

(No Model.)

H. BARRETT & J. J. VARLEY.
MEANS FOR FACILITATING THE OPENING OF INTERNALLY
STOPPERED BOTTLES.

No. 400,892.

Patented Apr. 9, 1889

Fig. 2.

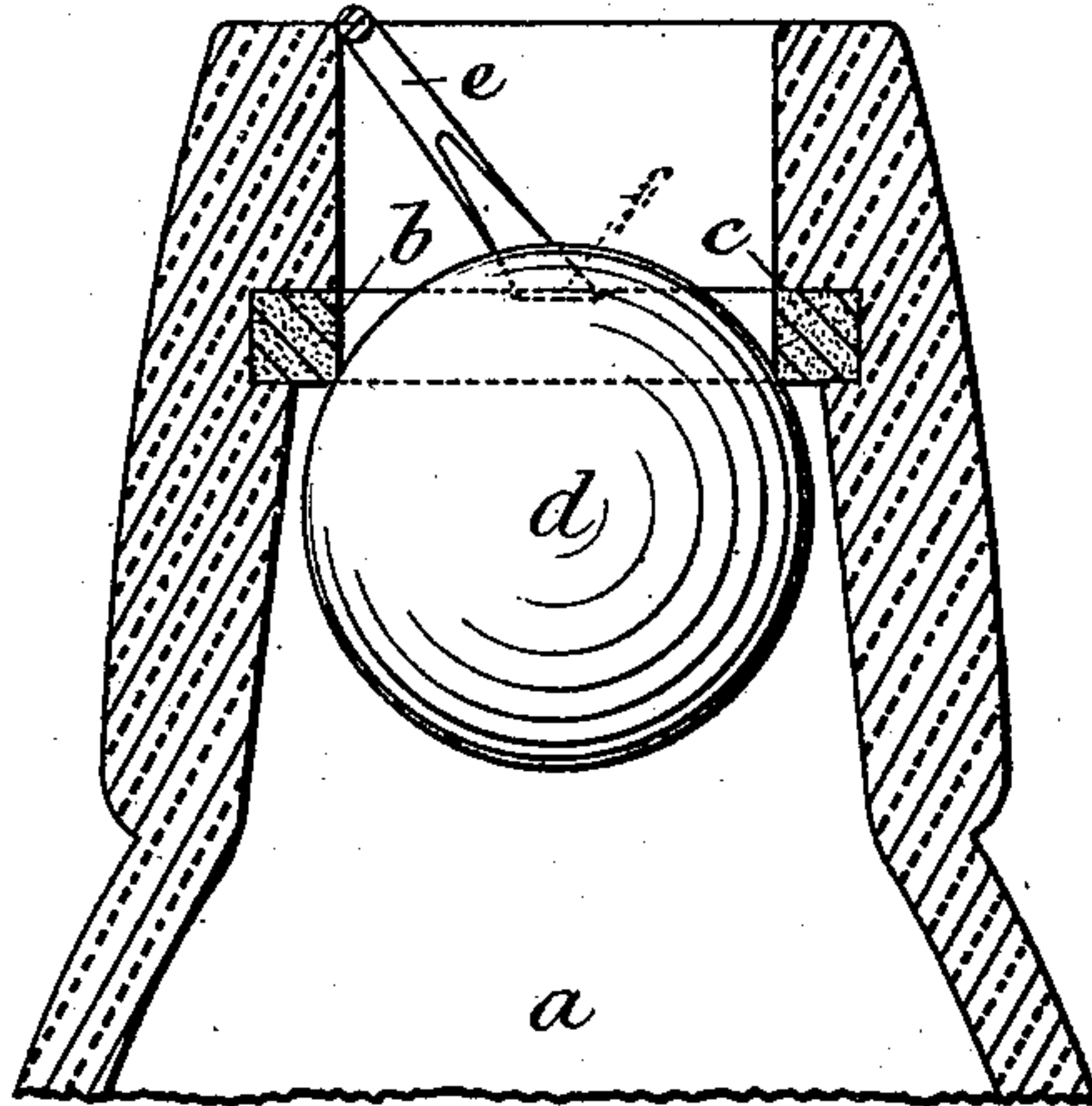


Fig. 1.

