

(No Model.)

W. S. BECHTOLD.
NON-REFILLABLE BOTTLE.

No. 597,135.

Patented Jan. 11, 1898.

Fig. 1.

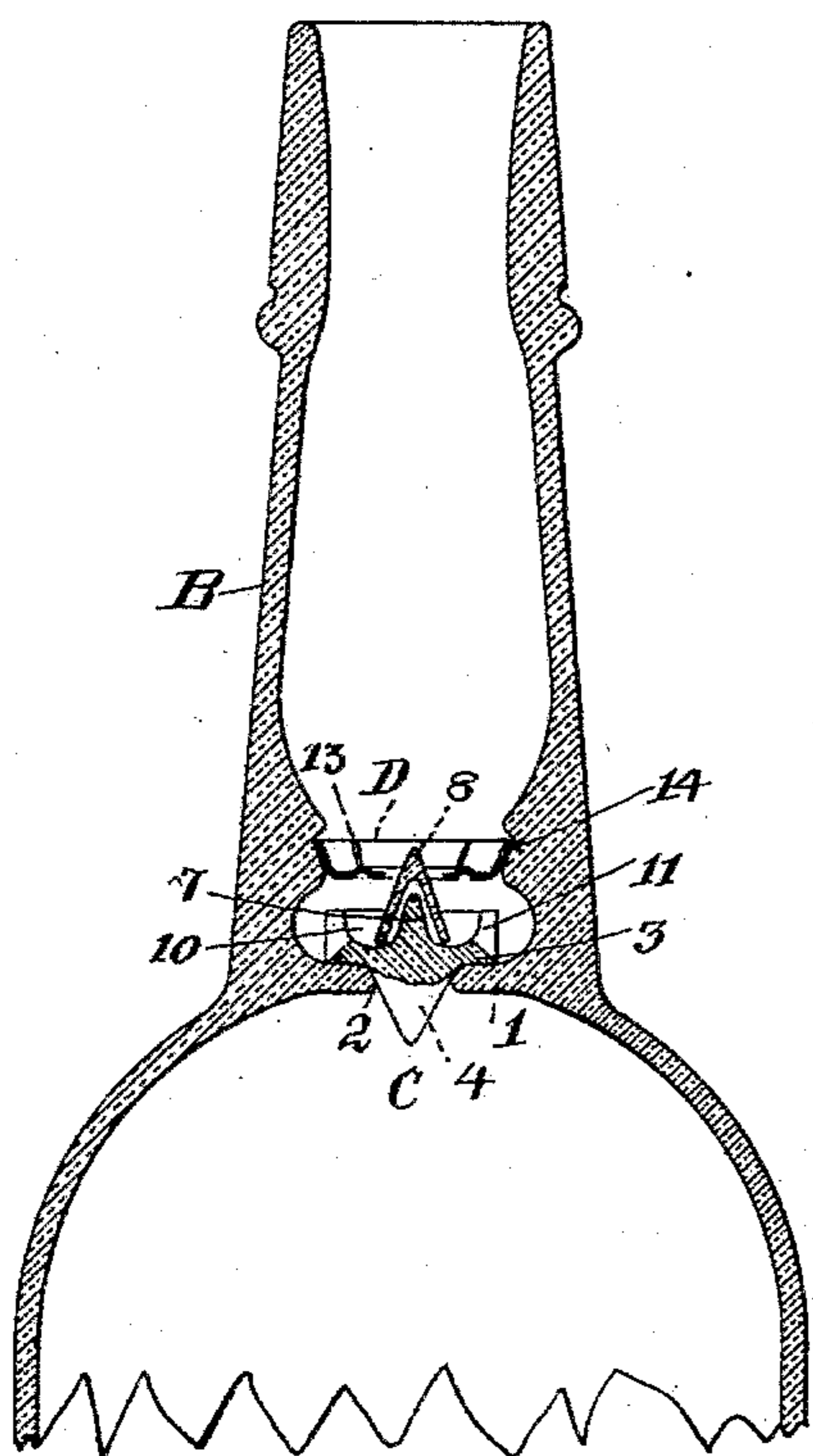


Fig. 2.

