

(No Model.)

H. W. LIBBEY.  
BOTTLE STOPPER.

No. 426,826.

Patented Apr. 29, 1890.

Fig. 1.

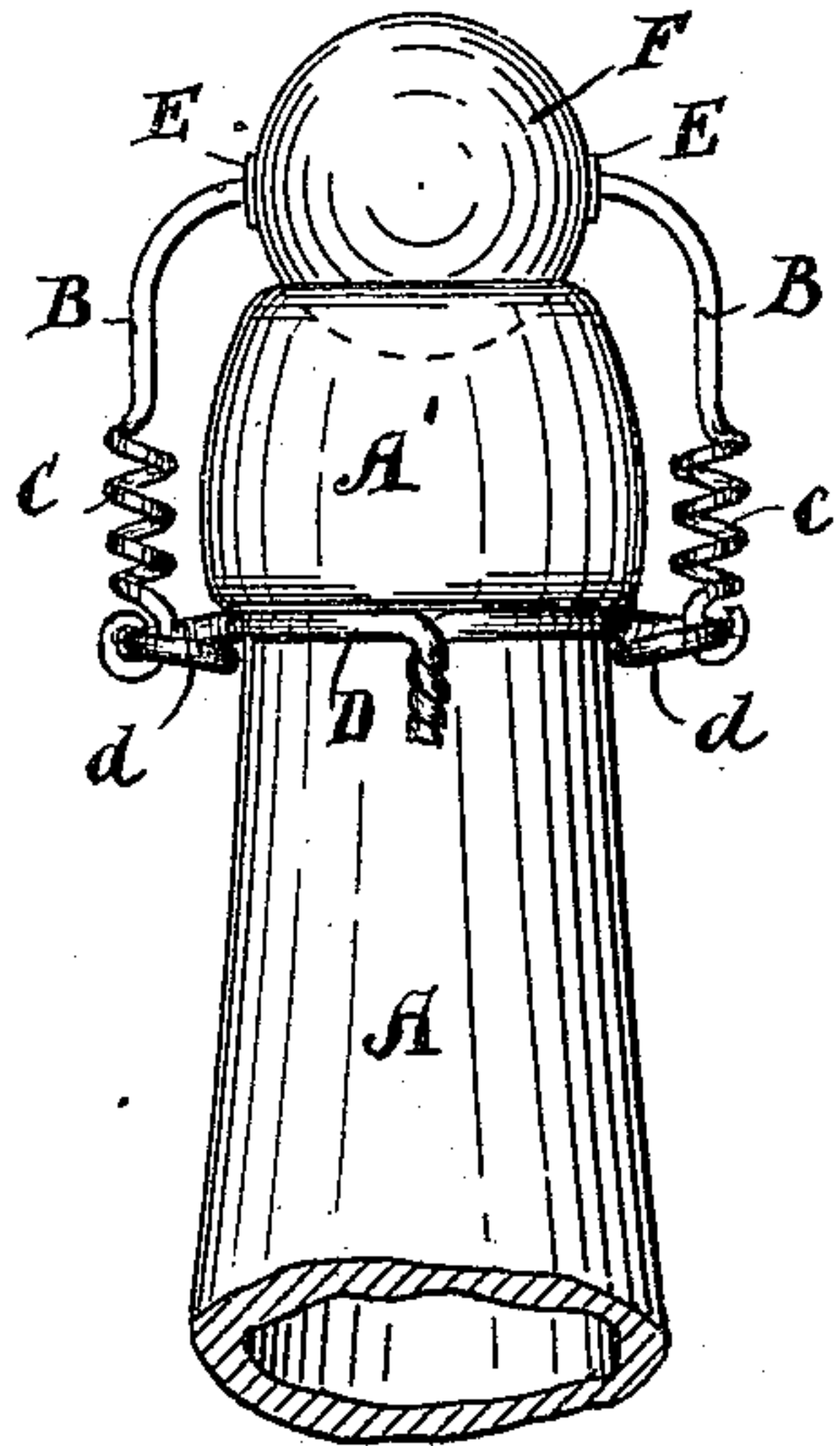


Fig. 2.

