

(No Model.)

G. A. GESSNER.
BOTTLE STOPPING MECHANISM.

No. 347,031.

Patented Aug. 10, 1886.

Fig. 1.

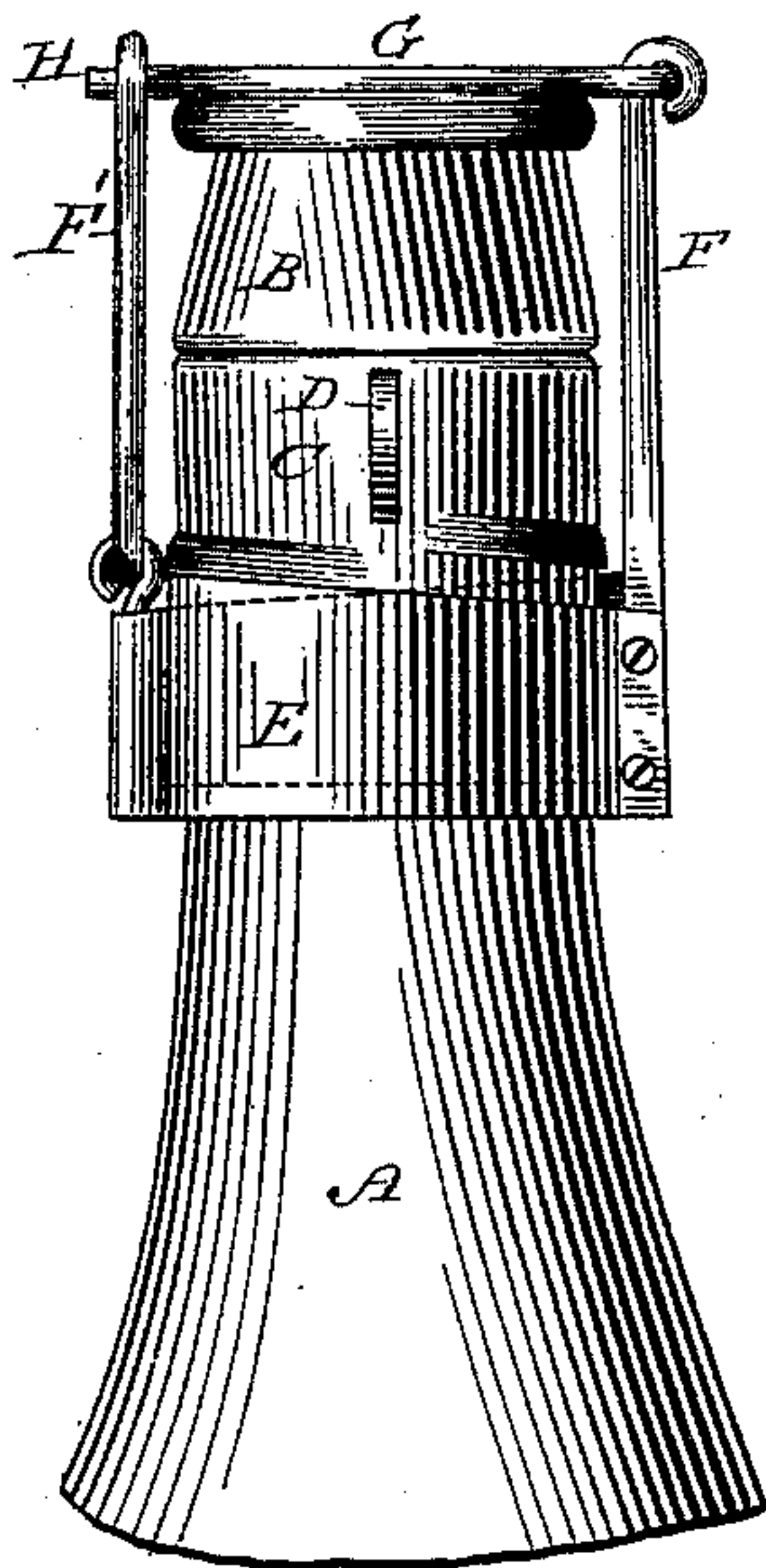


Fig. 3.