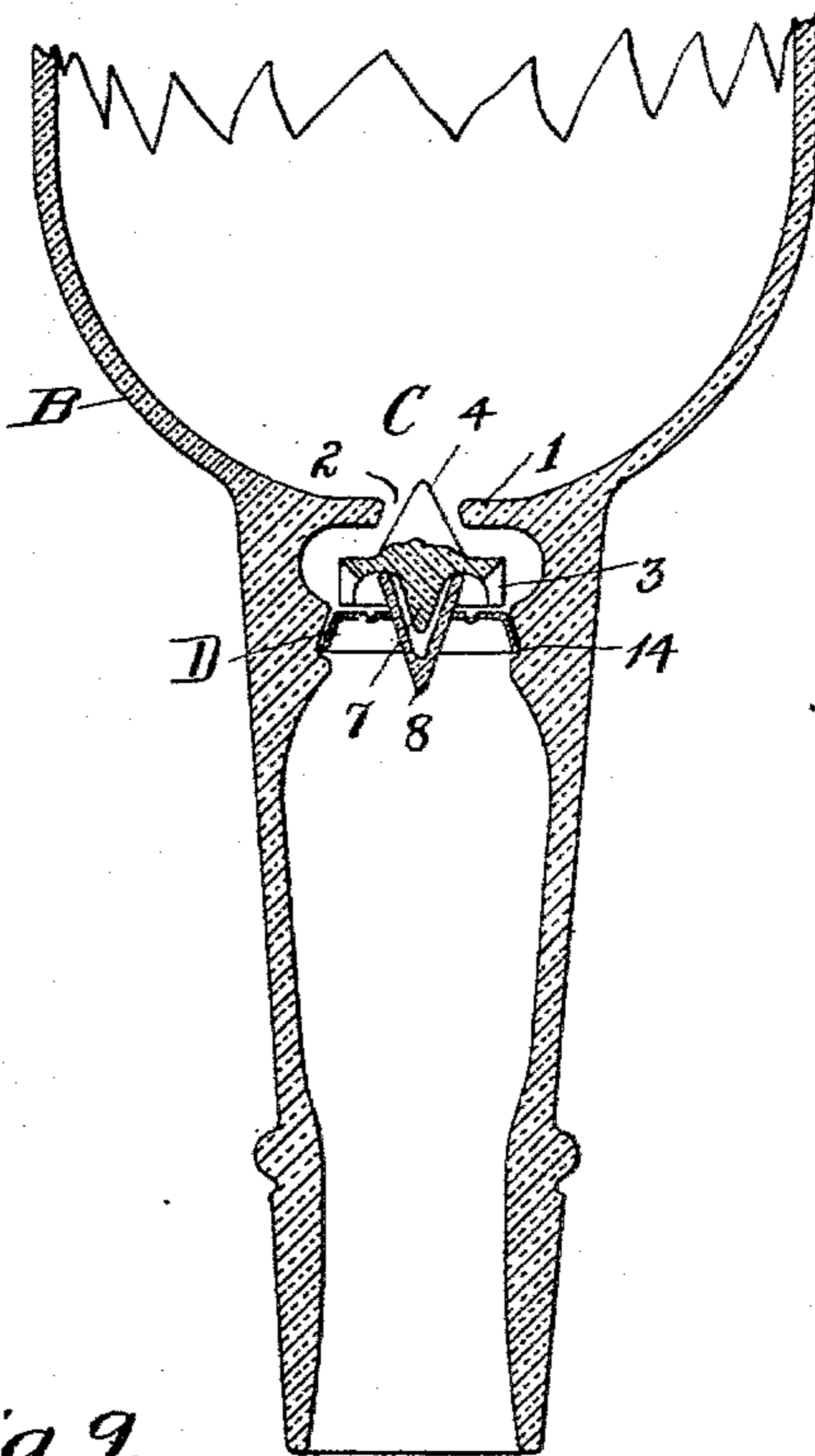


Fig. 9.

Fig. 3.

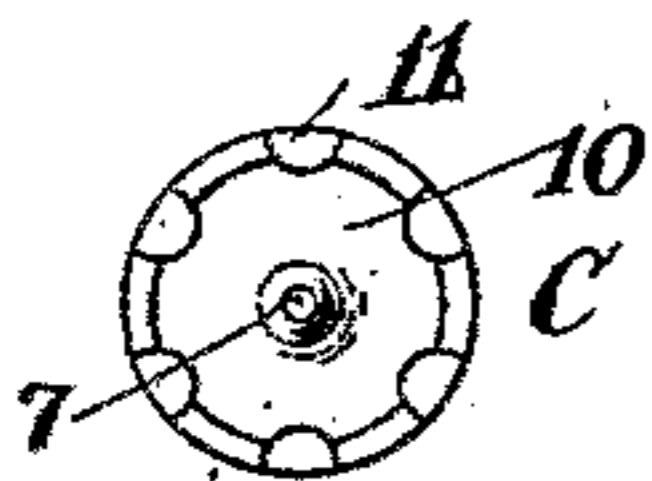


Fig. 4.