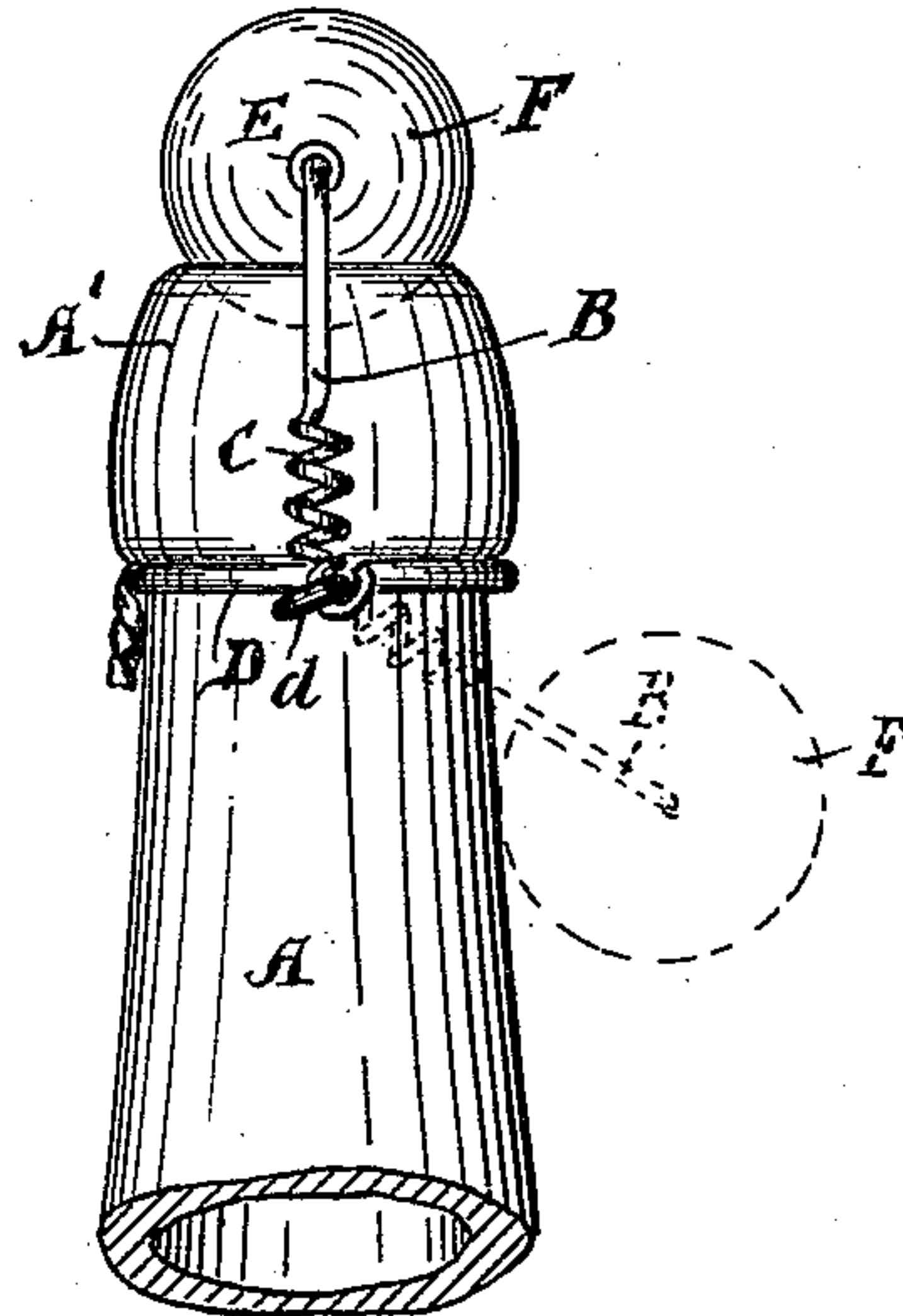


Fig. 3.

