

No. 616,529.

Patented Dec. 27, 1898.

L. G. FLANIGAN.  
BOTTLE CLOSURE.

(Application filed Mar. 16, 1898.)

(No Model.)

Fig. 1

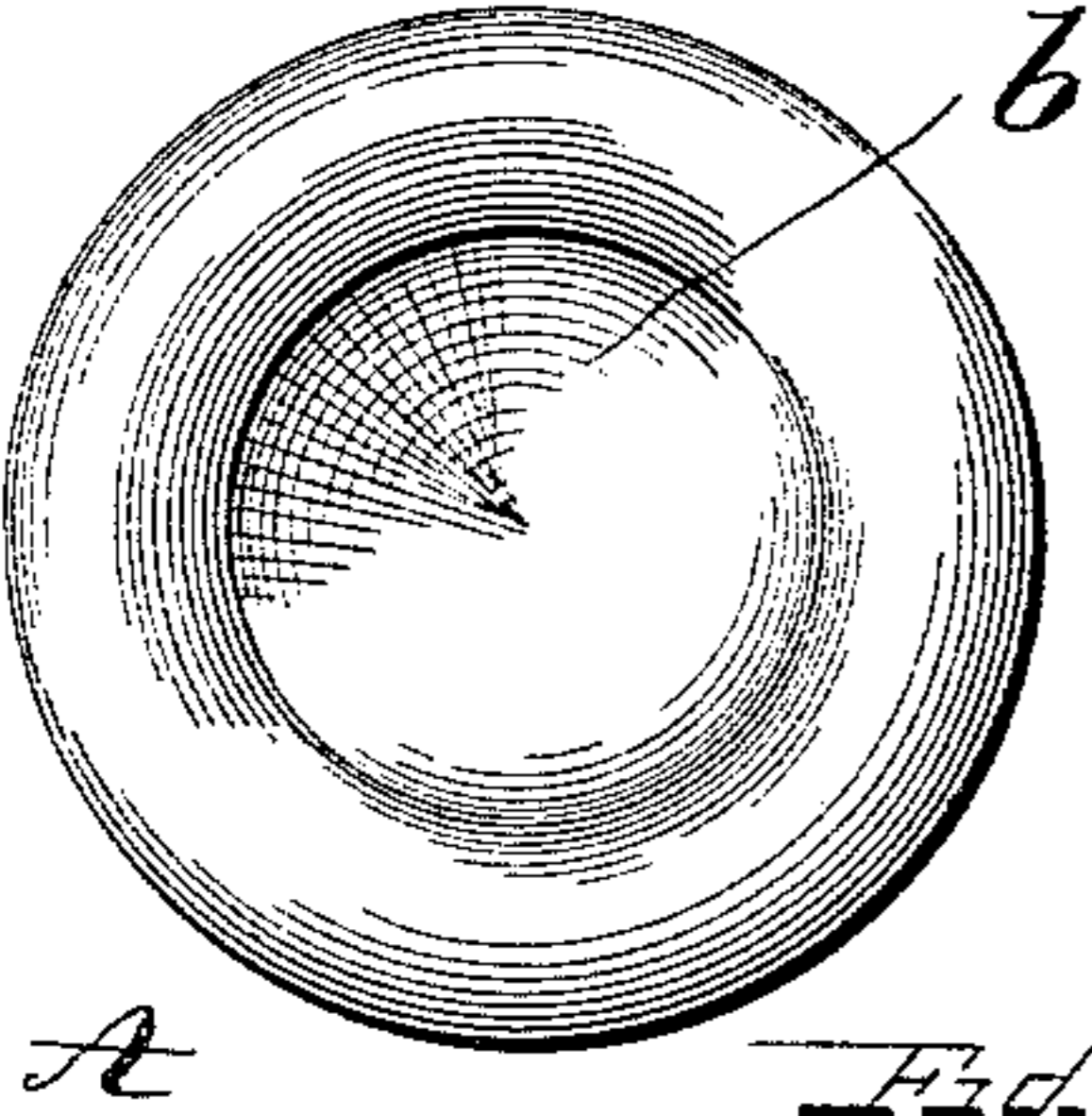


