

No. 805,784.

PATENTED NOV. 28, 1905.

O. EICK.
BOTTLE CLOSURE.

APPLICATION FILED APR. 22, 1904.

2 SHEETS—SHEET 1.

Fig. 1.

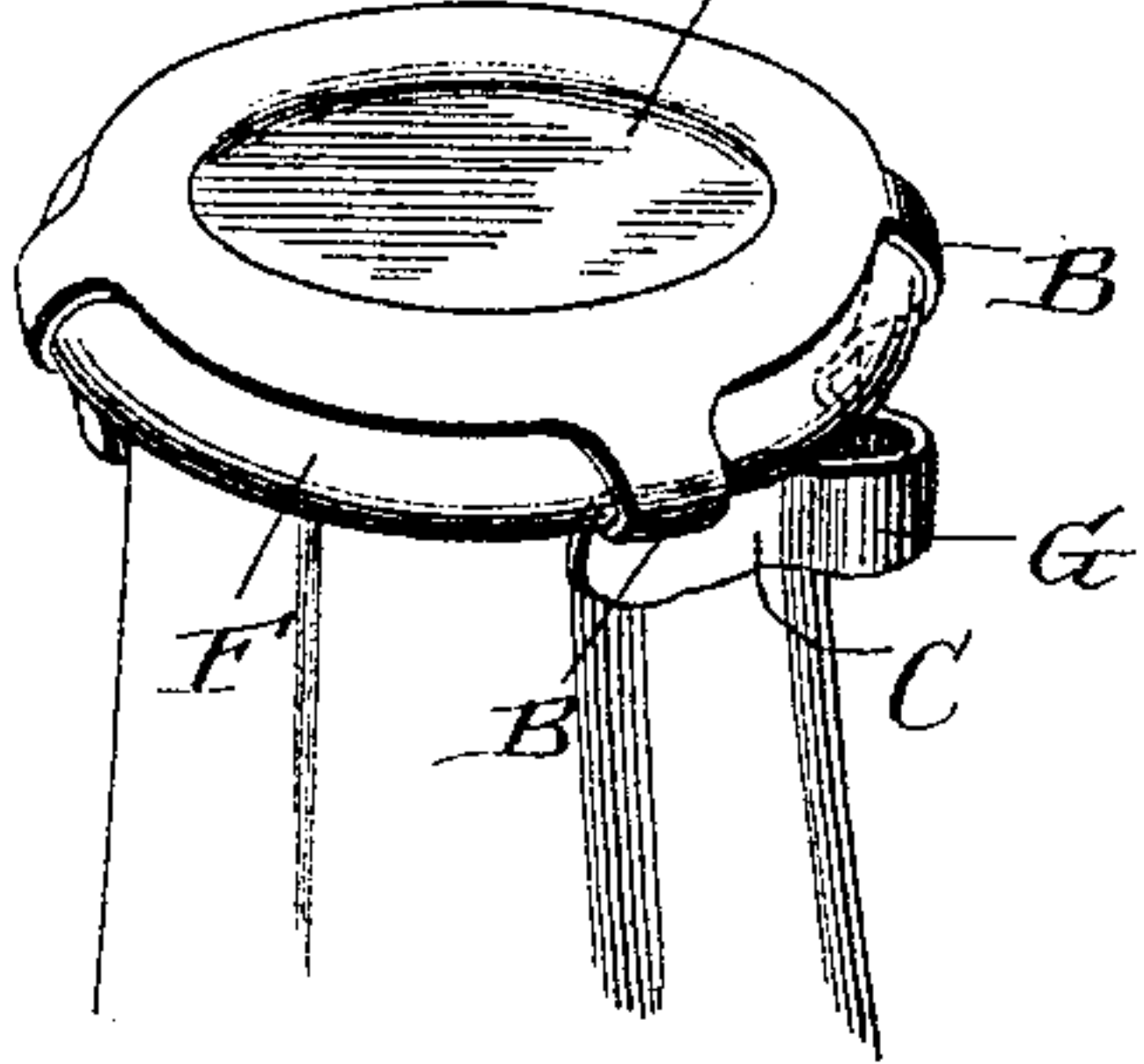


Fig. 2.