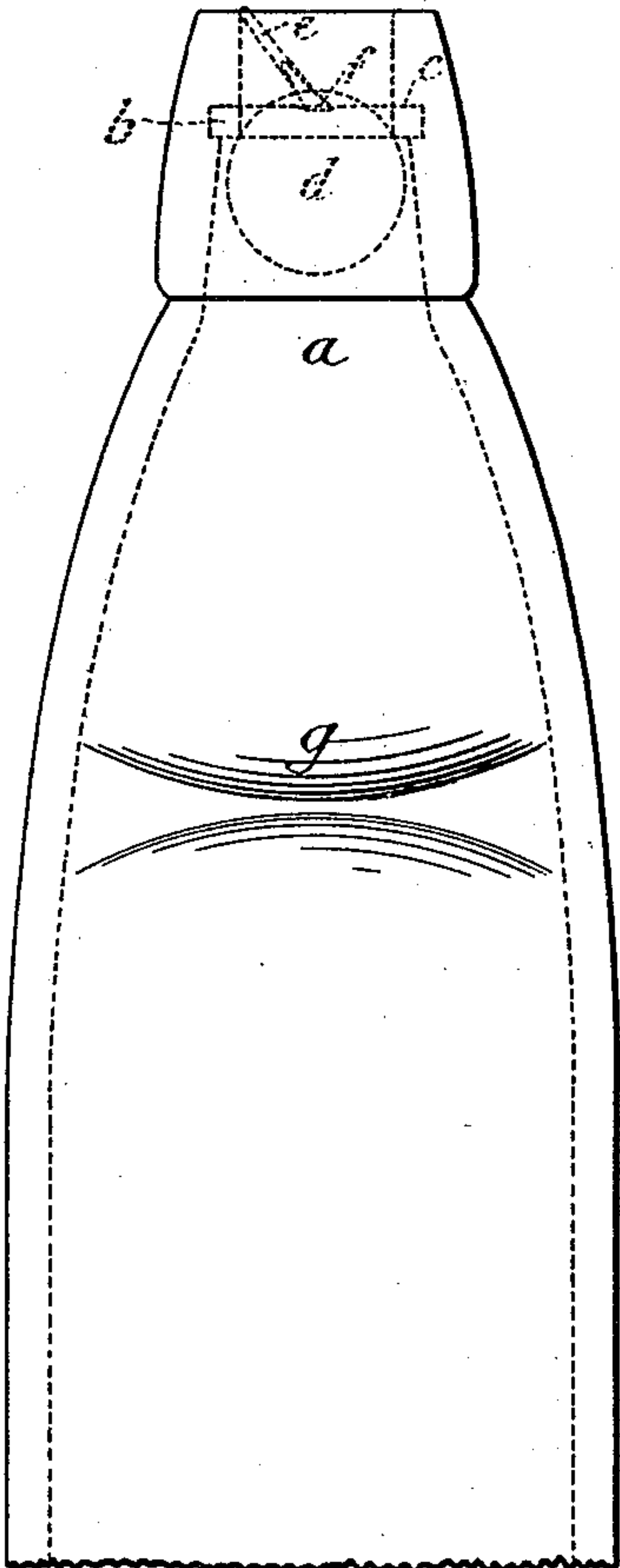


Fig. 4.