Fig. 2

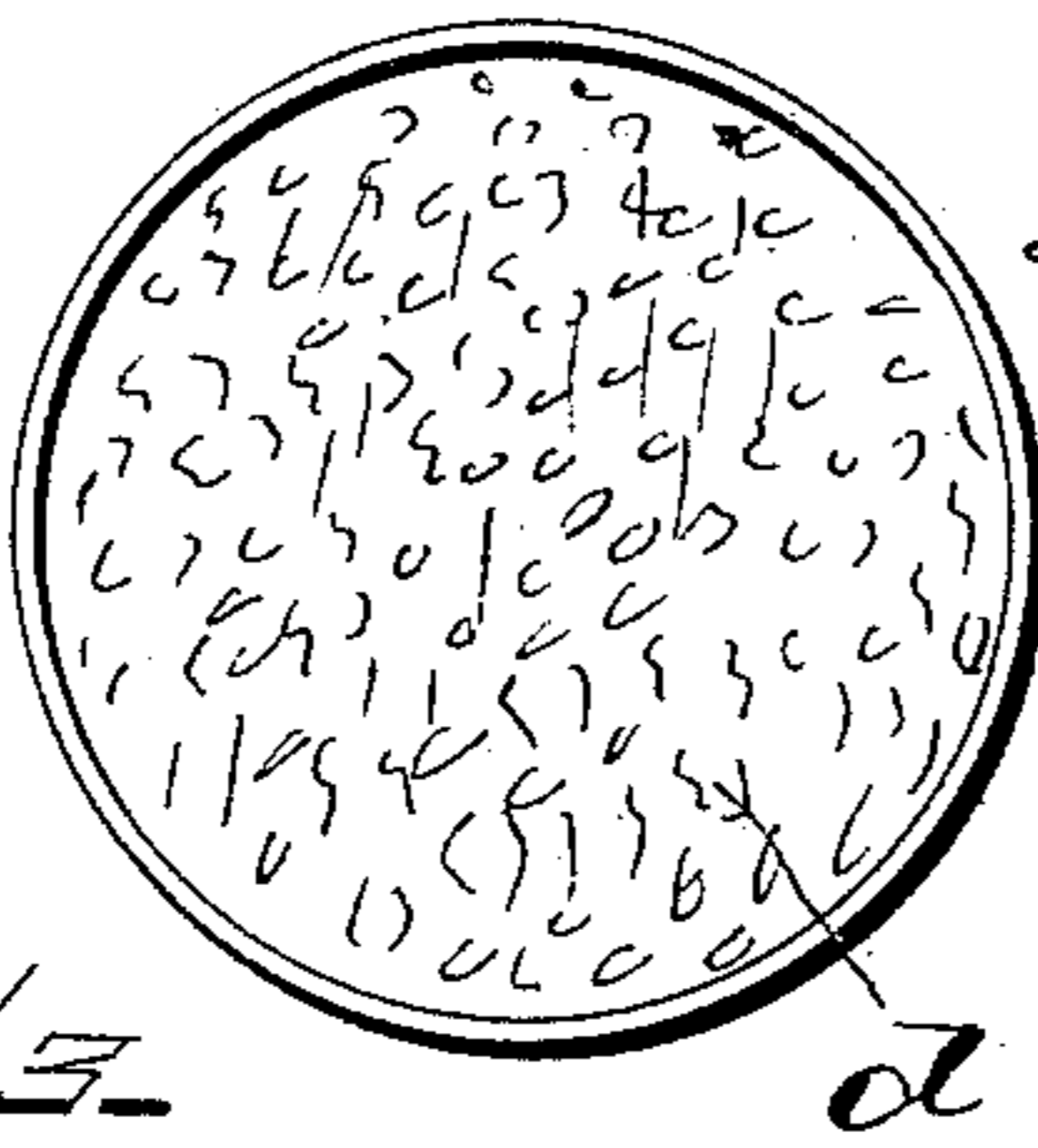


Fig. 3

