

No. 682,995.

Patented Sept. 17, 1901.

R. L. PATTERSON.

CLOSURE FOR CONTAINING VESSELS.

(Application filed June 11, 1901.)

(No Model.)

Fig. 1.

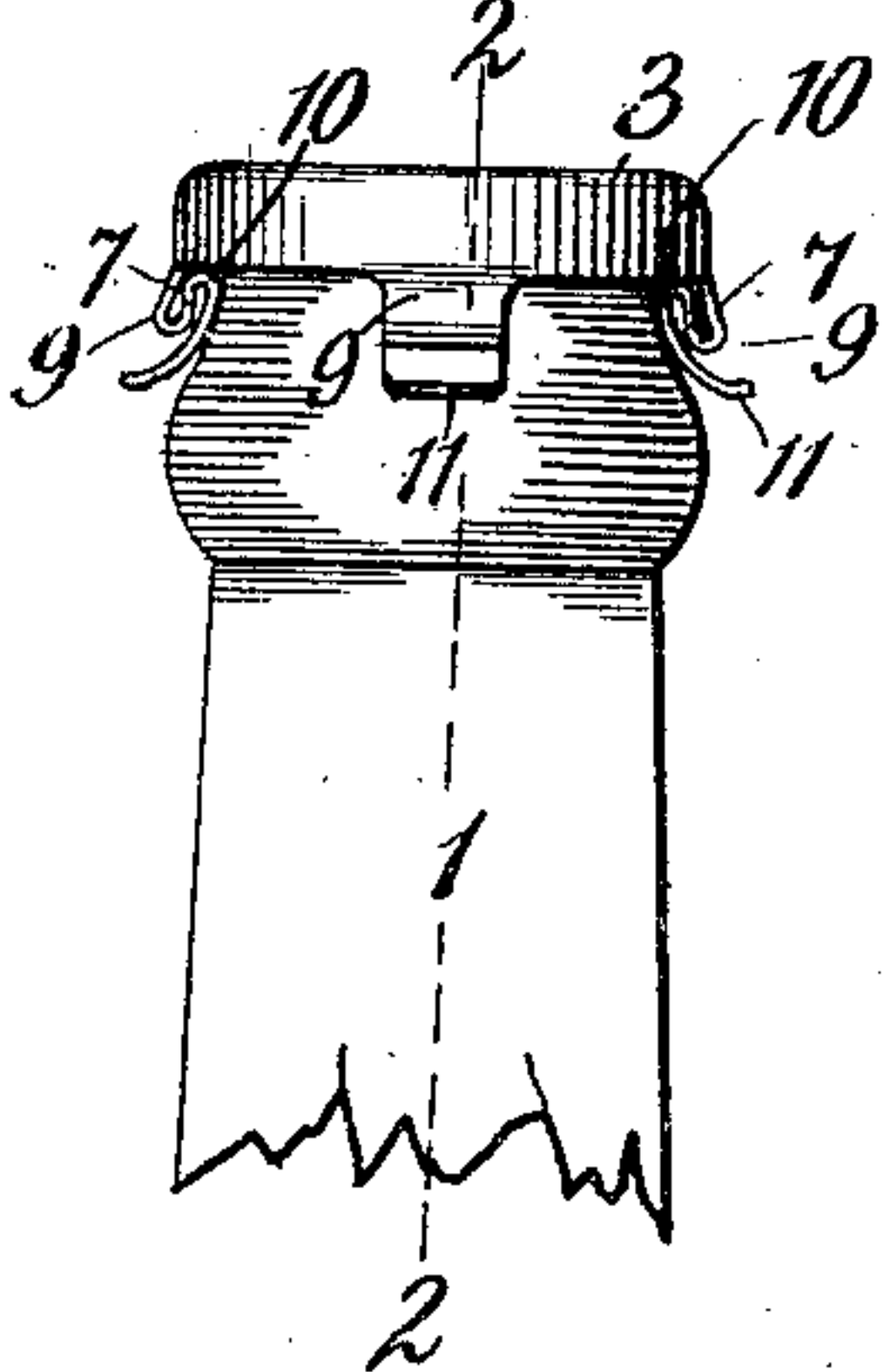


Fig. 2.