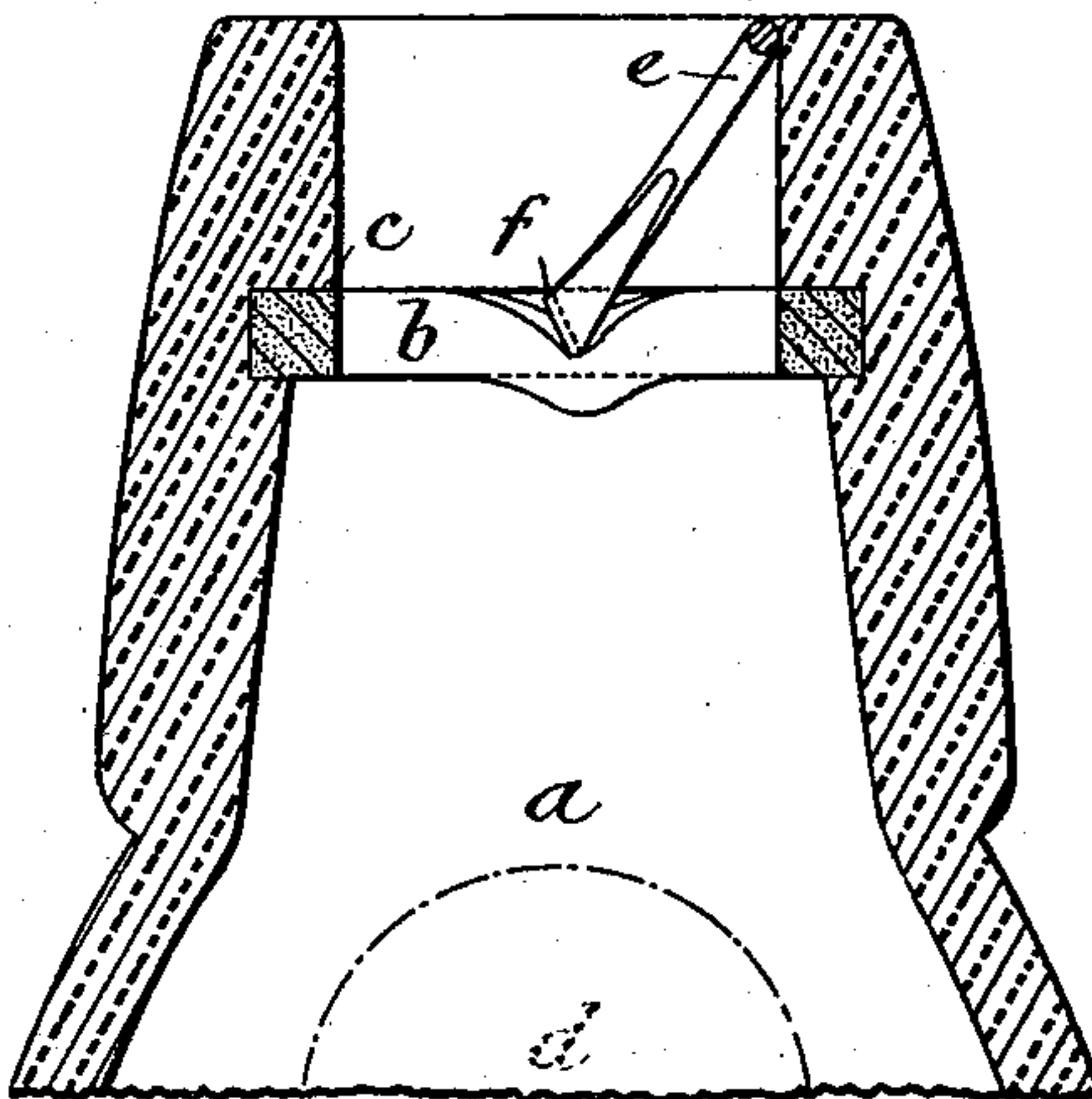
