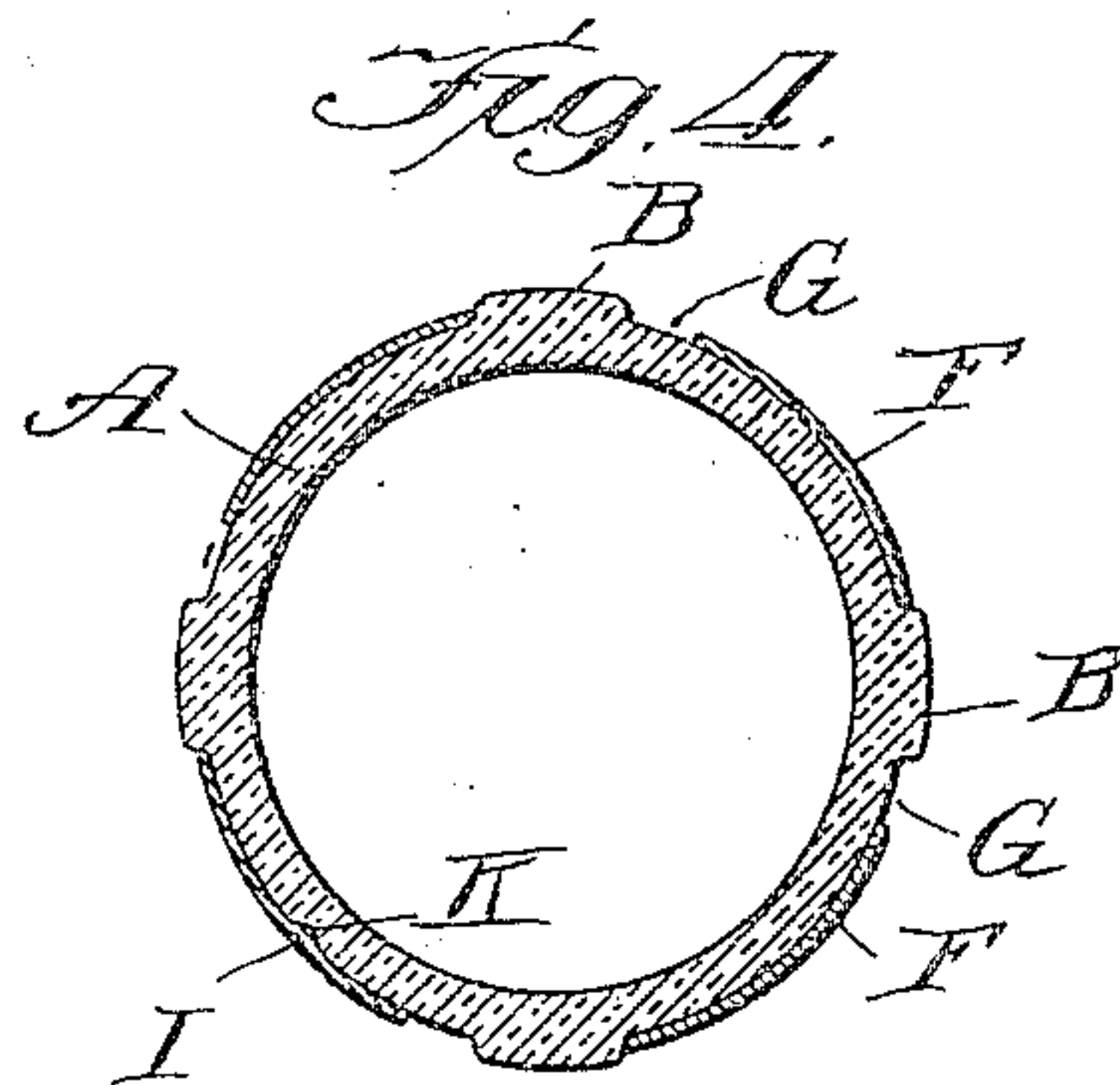