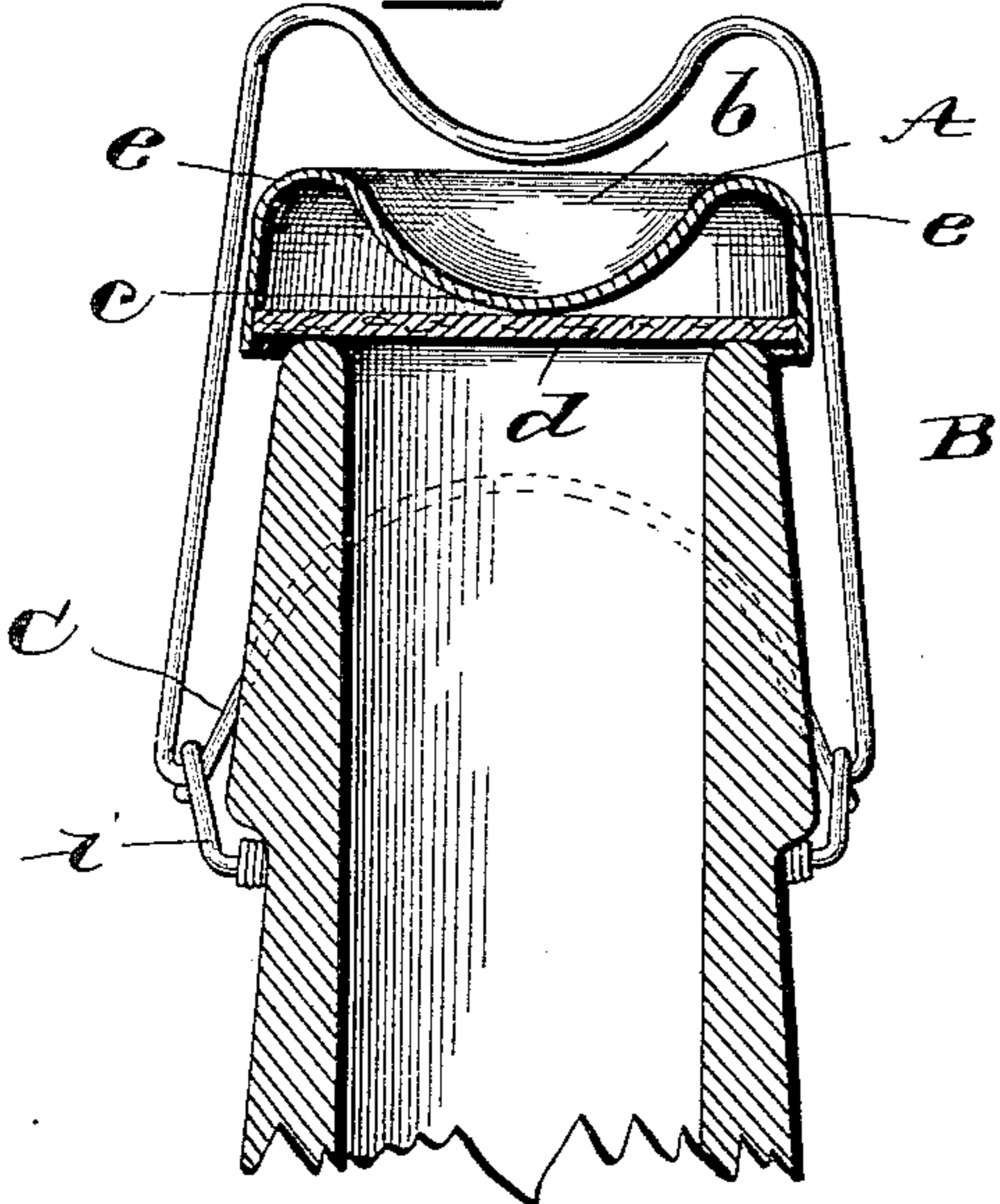


Fig. 4

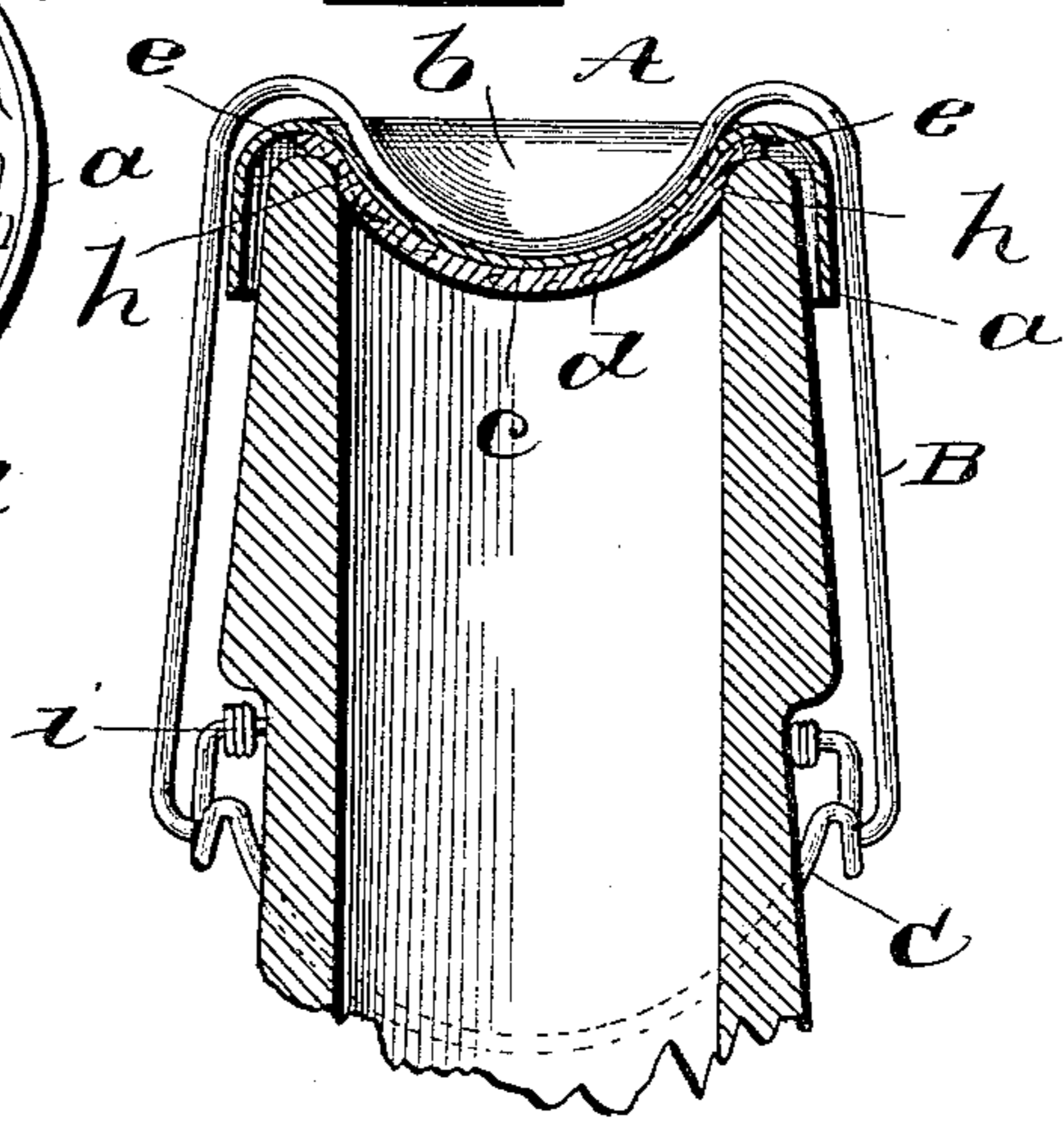


