

(No Model.)

C. C. HALEY.  
BOTTLE STOPPER.

No. 430,285.

Patented June 17, 1890.

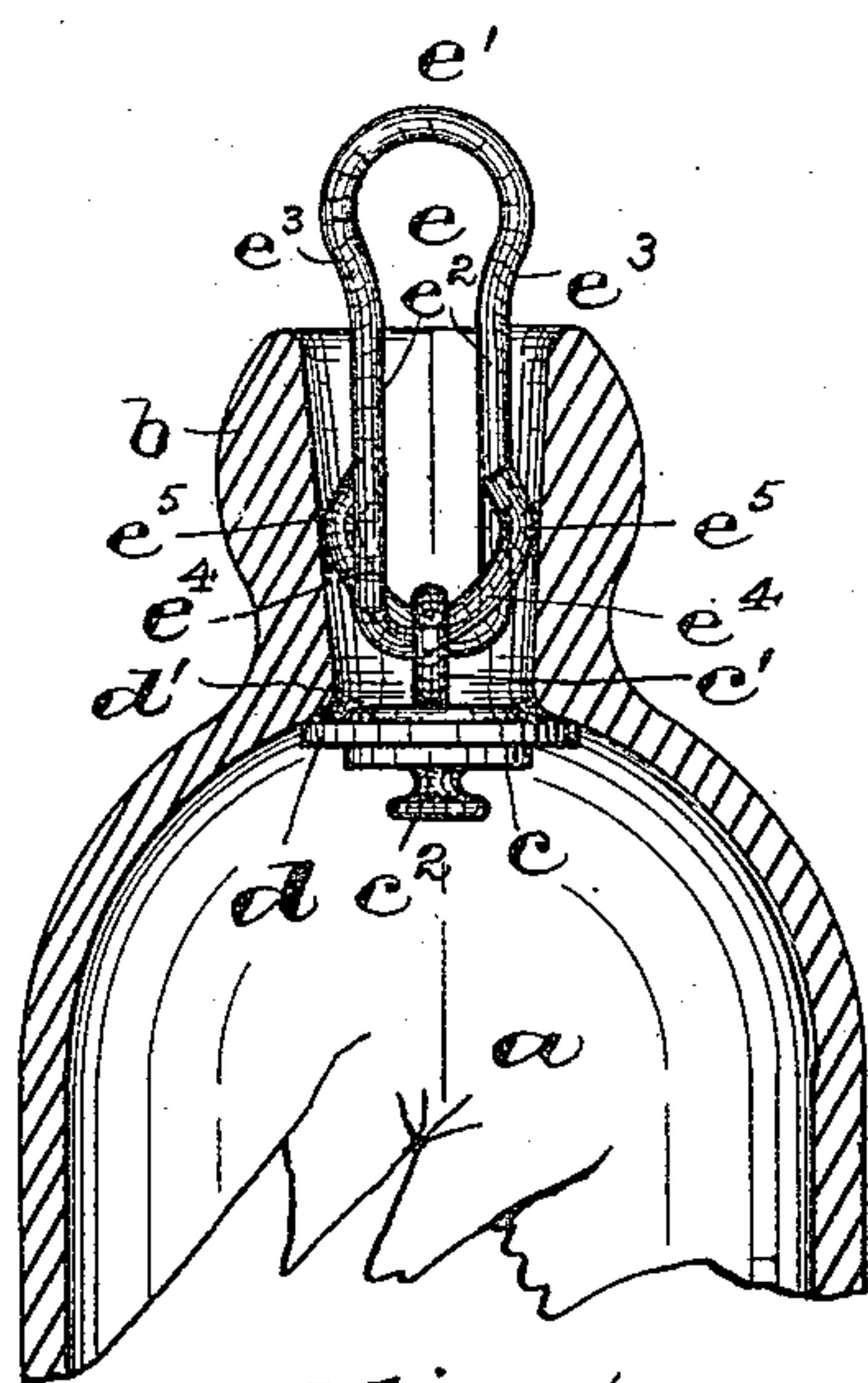


Fig. 1