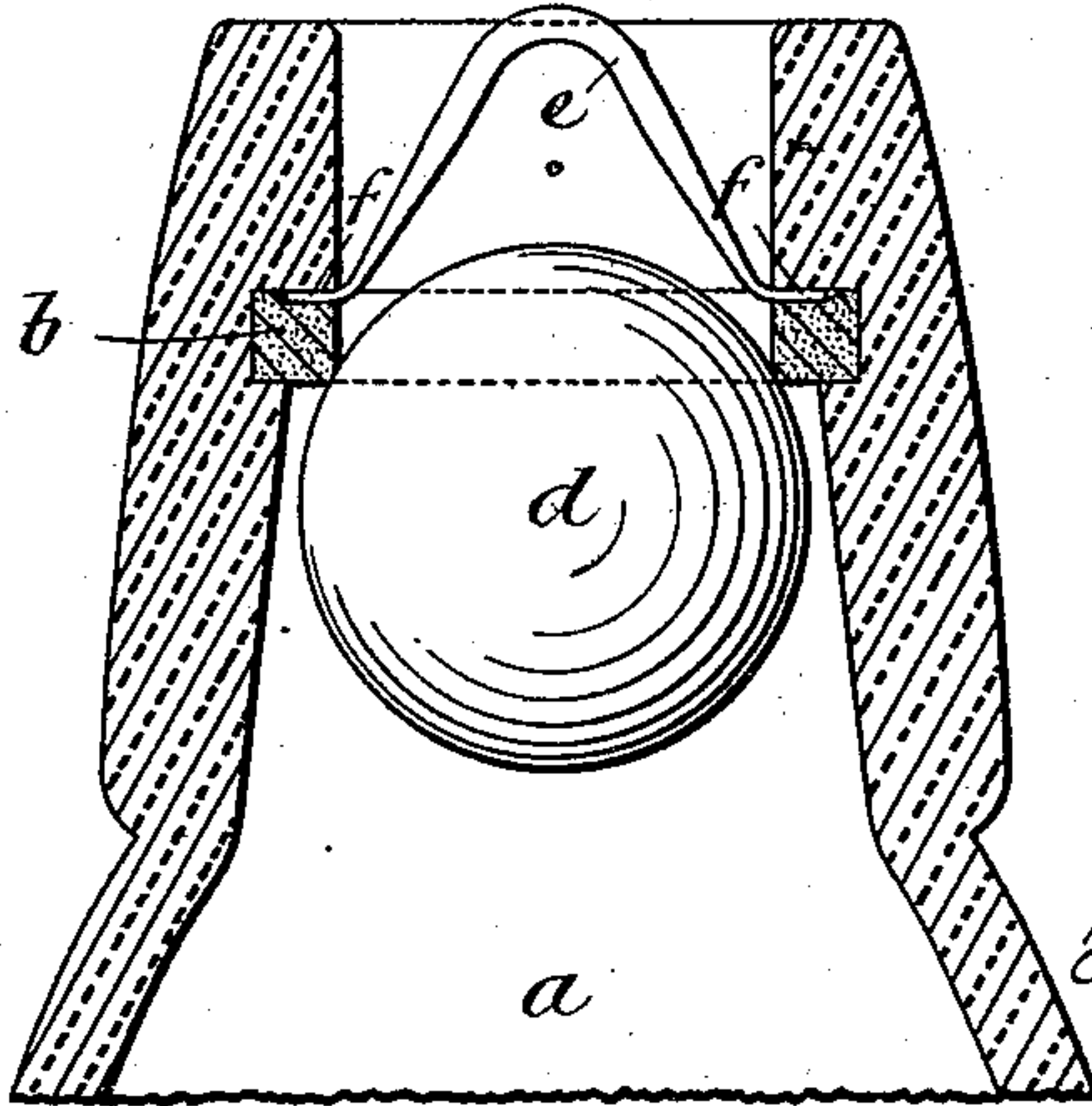