Fig. 5

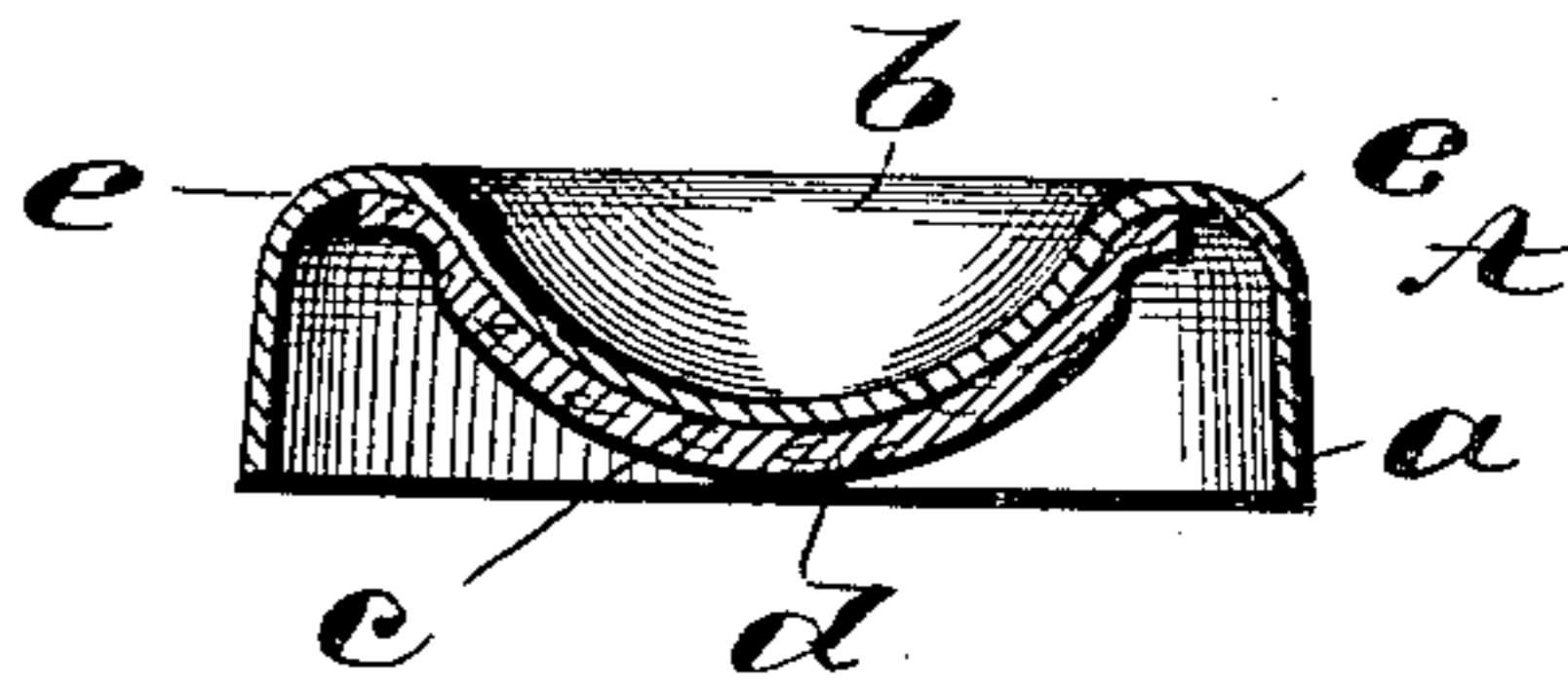


Fig. 6