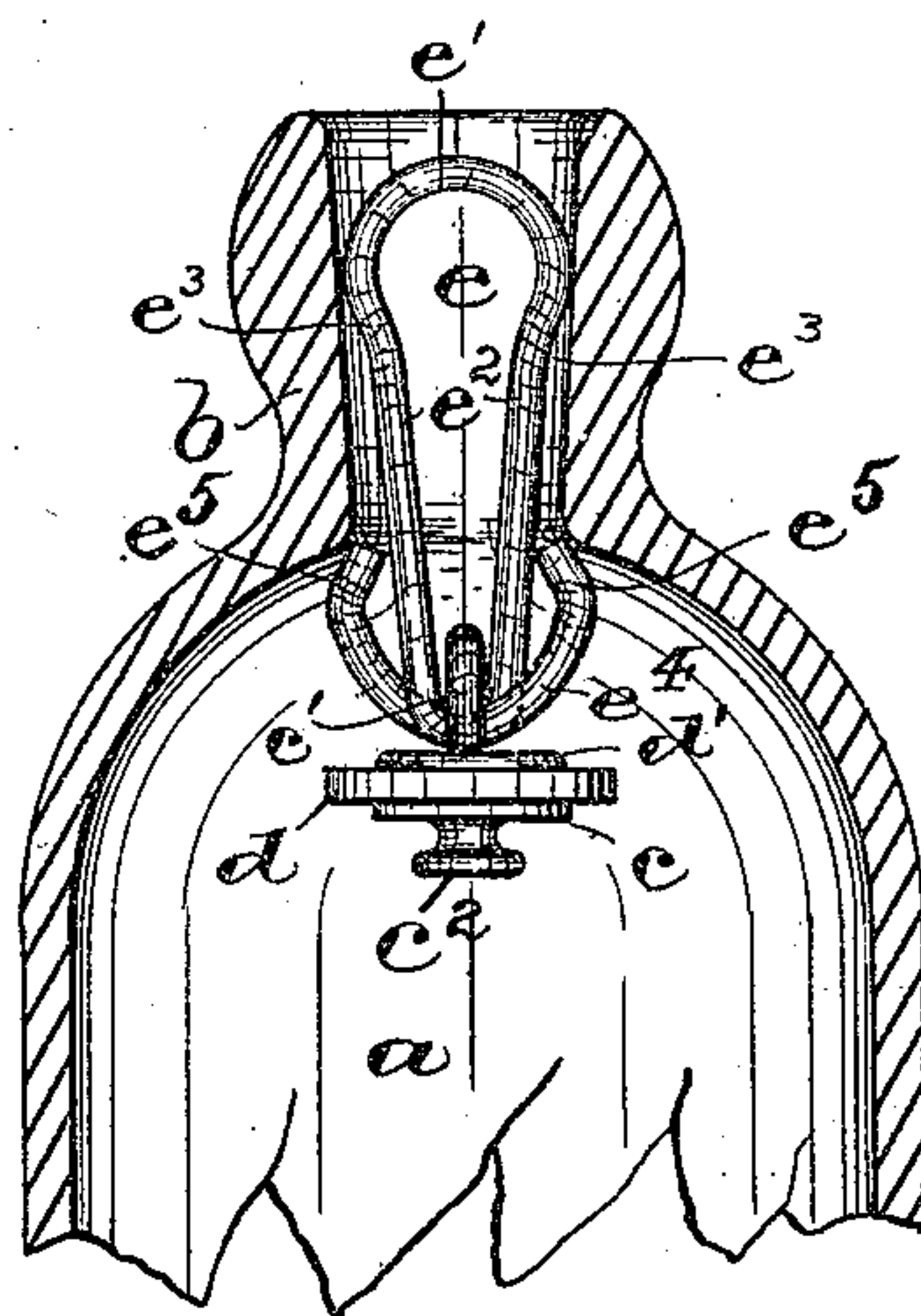


Fig. 2

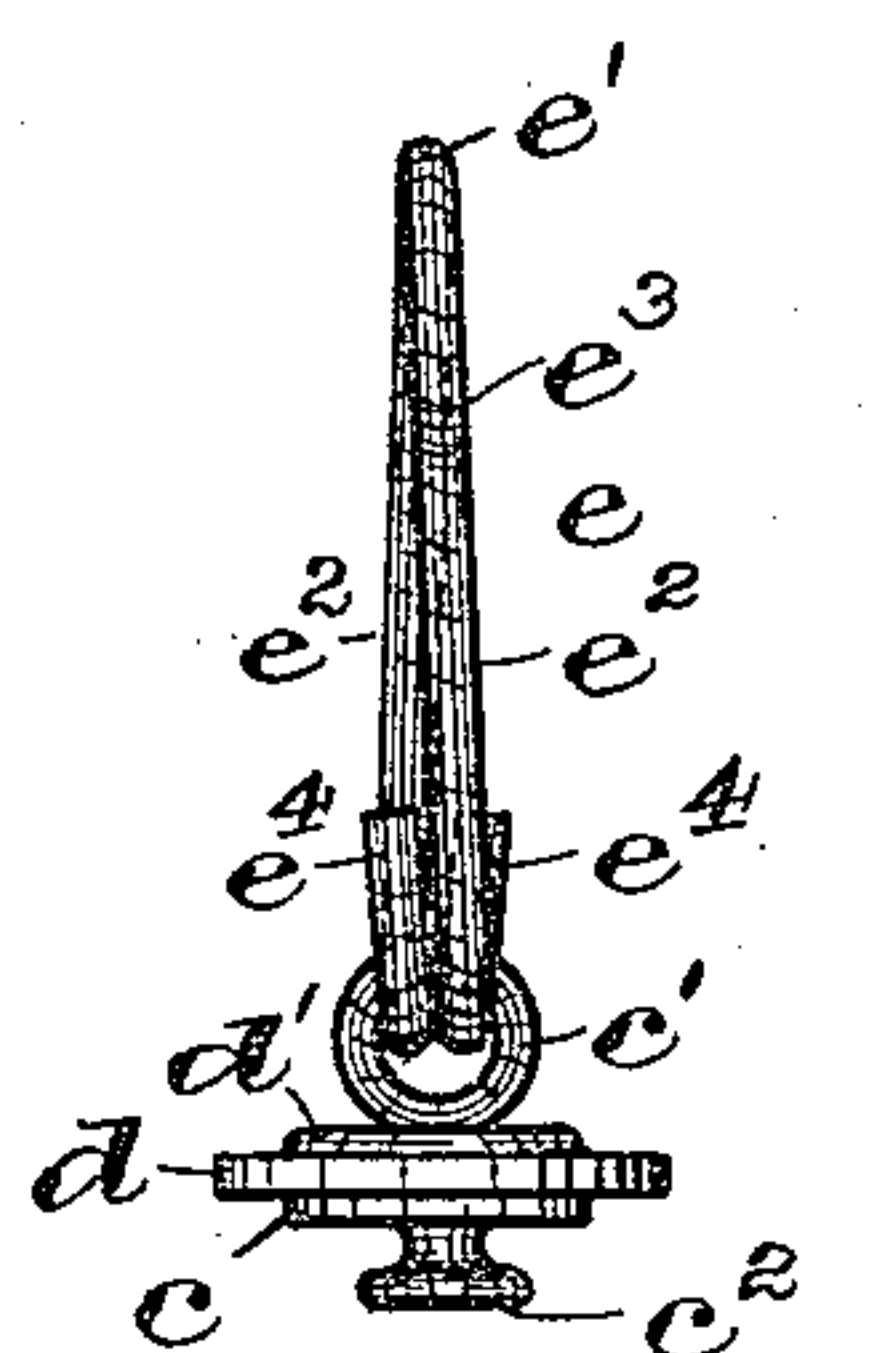