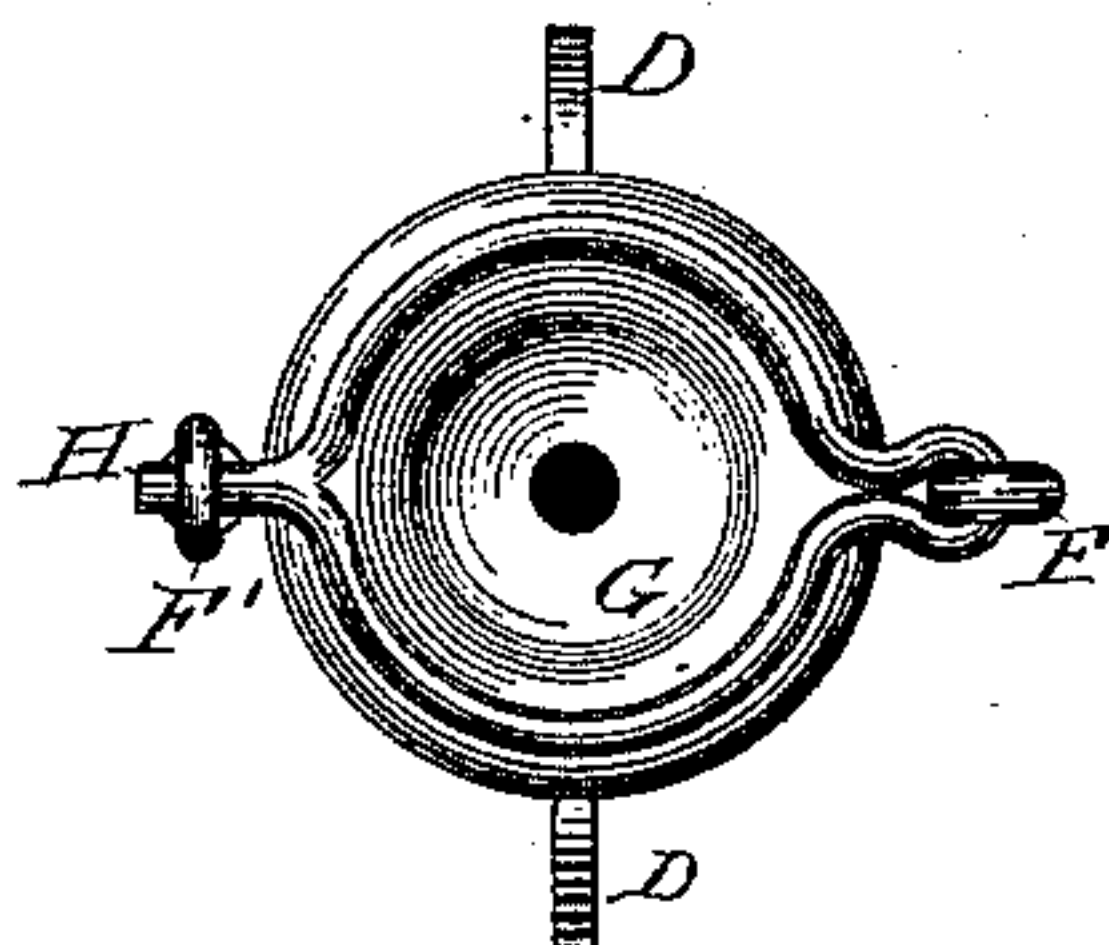


Fig. 2.

