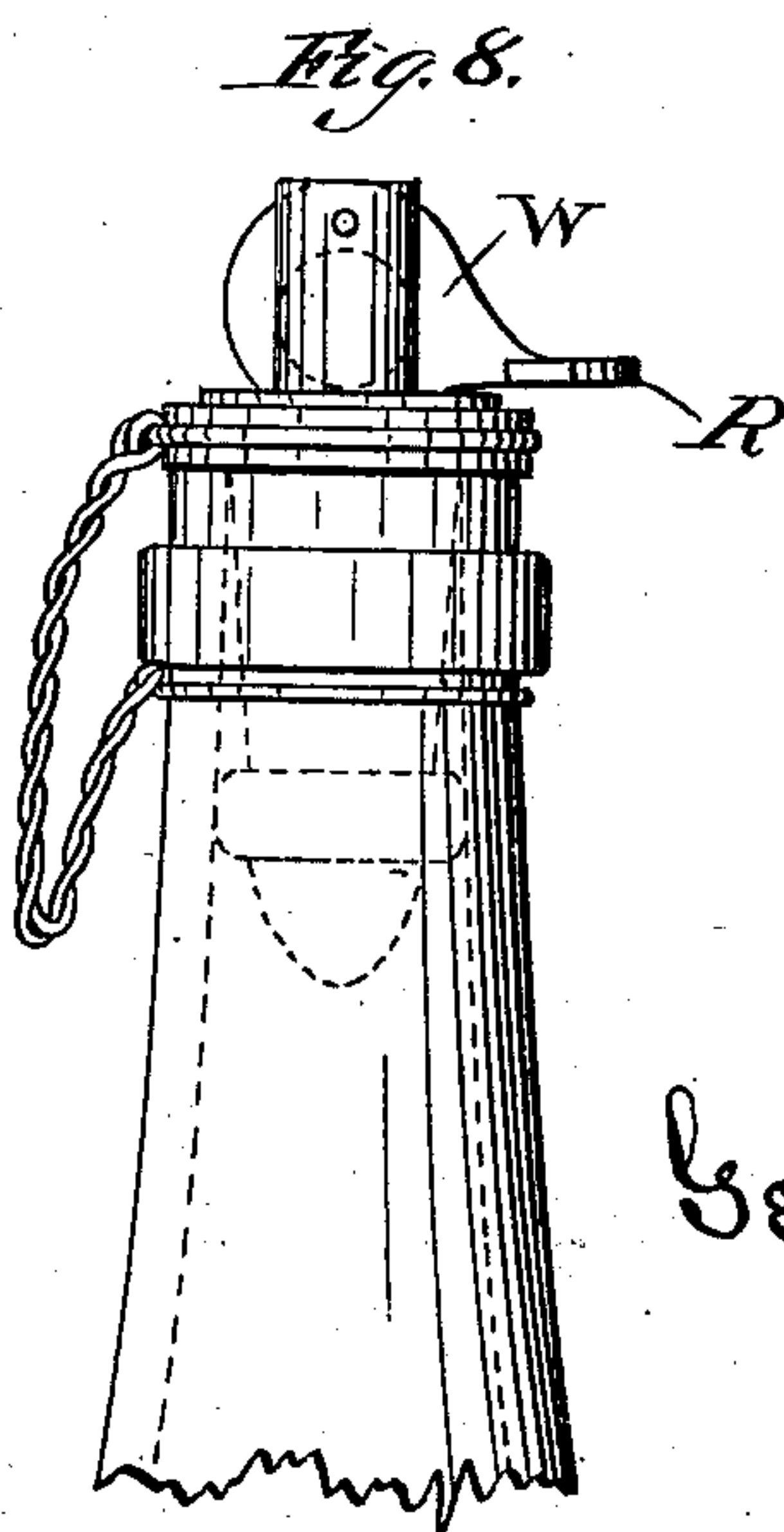
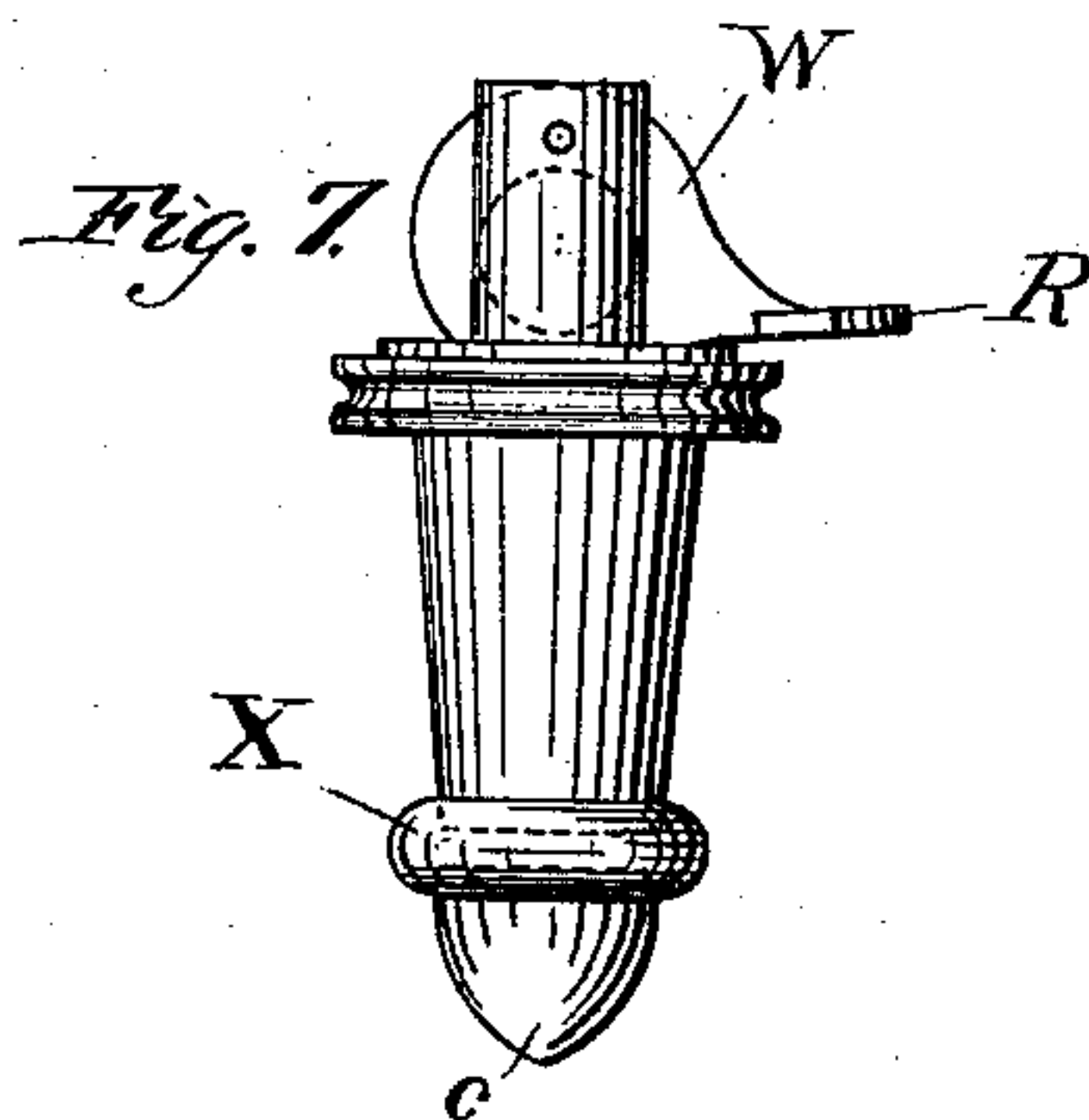