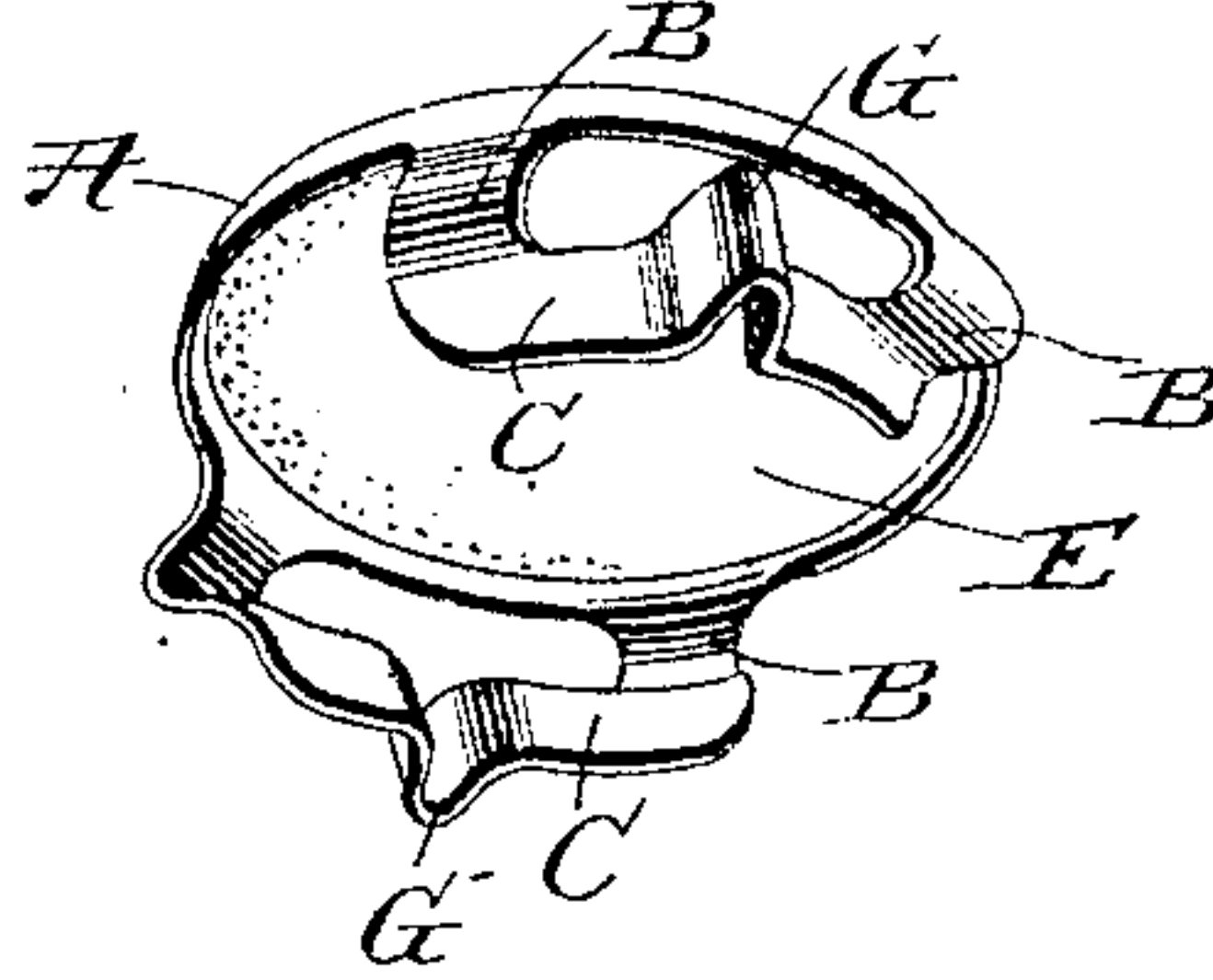


Fig. 3.

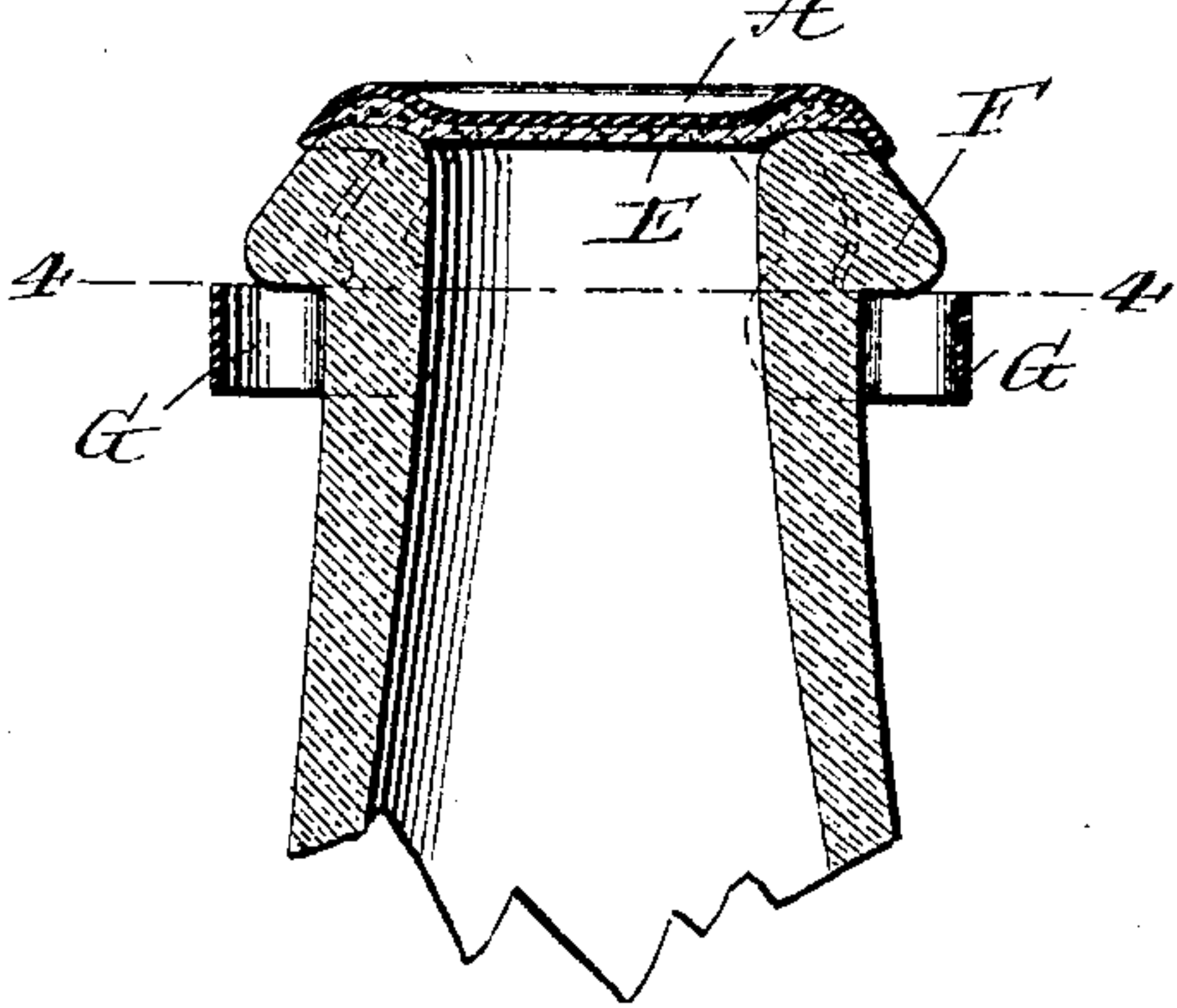


Fig. 4.

