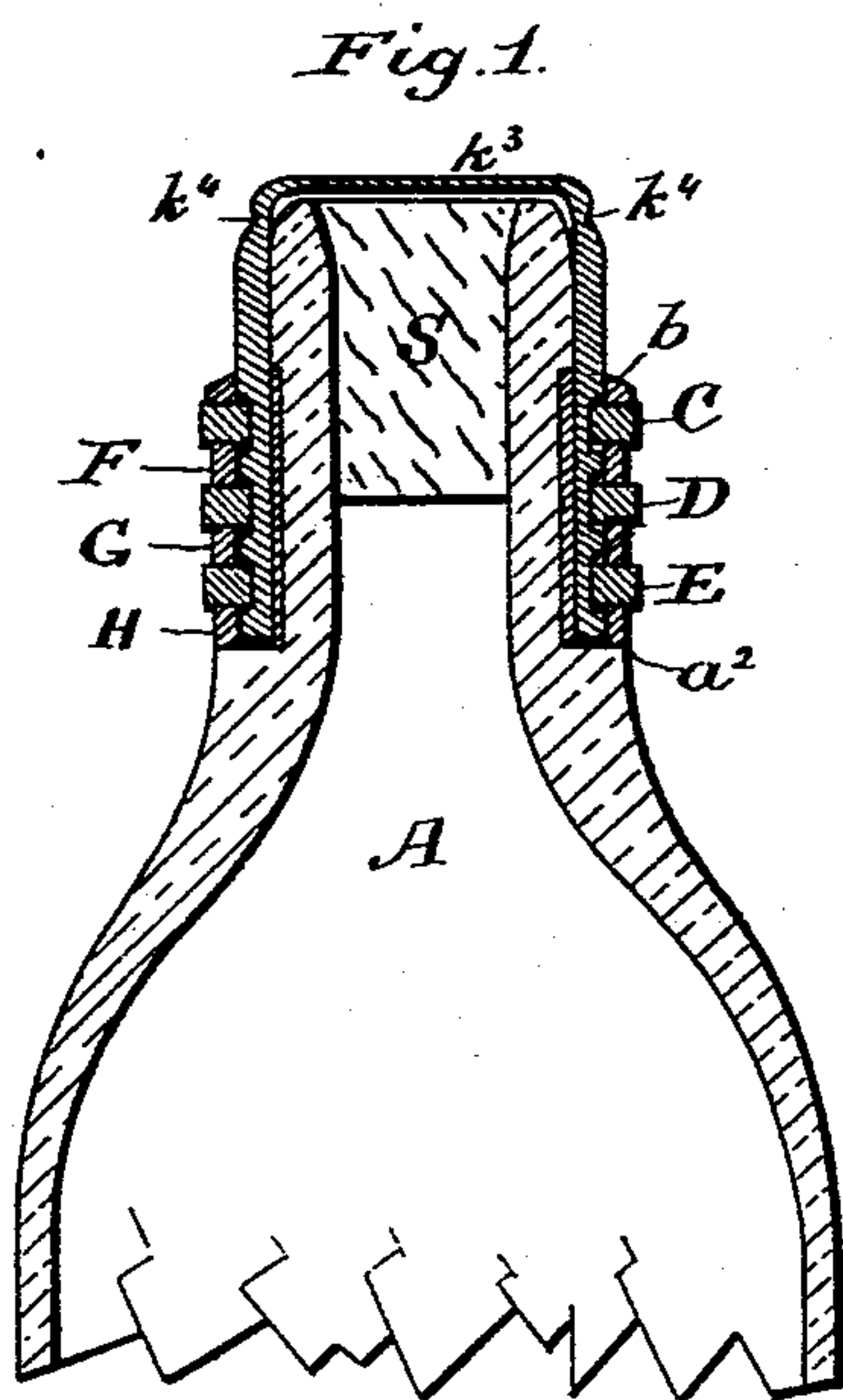


(No Model.)

D. F. GRAHAM.  
STOPPER LOCK.

No. 572,160.

Patented Dec. 1, 1896.



WITNESSES

*A. B. Rogers*  
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INVENTOR

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# UNITED STATES PATENT OFFICE.

DAVID F. GRAHAM, OF SPRINGFIELD, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO GEO. D. CHAMBERLAIN, OF SAME PLACE.

## STOPPER-LOCK.

SPECIFICATION forming part of Letters Patent No. 572,160, dated December 1, 1896.

Application filed February 13, 1896. Serial No. 579,155. (No model.)

*To all whom it may concern:*

Be it known that I, DAVID F. GRAHAM, a citizen of the United States, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented certain new and useful Improvements in Stopper-Locks, of which the following is a specification, reference being had therein to the accompanying drawings.