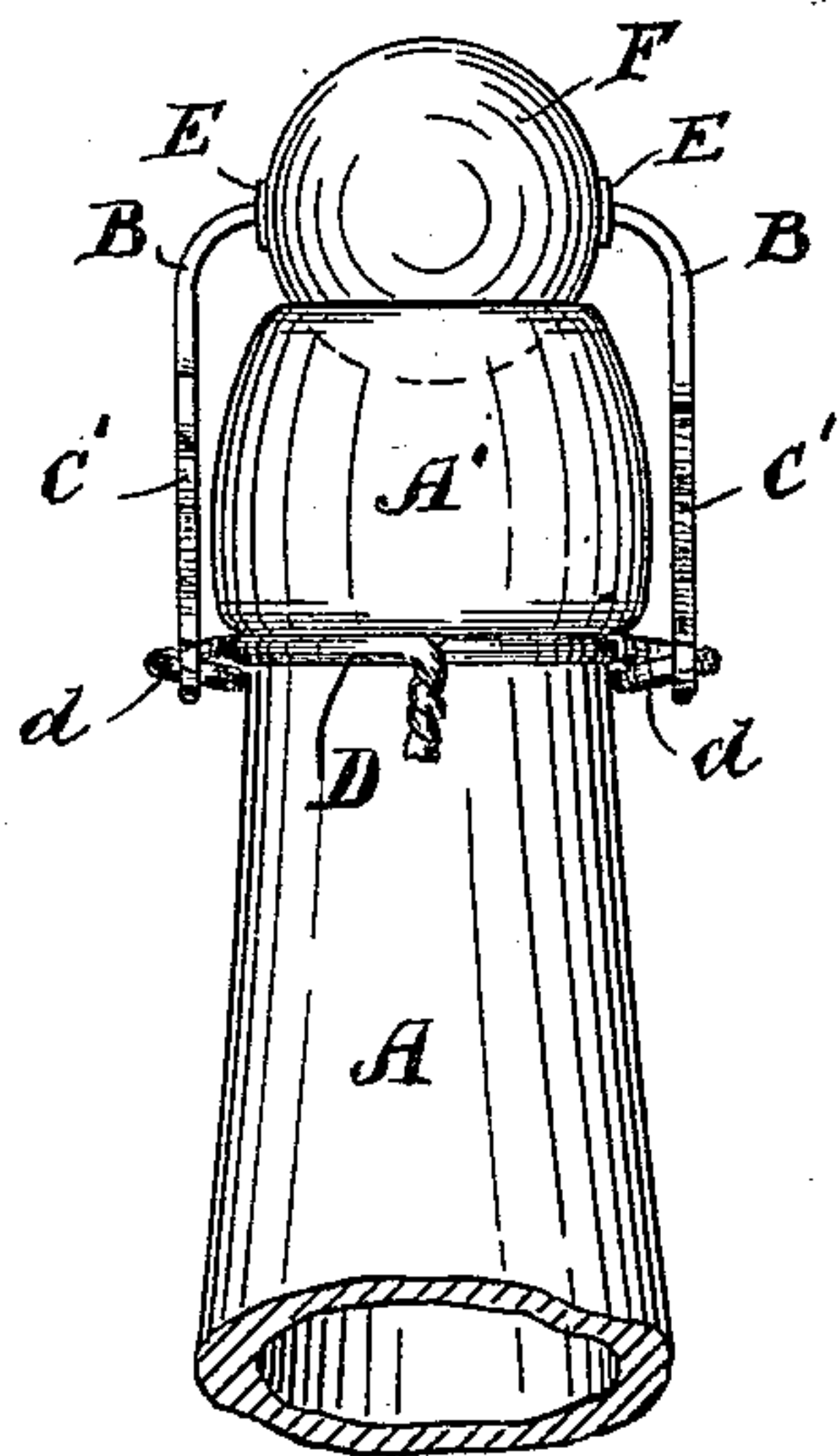


Fig. 4.

