

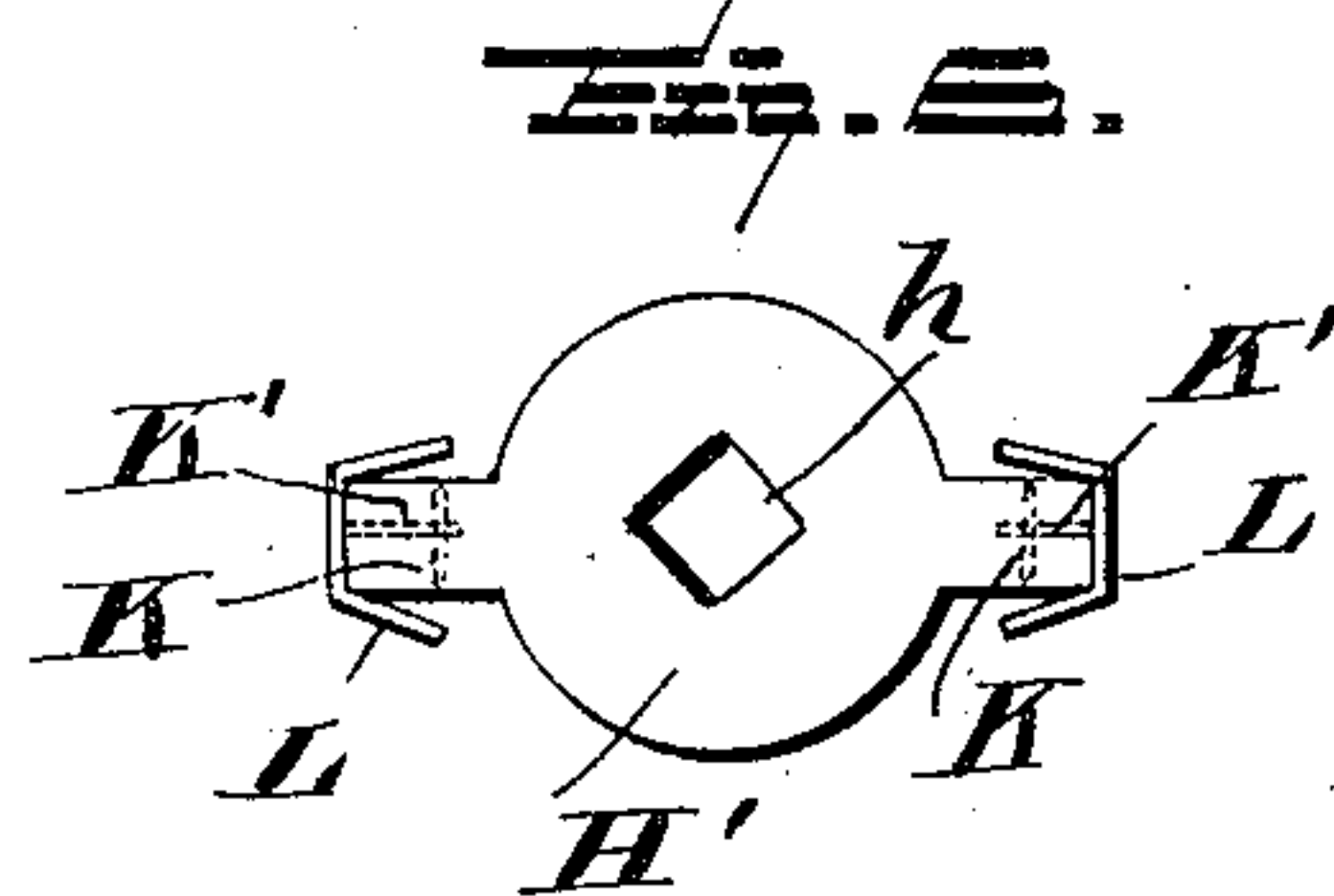