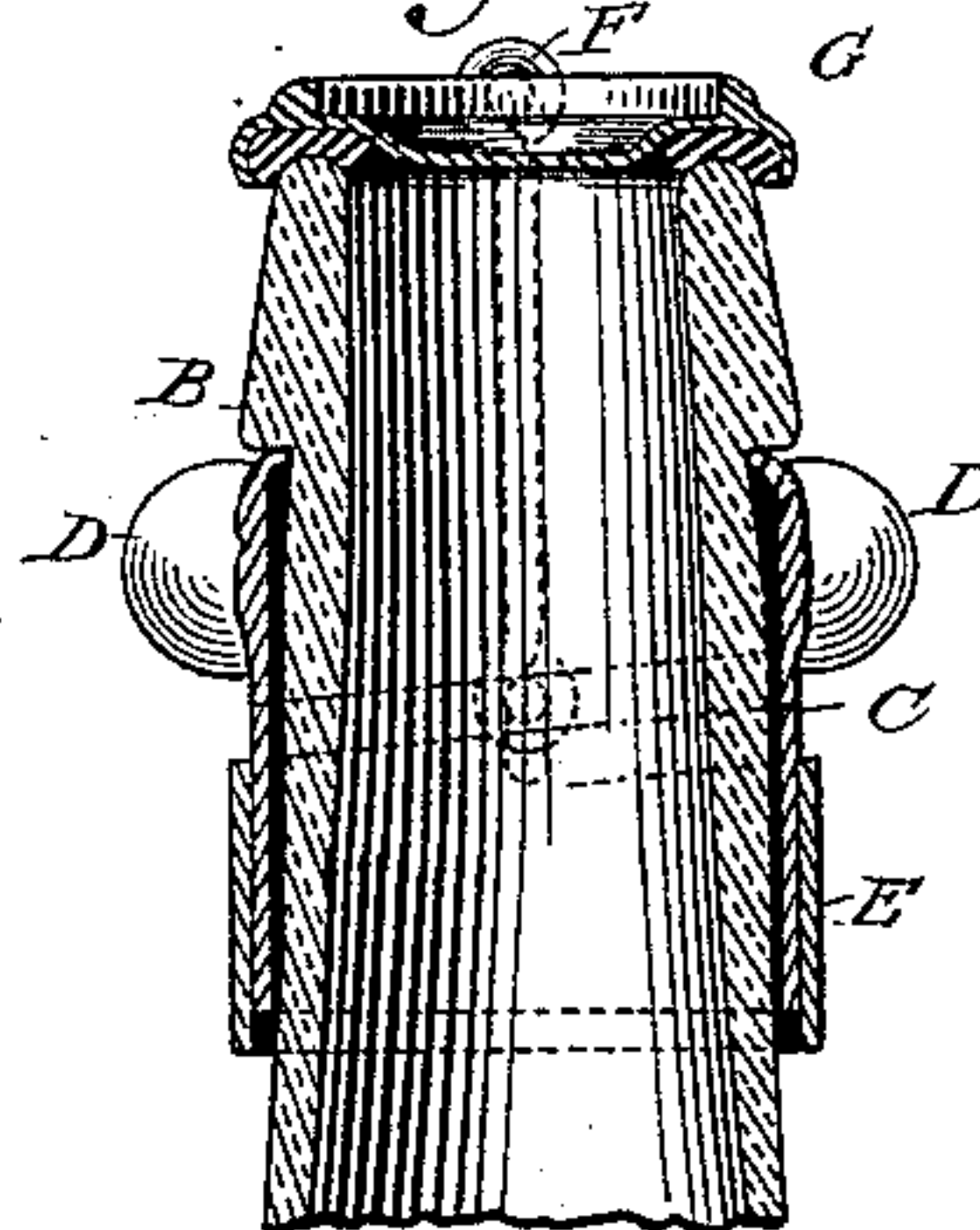


Fig. 4.