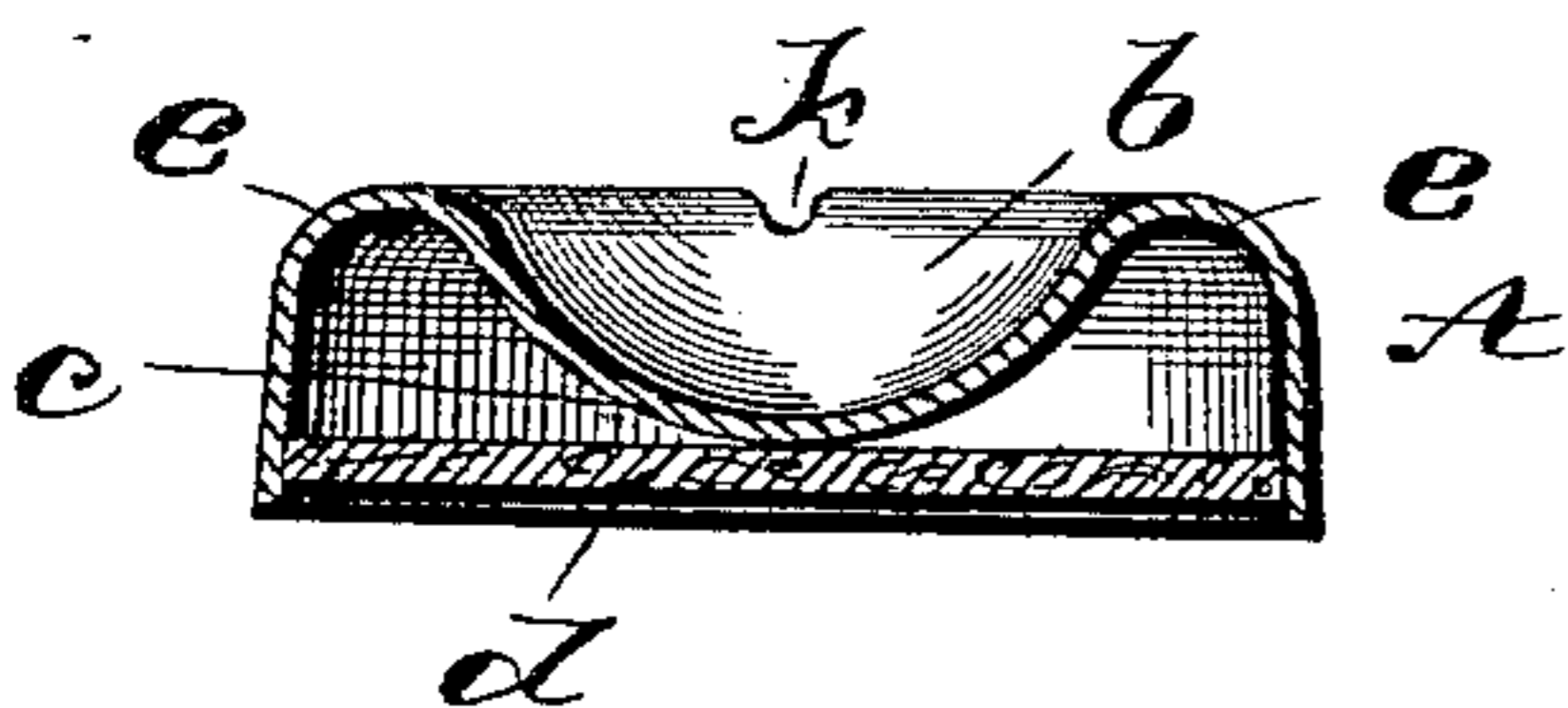
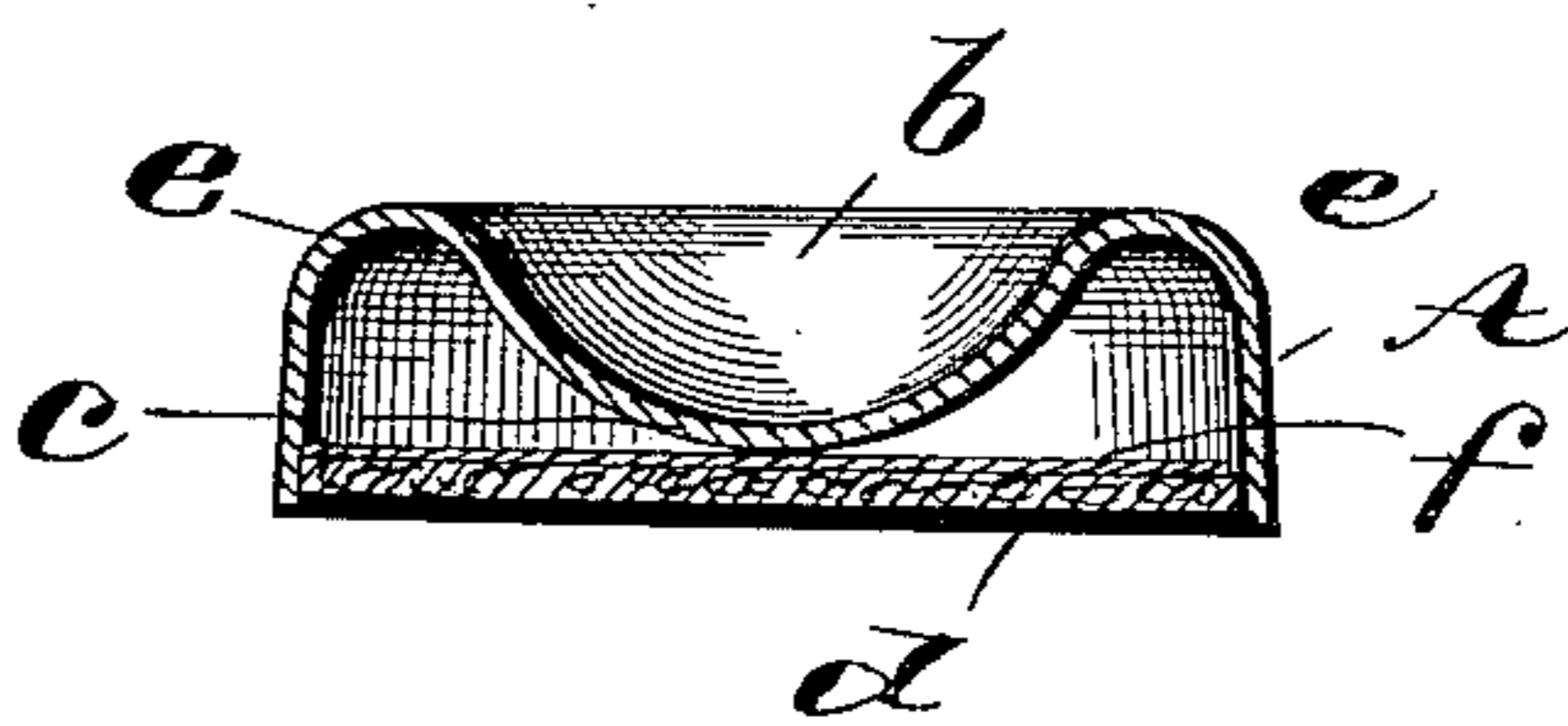