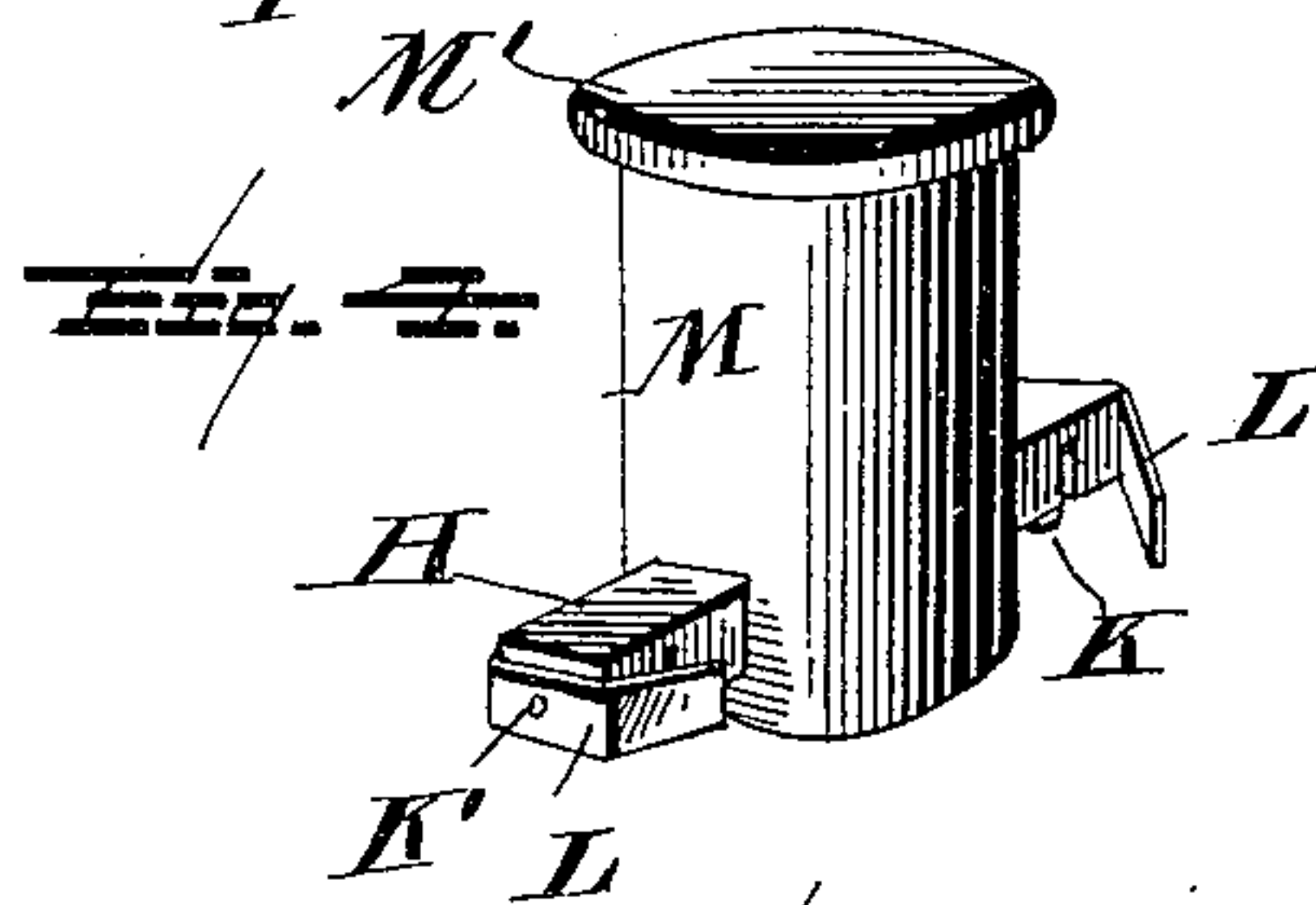
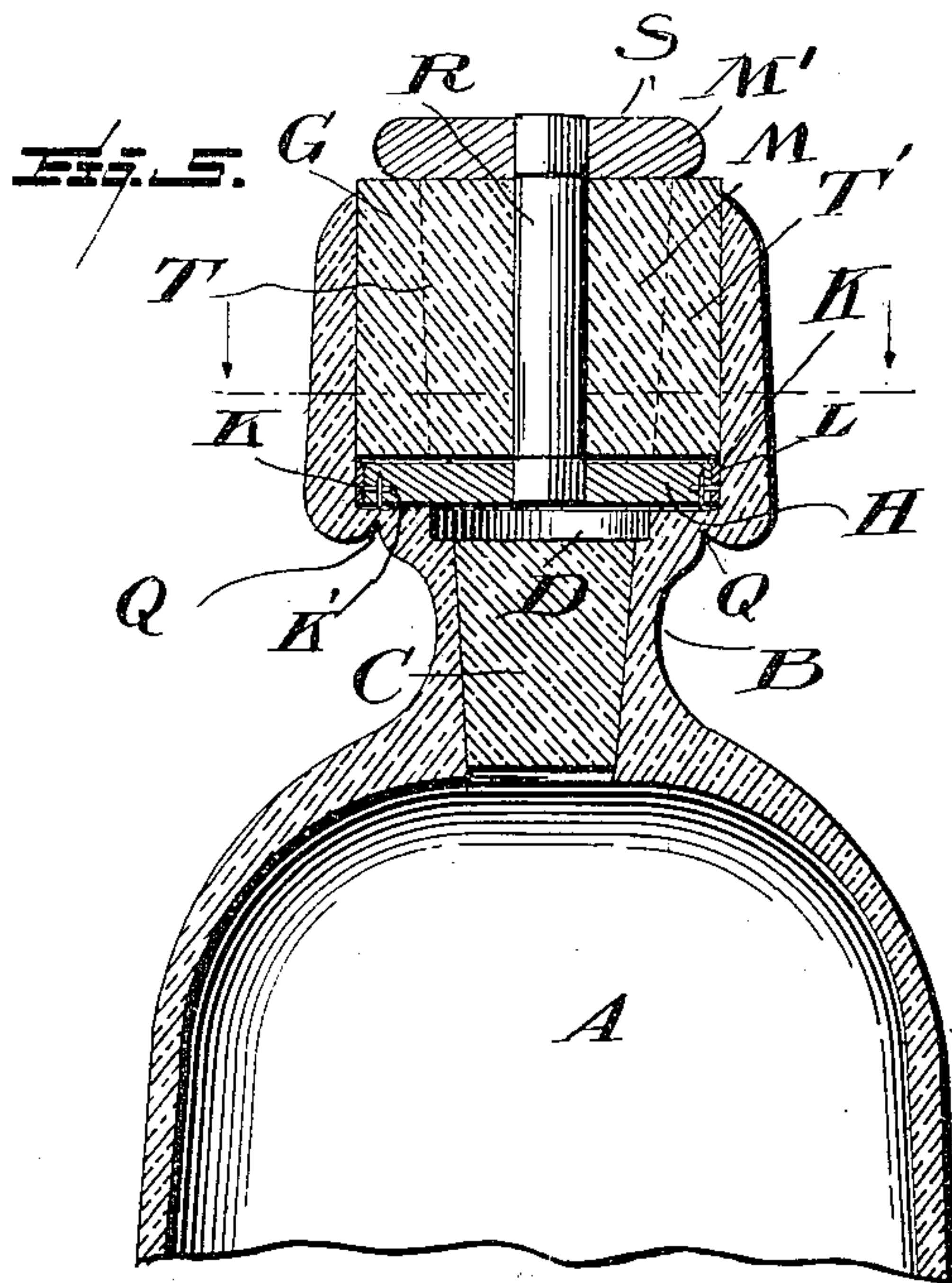
