J. DOULCERON, Sr., & A. DOULCERON, Jr.

Bottle-Stopper.

No. 210,105 Patented Nov. 19, 1878.

Fig. 1.

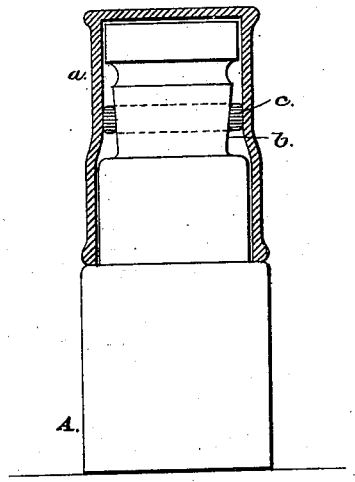
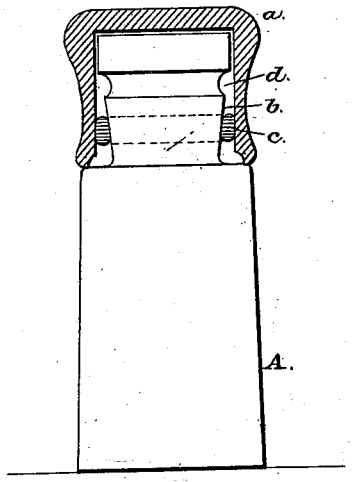


Fig. 2.



WITNESSES

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JOSEPH DOULCERON, SR., AND ALFRED DOULCERON, JR., OF BRUSSELS, BELGIUM.

IMPROVEMENT IN BOTTLE-STOPPERS.

Specification forming part of Letters Patent No. **210,105**, dated November 19, 1878; application filed June 4, 1877; patented in England, February 14, 1877.

To all whom it may concern:

Be it known that we, JOSEPH DOULCERON, Sr., and ALFRED DOULCERON, Jr., of Brussels, Belgium, have invented a new and useful Improvement in Stoppers for Bottles, which improvement is fully set forth in the following specification and accompanying drawings.

Our invention consists in a bottle having its neck tapering inwardly from the mouth toward the bottom, and constructed with an annular groove, in combination with an elastic ring adapted to said groove, and a cup or cap having its lower edge constructed to engage with the elastic ring, roll it out of the annular groove, and compress it between the inclined neck of the bottle and the interior of the cup or cap, as will be fully hereinafter set forth.

Referring to the drawing, Figures 1 and 2 represent vertical sections of cups and compressible rings on bottle-necks, shown in elevation.

The letter A indicates a bottle, in the neck of which is formed a groove, *d*, and below this groove the bottle-neck is gradually contracted or tapered downward. A ring, *c*, made of india-rubber or other similar compressible material, encircles the neck of the bottle, and when the cup *a* is not on the neck this ring lies in the groove *d* and projects outward beyond the surface of the neck. The cup *a* should be large enough at its mouth to strike the ring *c* near its periphery, so that it may force said ring from its groove and roll it down the neck, the tapering form of which permits the ring to expand somewhat after its first compression while being forced out of the groove; but the main portion of the said cup should be of such size as to hold the ring sufficiently compressed to insure sufficient friction to cause the ring to roll upward when the cup is drawn from the bottle-neck.

An essential and important feature of our invention consists in making the neck of the bottle so as to taper inwardly from the mouth toward the bottom, by which means, when the cap is pushed tightly down, a wider space is created between the interior of the cap and the surface of the tapering neck, thereby permitting the elastic ring to expand and completely fill the said space; and, further, the described form of neck also permits the cap to be pushed tightly down, which could not be effected if the neck were tapered upwardly and inwardly, as the elastic ring would bind too tightly.

What we claim is—

A bottle having its neck tapering inwardly from the mouth toward the bottom, and constructed with an annular groove, in combination with an elastic ring adapted to said groove, and a cup or cap, *a*, having its lower edge constructed to engage with the elastic ring, roll it out of the annular groove, and compress it between the incline neck of the bottle and the interior of the cup or cap, substantially as described.

JOSEPH DOULCERON, Sr.
ALFRED DOULCERON, Jr.

Witnesses:
R. L. KIRKPATRICK,
W. H. KIRKPATRICK.