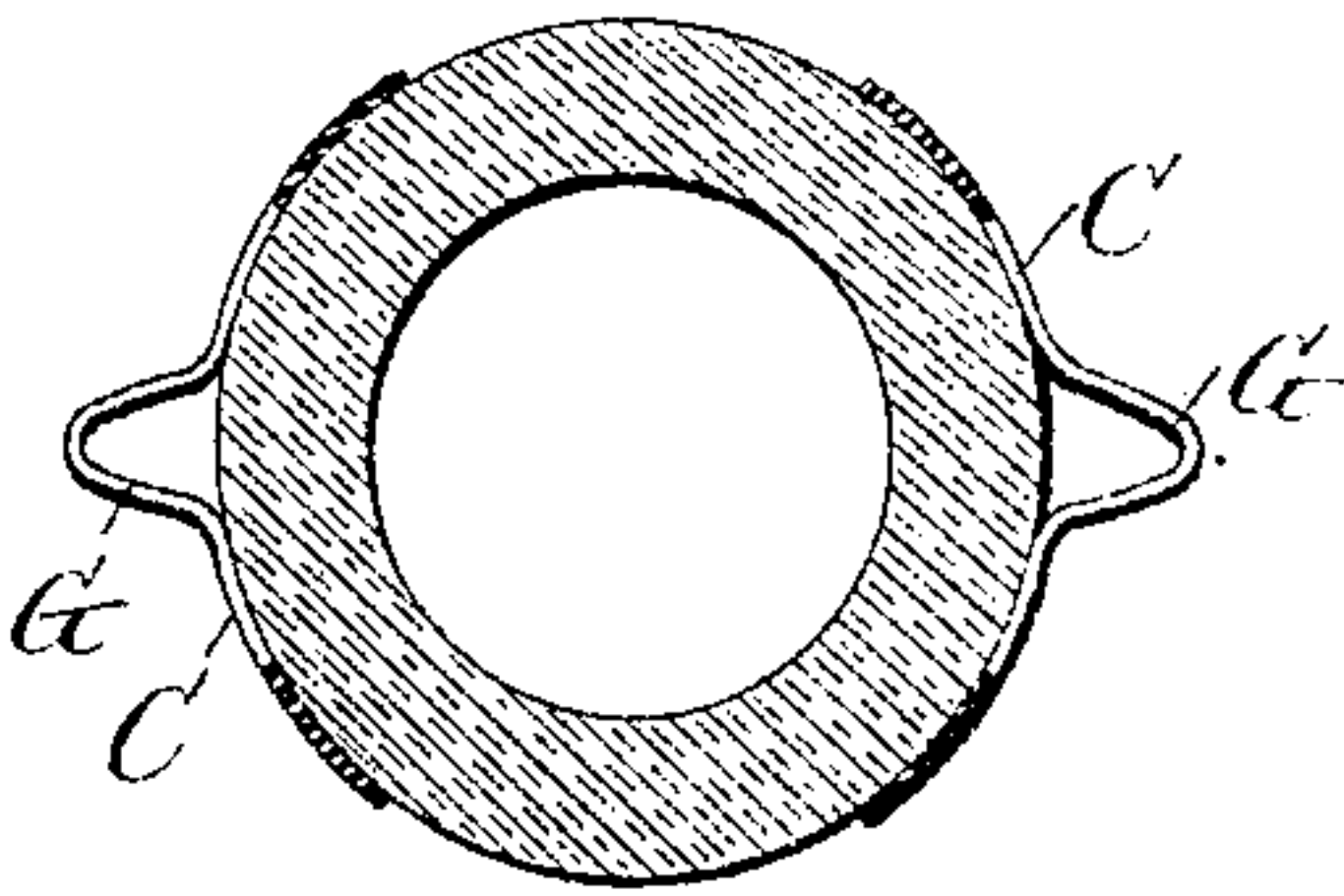
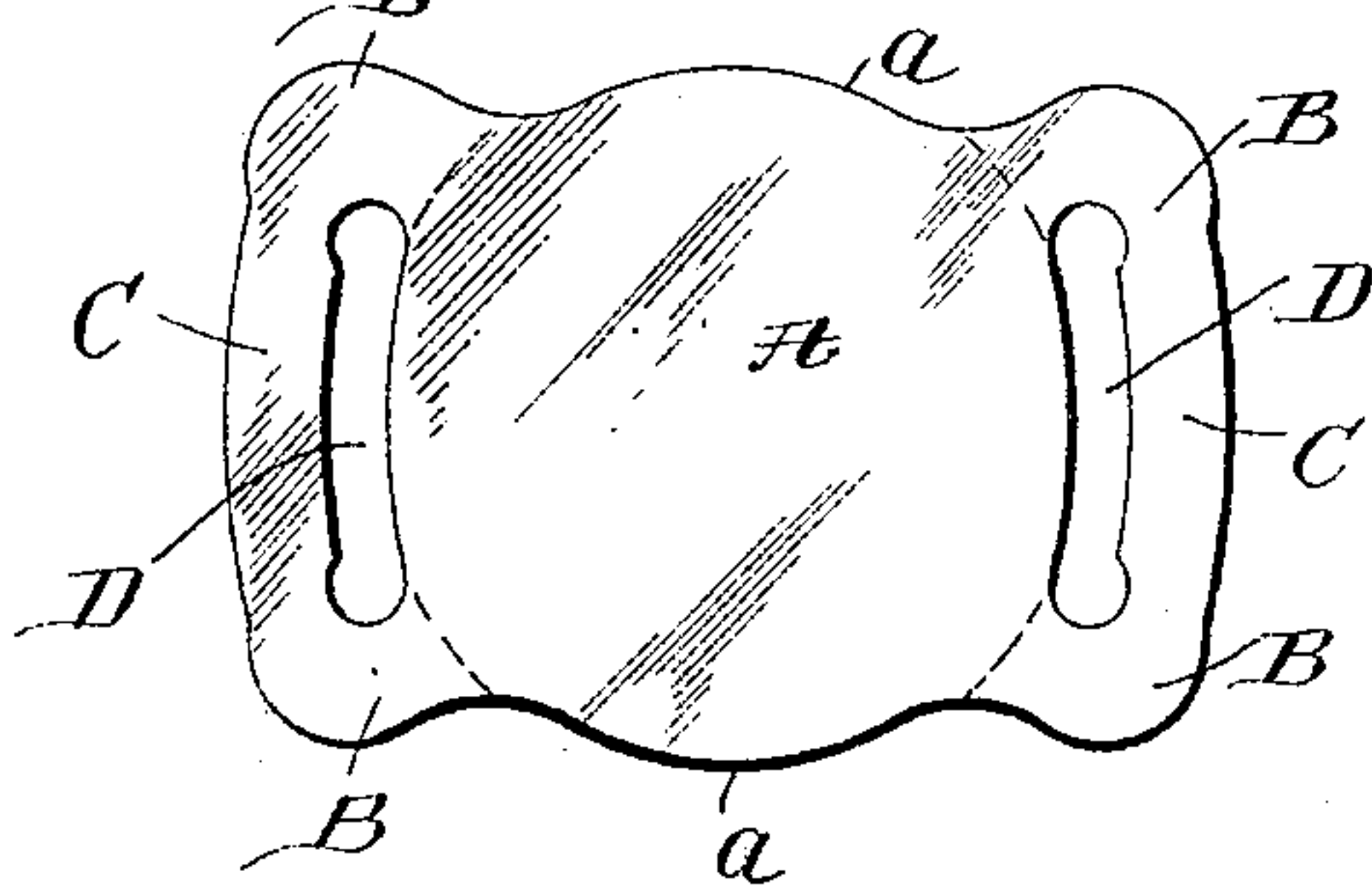


Fig. 5.