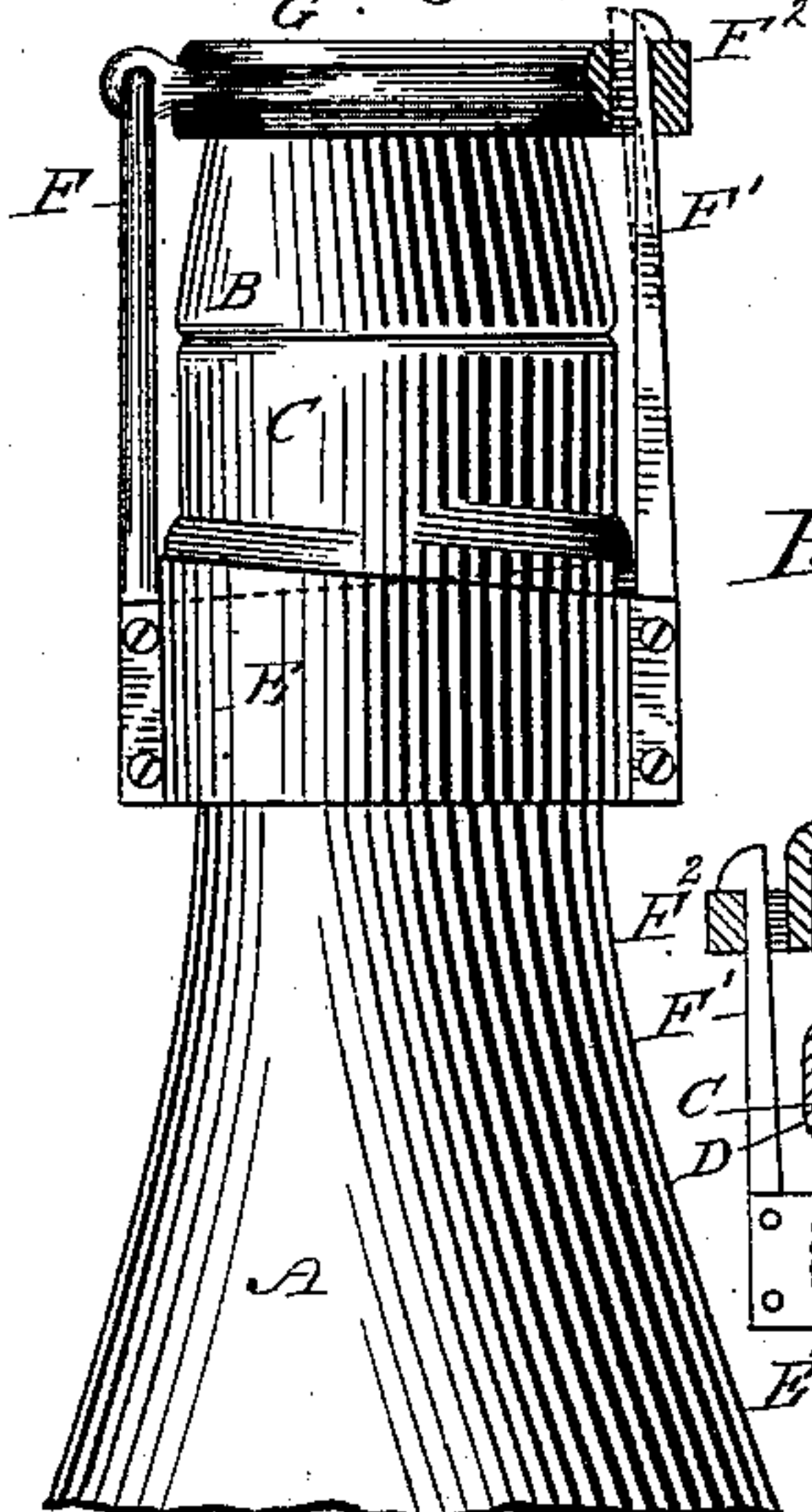


Fig. 7.