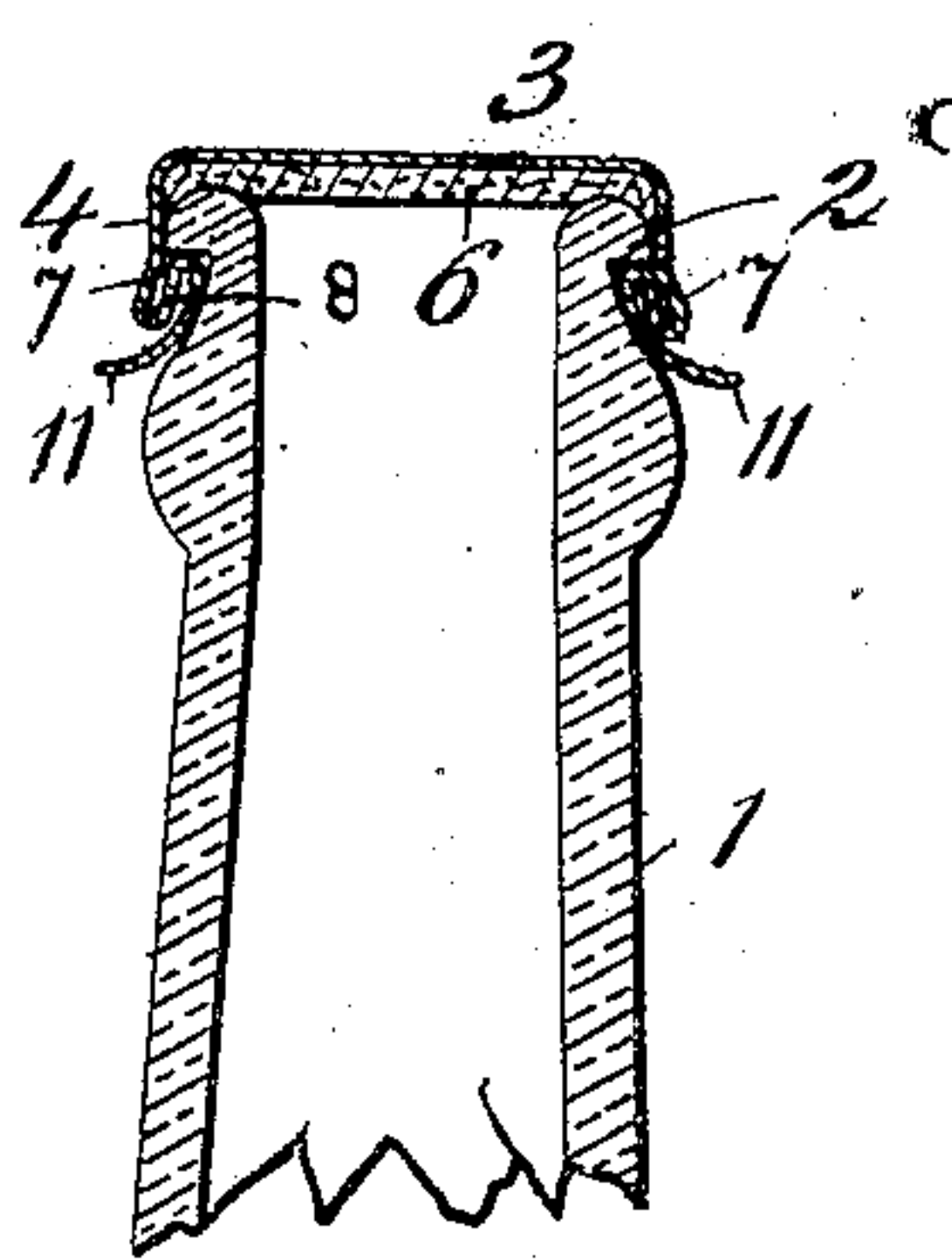


Fig. 3.