Fig. 3

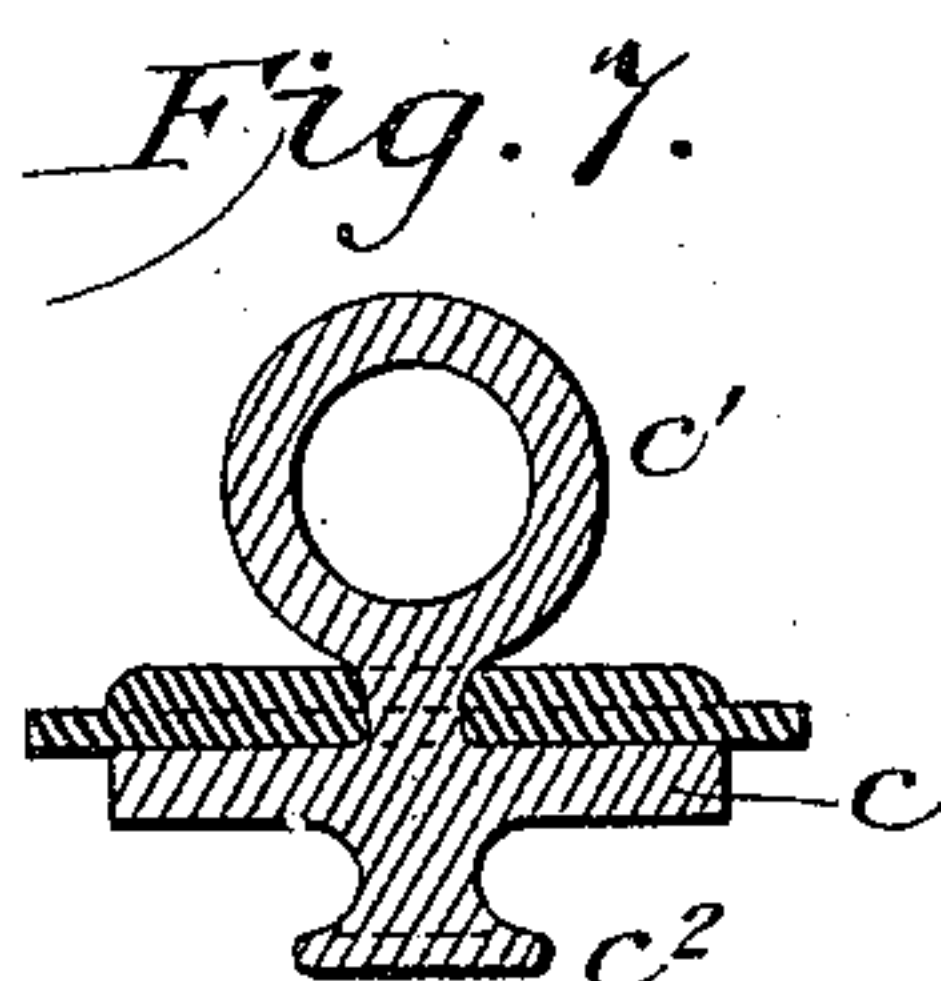


Fig. 7.