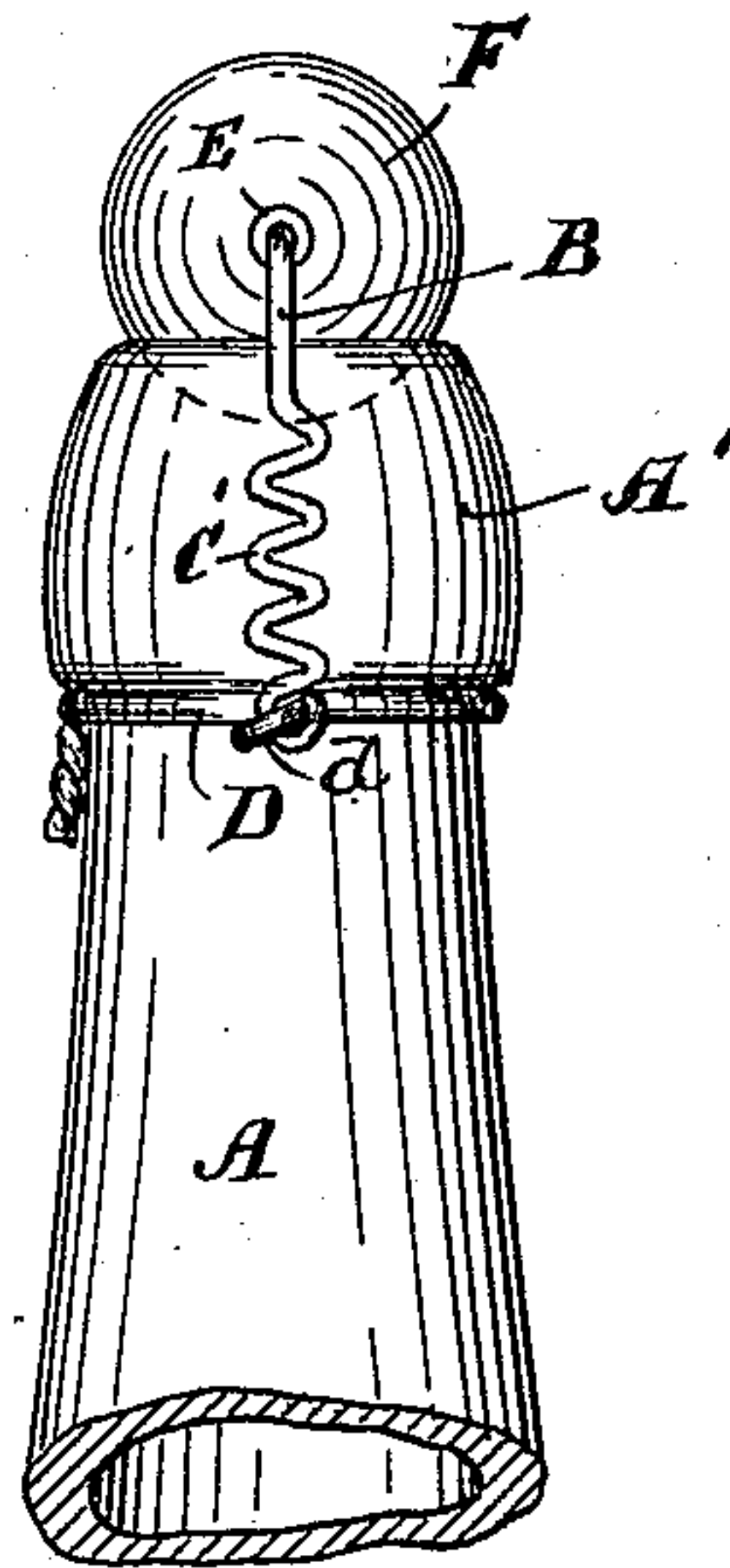


Fig. 5.

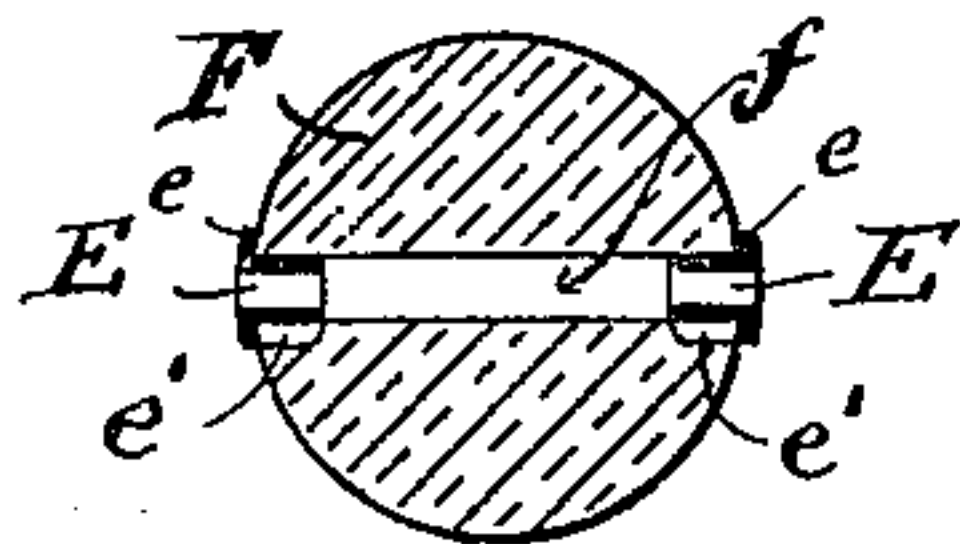
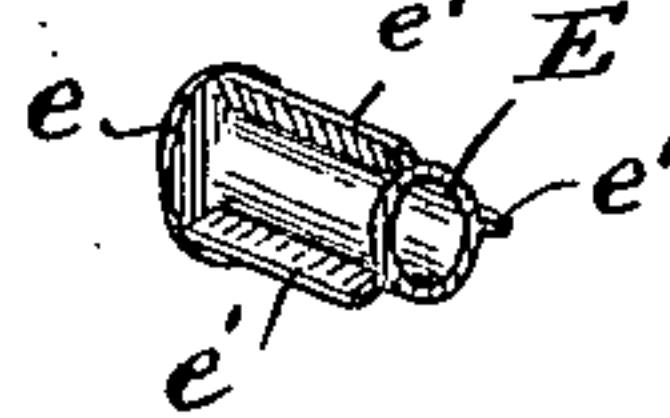