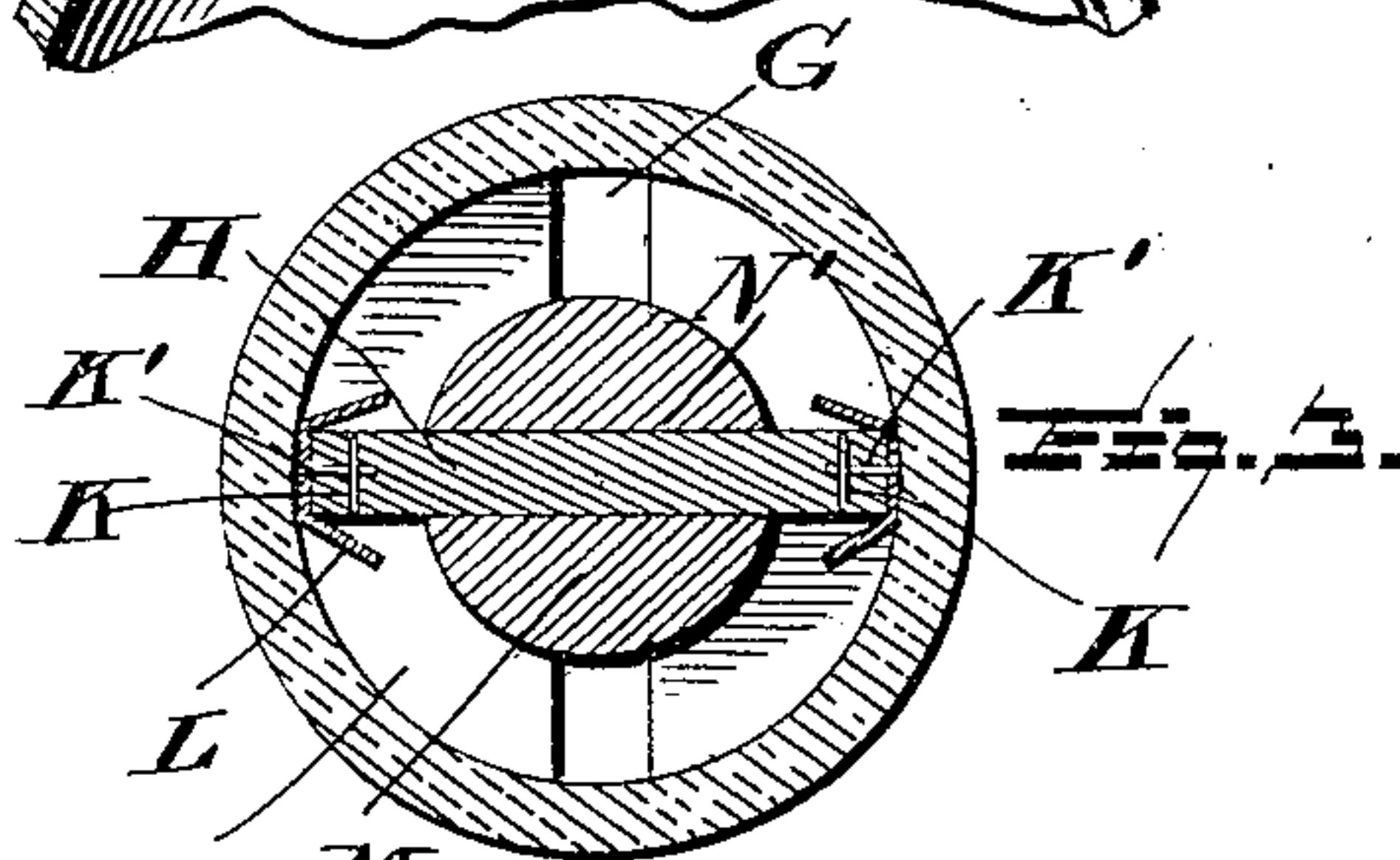