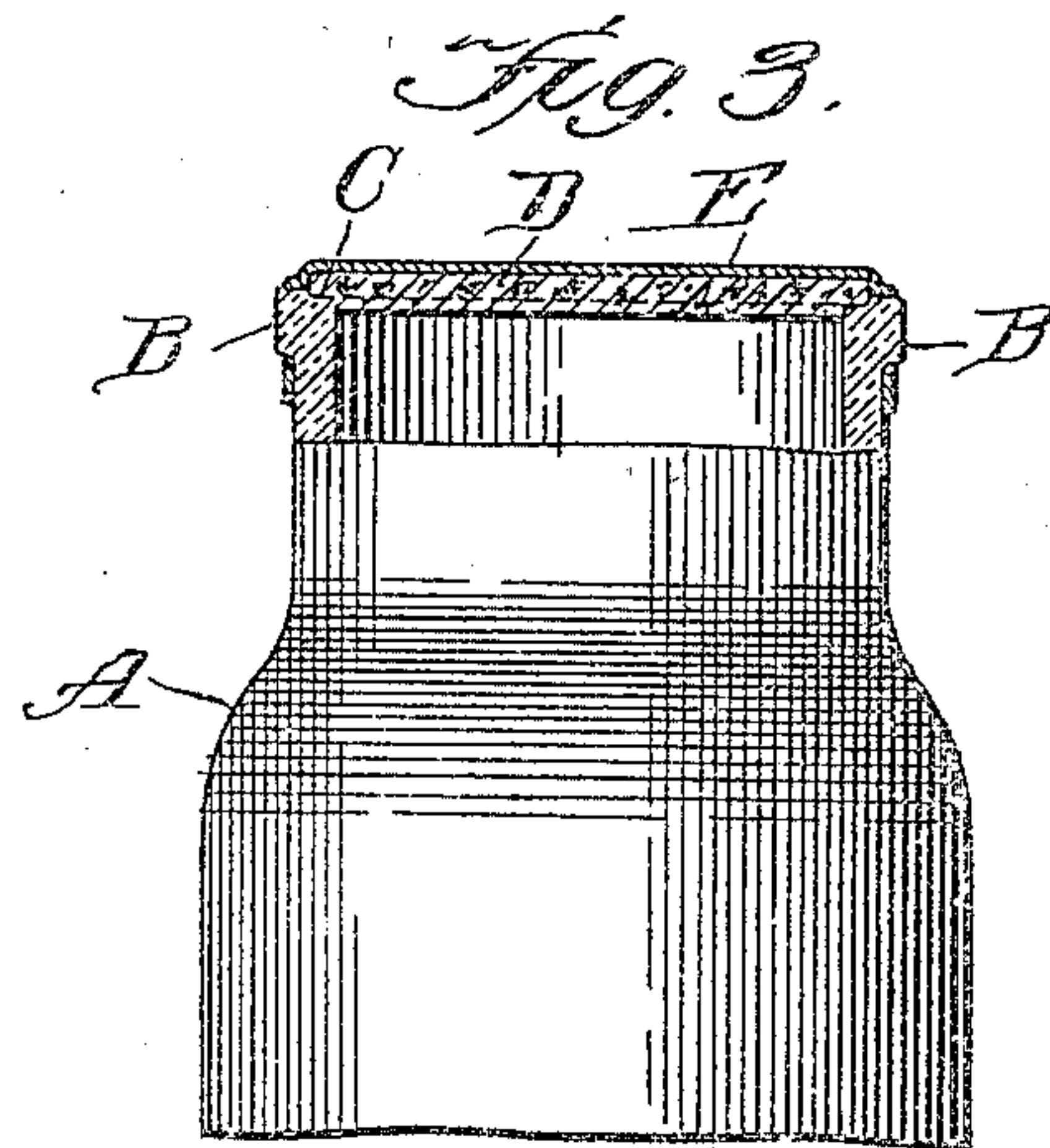