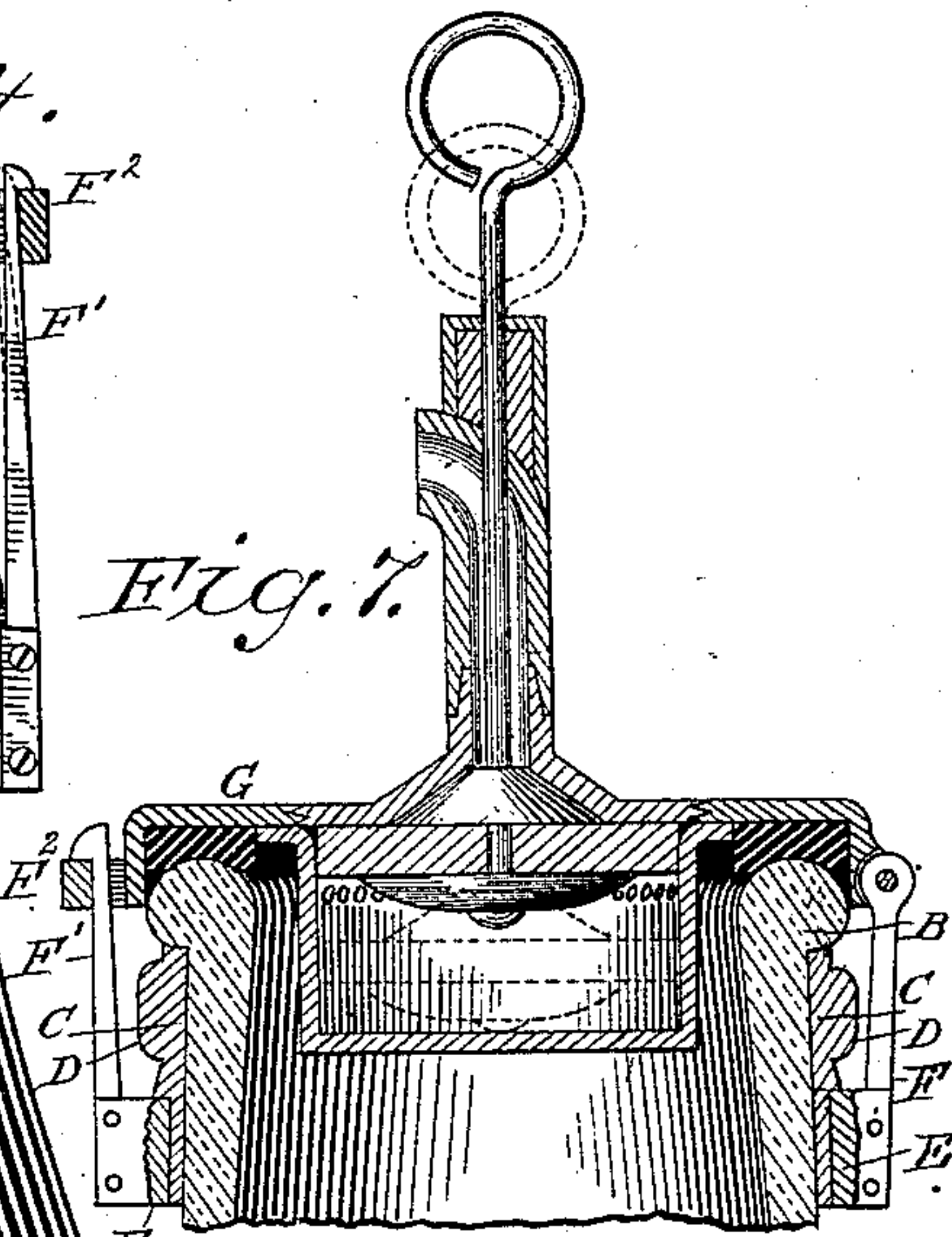


Fig. 5.