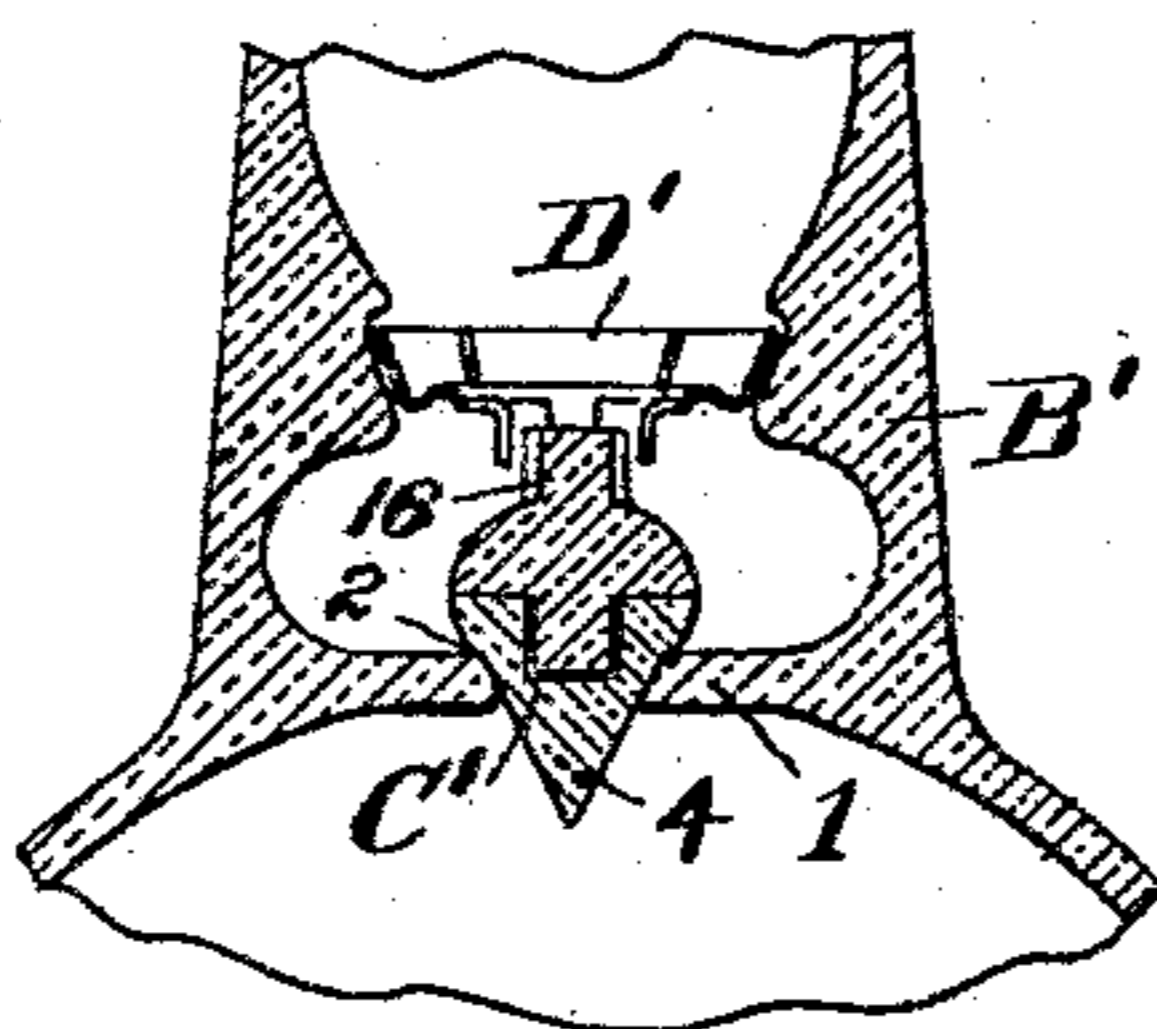
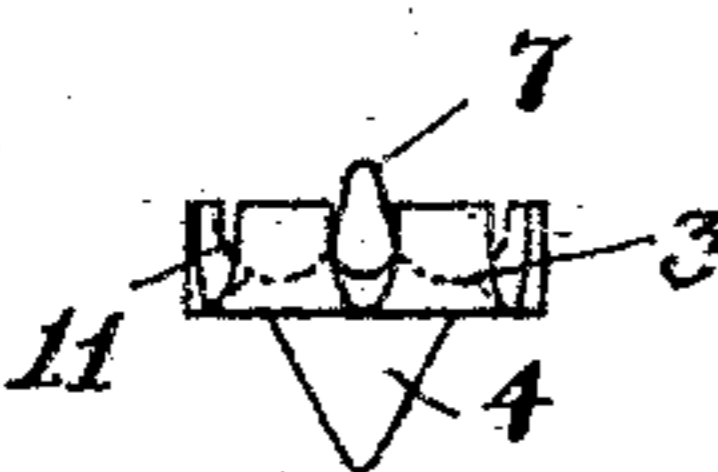