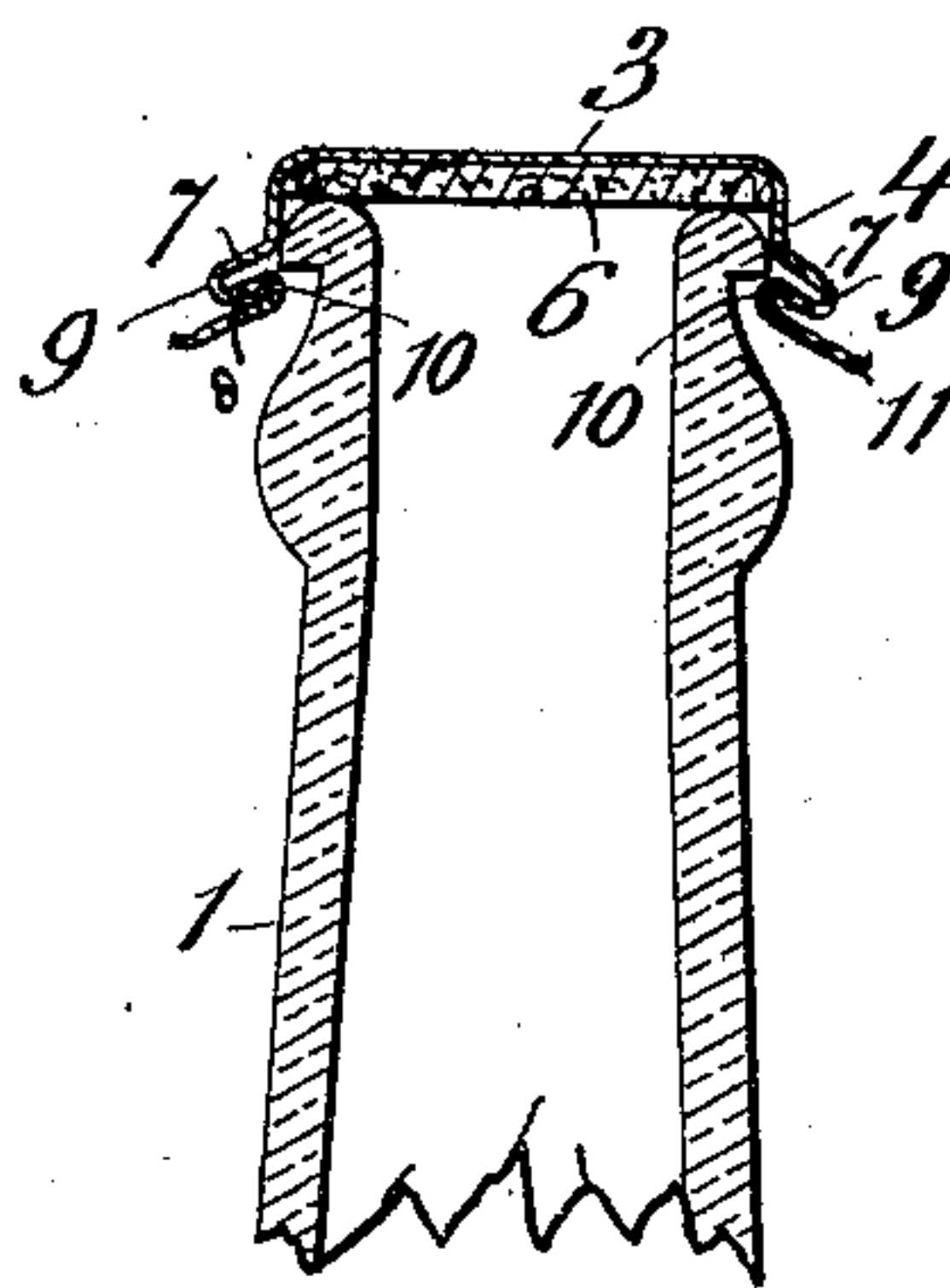


Fig. 4.