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2 SHEETS—SHEET 2.

Fig. 6.

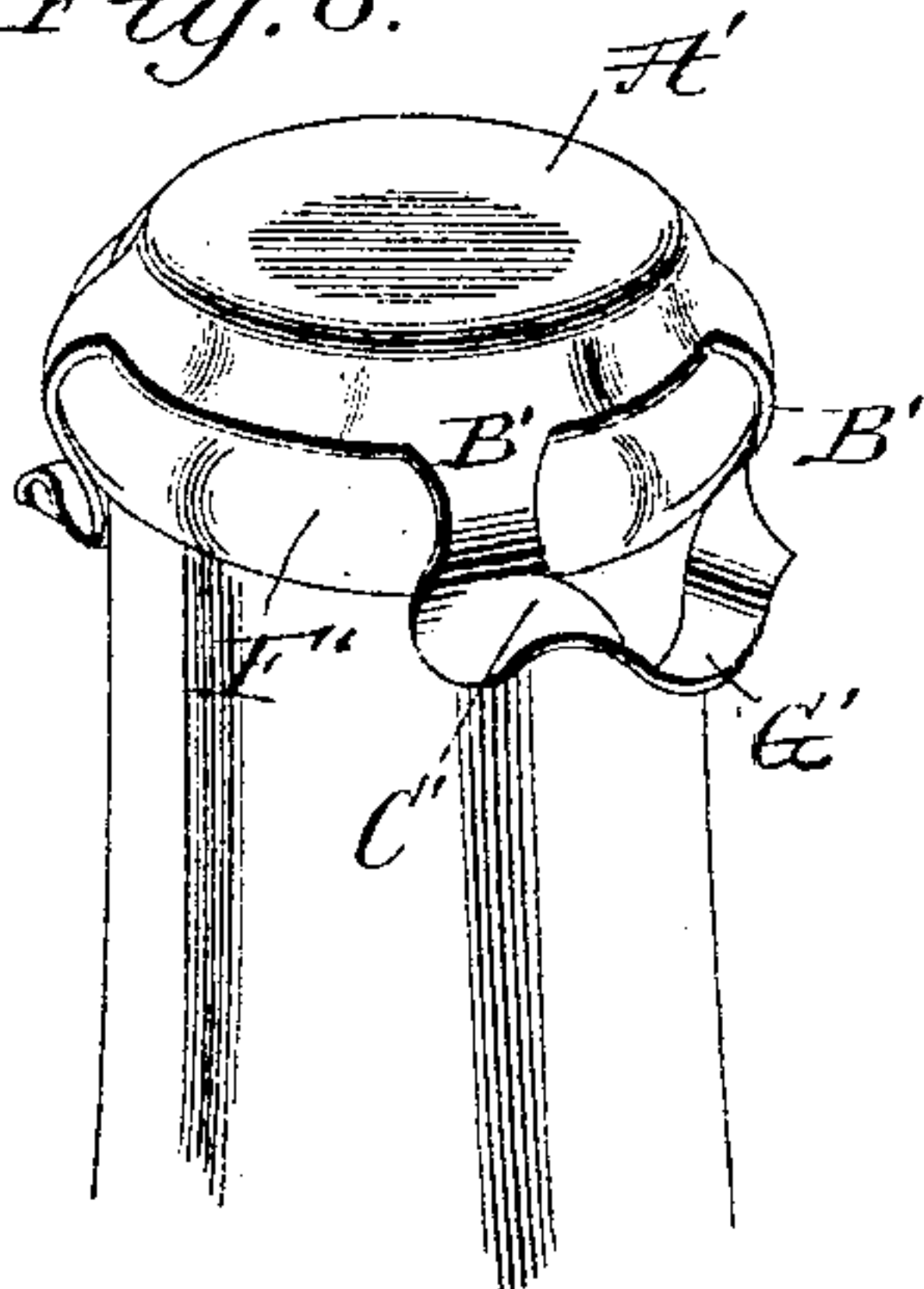


Fig. 7.