Fig. 5.

Fig. 6.

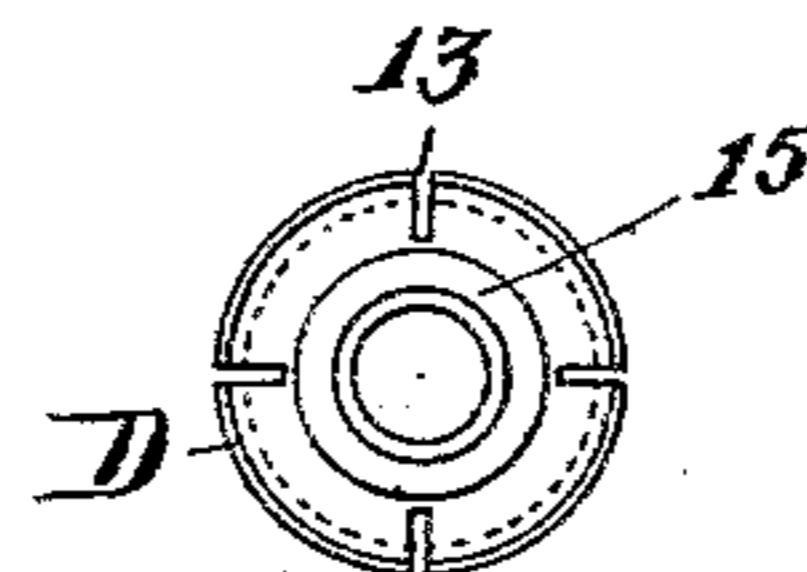


Fig. 7.

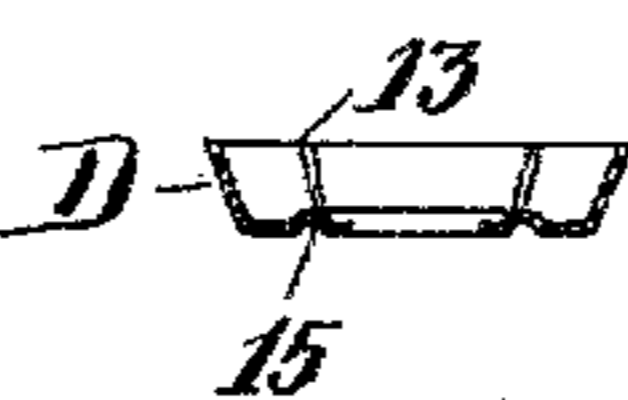


Fig. 8.

WITNESSES: 8
G. W. ...
C. A. ...
8
9

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UNITED STATES PATENT OFFICE.

WILLIAM S. BECHTOLD, OF NEWARK, NEW JERSEY.

NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 597,135, dated January 11, 1898.

Application filed August 12, 1896. Serial No. 602,472. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM S. BECHTOLD, a citizen of the United States of America, and a resident of Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Non-Refillable Bottles, of which the following is a specification.

My invention has reference to what are commonly termed "non-refillable bottles," and has for its object to provide at a low cost a closure which permits the passage of liquid freely from the bottle but positively prohibits refilling of the same unless the neck of the bottle is broken or the closure entirely destroyed.