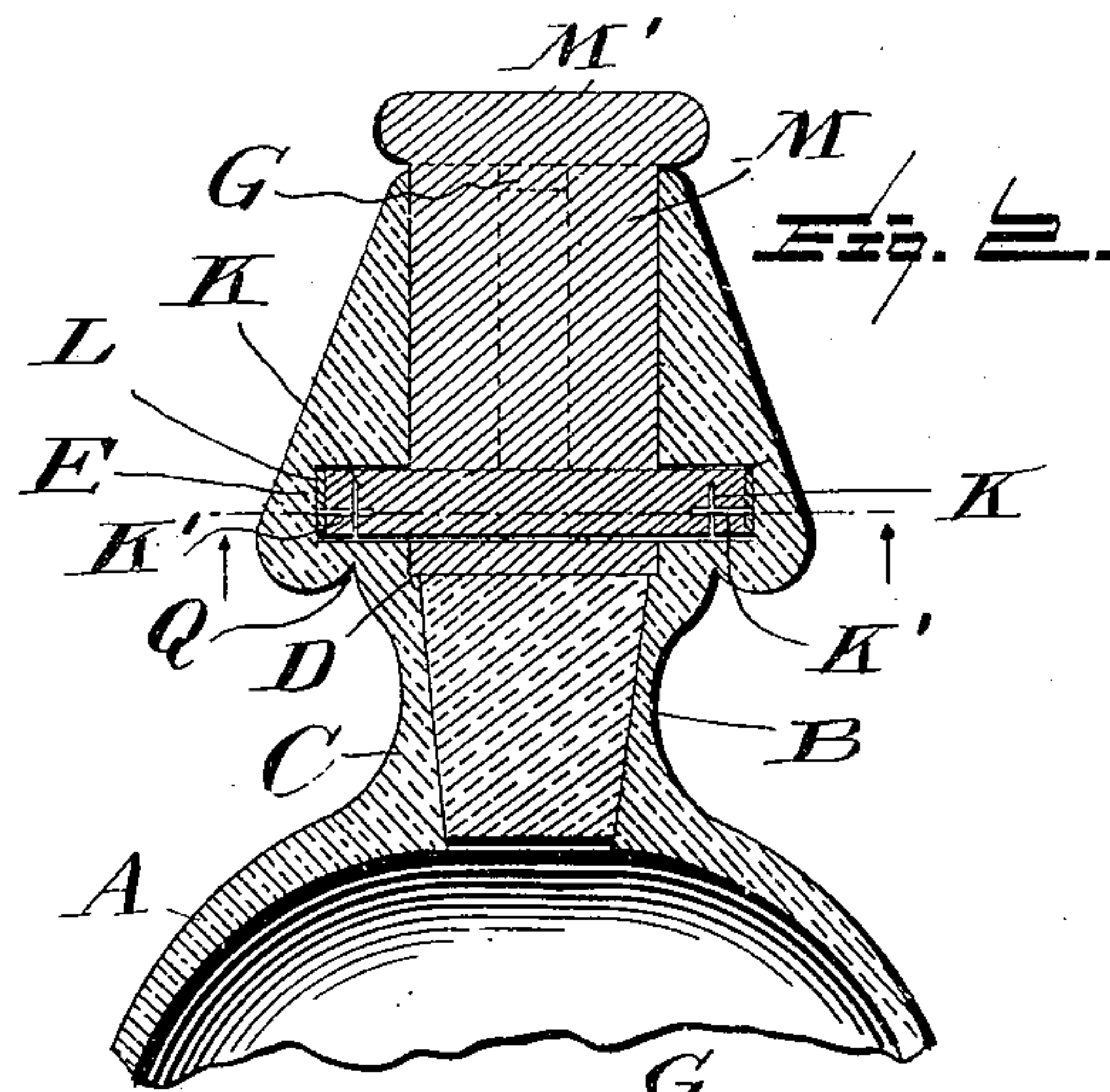