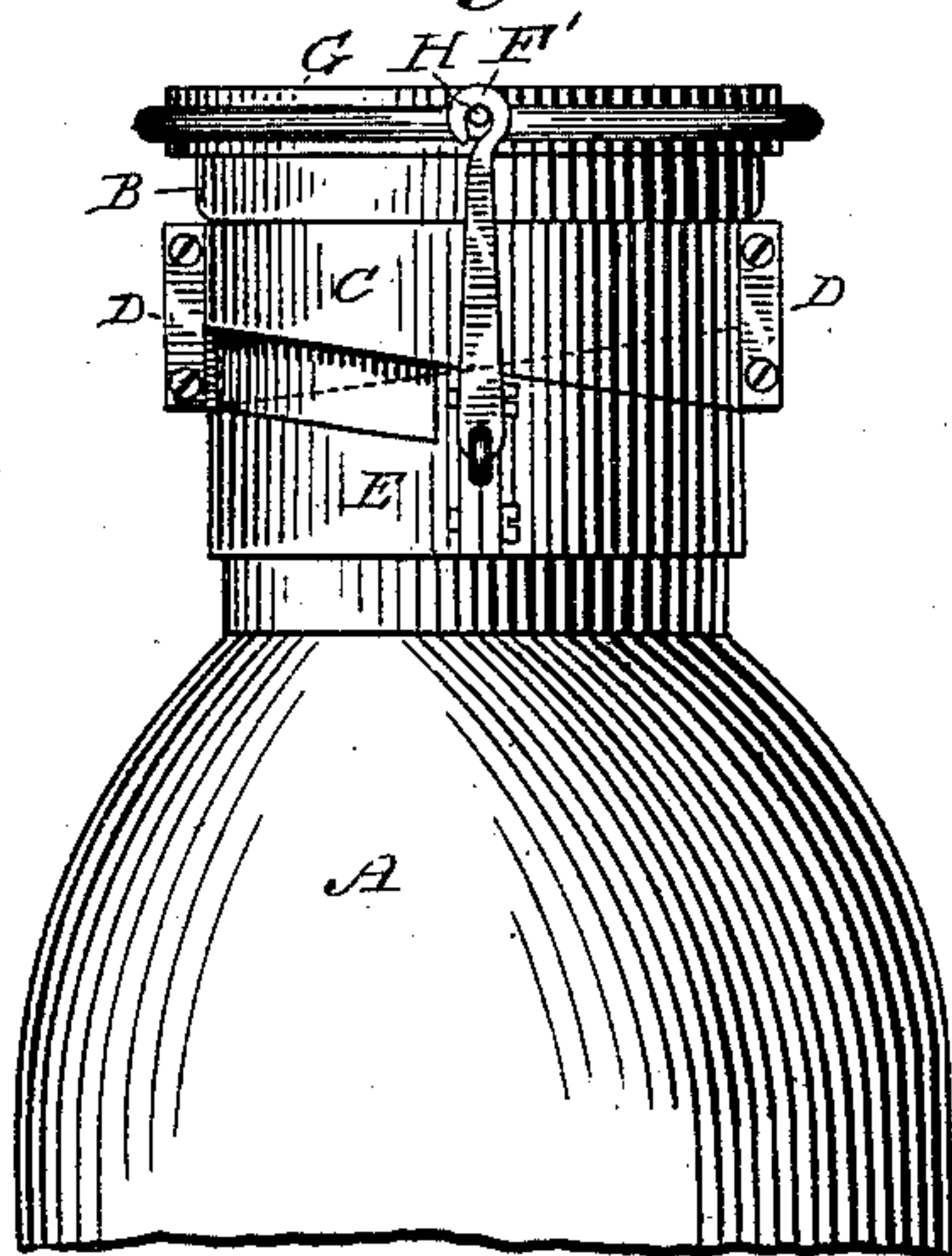
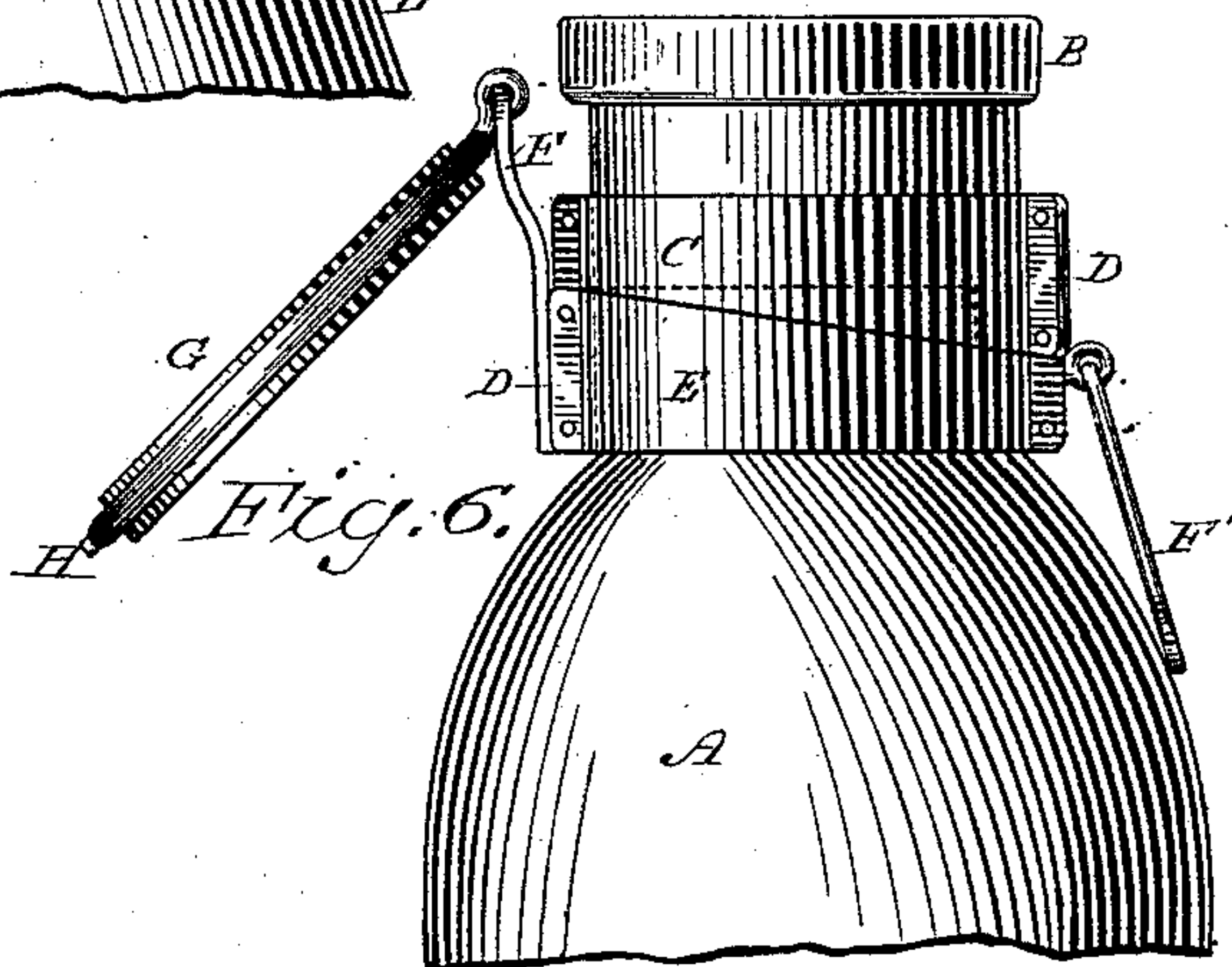