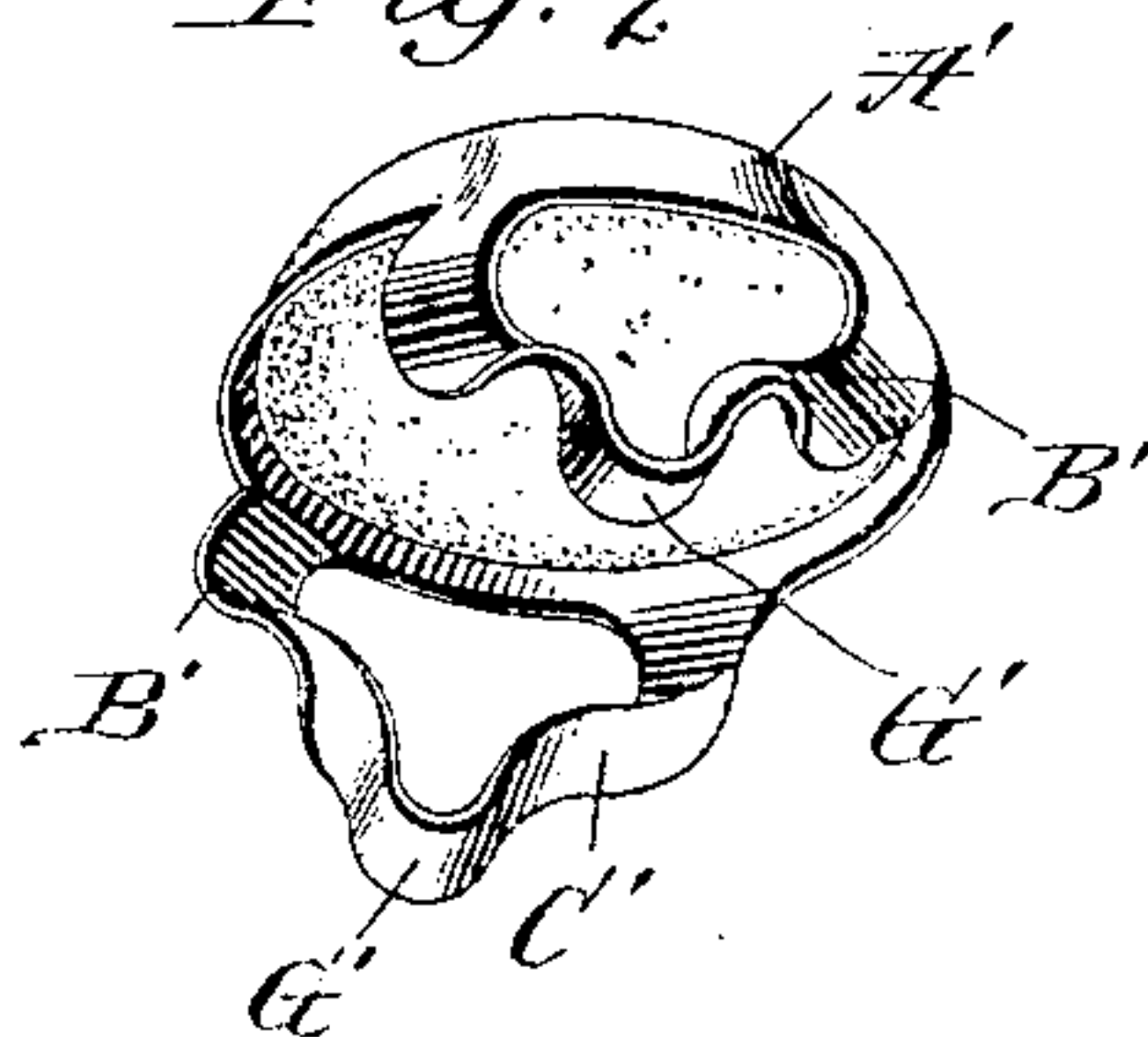


Fig. 12.

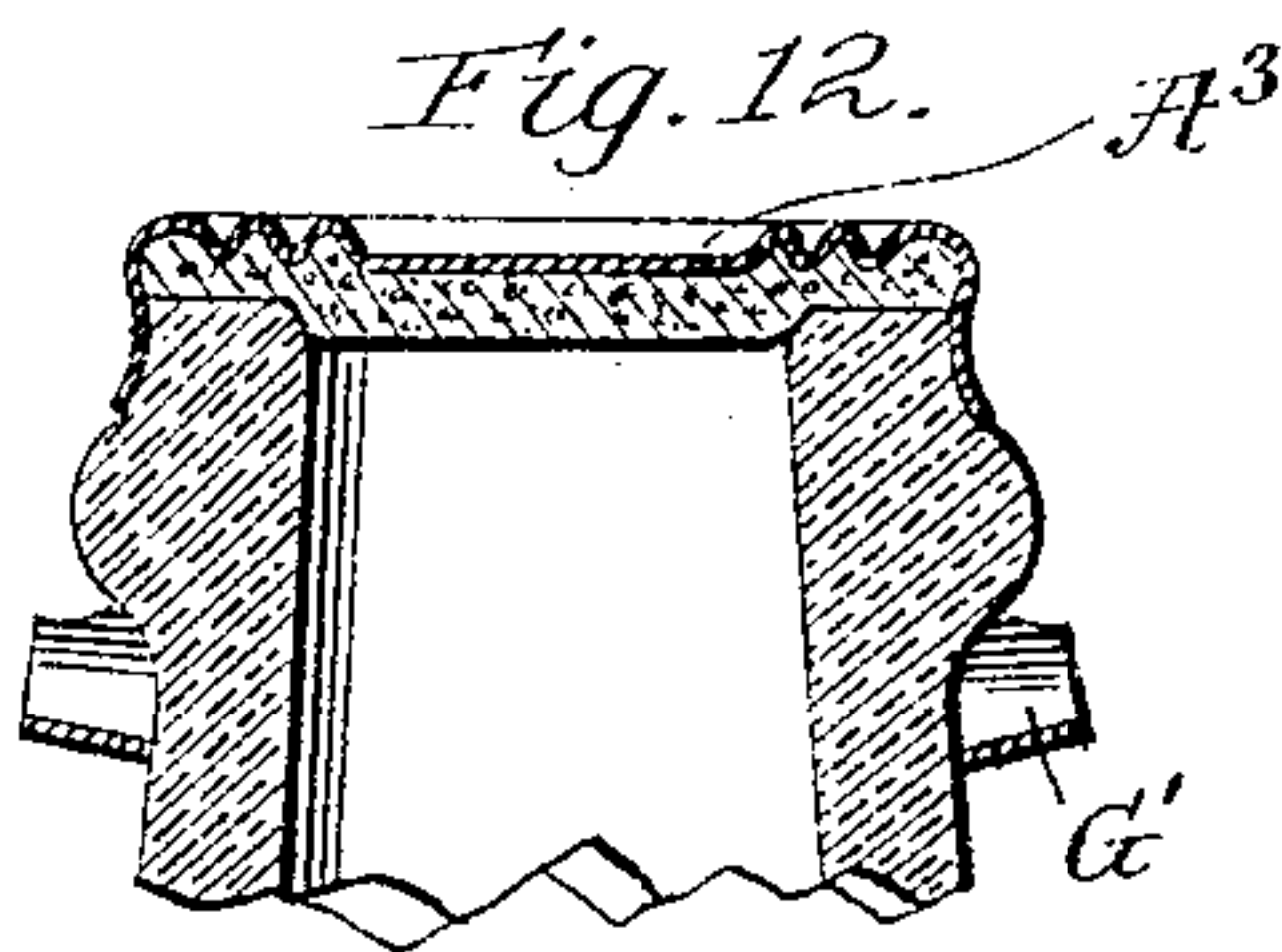


Fig. 8.