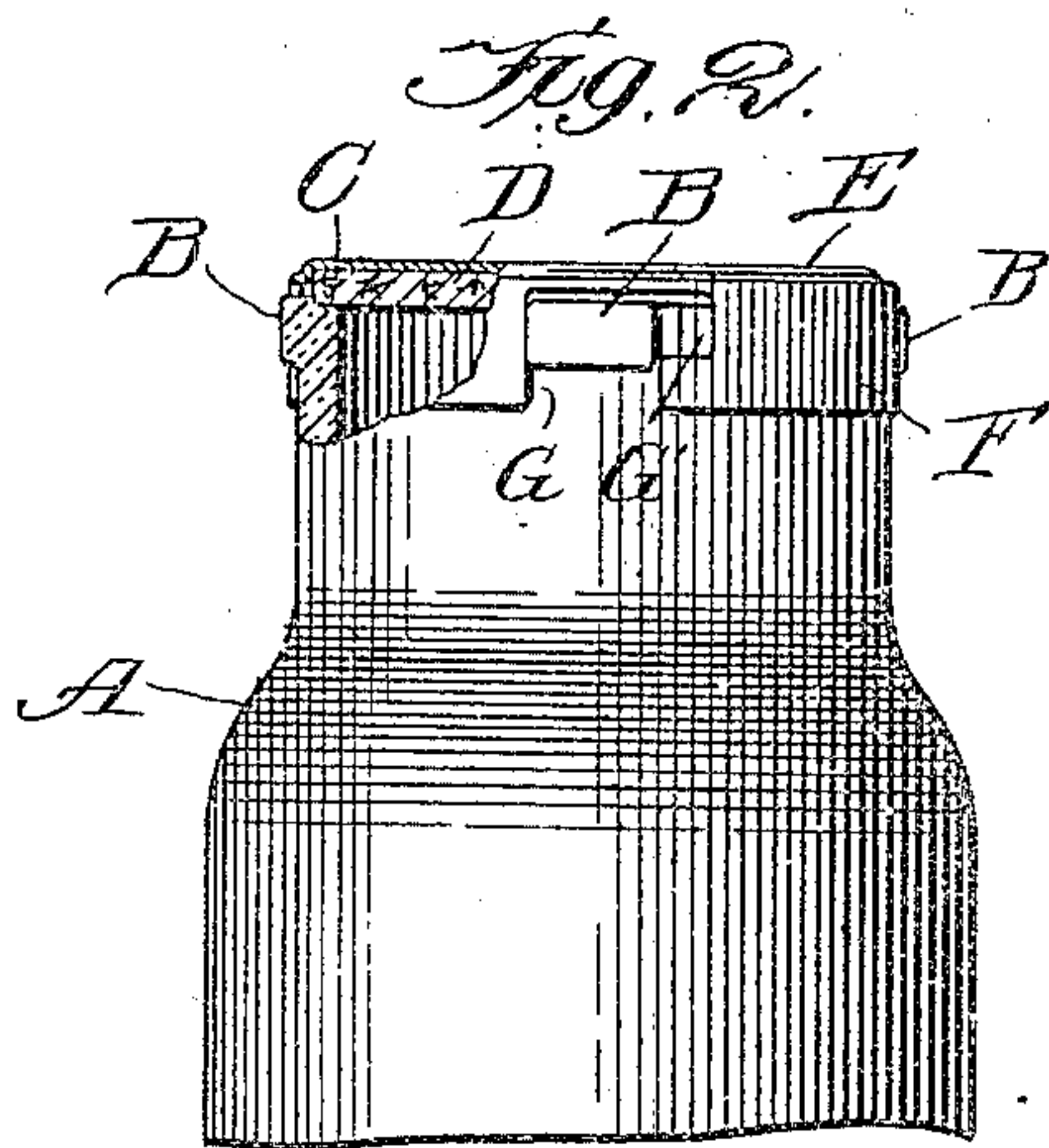