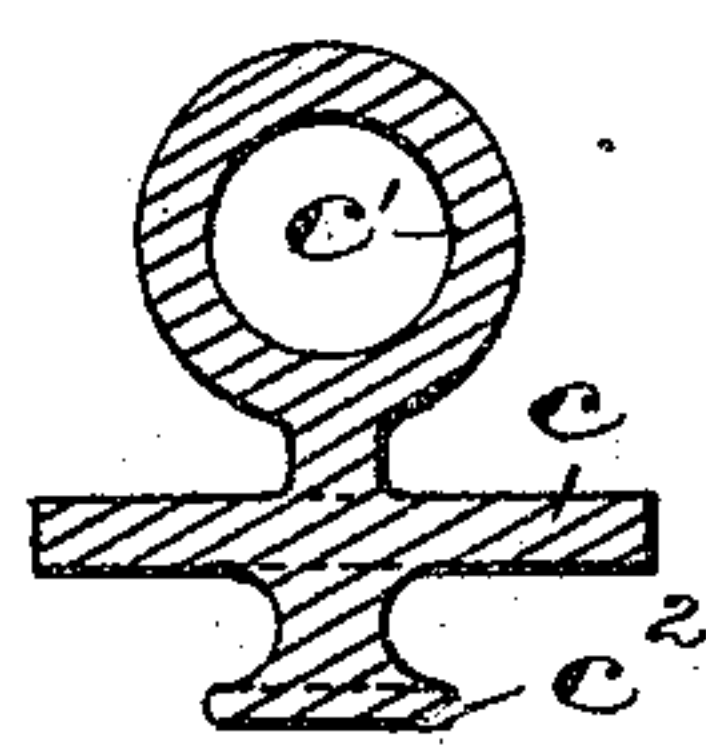


Fig. 4

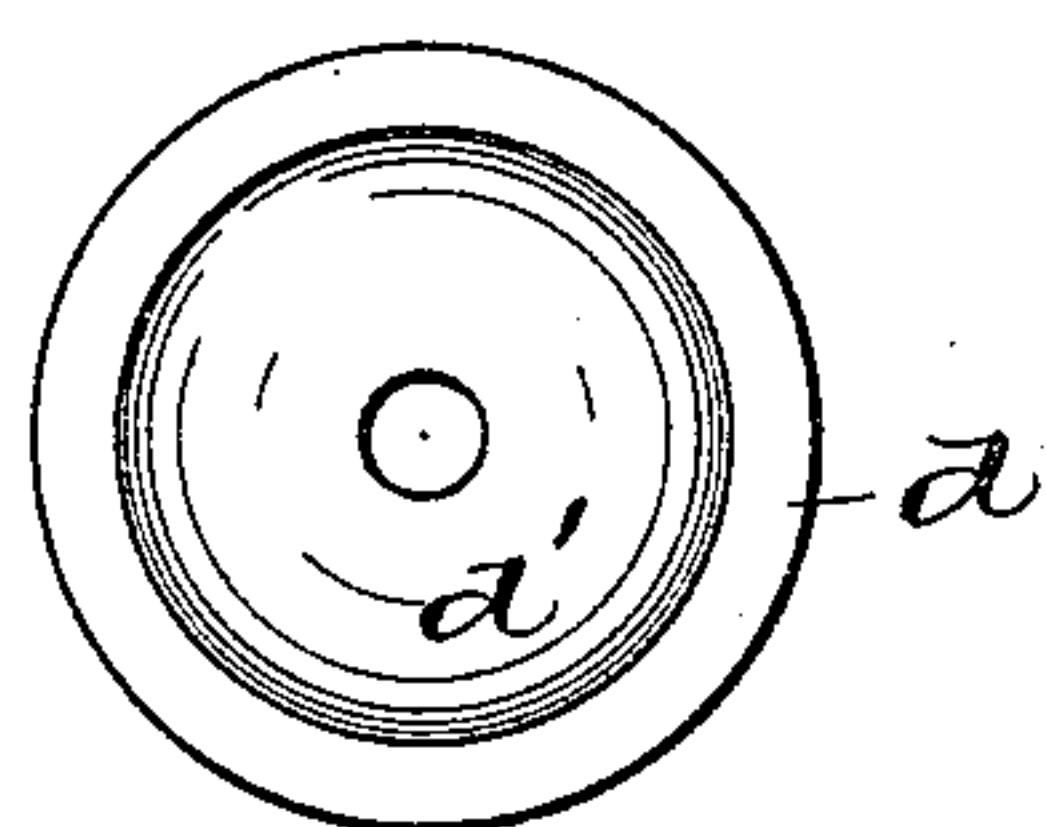


Fig. 5

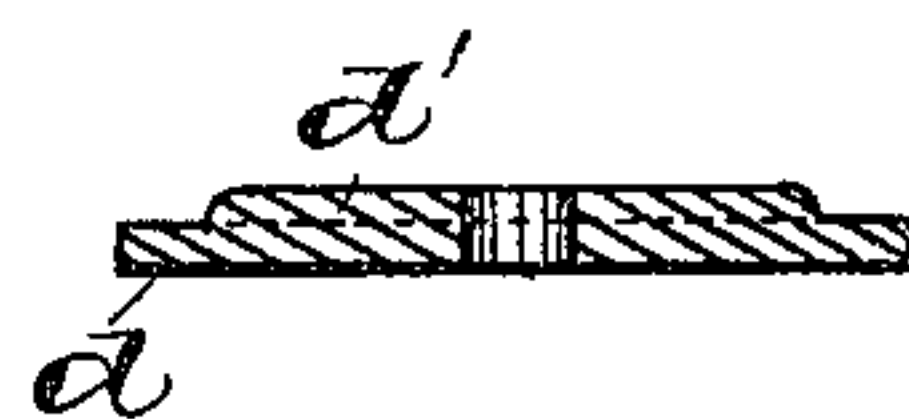


Fig. 6

WITNESSES:

Wm. H. Canfield.  
H. Kierstol-

INVENTOR:

Charles C. Haley.

BY Fred C. Maentzel, ATTORNEY.



# UNITED STATES PATENT OFFICE.

CHARLES C. HALEY, OF NEWARK, NEW JERSEY, ASSIGNOR TO HENRY A. HAUSSLING AND ADELL A. HALEY, OF SAME PLACE.

## BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 430,285, dated June 17, 1890.

Application filed February 7, 1890. Serial No. 339,580. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES C. HALEY, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Bottle-Stoppers; 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to certain improvements in bottle-stoppers adapted to be used on bottles described in a previous patent of mine issued April 23, 1889, and numbered 402,078, in which the bail and button have a jointed relation to each other, whereby when the stopper is pressed back within the bottle said button may turn in its relation to the bail to readily allow the cleansing-brush to pass down into the body of the bottle, so as to perfectly cleanse the same.

Figure 1 is a side elevation of my improved bottle-stopper in its closed connection with the neck of the bottle, which has been represented in section. Fig. 2 is a view similar to that shown in Fig. 1, showing the stopper forced down into the neck of the bottle and held in its open position by means of the peculiarly-bent bail. Fig. 3 represents an end view of the stopper detached from the neck of the bottle. Fig. 4 is an enlarged vertical section of the body portion of the stopper with the rubber disk removed therefrom. Fig. 5 is a top view of the re-enforced rubber disk, and Fig. 6 is a vertical section of the same. Fig. 7 is an enlarged vertical section of the body portion with the disk having a re-enforced upper surface in place thereon.