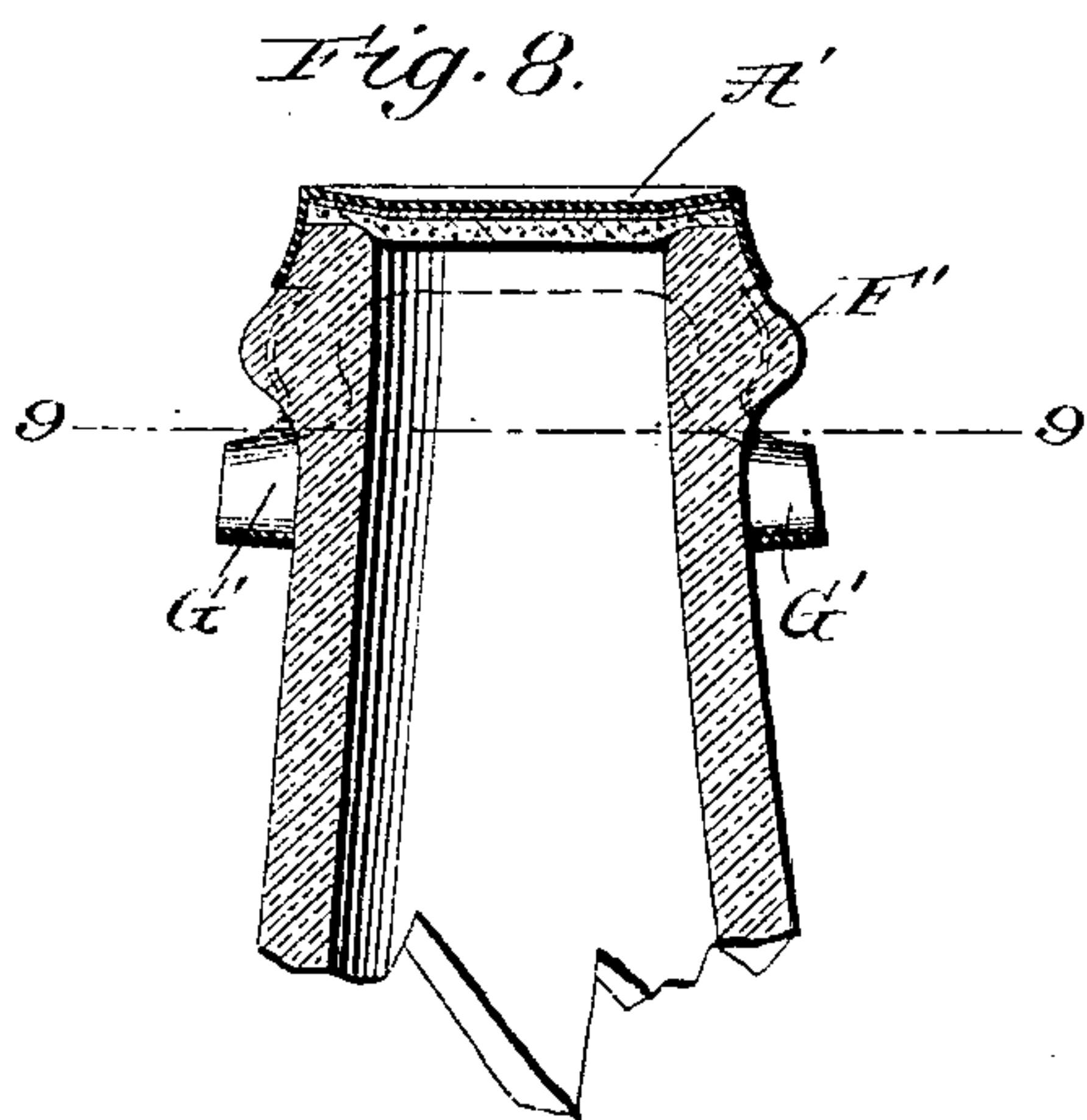


Fig. 9.

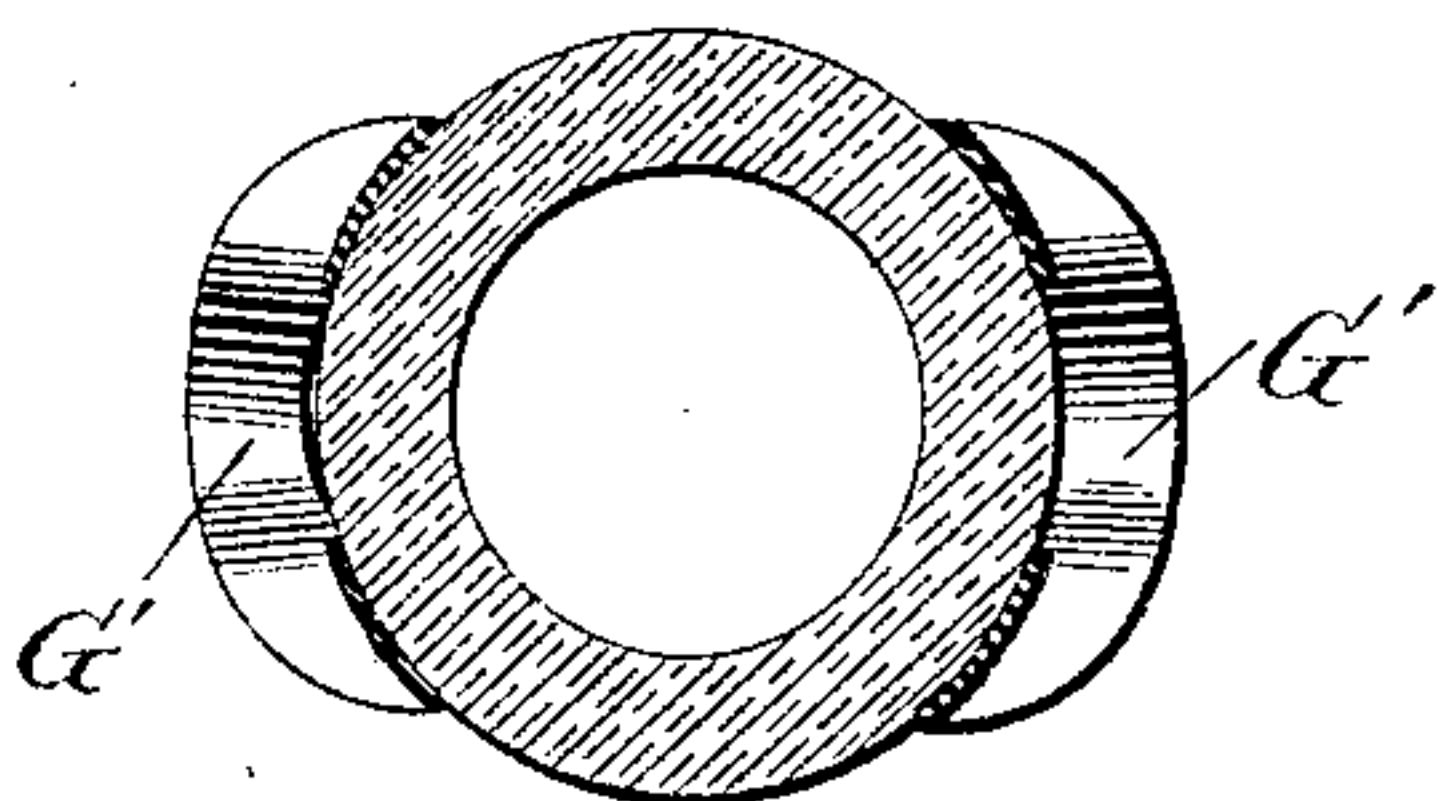


Fig. 10.

