(Model.)

J. H. COREY.

BOTTLE STOPPER.

No. 391,948. Patented Oct. 30, 1888.

Fig. 1.

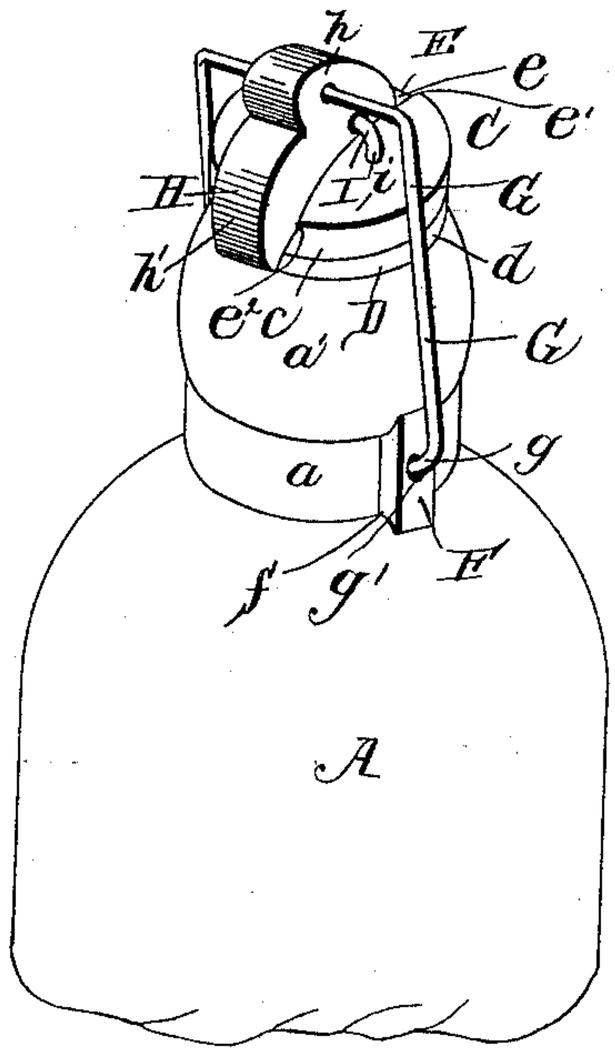


Fig. 4.

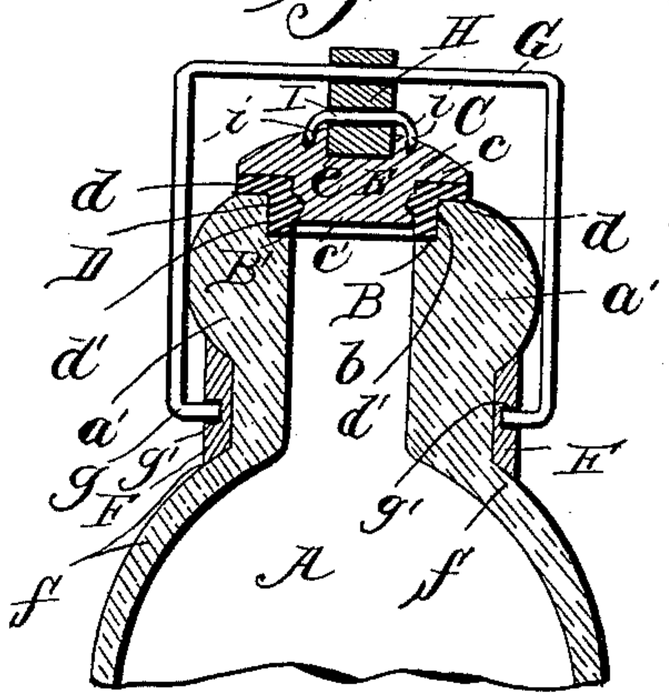


Fig. 2.

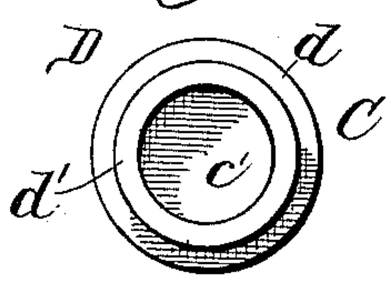
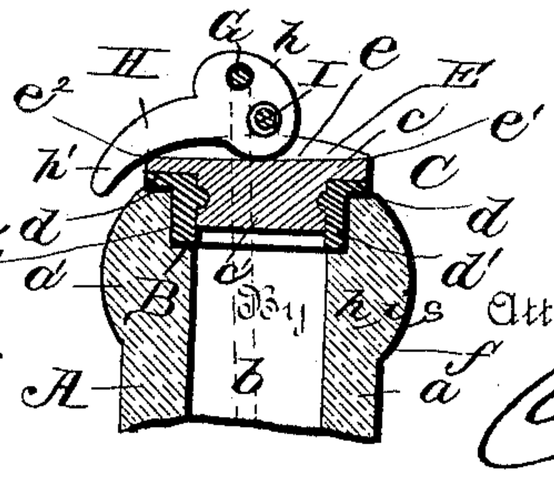


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

JOHN HENRY COREY, OF PITTSFIELD, MASSACHUSETTS.

BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 391,948, dated October 30, 1888.