In the above-described views, in which similar reference-letters are employed to indicate corresponding parts, *a* is the bottle; *b*, the mouth or neck thereof; *c*, the button or body portion of the stopper, provided with a rubber disk *d* on the upper side thereof, which serves as a plug to close the mouth of the bottle; and *e* is the bail of said stopper, which is

attached to the body portion *c*, as will be described hereinafter.

From Figs. 1, 2, and 3 it will be seen that the bail *e* is formed from a piece of wire bent at the top to form a loop *e'*, and provided with the spring-arms *e*<sup>2</sup>, which spring action is caused by means of the bend or loop *e'*. Said loop serves as a means for pulling the stopper up into the neck of the bottle, when the same has been filled, by means of a tool from the position illustrated in Fig. 2 to that shown in Fig. 1. Said arms *e*<sup>2</sup>, which are curved, as at *e*<sup>3</sup>, are provided at their extremities with hooks *e*<sup>4</sup>, which lie laterally adjacent to one another and extend oppositely into an eyelet *c'*, formed integrally with the body portion *c*, as shown in Fig. 4.

When the stopper has been pulled up in the neck of the bottle, as represented in Fig. 1, the hooked ends *e*<sup>4</sup> engage with the sides of the neck of the bottle, forming spring-bearings, and thereby firmly holding the device in position while the circumferential edge of the rubber disk *d* engages with the surrounding inner sides of the neck, and is tightly forced against the same by the pressure from the gases contained in the liquid in the bottle.