To this end my invention consists, essentially, in the combination, with a bottle, of a valve-seat, a valve adapted to rest on said seat and formed of two parts, of which the lower constitutes means for closing off the ingress of liquid and is provided with a circular cavity on its upper face, while the upper part is connected by a post-and-socket connection with the lower part and is made substantially conical and tapering to a point, thus forming a guard for said lower part and a keeper for holding the valve in the bottle.

The nature of my invention will best be understood when described in connection with the accompanying drawings, in which—

Figure 1 represents a vertical section of a portion of a bottle provided with my improved closure. Fig. 2 is a similar view showing the bottle inverted. Figs. 3, 4, 5, and 6 are detail views of the valve. Figs. 7 and 8 are details of the keeper. Fig. 9 is a vertical section illustrating modified forms for the valve and stop.

Similar letters and numerals of reference designate corresponding parts throughout the several views of the drawings.

Referring to the drawings, the letter B designates a bottle, formed at or near the lower end of its neck with a valve-seat 1, having a central opening 2 for the passage of the liquid contents of the bottle. This seat 1 is adapted for a valve C, constructed to close the bottle against the introduction of liquid. Said valve is formed with a circular disk 3, adapted to rest on the seat 1. From the disk projects downwardly a conical stem 4, serving to guide

the valve to its seat, but which may also aid in closing the opening 2 if the seat 1 is correspondingly tapered. From the disk also projects upwardly a central post 7, adapted to enter a guard 8, which is preferably made conical and provided with ribs 9. This guard may rest on the valve-disk 3, as shown in Fig. 1, or may be supported by the post 7 only. The valve-disk is preferably concaved on its upper face, as at 10, and may be formed with peripheral notches 11 to provide for an increased flow of liquid. Above the seat 1 is secured a dish-shaped annular keeper D, preferably made of steel, and which is split, as at 13, to permit of its being forced into a recess 14, formed in the neck of the bottle, into which it then expands. To render the keeper stronger, it is provided with a circular bead or rib 15, up to which the incisions 13 extend.

In Fig. 1 I have shown the keeper arranged at such a height that the guard 8 projects a short distance through the opening 12 therein. It may, however, be arranged higher. When the bottle is tilted or entirely inverted, as shown in Fig. 2, the valve falls downwardly until its motion is arrested by the keeper D, and the liquid can then pass around the guard.

In Fig. 9 I have shown the valve C' in the form of a split ball with a conical stem 4, fitting the seat in the neck, and a guide 16, which enters the opening in the keeper D' to prevent the parts of the valve from separating under ordinary conditions, the adjacent part of said keeper being flanged down and slit. The valve may be made entirely of glass or any suitable material, or its body may be made of glass and the guard of steel.

It will be readily understood that any attempt to lift the valve will simply result in separating the guard 8 from the body of the valve, which latter remains seated. The circular cavity 10 is to deflect upwardly and outwardly any instrument which may be inserted, and so prevent its introduction beneath the valve.

If desired, the several parts may be arranged in the manner described in the interior of a plug cemented or otherwise secured in the neck of the bottle.

It is evident that the details of construction and arrangement may be varied. There-

fore I do not wish to restrict myself to those shown.

What I claim as new is—

1. The combination with a bottle, of a valve-seat, a valve adapted to rest on said seat and formed of two parts, of which the lower constitutes means for closing off the ingress of liquid and is provided with a circular cavity on its upper face, while the upper part is connected by a post-and-socket connection with the lower part and is made substantially conical and tapering to a point; thus forming a guard for said lower part, and a keeper for holding the valve in the bottle, substantially as described.

2. The valve herein described, consisting of a valve-disk provided with a circular cavity on its upper face, a post projecting from the upperface, and a separable conical guard surrounding said post.

3. The valve herein described, consisting of a valve-disk provided with a circular cavity on its upperface and with peripheral notches, a post projecting from the upper face, and a

separable conical guard surrounding said post.

4. The combination with a bottle, of a valve-seat, a valve adapted to rest on said seat and composed of two separable parts, and an annular dish keeper provided with radial slits extending through its side and into its bottom, substantially as described.

5. The combination with a bottle, of a valve-seat, a valve adapted to rest on said seat and composed of two separable parts, and an annular dish keeper provided with radial slits extending through its side and into its bottom and with downwardly-projecting prongs adapted to guide the upper, separable part of the valve, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 15th day of July, 1896.

WM. S. BECHTOLD.

Witnesses:

EUGENIE A. PERSIDES,
A. FABER DU FAUR, Jr.