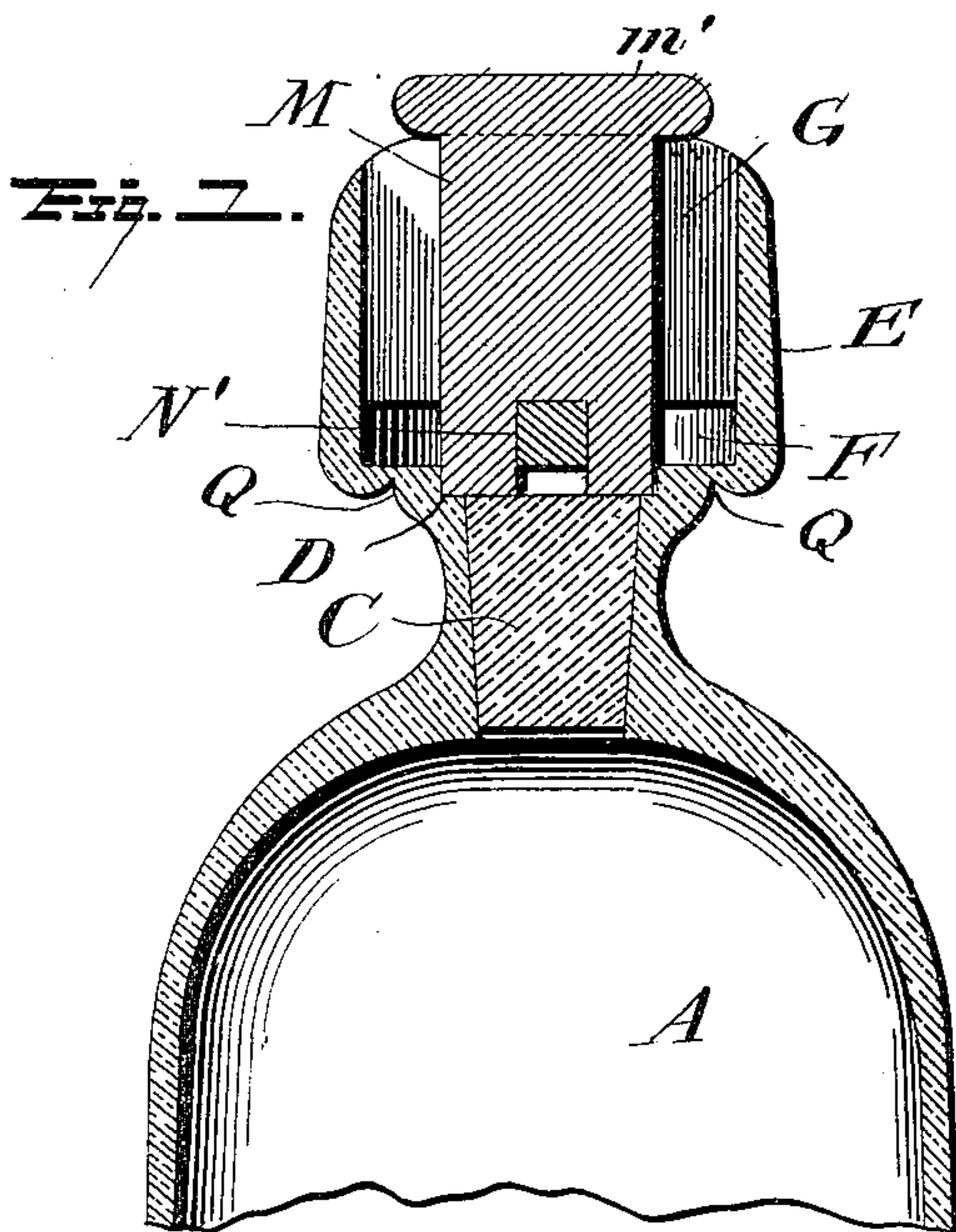
**No. 662,065.**