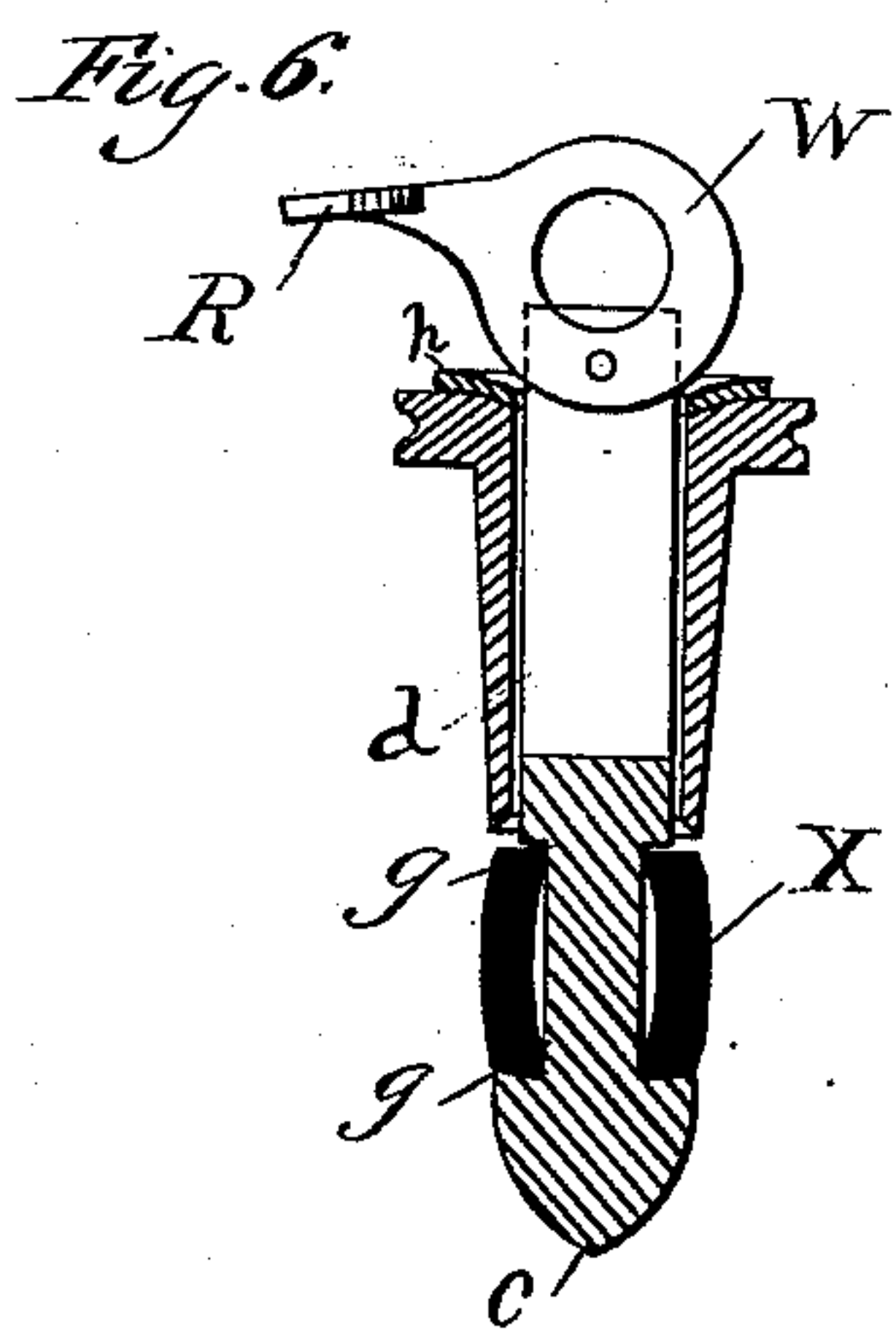