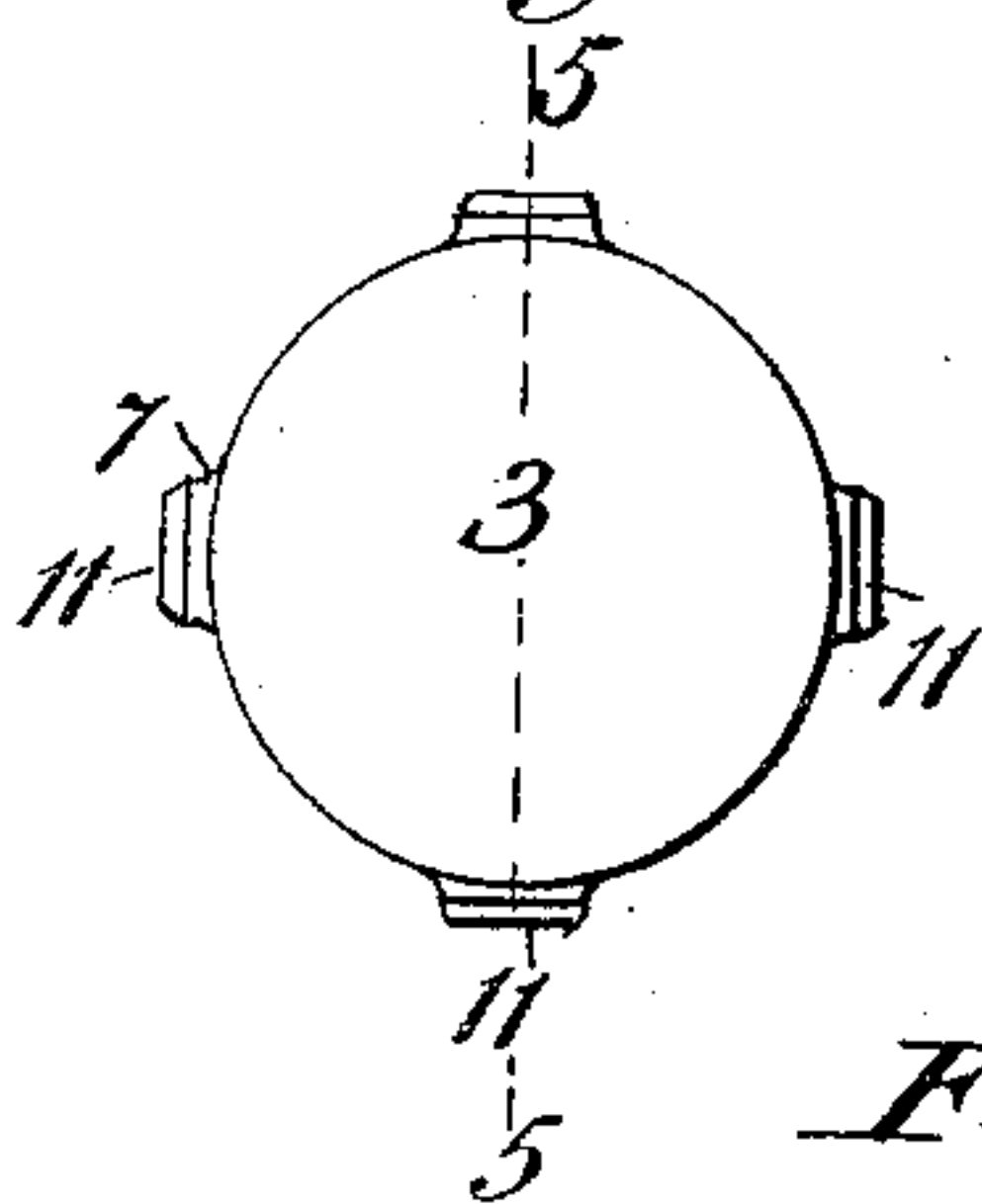


Fig. 5.

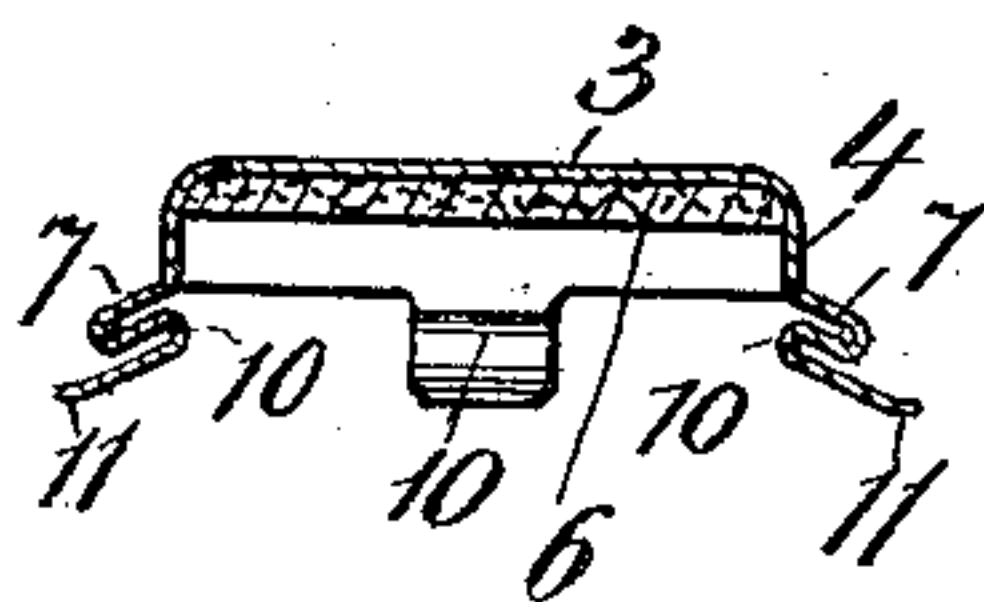


Fig. 6.

