

(No Model.)

H. HEARTFIELD.
BOTTLE AND STOPPER.

No. 482,682.

Patented Sept. 13, 1892.

FIG 3

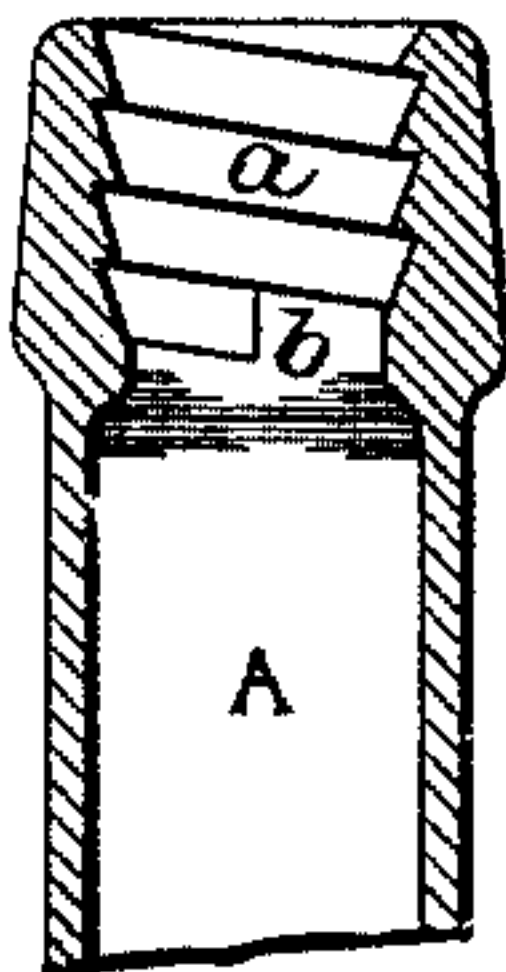
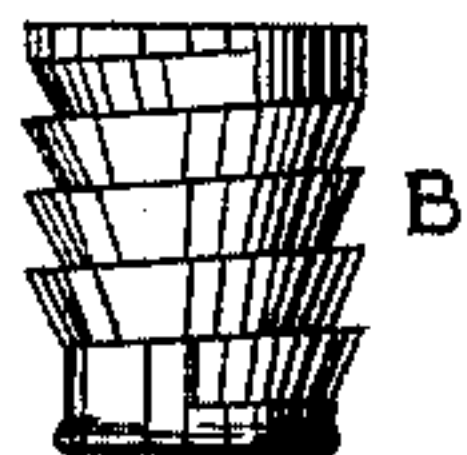


FIG: 1.

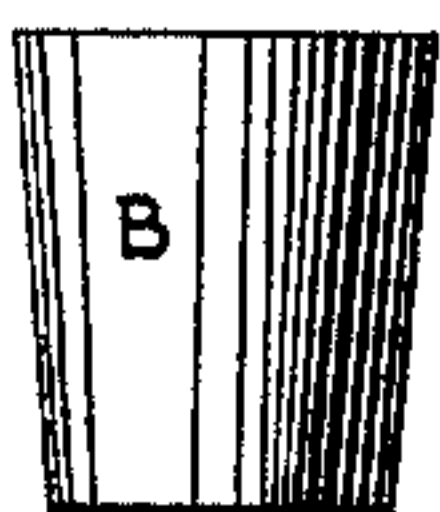


FIG: 2.

WITNESSES

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INVENTOR

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UNITED STATES PATENT OFFICE.

HENRY HEARTFIELD, OF CROYDON, ASSIGNOR OF TWO-THIRDS TO THOMAS WEBB, OF STOCKPORT, ENGLAND, AND CHARLES HENRY HEARTFIELD, OF NEW YORK, N. Y.

BOTTLE AND STOPPER.

SPECIFICATION forming part of Letters Patent No. 482,682, dated September 13, 1892.

Application filed January 27, 1891. Serial No. 379,219. (No model.) Patented in England May 28, 1889, No. 8,871.