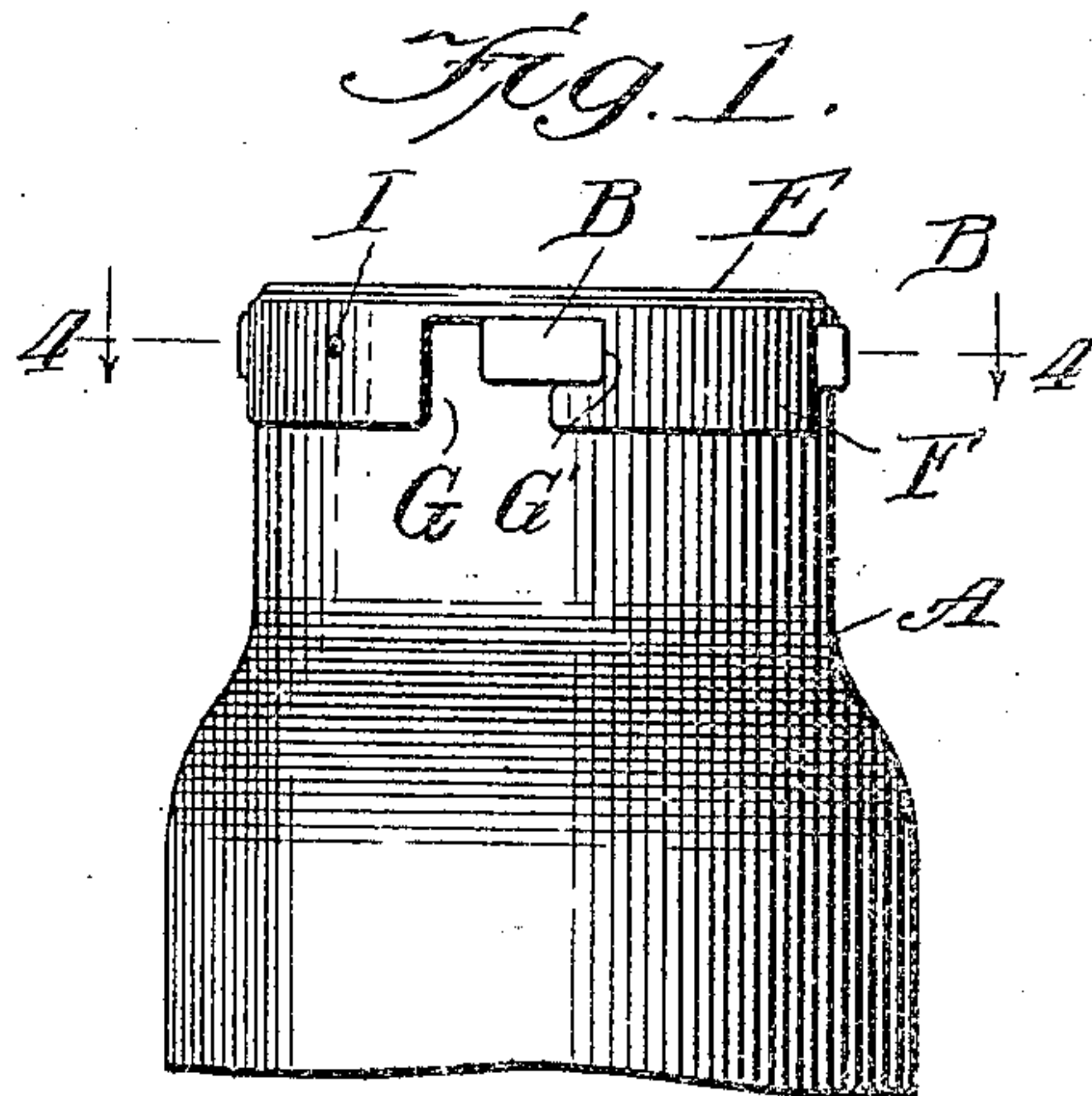