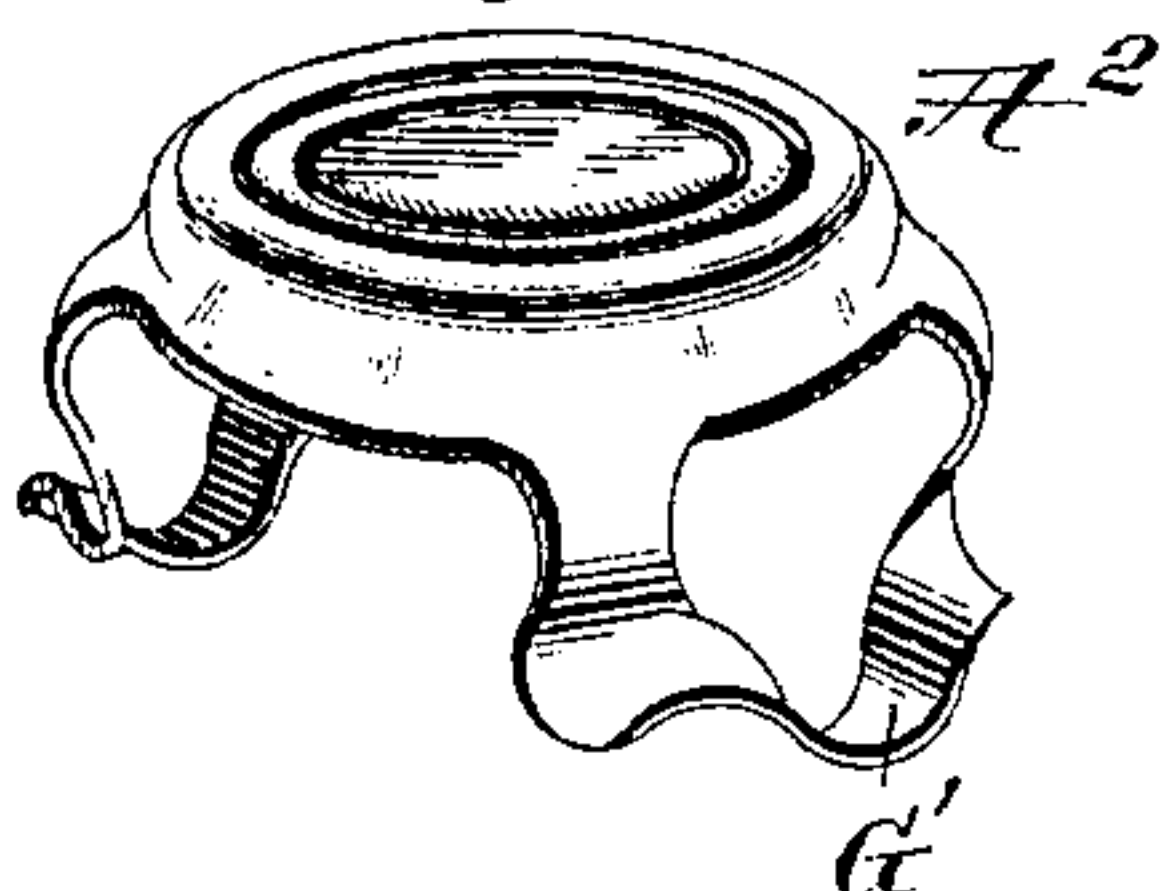
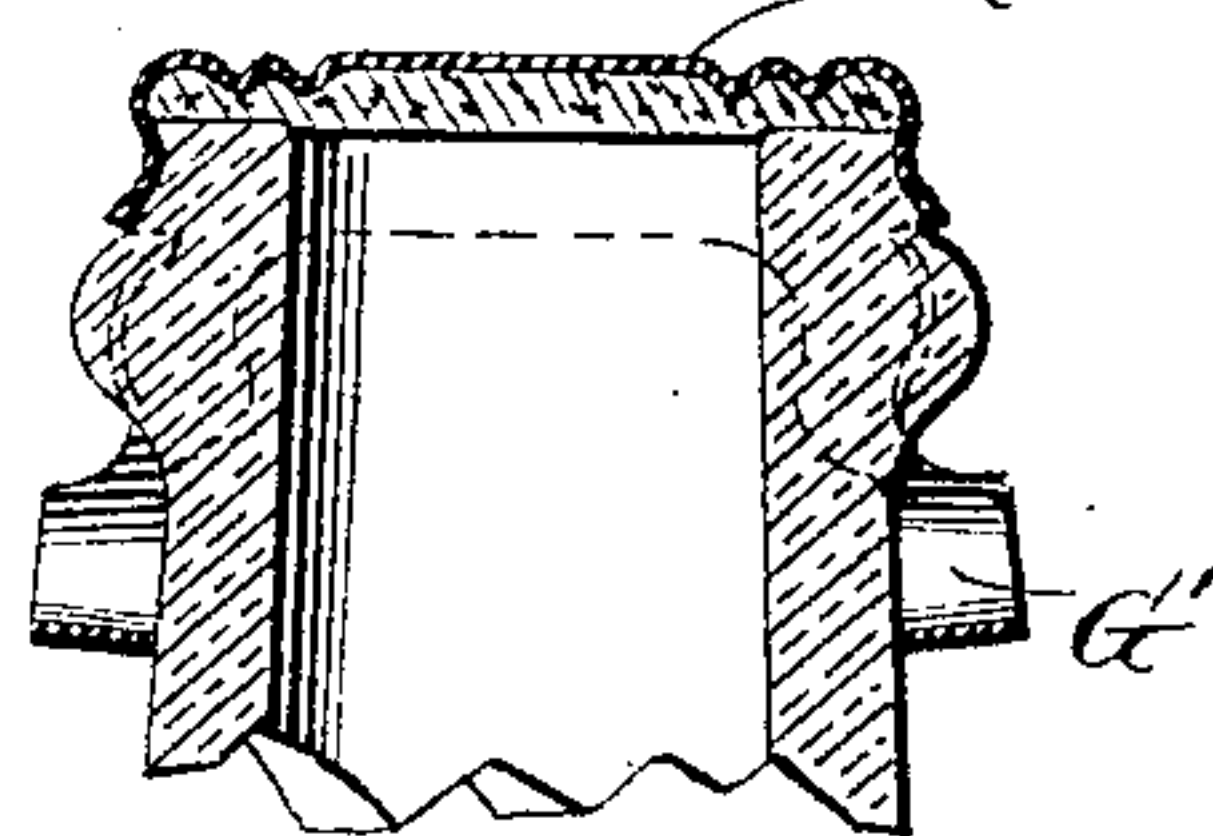


Fig. 11.



