(No Model.)

L. S. HOYT.

FLEXIBLE STOPPLE FOR BOTTLES.

No. 311,431. Patented Jan. 27, 1885.

Fig. 1.

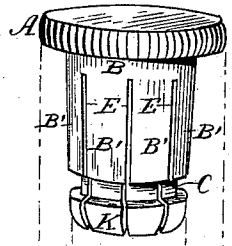


Fig. 2.

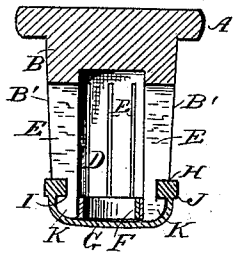


Fig. 3.

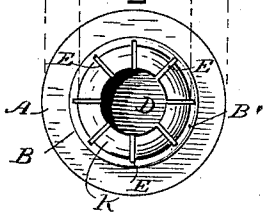


Fig. 4.

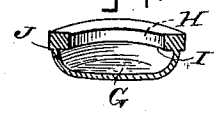
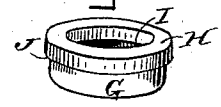


Fig. 5.



Fig. 6.



Witnesses.
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UNITED STATES PATENT OFFICE.

LEWIS S. HOYT, OF BOSTON, MASSACHUSETTS.

FLEXIBLE STOPPLE FOR BOTTLES.

SPECIFICATION forming part of Letters Patent No. 311,431, dated January 27, 1885.

Application filed May 2, 1884. (No model.)

To all whom it may concern:

Be it known that I, LEWIS STEBBINS HOYT, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented an Improved Flexible Stopple for Bottles or other Hollow Ware, of which the following is a specification.

My invention relates to improvements in flexible bottle-stopples, and comprises a stopple constructed from any suitable material, preferably wood, in which, by the co-operation of slotted exterior walls, an interior chamber, an expansive spring, and a partial base covering of rubber, I attain permanently and inexpensively the flexibility of cork with the elasticity of rubber, properties embodied in the expensive rubber stopper. The function of the parts and their construction are as follows, with due reference to the drawings accompanying, in which—

Figure 1 is a view in perspective of my improved stopple with the rubber cap removed. Fig. 2 is a longitudinal vertical section, centrally, with the rubber cap thereto attached. Fig. 3 indicates an under plan view of my invention as depicted in Fig. 1. Fig. 4 is a transverse central section, in perspective, of the rubber attachment. Fig. 5 is a perspective view of the expansion overlapping spring-ring. Fig. 6 is also a view in perspective of the rubber cap which incloses the base or lower end of the stopple, confining the expansion-ring in position.

A specific description of the various parts is as follows, referring to the letters, in which—

A indicates the milled projecting head of my improved stopple. B is the tapering cylindrical body, provided with a circumferential groove, C, on the outside, near its base, for the reception of a rubber inclosing-cap, G. Said tapering body B is bored or centrally cored out to form a chamber, D, Fig. 2, the flexibility of the walls B′ of which are insured by the several uniform openings E E, cut longitudinally with the body and at equal distances around its circumference, extending quite through the walls radially from the center, as in Fig. 3. Within the mouth of said chamber D rests the overlapping expansion-spring, of metal or other suitable material, which is to force outwardly the elastic walls B′ and resist the pressure of the same inwardly when compressed within the neck of the bottle. Over the mouth of the chamber D is fitted the circular concaved inclosing rubber cap G, the edge or rim of which terminates in a square shoulder, H, the greater proportion of which projects inwardly, as at I, and is designed to fill closely the circumferential groove C around the base of the stopple-body B. The lesser proportion of said shoulder H, projecting outwardly, as at J, presses closely against the interior wall of the bottle-neck, and by its contact hermetically closes the vessel's mouth. The slight projection outwardly of the shoulder J also protects the concaved thinner parts of the cap from contact and possible attrition and injury against said walls inclosing it. The conformation of the stopple-bottom, as shown at K, further enhances the protection of the rubber cap, as it presents no angular projection which would be conducive to wear.

The construction and operation of my improved invention having been described, what I desire to secure by Letters Patent and claim is—

1. In the construction of a flexible stopple, the hollow central chamber, D, and the radial openings E E, in combination with an expansion-spring, F, for the purposes herein set forth.

2. In an improved flexible stopple, the partial covering G, of rubber, formed with an annular ring, H, having unequally-projecting floors I and J, in combination with an exterior groove, C, for the purpose herein specified.

In testimony whereof I have affixed my signature in presence of two subscribing witnesses.

LEWIS S. HOYT.

Witnesses:
WM. H. MILLER,
H. E. REMICK.