When it becomes necessary to remove the liquid from the bottle, pressure is brought to bear on the top part of the bail *e*, which forces the body portion of the stopper into the enlarged part of the bottle, being prevented from dropping entirely into the same by means of the outwardly-bent parts *e*<sup>5</sup> on the arms *e*<sup>2</sup>, which engage with the inner sides of the neck of the bottle and thus hold the stopper in the suspended position shown in Fig. 2.

To remove the stopper entirely from the bottle, the bail *e* is forced entirely through the neck and into the body of the bottle, and by means of a special tool the button *c*<sup>2</sup> on the under side of the body portion *c* is grasped, and thus I can easily remove the stopper by first drawing the plug end of the same into the neck and causing the bail to follow, as will be understood.

As shown more particularly in Figs. 5 and 6, the rubber disk *d* is provided with a re-en-



forced top  $d'$ , which takes the place of the ordinary metal washer or plate employed in the constructions as heretofore made. By this arrangement I obtain greater flexibility of the disk  $d$  and at the same time stiffness owing to the raised or enlarged part  $d'$ .

Another great advantage attained is that I avoid the separate use of the metal plate on the top of the rubber disk between which dirt and scum is apt to collect, and which is very difficult to keep clean. In the present construction, however, owing to the flexibility of the rubber disk, the sides of the same can be raised without difficulty and that part of the body portion  $c$  upon which said disk rests when in position within the neck of the bottle can easily be cleaned.

Of course it will be understood that the body portion of the stopper may be of any desirable material, and the grip-button  $c^2$  integrally formed thereon, or the same may be screwed or riveted therein, if desirable.

Having thus described my invention, what I claim is—

1. A bottle-stopper comprising therein a button or body portion, a wire bail secured thereto, a rubber disk loosely arranged and held in position by an eye on the top of said button or body portion and provided with a re-enforced upper surface and a projection on the under side of said body portion for removing said stopper entirely from the body of the bottle, substantially as and for the purposes described.

2. A bottle-stopper comprising with a button or body portion having an eye a rubber disk loosely arranged on the upper side of said button and directly below the eye and encircling the shaft of the same, having a re-enforced upper surface  $d'$ , a wire bail doubled and provided with hooked arms, which extend downwardly and pass in opposite directions through said eye, the extremities of said arms forming spring-bearings which engage with the opposite sides of the interior of the neck, substantially as and for the purpose set forth.

3. A bottle-stopper combining with a button or body portion having an eye a rubber disk loosely arranged on the upper side of

said body portion or button and directly below the eye and encircling the shaft of the same, having a re-enforced upper surface  $d'$ , a wire bail doubled and provided with hooked arms which extend downwardly and pass in opposite directions through said eye, the extremities of said arms forming spring-bearings which engage with the opposite sides of the interior of the neck, and a projection on the under side of said button or body portion for removing said stopper entirely from the bottle, as and for the purposes set forth.

4. The combination, in a bottle-stopper, of a button or body portion having a ring or eye formed integral with its upper side, and a projection formed integral with its under side, with a rubber disk loosely arranged upon the upper side of the body portion and encircling the shank of said eye or ring and held in position by the same, and a wire bail doubled and provided with hooked arms which extend downwardly and pass in opposite directions through said ring or eye, the extremities of said arms forming spring-bearings which engage with the opposite sides of the interior of the neck, as and for the purposes set forth.

5. The combination, in a bottle-stopper, of a button or body portion having a ring or eye formed integral with its upper side, and a projection integral with its under side, with a rubber disk having a re-enforced upper surface  $d'$ , said rubber disk being loosely arranged on the upper side of the body portion and encircling the shank of said eye or ring and held in position by the same, and a wire bail doubled and provided with hooked arms which extend downwardly and pass in opposite directions through said ring or eye, the extremities of said arms forming spring-bearings which engage with the opposite sides of the interior of the neck, as and for the purposes set forth.

In testimony that I claim the invention set forth above I have hereunto set my hand this 31st day of January, 1890.

CHARLES C. HALEY.

Witnesses:

FREDK. C. FRAENTZEL,  
H. A. HAUPLING.