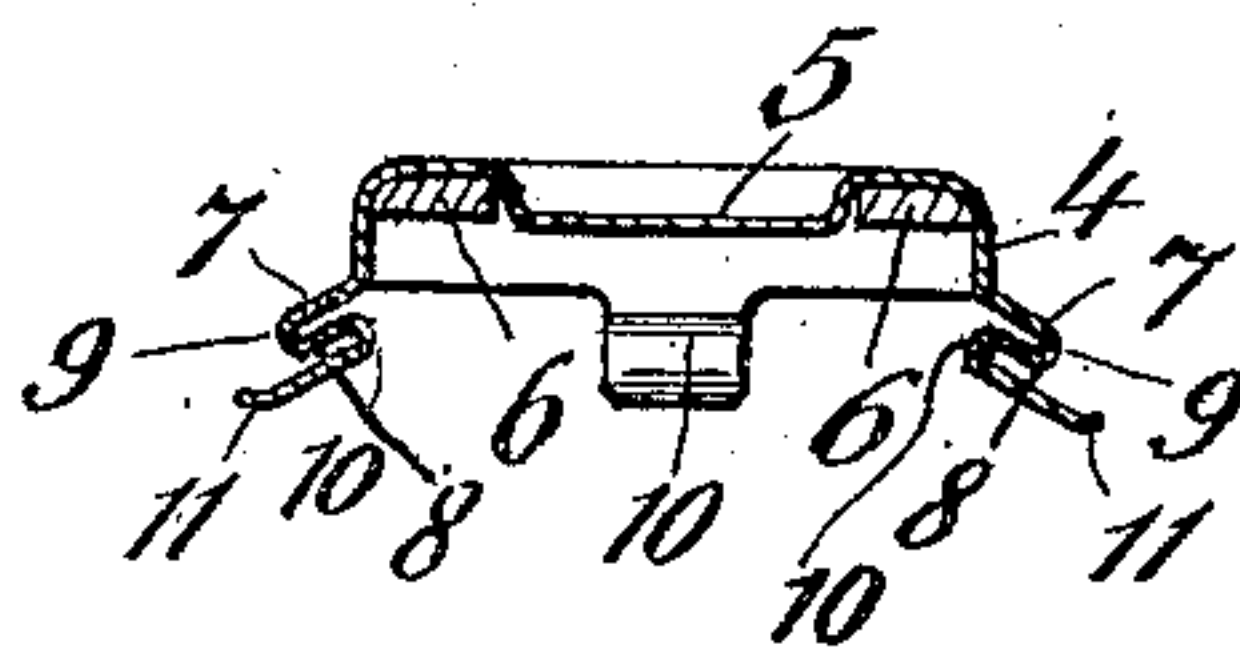


Fig. 7.