10 The objects of my invention are to provide a fastening or combination lock for the stopper of bottles to prevent the bottles from being opened by unauthorized persons having no knowledge of the combination without destroying the bail or hasp of the lock, and also to reduce the cost of the class of bottle-fastenings by simplifying its construction. I attain these objects by the construction illustrated in the accompanying drawings, in  
20 which—

Figure 1 is a vertical central section of the upper portion of a bottle provided with a fastening-lock constructed in accordance with my invention, the section being through the  
25 bail or hasp of the lock. Fig. 2 is a vertical central section of the same, taken through the bail at right angles with that shown in Fig. 1. Fig. 3 is a perspective view of the upper portion of the bottle and its combination-lock. Fig. 4 is a side view of the inner sleeve of  
30 the lock. Fig. 5 is a side view of the bail or hasp of the lock. Fig. 6 is a horizontal section, on line  $x x$  of Fig. 2, through the inner sleeve and one of the stationary rings of the lock. Fig. 7 is a top view of one of the movable rings. Fig. 8 is a top view of one of the stationary rings.

The stopper-lock consists of a sleeve B, having a circumferentially-projecting head  
40  $b$ , preferably beveled on its top and having letters or numerals on said beveled top. In the present instance the numerals or numbers are successively from "1" to "13," and corresponding with each number there is a small  
45 vertical notch or indentation  $b^2$  on the periphery of said head. Encircling the sleeve B under its head is placed movably thereon a ring C, having a single vertical notch  $c$  on its periphery. Under the ring C there is  
50 placed upon the sleeve B a ring F, that is non-movable thereon, as it has a feather  $f$ , that

enters into engagement with a groove  $b^3$ , made vertically in the side of said sleeve, but said ring F has thirteen notches in its periphery corresponding with the notches in the periphery of the head of the sleeve. Under the ring F there is a revoluble ring D, having on its periphery a notch  $d$ . Under the ring D there is a non-revoluble ring G, having thirteen notches on its periphery and an internal  
60 feather  $f$ . Under the ring G there is a revoluble ring E, having on its periphery a notch  $e$ . Under the ring E there is a non-revoluble ring H, that may have a feather, as shown at  $f$  in the rings F and G, or may be  
65 internally screw-threaded to engage with the screw-threaded lower end of the sleeve B to retain all the rings connected to said sleeve before said parts of the lock are placed in a  
70 suitable recess in the neck of the mold used to produce the bottle A.

To complete the lock, the bail or hasp K is used, which consists of two parallel cylindrical or wire-like branches  $k$ , having on the outer side of each one a series of notches  $k^2$   
75 to receive and enter into engagement with the rings C D E when the bottle is locked; but to permit the insertion of the branches  $k$  of the hasp within the lock each one of the revoluble rings C D E is internally provided  
80 with vertical grooves  $m$  of preferably semi-cylindrical form and diametrically opposite each other. Each one of the non-revoluble rings F G H is also internally provided with vertical grooves  $n$ , similarly formed and located as the grooves  $m$ . The periphery of the  
85 sleeve B is also provided lengthwise thereof with two grooves  $p$  to receive the inner sides of the branches  $k$  of the bail. The upper ends of said branches are united together by  
90 a preferably flat bar  $k^3$  integral therewith to complete the bail and rest upon the cork stopper S, and said upper ends are made thin or notched at  $k^4$  to facilitate the breaking of  
95 the bail at either one of these points when a person has to break the bail or hasp of the lock if he is not acquainted with the combination thereof.

As one of the objects of this invention is to prevent the refilling and relocking of the  
100 bottle by other persons than those who first filled it with a liquid of their manufacture, it



is not intended, in that case, that the user should know the combination, but can readily open bottle by breaking hasp. A great many combinations can be made with the three  
 5 rings and the thirteen numbers, in this case, and each lock having a certain combination can be stamped with a certain letter or symbol, the meaning of which can be kept in the books of the manufacturer of the liquid, so  
 10 that if the empty bottles are returned to the establishment the proper combination can be made with the rings of the lock and the stumps  $\frac{1}{2}$  of the broken hasp removed, leaving the bottle in proper condition to be re-  
 15 filled and locked with a new hasp.

The body of the lock cannot be removed from the neck of the bottle without breaking the latter into small fragments, as the bottom of its sleeve B rests upon a shoulder  $a^2$   
 20 of said neck and the head of said sleeve is in engagement under a shoulder  $a^3$ , formed on said neck.

Having now fully described my invention, I claim—

25 1. In combination with a bottle having top and bottom shoulders projecting from its

neck, a lock between said shoulders, said lock consisting of a sleeve having a vertical groove in its side and a head projecting laterally from said sleeve, a series of rings revoluble  
 30 upon said sleeve and having internal grooves, intermediate rings, each having a feather, and a hasp having notches in the outer face of its branches substantially as described.

2. In combination with a bottle having top  
 35 and bottom shoulders projecting from its neck, a lock between said shoulders, said lock consisting of a sleeve having a head projecting laterally therefrom, a series of rings revoluble upon said sleeve each having inter-  
 40 nal grooves and a notch on its periphery, intermediate stationary rings having a series of notches on their peripheries, and a hasp having in the outer face of its branches notches and near their top, a breaking point  
 45 or notch substantially as described.

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

DAVID F. GRAHAM.

Witnesses:

E. M. LYON,

LOUIS M. HUNTRESS.