Patented Nov. 20, 1900.

W. H. FERRIS.  
NON-REFILLABLE BOTTLE.

Application filed Mar. 9, 1900.)

(No Model.)



WITNESSES:

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# UNITED STATES PATENT OFFICE.

WILLIAM H. FERRIS, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR  
OF ONE-HALF TO GEORGE TAYLOR WADE, OF SAME PLACE.

## NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 662,065, dated November 20, 1900.

Application filed March 9, 1900. Serial No. 8,051. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. FERRIS, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Non-Refillable Bottles; and I do 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 the letters of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in non-refillable bottles, and especially to a bottle having a frangible neck and so constructed that the stopper cannot be removed from the neck of the bottle without first breaking off the frangible portion of the neck, whereby access may be had to the stopper or cork.

More especially the present invention consists in the provision of a frangible non-refillable bottle having an enlarged portion of its neck provided with an annular groove made, preferably, in the under side of said enlarged portion and the provision of a rotatable key or plug which is designed to actuate a metallic bar carrying steel glass-cutting wheels, said bar being disposed horizontally and adapted to rest upon a shoulder of the neck of the bottle with the glass-cutting wheels resting directly over the annular groove in the neck, so that as the bar carrying said wheels is turned by the key a circle will be cut on said shoulder, thus weakening the already thin portion of the neck and making it possible to break off the upper portion of the neck by a slight tap thereon.

Another feature of the present invention resides in the provision of a non-refillable bottle having a frangible neck with an annular recess in its inner wall in which a bar having flexible wings secured to its ends is designed to be held to lock the bar in said recess and above the cork or stopper of the bottle, thus making it impossible to withdraw the cork or stopper without first breaking off the top of the neck.

To these ends and to such others as the invention may pertain the same consists, fur-

ther, in the novel construction, combination, and adaptation of parts, as will be hereinafter more fully described and then specifically defined in the appended claims.

My invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this application, and in which drawings similar letters of reference indicate like parts in the several views, in which—

Figure 1 is a vertical central sectional view through a bottle-neck and cork and key for adjusting the bar carrying the glass-cutting wheels. Fig. 2 is a similar vertical central sectional view taken on a plane at right angles to the section shown in Fig. 1. Fig. 3 is a cross-sectional view through the recessed portion of the neck. Fig. 4 is a perspective view of the key with the bar carrying the glass-cutting wheels held in the lower notched end of said key. Fig. 5 is a central vertical sectional view through a slightly-modified form of locking-bar carrying glass-cutting wheels; and Fig. 6 is a top plan view of the modified form of member carrying the glass-cutting wheels, said member being disk-shaped and having lugs carrying said wheels.