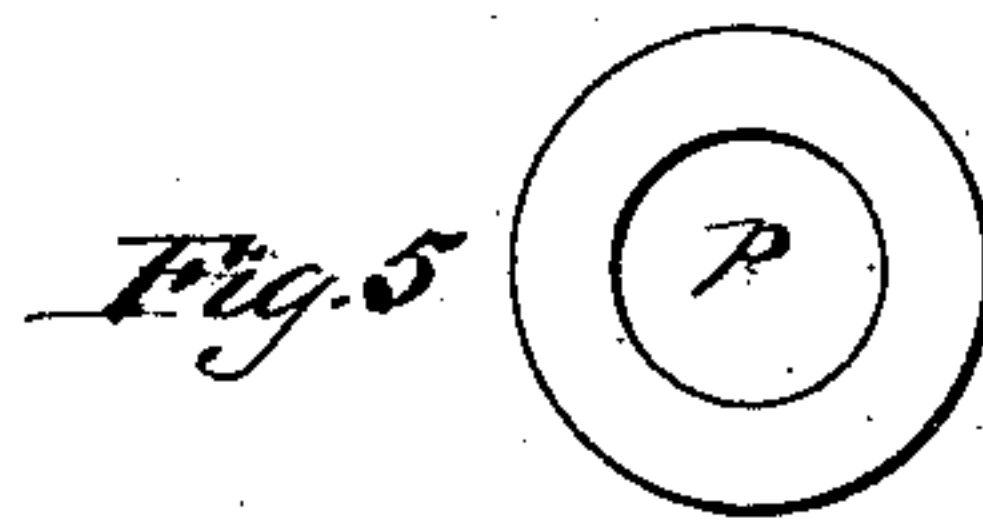
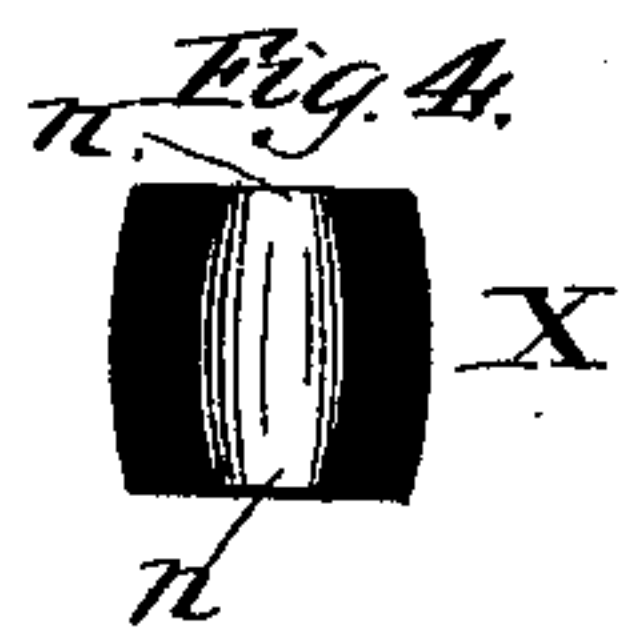