Fig. 6.



WITNESSES

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UNITED STATES PATENT OFFICE.

GUSTAVUS A. GESSNER, OF FREMONT, OHIO.

BOTTLE-STOPPING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 347,031, dated August 10, 1886.

Application filed July 22, 1885. Serial No. 173,346. (No model.)

To all whom it may concern:

Be it known that I, GUSTAVUS A. GESSNER, of Fremont, in the county of Sandusky and State of Ohio, have invented certain new and useful Bottle-Stopping Mechanism, of which the following is a specification, reference being had to the accompanying drawings.

One great object of my invention is to provide an improved stopper mechanism of that class adapted to be applied, generally, to jars and bottles as ordinarily made with a lip or annular flange or projection around the top of the neck at the mouth of the bottle, so that the lip in all cases shall serve as a stop or bearing to resist or counteract the force applied to press the stopper down to place for sealing the bottle. I provide, as has heretofore been done by use of this class of bottle-stoppers, for forcing the cap or stopper down to place in or over the mouth of the bottle perpendicularly without rotating it. I thus avoid injury to the rubber or packing, which, it is well understood, is liable to come off from rotary motion of the cap or stopper upon it while being forced to place.

In the accompanying drawings, illustrating my invention, Figure 1 is an elevation of an ordinary bottle-neck with my mechanism applied to it. Fig. 2 is a vertical section of the same. Fig. 3 is a top or plan view of the same. Fig. 4 is similar to Fig. 1, but showing a spring-latch fastening for the stopper. Figs. 5 and 6 are similar to Fig. 1, showing my invention applied to a small jar. Fig. 7 shows my invention substantially as in Fig. 4, with a valve and spout applied to the cap, the variation being formal.

Referring to the letters upon the drawings, A indicates an ordinary jar or bottle having the usual annular lip, flange, or projection, B, around the mouth of its neck.

C indicates a loose ring fitting around the neck beneath and bearing by its upper edge against the lip B, and provided with thumb-lugs D, or the like, for turning it. The lower edge of this rotary ring is inclined or shaped so as to constitute a cam-surface.

Beneath the cam-ring C, as shown in Figs. 1, 2, 4, 5, 6, and 7, is another ring or slide, E, placed loosely around the bottle-neck, and having on its upper edge an inclined surface corresponding to that of the cam-ring, which

works in contact with it, so that as the cam-ring is turned to the right or left the slide E will move up or down.

Upon opposite sides of the slide E are attached links F F', which are connected with the cap or stopper G. One of these links, F, may be permanently hooked or hinged to the cap, so as to form a hinge-connection, and the other, F', may be hooked or looped to a spur, H, on the cap or stopper, so that it may be slipped on and off, as desired. It is preferable that the link F be rigidly secured to the slide E, and that the other, F', be pivoted to it.

The rings C and E may consist of bands or straps of metal, and may be applied by bending around the bottle-neck and fastening their ends together by looping, clasping, riveting, screwing, soldering, brazing, or in any other usual or suitable manner. All the parts should be so applied and adjusted that when the cam-ring C is turned in position, as illustrated in Fig. 6, the cap or stopper will not be pressed down tightly in or upon the mouth of the bottle. By this means, after a bottle is filled, the cap or stopper can be quickly put in position, and the loop-link F' may be hooked on to the spur H. Then by turning the cam-ring into the position illustrated in Fig. 5 the effect will be to force down the slide-ring E, and in turn draw the cap or stopper firmly to place. The latter may of course be provided, as is usual, with suitable rubber packing, or with a paraffine-paper annulus or disk, to insure a tight joint and properly protect the contents of the bottle.