Fig. 6.



Witnesses  
J. George Feltzer  
Buckrod Morse

Inventor.

Hosea W. Libbey  
by Edwin Blanta.  
attorney.

# UNITED STATES PATENT OFFICE.

HOSEA W. LIBBEY, OF BOSTON, MASSACHUSETTS.

## BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 426,826, dated April 29, 1890.

Application filed May 22, 1889. Serial No. 311,667. (No model.)

*To all whom it may concern:*

Be it known that I, HOSEA W. LIBBEY, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Bottle-Stoppers, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention refers to that class of bottle-stoppers in which an elastic ball is mounted upon a bail secured at its lower end to a wire around the bottle-neck; and the invention consists of certain details of construction hereinafter fully described, and pointed out in the claims.

Referring to the accompanying drawings, Figure 1 represents a bottle-stopper embodying my invention as applied to a bottle, and in the closed position. Fig. 2 is a side view of the same. Figs. 3 and 4 are views of a modification. Fig. 5 is a section through the center of the ball and thimbles. Fig. 6 is a perspective view of one of the thimbles.

A A' represents the neck of the bottle. To the under side of the enlarged portion A' is secured a wire D, provided with loops or eyes *d*, one on each side. B is a bail, consisting of a wire bent near its outer ends to form a spiral or zigzag spring and having its ends bent to fit into the eyes or loops *d*. Upon the wire B is mounted a ball F, having a hole *f* through its center, provided at each end with a thimble E. The body of this thimble is of tubular form and is provided at one end with a flange *e*, and also provided with longitudinal ribs *e'* on its peripheral face, (see Fig. 6,) which cut into the elastic ball and securely hold the thimble in place.

In Figs. 1 and 2 I have shown the outer ends of the bail formed into spiral springs C; but

instead of said spiral springs a spring C' of zigzag form, as shown in Figs. 3 and 4, may be employed.

It will be seen that by the means of the spring C, when the bottle is closed, the elastic ball will be drawn down and firmly retained in the mouth of the bottle, and when it is desired to open the bottle the springs C will yield sufficient to allow the ball to pass over the edge of the bottle-mouth. It will also be seen that the thimbles E are easily inserted and retained in position in the ball, the ribs *e'* cutting into the elastic material, and when inserted are held by said ribs. These thimbles form a bearing for the bail B, and by reason of their entering only a short distance into the ball the friction is much reduced.

What I claim as my invention is—

The herein-described bottle-stopper consisting of the ball having an opening there-through, the pair of cylindrical thimbles fitting in the ends of the opening, said thimbles having on their exterior end flanges which surround the edges of said openings, having their interior ends smooth and fitting flush against the wall of the opening in the ball and having the ribs engaging the ball for retaining said thimbles, the bail passing through the ball and bearing in the thimbles and having its ends formed into spring-coils, and the ring having eyes to receive the ends of said coils, substantially as shown and described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 30th day of April, A. D. 1889.

HOSEA W. LIBBEY.

Witnesses:

CHAS. STEERE,  
EDWIN PLANTA.