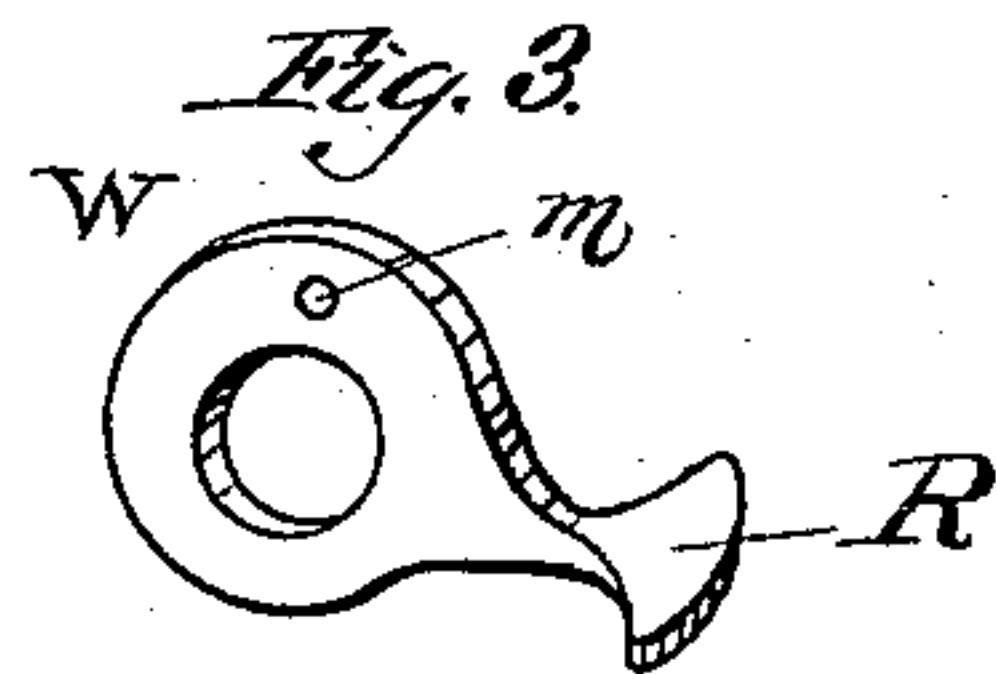