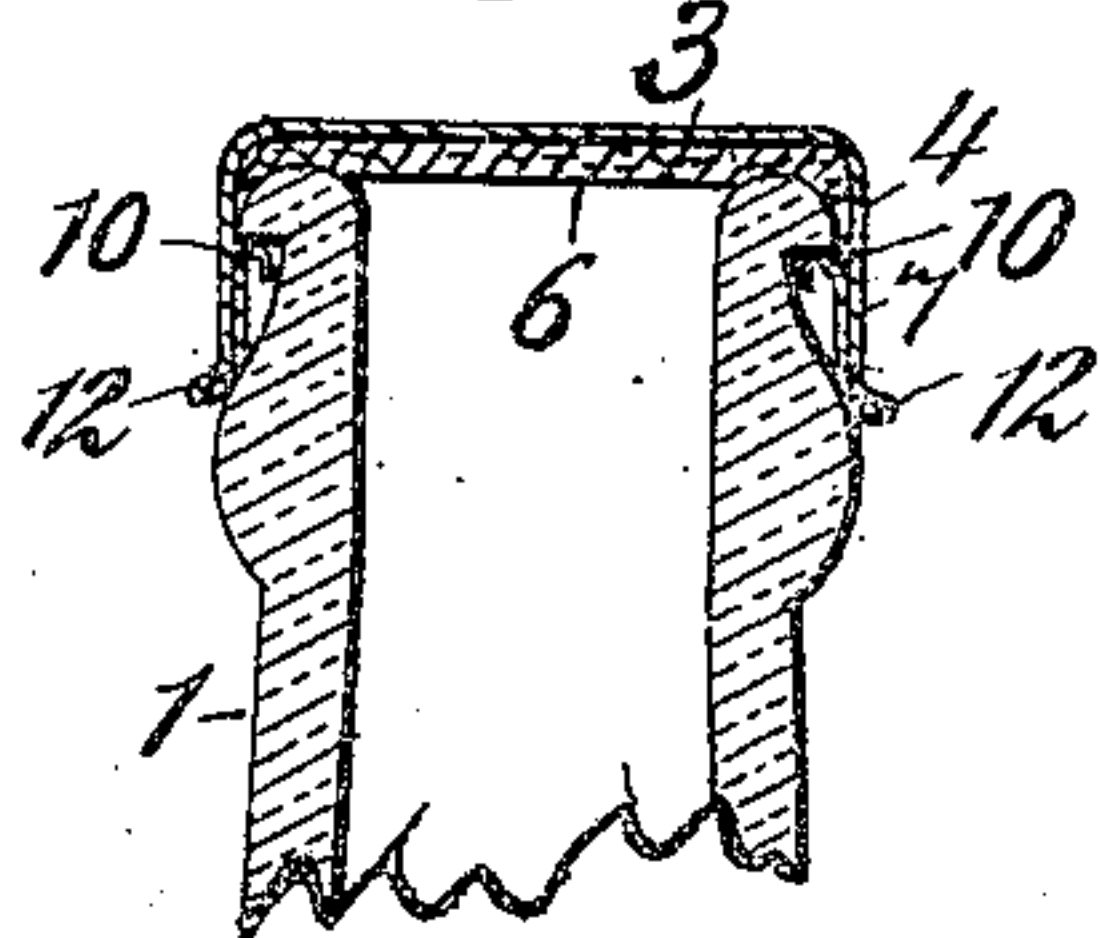
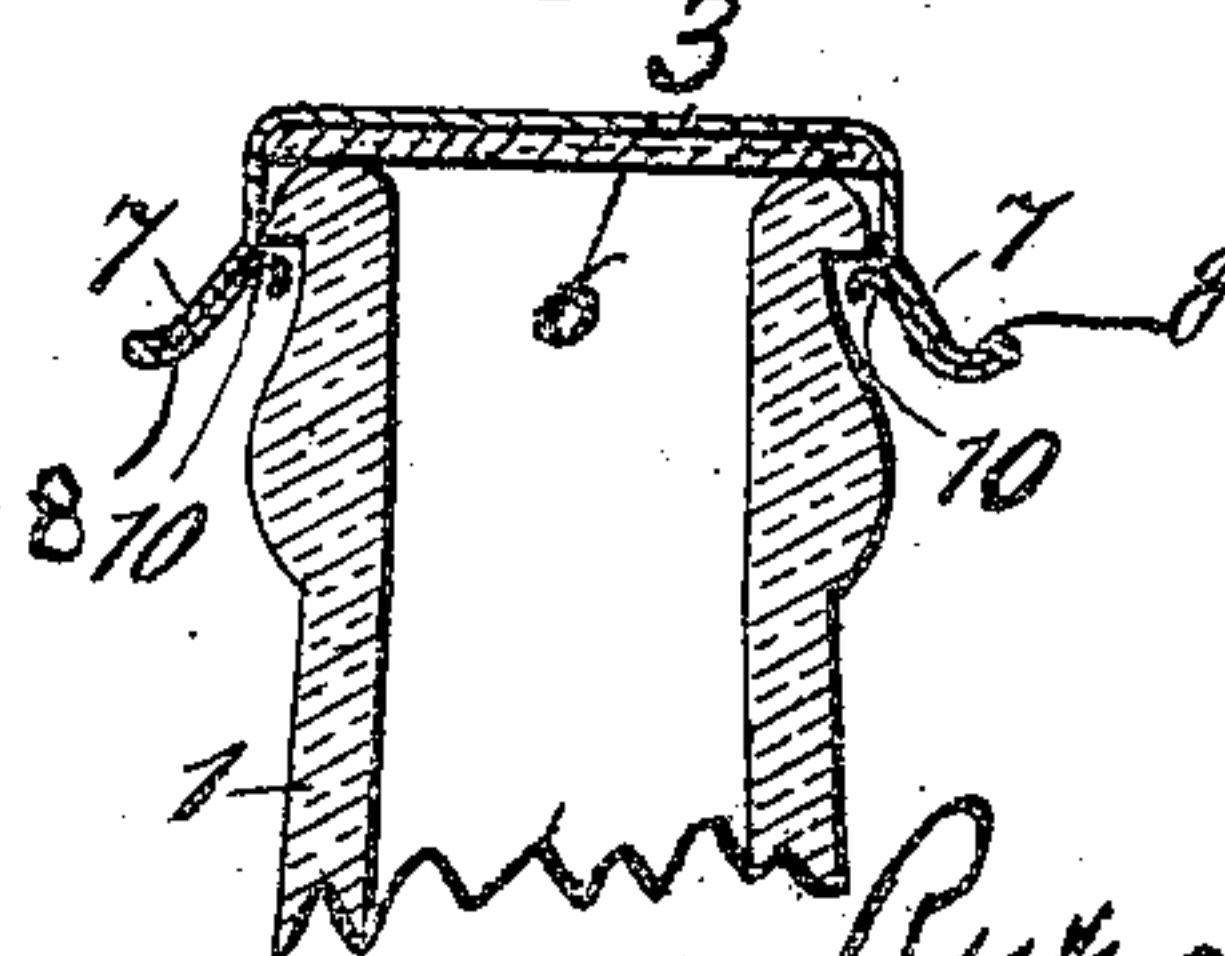


Fig. 8.



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CLOSURE FOR CONTAINING VESSELS.

SPECIFICATION forming part of Letters Patent No. 682,995, dated September 17, 1901.

Application filed June 11, 1901. Serial No. 64,118. (No model.)

To all whom it may concern:

Be it known that I, RUFUS L. PATTERSON, a citizen of the United States, residing at New York, county of New York, and State of New York, have invented certain new and useful Improvements in Closures, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

10 This invention relates to certain improvements in closures for containing-receptacles.

One of the objects of the invention is to produce an improved closure for containing-receptacles which embodies a fastening device adapted to engage beneath a shoulder on the containing-receptacle to secure the closure in position, said fastening device being constructed to adjust itself to variations in the position of the shoulder on the container.

20 A further object of the invention is to produce an improved closure for containing-receptacles which embodies a fastening device arranged to engage beneath a shoulder on the container, said fastening device embodying a non-resilient flexible leg or extension, which is in turn provided with an engaging section that is forced into engagement with the shoulder of the container by bending the leg or extension.