Fig. 7



Witnesses

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# UNITED STATES PATENT OFFICE.

LOUISE GREBE FLANIGAN, OF BALTIMORE, MARYLAND.

## BOTTLE-CLOSURE.

SPECIFICATION forming part of Letters Patent No. 616,529, dated December 27, 1898.

Application filed March 16, 1898. Serial No. 674,045. (No model.)

*To all whom it may concern:*

Be it known that I, LOUISE GREBE FLANIGAN, a citizen of the United States, residing in the city of Baltimore and State of Maryland, have invented certain new and useful Improvements in Bottle-Closures; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to closures for bottles, and has for its object the construction of a cheap article that will securely seal the mouth of a bottle and that can be readily removed without the use of any implement; and it consists in certain improvements in construction, which will be fully disclosed in the following specification and claims.

In the accompanying drawings, which form part of this specification, Figure 1 represents a top plan view of the metallic cap; Fig. 2, an inverted plan of the same with a packing-disk in position for use; Fig. 3, a vertical section showing the closure on a bottle ready to be forced to its seat by the bail or yoke; Fig. 4, a like view showing the closure seated and the bail engaging the cap; Fig. 5, a vertical section of a closure removed from a bottle, showing the packing up in the cap; Fig. 6, a like view of a closure, showing a modification in the cap; and Fig. 7, a vertical section of a closure provided with two packing-disks.