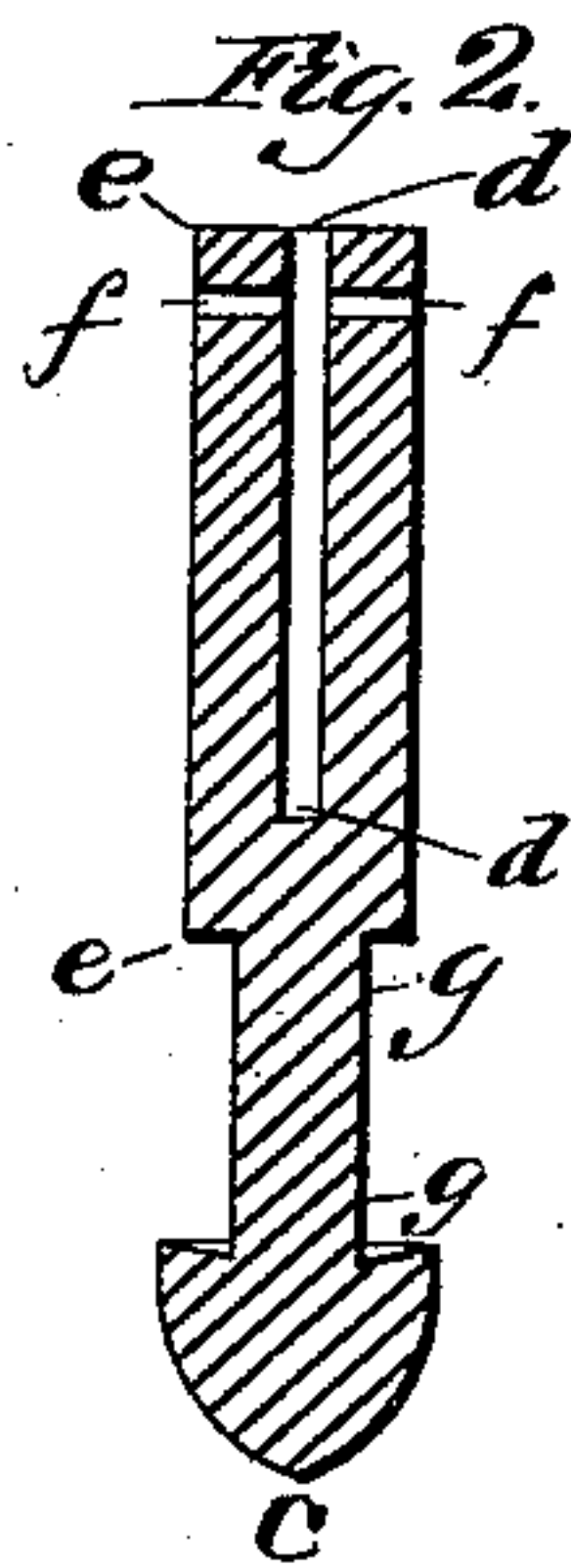
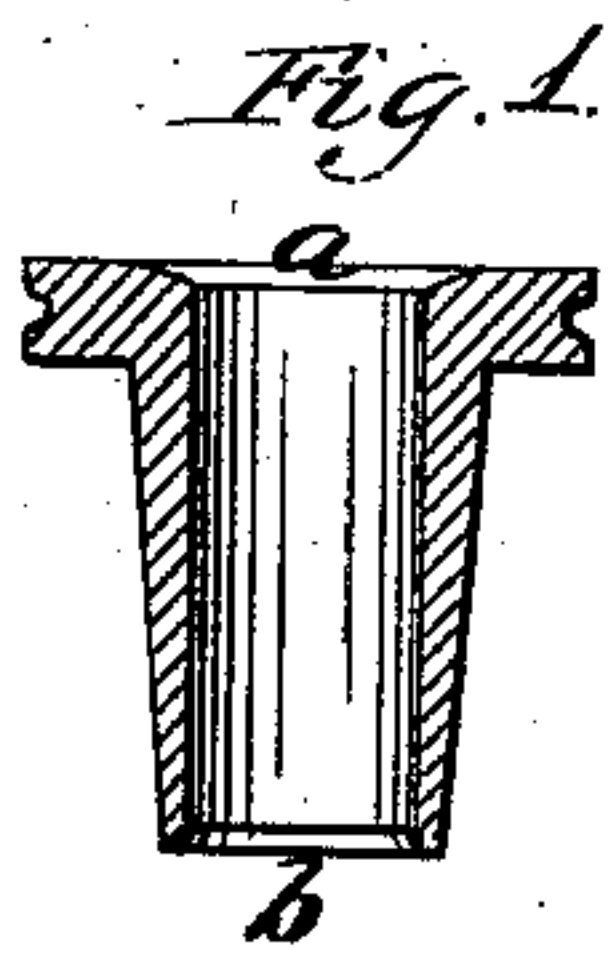