A further object of the invention is to produce a simple, cheap, and efficient closure for containing-receptacles, which may be readily adjusted in position and easily opened.

35 With these and other objects in view the invention consists in certain features of construction, which will be hereinafter described and then more fully set forth in the claims hereunto appended.

40 Referring to the drawings which form a part of this specification, and in which like characters of reference indicate the same parts, Figure 1 represents a portion of a container having the improved closure in position thereon, the container in the present instance being shown as a bottle. Fig. 2 is a section on the line 2 2 of Fig. 1. Fig. 3 is a section similar to Fig. 2, but showing the position of the parts before the fastening device has been positioned to lock the cap to the bottle. Fig. 4 is a plan view of the closure removed from the bottle. Fig. 5 is a

section on the line 5 5 of Fig. 4. Fig. 6 is a sectional view of a modified form of cap, and Figs. 7 and 8 are sectional views illustrating modified forms of the fastening device.

In the embodiment of the invention illustrated in the accompanying drawings the closure which forms the subject of the invention has been shown in connection with a bottle, although it is to be understood that it may be applied to other forms of containing-receptacles.

In the drawings, 1 indicates the neck of a bottle, which is provided with the usual closure-retaining shoulder 2. The closure comprises a cover which in the construction shown is in the form of a cap 3. Where a cap is employed, it will preferably be provided with a downwardly-extending flange 4. This cap may be formed with a plain top, as shown in Figs. 1 to 5, inclusive, or the top may have a depression, as indicated at 5 in Fig. 6. Preferably the cap will be provided with a packing 6, which may fill the entire top of the cap, as shown in Figs. 1 to 5, inclusive, or when the cap has a depressed center this packing may be annular in form, as shown in Fig. 6.

The closure is provided with legs or extensions 7, which in the preferred form of construction will be formed from non-resilient flexible material—that is, material which is capable of being bent into a shape and which retains its shape after being bent, the term “flexible” being used in a restricted sense and not being intended to cover material which is elastic. The flexible material employed will preferably be sheet metal—such, for instance, as tin. In the preferred form of the construction, furthermore, a plurality of such legs or extensions will be used, although under some circumstances the closure might have a single leg or extension. The leg or extension (or, where a plurality of such legs or extensions are employed, each leg or extension) will be provided with an upwardly-extending section or part which is adapted to shorten as it is forced into engagement with the shoulder on the receptacle, and is therefore preferably flexible. In the construction shown this flexible engaging part, which is marked 8, is formed by bending the material of each leg or extension upward,

and in the preferred form of the construction this engaging section will be spaced from the leg or extension 7. This engaging section or part is preferably so arranged as to be forced into engagement with the shoulder on the container by bending the leg to which it is connected inward, and in the preferred construction it will be arranged so that it may shorten somewhat as it is forced into position in order to compensate for variations in position of the shoulder on the container. The shortening of the engaging section may be obtained in some instances solely through the flexibility of the section itself, or where the section is spaced from the leg or extension to which it is connected the shortening action may occur at the curve or joint between the leg and the engaging section, this point being marked 9, the metal being forced downward at this point. Preferably, however, in addition to the curve at the point 9 the engaging section will be provided with a curved engaging surface 10, which takes under the shoulder of the container. As the fastening device is forced into place by bending the leg or extension, as before stated, a yielding action may occur either at the point 9 or at the curved surface 10, or at both these points. Under some circumstances the curved engaging surface 10 may alone be depended upon to permit the shortening action referred to, this construction being illustrated in Figs. 7 and 8.

In order to provide for the ready unlocking of the fastening device, a finger-hold is preferably employed. This finger-hold in the preferred form of the construction is formed by a continuation of the engaging section before referred to, said continuation being bent outwardly, as shown in Figs. 1 to 6. The finger-hold may, however, be formed, as shown in Figs. 7 and 8, by bending out both the leg or extension and the engaging section, the finger-hold in these figures being marked 12.

The operation is as follows: The cap or other cover being placed in position on the bottle or other container, each of the legs or extensions is forced inward. As the leg or extension moves inward the engaging surface 10 strikes the under side of the shoulder and forces the cap or cover firmly against the mouth of the bottle, the action being a sort of lever action, the engaging surface 10 forming the fulcrum of the lever. When the fastening device has reached the locking position, as shown in Fig. 2, the force developed in holding the cap in position is exerted in a vertical direction or in a line which is substantially parallel to the legs or extensions, so that there is no tendency to draw these legs outward. Furthermore, as has been before indicated, should the shoulders on the bottles or other containers on which the closure is employed vary in position, and this is almost invariably the case with glass containing vessels, the flexible engaging sections will yield, as before described, thus permitting a

firm and at the same time accurate action of the fastening device. The fastening device may be readily unlocked by pressing upwardly and outwardly against the finger-hold, this pressure operating to bend the flexible legs or extensions outward, as indicated in Fig. 3. This opening operation is a simple one, and the constructions in which the invention will usually be embodied possess the great advantage that no tool is required to unlock the fastening device, the necessary pressure being easily exerted by the fingers.