To all whom it may concern:

Be it known that I, HENRY HEARTFIELD, foreman, a subject of the Queen of England, and a resident of Croydon, in the county of Surrey, England, have invented certain new and useful Improvements in Bottles and Stoppers, (for which I have obtained Letters Patent in England, No. 8,871, bearing date the 28th day of May, 1889,) of which the following is a specification.

This invention is designed for the purpose of corking or stoppering bottles, so that while the liquor is tightly and hermetically corked or inclosed within the bottle the cork can be removed by turning or unscrewing it and in the case of aerated waters or other liquors containing gas under pressure the cork will be retained in position without the employment of wires, cords, or the like.

Hitherto it has been customary either to use plain corks in smooth-necked bottles or, if the bottle-necks are screwed, to use specially-prepared screwed stoppers. By this invention I am enabled to use and insert plain corks in the usual way into screw-necked bottles and to withdraw the corks in the way screwed stoppers are withdrawn.

The characteristic features of the invention consist in the formation of the screw in the interior of the bottle-neck with the thread inclined toward the interior of the bottle and an abrupt shoulder on the lower side in the form known as a "buttress-thread" and in the formation of the screw-thread at its lower end with an abutment termination or stop at right angles through the full size of the thread instead of being carried forward and gradually diminishing until it blends with the interior of the bottle-neck. It will be fully described with reference to the accompanying drawings.

Figure 1 is a sectional elevation of a bottle-neck formed according to my invention. Fig. 2 is an elevation of a plain cork before being compressed and inserted in the bottle-neck. Fig. 3 is an elevation of the cork after being inserted in and withdrawn from the bottle.

The neck A of the bottle is formed with an internal screw-thread *a*. The thread *a* is in the form known as a "buttress-thread," or

one having the incline on one side of the apex quite different to that on the other side. The side or incline which is at the top or nearest to the mouth of the bottle is much longer or deeper from the apex to the base than the other or lower side or incline, the short side being practically at right angles to the long side. This construction of screw-thread offers but little resistance to the introduction into the neck of the bottle of a plain cork after it has been compressed or softened in the usual way. When the cork has been introduced, it expands and completely fills up the groove of the thread, and is thus prevented from being blown or forced out by any internal pressure of gas in the bottle. The screw-thread *a* is formed with an abutment or abrupt termination *b* at the lower end of the thread by being stopped off at right angles through the full size of the thread instead of gradually diminishing until it blends with the interior of the bottle-neck, as has hitherto been the case in the construction of bottle-necks with internal screw-threads. The abutment at *b* or the abrupt termination of the thread *a* perfectly stops off the recess of the thread at the point where it terminates, by which in the case of aerated liquors gas is prevented escaping by following round the recesses of the screw-thread and in the case of still liquors air is prevented entering the bottle. After the bottles have been corked for some time the plain cork B is molded, practically, into a screwed cork stopper, as seen in Fig. 3. The cork is driven into the bottle in the way usual with plain corks, and when inserted embeds itself into and is molded into the screw-threads, which prevents its being forced out by any internal pressure. When the corks are not intended to be reinserted after withdrawal, they may be much shorter in length than is customary. The short corks may be withdrawn from the bottles by means of a forked implement with two prongs, by which they can be turned or unscrewed.

By the use of this invention considerable saving is effected in the cost of corks, owing to the much shorter cork required, and in the case of aerated waters a further saving is effected.

fect, as no wire, string, or other tying is required to secure the corks.

The invention may be applied to bottles of glass, stone, or other materials.

5 What I claim, and desire to secure by Letters Patent, is—

A bottle for aerated waters and other liquors, having a screw-thread of buttress shape formed in the neck thereof, provided at its
10 lower end with an abutment or abrupt ter-

mination, in combination with a plain cork, substantially as described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 21st day of 15 November, 1890.

HENRY HEARTFIELD.

Witnesses:

J. OWDEW O'BRIEN,
CHAS. OVERDALE.