Application filed May 18, 1888. Serial No. 274,310. (Model.)

To all whom it may concern:

Be it known that I, JOHN HENRY COREY, a citizen of the United States, residing at Pittsfield, in the county of Berkshire and State of Massachusetts, have invented new and useful Improvements in Bottle-Stoppers, of which the following is a specification.

The invention relates to improvements in stoppers for bottles adapted to hold carbonated liquids; and it consists in the construction and novel combination of parts hereinafter described, illustrated in the accompanying drawings, and pointed out in the appended claims.

In the drawings, Figure 1 is a perspective view of a bottle having a stopper embodying the invention attached. Fig. 2 is a reversed plan of the stopper having the washer attached. Fig. 3 is a vertical diametrical section of the stopper, showing the inclination of the groove in the upper end thereof. Fig. 4 is a vertical section taken at right angles to Fig. 3.

The invention is more particularly applicable to bottles having short necks cylindrical between the mouth-bead and shoulder.

Referring to the drawings by letter, A designates a bottle, having the neck *a*, the mouth-bead *a'*, and the shoulder *f*. The neck of the bottle has within it the circumferential shoulder concentric with its opening *b*, which shoulder serves for a seat for the rubber packing of the stopper, hereinafter described.

C is the stopper, consisting of the head *c* and the cylindrical boss *c'*, to enter the neck of the bottle.

D is a washer, of soft rubber or equivalent material, annular in form and binding on the boss of the stopper, its upper circumferential flange, *d*, resting against the inner surface of the head. The lower end portion, *d'*, of the washer projects beyond the boss of the stopper, and is seated on the shoulder B, while its flange *d* rests upon the edge of the mouth of the bottle, and is pressed thereon by the head *c*.

E is a groove crossing diametrically the head of the stopper, preferably rectangular in cross-section, and with its floor *e* inclining slightly downward from the end *e'* to the end e^2.

F F are similar bearing-blocks, of vulcanized rubber, metal, or other suitable substance, which fit oppositely upon the neck of the bottle, with their upper edges resting upon and conforming to the mouth-bead *a'*, and the lower ends resting upon and conforming to the shoulder *f*. The said blocks are provided centrally in their outer surfaces with the bearing-recesses *g'* for the inwardly-bent ends *g* of the rectangular wire yoke G, upon the transverse bar of which is hung the locking-cam block H, the rounded head *h* of said block being pivoted eccentrically upon said transverse bar. The cam-block is provided with the downwardly-curved outstanding arm *h'*, and is attached to the stopper by the staple I, journaled in a transverse opening in said block near the point of the edge thereof farthest from the transverse bar of the yoke, and having the ends of its depending arms *i* secured in the upper side of the head *c* on each side of the groove E, in any suitable manner. When the arm *h'* is turned downward, the periphery of the cam-block presses upon the floor of the groove E and forces the inner edge portion, *d'*, of the washer against the shoulder B and the flange *d* thereof against the edge of the mouth of the bottle, so that the washer tends to thicken and bind tightly in the neck above the shoulder B. Thus, if the upper edge of the bottle is broken or splintered at points, the lower edge of the washer will form a close joint and prevent the escape of gas from the contained liquid.

To lock the stopper by the described devices, the curved arm *h'* is turned downward adjacent to the neck-bead *a'*, and the inclination of the groove E tends to prevent it from being lifted to release the stopper. The bearing-blocks are retained opposite each other by the wire yoke, and are pressed by the spring thereof against the neck, upon which they cannot turn, as their straight ends bear, respectively, against the mouth-bead and the shoulder *f*. The said yoke must of course be elastic enough to have its ends *g'* sprung into the corresponding bearing-recesses.

Some of the advantages of the invention are as follows: The usual long-necked bottle is not used, and the wire usually surrounding the neck is dispensed with. The fastening device can be attached without the use of pinchers. The rubber washer has a double bearing on the

bottle, and the fastening device is not liable to wear loose, as frequently is the case with those in which the neck of the bottle is surrounded by a wire, which will gradually loosen and work upward.

Having described my invention, I claim—

1. The combination, with a bottle having the mouth-bead a' and the shoulder f, of the blocks F, provided with bearing-recesses g' and situated diametrically opposite on the neck of the bottle, with their edges fitting, respectively, against the mouth-bead and shoulder f, the wire yoke having its inwardly-bent ends journaled in said recesses g' and holding the bearing-blocks in place by its spring, and a suitable stopper hung to said yoke, substantially as specified.

2. The combination, with the bottle having the mouth-bead a' and shoulder f, of the recessed bearing-blocks F, the rectangular wire yoke G, with its ends journaled in the recesses of said blocks, the locking cam-block having the rounded head h, pivoted eccentrically on the transverse bar of the yoke and provided with the curved arm h', the staple I, the stopper provided in its head with the diametrical cam-groove E, having an inclined floor, e, and the rubber washer surrounding the boss of the stopper, with its flange d situated between the head c thereof and the edge of the mouth of the bottle, and its lower portion, d', which projects beyond the boss of the stopper, bearing on the shoulder B, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

JOHN HENRY COREY.

Witnesses:

his
MICHAEL × GLAVIN,
mark.

WILLIAM HENRY HUNT.