While two preferred forms of the construction have been illustrated, it is to be understood that the invention is not confined to the construction shown in these forms, as the invention may be embodied in other forms of construction.

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

1. A closure comprising a cover having a non-resilient flexible leg or extension provided with an upwardly-extending non-resilient flexible section arranged to engage a shoulder on the container and to be forced into engagement therewith by bending the leg, substantially as described.

2. A closure comprising a cover having a non-resilient flexible leg or extension provided with an integral upwardly-extending non-resilient flexible section arranged to engage a shoulder on the container and to be forced into engagement therewith by bending the leg, substantially as described.

3. A closure comprising a cover having a leg or extension which is provided with a flexible non-resilient metal section which is adapted to be forced beneath a shoulder on the outer surface of a receptacle and the metal roll on itself as the section passes into engaging position, substantially as described.

4. A closure comprising a cover having a leg or extension which is provided with an upwardly-extending non-resilient flexible section having a curved engaging surface, substantially as described.

5. A closure comprising a cover having a non-resilient flexible leg or extension which is provided with an upwardly-extending non-resilient flexible section having a curved engaging surface, substantially as described.

6. A closure comprising a cover having a non-resilient flexible leg or extension which is provided with an integral upwardly-extending section having a curved engaging surface, substantially as described.

7. A closure comprising a cover having a non-resilient flexible leg or extension which is bent upon itself to form an upwardly-extending section, said section being spaced from the leg, substantially as described.

8. A closure comprising a cover having a non-resilient flexible leg or extension which is bent upon itself to form an upwardly-extending section, said section being spaced from the leg and having a curved engaging surface, substantially as described.

9. In a closure the combination with a cover of a fastening device comprising a leg or extension, an upwardly-extending non-resilient flexible section adapted to engage a shoulder 5 on the container and a bent portion forming a finger-hold, substantially as described.

10. In a closure the combination with a cover of a fastening device comprising a non-resilient flexible leg or extension, an upwardly-extending flexible section connected therewith, 10 said section having a curved engaging surface and having connected thereto an outwardly-bent portion forming a finger-hold, substantially as described.

11. A closure comprising a cover having a non-resilient flexible leg or extension, said leg or extension being bent upwardly to form an engaging section and then downwardly and outwardly to form a finger-hold, substantially 15 as described.

12. The combination with a container having a shoulder on the outer surface, of a cover having a plurality of downwardly-extending non-resilient flexible legs or extensions, each of said extensions being provided 25 with an upwardly-extending section arranged to be forced into engagement with the shoulder on the container by bending the extensions, substantially as described.

13. The combination with a container having a shoulder on the outer surface, of a cover therefor, said cover having a plurality of downwardly-extending non-resilient flexible legs or extensions, each of which is provided with an upwardly-extending non-resilient flexible engaging section having a curved 35 engaging surface, substantially as described.

14. The combination with a container having a shoulder on its outer surface, of a cover having a plurality of non-resilient flexible legs or extensions, each of said extensions being bent upon itself to form an upwardly-extending engaging section, said section being spaced from the extension, substantially 40 as described.

15. The combination with a container hav-

ing a shoulder on its outer surface, of a cover having a plurality of non-resilient flexible legs or extensions, each of said extensions being bent upon itself to form an upwardly-extending engaging section, said section being spaced from the extension and having a curved engaging surface, substantially as described. 50

16. The combination with a container, having a shoulder, of a cover, a fastening device comprising non-resilient flexible legs or extensions, each of said extensions being provided with an upwardly-engaging section, and a finger-hold, substantially as described. 55 60

17. The combination with a container having a shoulder, of a cover, a fastening device comprising non-resilient flexible legs or extensions, each of said extensions being provided with an upwardly-engaging section 65 having a curved engaging surface, and a finger-hold, substantially as described.

18. A closure comprising a flanged cap having a plurality of non-resilient flexible legs or extensions connected to the flange of the cap, each of said legs being bent to form an engaging section and said section being bent to form an engaging surface, substantially as described. 70

19. A closure comprising a flanged cap having a plurality of non-resilient flexible legs or extensions, each of said extensions being bent upon itself to form an engaging section, and each of said engaging sections being further bent to provide a curved engaging surface, and having a continuation which forms a finger-hold, the engaging sections being arranged to be forced into engagement with the shoulder of a containing vessel by bending the legs, substantially as described. 75 80 85

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

RUFUS L. PATTERSON.

Witnesses:

NATHANIEL CARUSI,
JAMES Q. RICE.