Reference now being had to the details of the drawings by letter, A designates the bottle, having a neck B, in which a cork or stopper C is seated. On the inner wall of the neck is a shoulder D. The upper portion of the neck is widened, as at E, and in said widened portion is an annular recess F, and on the inner wall of the neck are formed diametrically opposite each other the vertical grooves G, leading from the upper end of the neck down into said annular recess. The bar H has mounted in recesses in its under face the glass-cutting wheels K, journaled on pins K', fastened in the ends of said bar. Said pins, which are driven in holes in the end of the bar H, also secure the spring-flaps L to the ends of said bar. These spring-flaps have their ends outwardly bent, as shown clearly in Fig. 4 and also in Fig. 3. The turning key M has a flanged top M' and is notched at its lower end, as at N', and in said notched portion the bar H is adapted to be seated. The lower end of the key when inserted in the neck of the bottle is adapted to rest on said



shoulder D, as clearly shown in Figs. 1 and 2, and the key should fit the wall of the neck loosely, so that the key may turn easily with its lower end resting on said shoulder. On 5 the under surface of the enlarged or widened portion of the neck of the bottle is an annular groove Q, making the thinnest portion of the neck between the bottom of said groove and the bottom of the annular recess in the 10 inner wall of the neck, as shown in the drawings.

In Fig. 5 I have shown a slight modification of features of the invention, in which view instead of having a bar, as shown in 15 Figs. 1, 2, and 3, I provide a disk H', (shown clearly in Fig. 6,) having a central square or angular aperture  $h$  therein, and on the diametrically oppositely disposed lugs H<sup>2</sup>, corresponding to the ends of the bar H, are fastened the glass-cutting wheels K and the 20 spring-flaps L. The key in this modified form consists of the pin R, which is squared or angular at both ends in order to fit the angular aperture  $h$  at its lower end, while its 25 upper end fits into the disk S, whereby said key may be rotated. Interposed between said disk H' and the disk S is placed a cork T, having wings T', which latter fill up the vertical grooves in the inner wall of the neck after 30 the disk carrying the glass-cutting wheels has been inserted in the annular recess in the inner wall of the neck. After the cork has been inserted in the neck of the bottle in the position shown the bar H is inserted in the notched 35 end of the key, the spring-flaps at the ends of said bar are compressed against the side of the bar, and said bar is pushed down into and through the vertical grooves G in the inner wall of the neck. When the bar passes the 40 lower ends of said grooves and rests in the annular recess F, the ends of the spring-flaps will spring laterally into said recess and the bar is securely locked in said recess. By turning the key when the bar is at its lowest 45 limit the glass-cutting wheels carried by said bar will cut into the bottom wall of the annular recess F and describe a circle, provided a one-half revolution is imparted to said key. By slightly tapping the upper portion E of 50 the neck the top will easily be severed from the lower portion of the neck directly over the

annular groove Q. The neck of the bottle being thus broken, the cork or stopper may be easily removed.

In the modification shown the disk having 55 the lugs thereon is actuated by means of the pin R and the disk S, secured to its upper end.

What I claim is—

1. A non-refillable bottle having an annu- 60 lar groove in its outer wall a locking-bar seated in an annular recess in the inner wall of the neck, glass-cutting wheels journaled on said bar, spring-flaps secured to the ends of the bar, and means for inserting the bar 65 into the annular groove in the inner wall of the neck and for rotating the wheels, as set forth.

2. A non-refillable bottle having a neck with an outer annular groove, and an inner 70 annular groove, a locking-bar seated in said inner groove, glass-cutting wheels carried by said bar and held against the inner wall of the neck opposite the outer groove, spring- 75 flaps carried by the bar to hold the latter in a locked relation, and a key for rotating said bar, as set forth.

3. A non-refillable bottle having an annu- 80 lar groove in its outer wall, the inner wall of the neck having an annular recess, and vertical grooves leading to said annular groove in the inner wall, a locking-bar, the glass-cutting wheels carried by the latter, spring- 85 flaps for locking the bar in place, and a key having a notched lower end to receive said bar, whereby the latter is forced down into a locked position, and rotated therein, as set forth.

4. A non-refillable bottle having a neck with an annular groove in its outer wall a 90 locking-bar and glass-cutting wheels carried thereby, the locking-key having a notch at its lower end adapted to receive said bar, the lower ends of said key adapted to rest upon a shoulder on the inner wall of the neck, as set 95 forth.

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

WILLIAM H. FERRIS.

Witnesses:

A. L. HOUGH,  
J. M. PFEIFFER.