G. E. BOLTON.
BOTTLE STOPPER.
APPLICATION FILED JUNE 1, 1909.

958,221.

Patented May 17, 1910.



Witnesses:

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UNITED STATES PATENT OFFICE.

GEORGE E. BOLTON, OF CHICAGO, ILLINOIS.

BOTTLE-STOPPER.

958,221.

Specification of Letters Patent.

Patented May 17, 1910.

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To all whom it may concern:

Be it known that I, GEORGE E. BOLTON, a citizen of the United States, residing at Chicago, county of Cook, State of Illinois, have invented a certain new and useful Improvement in Bottle-Stoppers, and declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to closures for bottles, jars and other receptacles and has for its object to provide a closure which shall be simple and effective.

In all forms of packages wherein the closure is effected by means of a cover clamped in place, there is always a certain percentage in which the closure is faulty, although the fault may not be perceptible to an observer. Where there is a defect in the closure of a package of perishable goods so as to permit air to enter, decomposition or mold sets in upon the surface of the contents adjacent to the cover and the presence of discoloration or mold at this point indicates a defective closure. The usual form of metallic closure for glass bottles or jars consists of a cap which fits over the mouth of the bottle or receptacle and hides the surface of the contents of the package at the top so that the presence of a leak cannot be detected, without opening the package, unless there is sufficient decomposition to discolor the contents of the package to a considerable depth.

A further object of my invention is to provide a metallic closure for bottles, jars and other transparent receptacles which will leave the upper surfaces of the contents open to inspection through the walls of the receptacles.

The various features of novelty whereby my invention is characterized will hereinafter be pointed out with particularity in the claim; but, for a full understanding of my invention and of its objects, including these heretofore enumerated and others which will hereinafter appear, reference may be had to the following detailed description taken in connection with the accompanying drawing, wherein

Figure 1 is a side elevation of a fragment of a bottle or jar closed in accordance with the present invention; Fig. 2 is a view simi-

lar to Fig. 1, showing the condition of the parts just before the cover or cap is forced into its final position, portions being broken away to show the condition of the filler which seals the joint between the receptacle and the cover; Fig. 3 is a view similar to Fig. 1, the upper portion of the receptacle and the closing devices being shown in cross section, the conditions being those illustrated in Fig. 1; and Fig. 4 is a section taken on line 4—4 of Fig. 1.

Referring to the drawing, A represents a receptacle of any desired form, preferably constructed of glass or other transparent material. Distributed about the receptacle adjacent to the open end or mouth thereof are a series of laterally-projecting lugs B preferably integral with the receptacle. Within the open end of the receptacle I prefer to form an annular counter-sunk seat C; D is a compressible filler preferably of cork, which rests upon the seat C and serves to form a seal between the end of the receptacle and the cover. The filler is illustrated as being in the form of an imperforate disk but it is, of course, not necessary that it be a disk in order to act as a seal. I prefer to use a disk, however, since the additional function of protecting the interior of the cover against corrosion is thereby secured.

E is the cover which may conveniently be made of sheet metal in the form of a disk. In accordance with my invention, I provide the cover with a series of downwardly projecting hook-shaped members which, when the cover is in place, lie against the sides of the receptacle between the lugs and have portions which may be brought into engagement with the underside of the lugs upon turning the cover slightly, so as to lock the cover on the receptacle. In other words, the cover is locked in place by means of a number of bayonet joints of which the lugs on the receptacle form part. The portions of the joint carried by the cover may be formed in any suitable way so as to provide the necessary hooks, a preferred arrangement consisting in the provision of a slotted flange F upon the cover so that the cover as a whole resembles a cap which fits over the open end of the receptacle. There are as many slots in the flange as there are lugs, each of the slots consisting of an open-ended portion G and a laterally projecting branch G'. The slots G are wide enough to receive the lugs when the cover is placed in position and the

slots G' are of such depth that when the cover is turned the lugs enter these slots and lock the cover in place. I prefer to make the filler D sufficiently thick to make it necessary that it be compressed in order to bring the slots G' into the plane of the lugs, thereby assuring a tight seal between the edge of the receptacle and the cover before the cover can be locked in place.