Fig. 3.



Witnesses,
Wm. H. Norton
J. M. Copenhaver,

Inventors,
Henry Barrett
and John J. Varley
by John J. Halsted & Son
Their Attys.

UNITED STATES PATENT OFFICE.

HENRY BARRETT AND JOHN JAMES VARLEY, OF LONDON, ENGLAND.

MEANS FOR FACILITATING THE OPENING OF INTERNALLY-STOPPERED BOTTLES.

SPECIFICATION forming part of Letters Patent No. 400,892, dated April 9, 1889.

Application filed December 17, 1888, Serial No. 293,784. (No model.) Patented in England November 2, 1887, No. 14,941; in Germany December 25, 1887, No. 44,368, and in France December 27, 1887, No. 187,835.

To all whom it may concern:

Be it known that we, HENRY BARRETT and JOHN JAMES VARLEY, subjects of the Queen of Great Britain, residing at London, England, have invented new and useful Improvements Relating to Means for Facilitating the Opening of Internally-Stoppered Bottles for Aerated and other Liquids, (patented in Great Britain by Letters Patent No. 14,941, dated November 2, 1887; in Germany by Letters Patent No. 44,368, dated December 25, 1887, and in France by Letters Patent No. 187,835, dated December 27, 1887,) of which the following is a specification.

Our invention relates to the opening of bottles having internal stoppers which are held close to elastic seats or rings fitted in the necks of the bottles by the pressure of gas contained in the said bottles.

It has for its chief object to provide ready, easy, and safe means for effecting the opening and escape of the confined gas, which means are applicable as well to bottles already in use as to similar bottles when new, inasmuch as our improved device may be applied without altering the surfaces of the bottles either by removing or perforating any part of the same. To this end we employ a bow or loop or lever of novel application and construction, by means of which the elastic seating and the stopper may be displaced, so as to allow of the gradual escape of the gas.

In the accompanying drawings, Figure 1 is a front elevation of the upper portion of a bottle of ordinary construction having our improvements applied thereto. Fig. 2 is a vertical section of the bottle-neck with the stopper and opening device drawn to an enlarged scale. Fig. 3 is a similar section at right angles to that shown in Fig. 2. Fig. 4 is a sectional view illustrating the operation of the opening device.

a is the bottle-neck.

b is the elastic seating located in a suitable recess below the flange or shoulder *c*, and *d* is a stopper, all of these parts being of ordinary construction.

e is a loop of wire or other suitable material having the ends *f f* turned outward and flattened or cam-shaped, as shown at Fig. 3, so

that they may be placed between the top side of the elastic ring or seating *b* and the under side of the shoulder *c* of the groove in the bottle-neck, into which the ring or seating is placed. The loop, which normally lies at one side of the mouth of the bottle, as shown in Figs. 1 and 2, extends to or just above the top of the mouth, also as shown in Fig. 2, and forms what may be termed a "lever."

When it is desired to open a bottle which contains aerated or other liquids under pressure, the top of the loop or lever is moved from the one side of the mouth toward the other side—that is to say, from the position shown in Fig. 2 to that shown in Fig. 4—whereby the ring or seating will be compressed or displaced by the ends *f f* of the loop, so that the stopper will not bear evenly thereon, thus allowing the gas to escape. At the same time the stopper will be forced slightly downward, so that when the gas shall have escaped the stopper will drop to a lower position in the bottle—for instance, onto the support *g*, Fig. 1.

As hereinbefore stated, a very important feature of our invention is that it can be applied to bottles which are already in use at a very small cost without altering their shape or cutting away part of the material of the bottle or adding to it means for holding or working the loop or lever opener. We are thereby enabled to make old bottles more efficient, inasmuch as they can be more readily and safely opened than when round stoppers or balls are used according to the old plan, and another advantage is that it provides against the loss of rings, which often occurs with bottles in ordinary use.

We wish it understood that we do not limit ourselves to the form of lever or loop hereinbefore described; but it should be noted that it should have one or both ends flattened or cam-shaped, so as to slightly displace the seating or ring when it is moved on one side so as to bring the lever into play.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is—

1. The combination, with a bottle which is adapted to be closed by means of a stopper

held against an elastic seating in the neck by the pressure of gas contained in the bottle, of a bow-shaped loop or lever whose terminal or end is inserted between the upper shoulder of
5 the recess in which the said seating is located and the seating itself, such terminal or end being flattened or cam-shaped, substantially as and for the purpose set forth.

2. The combination, with a bottle having an
10 elastic seating located in its neck, of a loop or lever, *e*, having flattened ends bent outward and adapted, when the lever is turned over from one side of the mouth toward the other side, to compress or displace the ring, substan-
15 tially as and for the purpose described.

3. Levers or loops *e*, adapted for compressing the elastic rings in internally-stoppered bottles, made, as set forth, in the form of a bow and having the ends turned outward from each other and made flat or cam-shaped, 20 substantially as and for the purposes described.

HENRY BARRETT.
JOHN JAMES VARLEY.

Witnesses:

H. G. BARRETT,
JOHN E. BONSFIELD.