(No Model.)

G. F. HOFFER.
BOTTLE STOPPER FASTENER.

No. 255,506.

Patented Mar. 28, 1882.



WITNESSES—
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UNITED STATES PATENT OFFICE.

GEORGE F. HOFFER, OF CHICAGO, ILLINOIS.

BOTTLE-STOPPER FASTENER.

SPECIFICATION forming part of Letters Patent No. 255,506, dated March 28, 1882.

Application filed January 19, 1882. (No model.)

To all whom it may concern:

Be it known that I, GEORGE F. HOFFER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Bottle-Stopper Fastener, (which has not been patented to myself or to others with my consent or knowledge in any foreign country;) and I do hereby declare the following to be a clear, full, and exact description thereof, reference being had to the accompanying drawings, forming part of this specification.

Like figures and letters refer to like parts wherever they occur.

My invention relates to an improvement in bottle-stopper fasteners for closing bottles of all kinds in a quick and secure manner; and its object is to obtain such a construction and combination of the spool, the stopper, piston, and the lever that the stopper may always be drawn squarely up into and uniformly expanded within the neck of the bottle, so as accurately and tightly to close the same; to which end it consists in the combination, with a shouldered tapering centrally-perforated spool, of a barrel-shaped hollow perforated elastic stopper mounted upon the stem of a piston, and compressed and expanded within the throat of the bottle, between the foot of said spool and the button of the stem of said piston, by a one-armed circular lever pivoted within the slotted head of said piston.

In the drawings, Figure 1 indicates a central, vertical section of the shouldered tapering spool, made of wood or other suitable material having a central perforation, *a b*, and being concaved at both ends. Fig. 2 indicates a central vertical section of the piston, made of wood or other suitable material. The upper portion of the shank *e e* has a slot, *d d*, perpendicular to the perforation *f f*, passing horizontally through the head of said shank, and the stem *g g* has at its extremity a concaved cone-shaped button, *c*. Fig. 3 indicates the one-armed circular lever *W*, made of malleable iron or other suitable metal, the perforation *m* near the circumference of the circle being at such a distance from the arm *R* of said lever that when said arm is forced down and rests upon the plate the pivot of the piston is on the center, and when the arm is forced upward said pivot is thrown off the center. Fig. 4 indi-

cates a central vertical section of the barrel-shaped hollow stopper *X*, made of rubber or other elastic substance, having a central perforation, *n*, at each end. Fig. 5 indicates a circular concaved plate, made of zinc or other suitable metal, having a central perforation, *p*, and is used for the purpose of protecting the wooden spool against the pressure of the lever. If the spool be made of metal or of any other substance equally hard, this plate becomes unnecessary. Fig. 6 indicates a central vertical section of the fastener, showing all the parts as they appear together in position in the fastener when unlocked. Fig. 7 indicates the fastener constructed of the parts aforesaid, and as the same appears when locked. Fig. 8 indicates a bottle closed by devices embodying my invention.

The fastener is constructed as follows: Mount the stopper upon the stem of the piston by forcing the same over the button *c*. Then insert the shank of the piston up into the perforation of the spool, and having slipped the metal plate over the head of said shank, with its convexed side resting on the concaved surface of said spool, pivot the lever in the head of said piston by driving a pin through the perforations *f f* of said head and *m* of said lever.

The devices may be operated to lock the stopper by inserting the fastener into the throat of the bottle until it rests with its shoulder upon the mouth of the vessel, and then forcing the arm of the lever down upon the plate. To unlock the stopper, release the lever by forcing its arm upward.

The advantages of my invention are, first, that the stopper is more quickly locked and released; second, that the same is always drawn squarely up into the neck or throat of the bottle and uniformly expanded therein, thereby accurately closing the same; third, that the same is not restricted in its use either by the shape or the irregular length of the heads of bottles.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The shouldered tapering concaved spool, with central perforation, *a b*, and constructed of one piece, substantially as shown, and for the purpose set forth.
2. The piston, composed of shank *e e*, dou-

ble-shouldered stem *g g*, and button *c*, the shank having a horizontal pin or axis passage, *f f*, and a vertical slot, *d d*, substantially as shown and described.

5 3. The barrel-shaped hollow centrally-perforated elastic stopper X, substantially as shown and described.

4. The combination of the shouldered tapering perforated spool, with the piston provided with the vertical slot *d d* and horizontal

pin or axis passage *f f*, stem with concaved button *c*, the one-armed perforated circular lever W, the circular concaved perforated metal plate, and the barrel-shaped hollow perforated rubber stopper X, substantially as and 15 for the purpose stated.

GEORGE F. HOEFFER.

Witnesses:

CHAS. E. GAYLORD,

F. B. TOWNSEND.