Since the lugs on the bottle or jar are arranged at the mouth thereof, the upper surface of the contents may always be viewed by looking in through the lugs, this inspection being facilitated by placing each of the lugs diametrically opposite another lug. Furthermore, any desired portion of the bottle or jar may be left uncovered by the flange so that the contents may be inspected at various points. Consequently, as soon as a leak in the seal produces the slightest discoloration upon the surface of the contents of the receptacle, the fact of the leak becomes at once apparent upon inspection. This characteristic of my improved closure is of particular value in connection with packages which it is desired to "process." If a closure is faulty then, during processing, bubbles will issue from beneath the cover. If the packer is able to discover these bubbles he will know that the package is faulty and that a new cover should be supplied. In the ordinary form of closure wherein a cap is employed, the bubbles may not issue from beneath the flange of the cap but will remain concealed just outside of the joint between the end of the receptacle and the cover. By employing my improved cap, however, a considerable portion of the neck of the receptacle immediately adjacent to the mouth is left exposed so that if there is a leakage the bubbles will be clearly visible. Furthermore, if there should be an imperfect seal by reason of improper seating of the filler, this can readily be detected by viewing the interior of the package through the transparent lugs and the portions of the neck of the receptacle adjacent to the lugs. This is of particular advantage since it is practically impossible to obtain fillers or receptacles which are perfect in form. If the packer should fail to detect a faulty closure in the manner described the danger of shipping such a faulty package may be avoided by inspecting the packages after they have been allowed to stand for sometime, in order to ascertain whether or not there has been any discoloration at the top of the contents or whether a scum has formed upon the upper surface of the contents. This inspection may be made even though the package be completely filled by reason of the transparent portions which are left exposed at the

top of the receptacle. In short it is possible for the packer to make a perfect inspection of the seal both from within and without so that he can ship any package with the certainty that it is a perfect one.

The counter-sunk seat in the end of the receptacle has the function of properly positioning the filler and furthermore, where the receptacle is molded of glass, it permits a smooth seat to be provided without making it necessary to finish the mouth of the receptacle by grinding or otherwise, since the seat may be formed in the mold and any irregularity in contour which occurs in the surrounding wall will be of no consequence.

If desired, the flange may be provided with an inwardly-projecting lug I which, when the cover is in its locked position, drops into a recess K in the wall of the receptacle and serves as a lock to hold the cover against accidental rotation. This lug may be formed by simply indenting the flange, forcing a portion thereof inwardly. Since the flange is of sheet metal it, together with the lug, constitutes a spring catch.

While I have illustrated and described in detail only a single preferred form of my invention, I do not desire to be limited to the structural details so illustrated and described, but intend to cover all forms falling within the terms employed in the definitions of my invention which constitute the appended claim.

What I claim is:

In combination, an open-ended glass receptacle, a plurality of narrow integral lugs projecting laterally from the receptacle in the plane of the open end, said end being countersunk about the opening, a compressible filler lying within the countersunk portion, a cover overlying the filler and lying wholly above the open end of the receptacle, said cover having a narrow depending flange, said flange being cut away throughout its entire width so as to form openings to receive said lugs, and each of the openings in the flange having a lateral branch into which one of the lugs may pass when the cover is turned so as to lock the cover in place, the parts being so proportioned that the filler must be compressed until the cover engages with the surrounding portion of the receptacle before the cover can be turned sufficiently to bring the lugs into the afore-said branch openings.

In testimony whereof, I sign this specification in the presence of two witnesses.

GEORGE E. BOLTON.

Witnesses:

VINCENT P. DOLE,
WM. F. FREUDENREICH.