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UNITED STATES PATENT OFFICE.

OTTO EICK, OF BALTIMORE, MARYLAND.

BOTTLE-CLOSURE.

No. 805,784.

Specification of Letters Patent.

Patented Nov. 28, 1905.

Application filed April 22, 1904. Serial No. 204,451.

To all whom it may concern:

Be it known that I, OTTO EICK, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Bottle-Closures, of which the following is a specification.

My present invention pertains to improvements in bottle-closures, the construction and advantages of which will be hereinafter set forth, reference being had to the annexed drawings, wherein—

Figure 1 is a perspective view of a portion of a bottle with the cap or closure applied thereto; Fig. 2, a perspective view of the cap or closure viewed from below; Fig. 3, a vertical sectional view of a bottle-neck with the closure applied thereto; Fig. 4, a horizontal sectional view on the line 4 4 of Fig. 3; Fig. 5, a plan view of the cap-blank; Fig. 6, a perspective view of a portion of a bottle with a slightly-modified form of cap; Fig. 7, a perspective view of the cap; Fig. 8, a vertical sectional view; Fig. 9, a horizontal sectional view on the line 9 9 of Fig. 8; Fig. 10, a perspective view of a further modification of the cap; Fig. 11, a vertical sectional view thereof, and Fig. 12 a vertical sectional view showing a cap having a central depression and a plurality of grooves in its upper face.

The object of my invention is to produce a simple and efficient bottle-closure which may be readily and cheaply formed and is also easy of application and removal.

The closure in both the forms illustrated makes a gas-tight joint with the bottle or other receptacle with which it is employed.

The blank for producing the cap or closure is shown in Fig. 5. It consists of a central or body portion A, of a size somewhat larger than the opening in the bottle-neck, and four arms B, extending from the corners of the body portion and connected by straps, bands, or connecting-links C. In other words, the blank is oblong in general form, having two slots or openings D, one adjacent to each end thereof, the slots being slightly curved, as indicated, and by preference enlarged at their extremities. The outer edges of the straps, bands, or connecting-links C are preferably curved to conform to the inner curve of the slots, and the outer edges *a* of the main body portion A are likewise curved.

By reason of the curvature of the slots and the edges of the main body that portion of the cap or closure which overlies the bottle when the cap is in place conforms in general con-

tour or outline to the bottle-neck, as will be clearly seen upon reference to Fig. 1.

When applying the closure, a sealing disk or gasket E is placed beneath the same and over the bottle-mouth, the arms B being bent down over and beneath a shoulder or rib F, formed around the bottle-neck. At the same time the connecting links or straps C are bent outwardly, forming loops or bails G. Thus it will be seen that the arms firmly engage the under face of the rib, and the uppermost edge of each link or strap also engages the same throughout a portion of its length, at the same time closely conforming to the upright face of the bottle-neck, as is best shown in Fig. 4.

In securing the cap or closure in place the sealing disk or gasket is put under compression, and thus maintained so long as the arms and links retain their proper positions with relation to the rib or shoulder F.

An outward and upward pressure on either bail or loop G will quickly release the cap, no special tool being necessary for its removal.

In Figs. 6 to 9, inclusive, a slight modification is illustrated, though in principle the invention is the same as that shown in the other figures. With this construction the closure A' fits over the bottle-neck, being cup-shaped after it is bent into form. The general contour or shape of the blank is the same as that shown in Fig. 5; but instead of drawing a portion of the connecting link or strap C' directly against the vertical face of the neck the entire strap is bent outwardly at substantially right angles to the ends of the arms B' and likewise forced downward at its center, forming a loop or bail G', which facilitates the removal of the cap or closure.

The rib or shoulder F' (shown in Figs. 6 and 8) is less abrupt upon its under face than that shown in Figs. 1 and 3; but the inwardly-bent arms B', connected by the links or straps, and thus mutually held and stiffened, serve to maintain a gas-tight joint between the bottle or other receptacle and the cap proper.

Owing to the curvature of the slots and the enlargement of the ends thereof, the parts may be readily bent to the desired form. This enlargement, however, is not necessary, and the exact degree of curvature depends upon the formation of the bottle with which the closure is to be used.

It will of course be understood that a sufficiently ductile and non-resilient metal will be employed for these caps.

As usual in closures of the same general

class as that herein described, the body of the cap will be slightly depressed by the tool employed in applying the same to the bottle, such depression serving to more surely compress the underlying gasket, as will be clearly seen upon reference to Figs. 3 and 8.

In case sealing-disks of cork are used, it will be found preferable to employ the construction shown in Figs. 10 and 11, wherein the cap A² has a series of concentric rings or grooves formed in its upper face, which indent the cork in continuous lines, and thereby prevent the gas from escaping through the small holes or interstices in the body of the cork. These rings or grooves may be made previous to securing the closure upon the neck of the bottle or formed by means of a tool which forces the cap or closure to place. No central depression is necessary in this construction, as is required in the other forms illustrated.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In combination with a receptacle having a rib or shoulder extending around the same; a closure therefor comprising a body portion having downwardly-projecting arms embracing said rib or shoulder; and integrally-formed links connecting the ends of said arms in pairs.

2. In combination with a receptacle having

a rib or shoulder extending around the same; a closure therefor comprising a body portion having downwardly-projecting arms embracing said rib or shoulder; and integrally-formed links connecting the ends of said arms in pairs, the links being bent away from the arms to form loops or bails, substantially as described.

3. In combination with a receptacle having a rib or shoulder extending around the same; a closure therefor comprising a body portion having downwardly-projecting arms embracing said rib or shoulder; and integrally-formed links connecting said arms in pairs, said links throughout a portion of their length embracing the neck of the receptacle beneath the shoulder, and being bent outwardly at their central portions to form bails or loops, substantially as described.

4. A closure comprising a body portion having retaining-arms formed integrally therewith, and links connecting the ends of said arms in pairs, the links being bent to form bails or loops intermediate the arms, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

OTTO EICK.

Witnesses:

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HERMANN ALBRECHT.