Instead of employing a loop and spur, as shown in Fig. 1, I may employ in place of link F' an ordinary spring catch or latch construction, as illustrated in Fig. 4, so that by pushing the link F', which works in the slotted lug F², inward toward the bottle-neck the stopper will be released.

It should be observed that it is not absolutely necessary to have the cam-surface of the cam-ring as extensive as shown in the drawings, Figs. 5 and 6, because mere small inclined or curved bearing-surfaces of the cam-ring impinging against the inclined upper surface of the slide E, of the limited extent, for example, indicated in the dotted lines, Fig. 6, would do, the inclined upper surface of the slide E being the essential thing in this form

of construction; but in practice it is preferable in this form of embodiment of my invention to have the lower inclined surface of the cam-ring as extensive as possible, because the
 5 result will be that less injurious effects from wear will occur, and a more even downward strain upon the links, and therefore a truer seating of the cap upon its packing, and more perfect and reliable sealing of the jar or bottle will be secured.

My bottle-stopping attachment may be cheaply made by stamping the parts out of sheet metal. It will not interfere with the cleansing or refilling of all kinds of jars and
 15 bottles, and obviates all of the ordinary objections against corks and other common stopping appliances. The parts can be manufactured of different sizes and in such a way that in case one part should give out it can be
 20 cheaply supplied from the factory, so that the entire bottle-stopping attachment need not be lost.

In Fig. 7 I have illustrated my invention provided with a check-valve and spout for
 25 bottles designed to contain effervescent and carbonated beverages. Any ordinary form of check-valve, as well as the one I have illustrated, may be applied in connection with my invention by simply providing a suitable opening and valve-bearing in the cap. I thus provide an improved bottle-stopping mechanism adapted to be attached permanently to all
 30 classes of bottles and jars of different sizes of the ordinary simple construction, provided with lips around their mouths. Improved bottle-stoppers of this class dispense with the necessity of making special forms of jars and bottles to suit peculiar stoppers, and can be accommodated to all manner of bottle-stopping uses
 35 with entire convenience, and as a rule one of my stopper attachments will last until the bottle is broken, when it may be applied to another bottle of corresponding size, and need not be lost.

45 After bottles have been sealed for long periods or subjected to different temperatures, the sealing is liable to become imperfect, and the contents thus get exposed to outside air

and become spoiled. With my appliances it is easy at any time, by turning the cam-ring
 50 farther in the direction for sealing, to close down the stopper tighter without turning it, and avoid damage to the contents. Besides these advantages, my bottle attachment facilitates the bottling of effervescent or gas-im-
 55 pregnated liquids of all kinds, for the reason that the cap can be slightly loosened to permit the escape of air by turning the cam-ring so as to properly reduce the pressure of the cap and give the vent required.

Some variations in the form of embodiment of my invention may be made without departing from the substance of my invention; and I do not intend to limit myself to the precise forms of the parts shown and described,
 60 the essential thing being a rotary ring operating by means of a lip on the bottle-neck upon a slide with a cam-surface, which slide is connected with the cap or stopper, so as to close or permit it to open by operation of the
 70 cam-ring.

Having thus described my invention, what I deem to be new, and desire to secure by Letters Patent of the United States, is—

1. The combination, with the neck of an
 75 ordinary bottle having a flange or lip around its mouth, of a hinged cap or stopper, a rotary cam-ring bearing by its upper edge against the lip of the bottle-neck, a slide with an inclined upper edge working in contact with
 80 the cam-ring, and links connecting the slide and cap, substantially as set forth.

2. In a bottle-stopping device, the combination of a hinged cap or stopper, a rotary cam-ring, a slide with an inclined upper edge
 85 working in contact with the cam-ring, and links connecting the slide and cap, to one of which the cap is hinged, substantially as set forth.

In testimony whereof I have hereunto subscribed my name.

GUSTAVUS A. GESSNER.

Witnesses:

I. L. GREENE,
 B. MEEK.