J. M. HOYT.

BOTTLE-STOPPER.

No. 186,476. Patented Jan. 23, 1877.

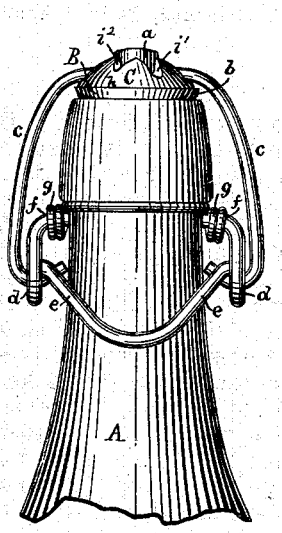

FIG. 1.

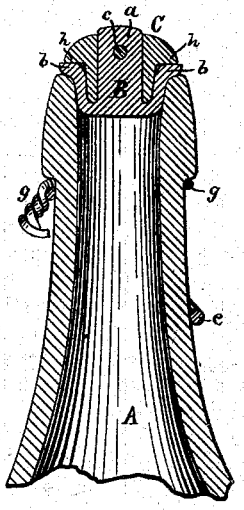

FIG. 2.

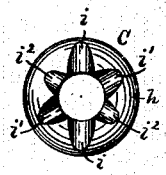

FIG. 3.

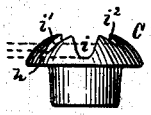

FIG. 4.

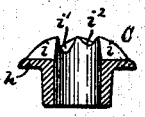

FIG. 5.

WITNESSES.

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JOSEPH M. HOYT, OF LYNN, MASSACHUSETTS.

IMPROVEMENT IN BOTTLE-STOPPERS.

Specification forming part of Letters Patent No. **186,476**, dated January 23, 1877; application filed January 9, 1877.

To all whom it may concern:

Be it known that I, JOSEPH M. HOYT, of Lynn, in the county of Essex and State of Massachusetts, have invented a new and useful Improvement in Bottle-Stoppers, of which the following, taken in connection with the accompanying drawings, is a specification:

My invention relates to that class of bottle-stoppers in which rubber or other elastic material is used as a packing, in combination with a metal collar or follower held in place by a pivoted bail or yoke operated by a lever or equivalent device, and, as represented in the drawings, is an improvement upon the stopple patented to Charles de Quillfeldt, January 5, 1875, and numbered 158,406; but is also applicable to other styles of stoppers without change in the principle of its operation; and it consists in forming, in the upper surface of the metal collar or follower of the stopple, two or more notches or grooves, extending radially across the same, with their bottoms at different levels, to receive and form bearings for the bail or yoke, so that, as the packing wears, or the wire of the bail or yoke stretches or otherwise becomes elongated so that the stopple will not close the bottle perfectly tight, the difficulty may be remedied by turning the metal collar or follower partially around, and placing the bail or yoke in the notch or groove whose bottom is at the next highest level, thereby taking up the slack occasioned by wear or otherwise.

Figure 1 of the drawings is a side elevation of the neck of a bottle, showing my improvement applied in connection with Quillfeldt's patent stopple. Fig. 2 is a central vertical section of the same. Fig. 3 is a plan, Fig. 4 an elevation, and Fig. 5 a vertical section, of the metal collar with my improvement applied thereto.

In the drawings, A is the bottle; B, the rubber stopple, consisting of the stem *a* and disk *b*, and provided with a hole transversely through the stem, for the passage of the wire bail or yoke *c*, bent into the form of a letter **U**, and provided with a hook at its two ends, which enter eyes *d d*, formed in the bent-wire lever *e*, which, in turn, is pivoted at *f f* to eyes formed in the wire *g*, which is firmly secured around the neck of the bottle, precisely as described in Quillfeldt's patent, before cited. C is a sleeve-shaped cap-piece, fitted over the stem *a* of the stopple B, and provided with a projecting flange or collar, *h*, to bear upon the outer edge of the flange or disk *b* of the stopple B, and press it down firmly upon the end of the bottle, when the yoke *c* is drawn downward, by throwing the lever-frame *e* into the position shown in the drawings, the horizontal portion of the yoke *c* resting in a notch or groove across the top of the sleeve cap-piece, as shown and described in Quillfeldt's patent.

The sleeve cap-piece C is made of metal, and, as constructed by me, has formed in its upper surface the radial grooves *i*, i^1, and i^2, two or more of which may be used, said grooves being made of varying depths, as clearly indicated by the dotted lines in Fig. 4.

The operation of my improvement is as follows: When the bottle is first filled, the yoke *c* is placed in the deepest groove *i*, where it is retained by the tendency of the stem *a* of the rubber stopple B to contract, and when the stopple is forced into the bottle, by throwing the lever-frame *e* into the position shown in the drawings, the bottle will be stopped tight, because the operating lever-frame and yoke are adjusted so as to accomplish this result when the yoke is in the groove *i*.

When, in the course of time, the rubber stopple B becomes worn or permanently compressed into a smaller compass than when new, or the yoke, from any cause, becomes elongated, so that the movement of the lever-frame *e* into the position shown in the drawings will not close the bottle tight, the sleeve C is partially revolved around the stem *a* of the rubber stopple, and the yoke *c* is placed in the groove i^1, the elasticity of the stem *a* enabling this to be done with perfect ease.

After a still further use of the stopple, and it is found to be imperfectly tight, the

sleeve is again partially revolved and the yoke placed in groove i^2, when it is again as good as new.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

The metal sleeve or collar C, provided with two or more notches or grooves cut in its upper face, with their bottoms at different levels, when used in combination with an elastic stopple and a U-shaped yoke, for holding the stopple in place on the bottle, substantially as described.

Executed at Boston, Massachusetts, this 4th day of January, 1877.

JOSEPH M. HOYT.

Witnesses:

N. C. LOMBARD,

E. A. HEMMENWAY.