Reference being had to the drawings and the letters thereon, A indicates a cap which is preferably made of sheet metal stamped into form, but may, however, be made of other material, such as pulp or papier-mâché, molded into form, and is provided with a downward-projecting annular flange *a*, preferably of uniform depth, and a concentric depression *b*, which forms a projection *c* of less diameter than and is designed to enter the mouth of a bottle. The depression and the projection formed thereby extend downward to an extent less than the depth of the flange to receive a flat packing-disk *d*, preferably of cork or other flexible material, of the internal diameter of the flange, which disk when inserted in the cap rests upon the projection *c* and is confined and retained in the cap by the part of the flange *a* below the

projection *c* and directed into the mouth of a bottle by said projection. Between the flange *a* and the wall of the base of the projection is formed an annular space *e* to receive the outer edge of the disk *d* when the cap is forced down over the neck of a bottle.

The packing-disks *d* are inserted in the caps A and sold to the trade as an article of manufacture, or the caps and a like number of disks may be provided and the disks inserted in the caps at the place where they are to be used.

When cork alone is used to seal bottles, a very high grade is required to prevent leakage; but an inferior and cheaper grade of cork can be used by supplying a supplemental disk *f*, of waxed or other paper, placed inside of or between the primary disk *d* and the cap, as shown in Fig. 7.

In applying the closure it is placed upon the end of a bottle and the bail or yoke B raised above it, with its curved downward projection *g* over the depression *b*, as shown in Fig. 3. The lever C is then seized and the bail drawn downward, which forces the packing-disk *d* and the projection *c* into the mouth of the bottle and forms a joint by the packing bearing upon and engaging the inner wall of the mouth of the bottle at *h*, as shown in Fig. 4. The packing-disk *d* covers the projection *c* and protects it from contact with the contents of the bottle. The bail and the lever are secured by a neck-wire *i* in the usual manner.

In Fig. 6 I have shown a modified construction of the cap, in which are formed depressions *k* on opposite sides to receive the horizontal or straight bar of an ordinary bail.

It will be observed that the packing-disk is compressed at the part thereof which comes in contact with the wall of the mouth of the bottle under pressure of the bail and the lever, and this point of contact or annular bearing affords ample surface to produce an absolutely tight joint.

The closure is readily removed from the end of the neck of a bottle without the use of any implement, as it does not adhere to the bottle and rests loosely thereon after the bail or yoke has been removed and can be lifted off should the gas or pressure in the bottle not displace it.

Having thus fully described my invention, what I claim is—

1. An improved article of manufacture, a bottle-closure consisting of a cap having a downward-projecting annular flange substantially of uniform depth and a concentric projection forming an annular space between the projection and the flange and a flat flexible packing-disk of the internal diameter of the flange confined and retained by said flange upon the end of said projection and in the lower end of the cap.

2. An improved article of manufacture, a bottle-closure consisting of a cap having a downward-projecting annular flange substantially of uniform depth and a concavo-convex depression forming a concentric projection, an annular space between the projection and the flange and a flat flexible packing-disk of the internal diameter of the flange confined and retained by said flange upon the end of said projection and in the lower end of the cap.

3. An improved article of manufacture, a bottle-closure consisting of a metallic cap having a downward-projecting annular flange substantially of uniform depth, a concentric depression and a projection of less depth than the flange and forming an annular space between the projection and the flange and a flat flexible packing-disk of the internal diameter of the flange confined and retained

by said flange upon the end of said projection and in the lower end of the cap.

4. A bottle-closure consisting of a metallic cap having a downward-projecting annular flange substantially of uniform depth and a concentric projection of slightly-less depth than said flange, an annular recess between said flange and projection and opposite recesses in the upper surface of the cap and a flat flexible packing-disk of the internal diameter of the flange confined and retained by said flange upon the end of said projection and in the lower end of the cap.

5. A bottle-closure consisting of a metallic cap having a downward-projecting flange, a concentric depression and a projection of less diameter than the mouth of the bottle forming an annular space between the projection and the flange, and a flat packing-disk held in the lower end of the cap adapted to be flexed, covering the projection on the cap and engaging the inner wall of the mouth of the bottle; in combination with a bail having a downward-curved projection engaging the depression in the cap.

In testimony whereof I affix my signature in presence of witnesses.

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Witnesses:

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