

No. 734,459.

PATENTED JULY 21, 1903.

G. H. GILLETTE.
BOTTLE SEALING DEVICE.
APPLICATION FILED APR. 22, 1903.

NO MODEL.

Fig. 1.

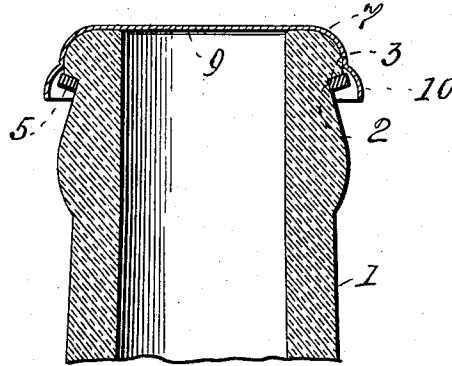


Fig. 2.

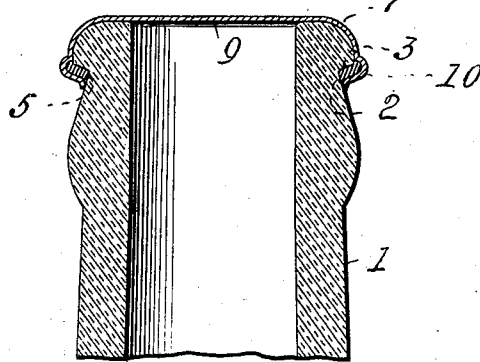
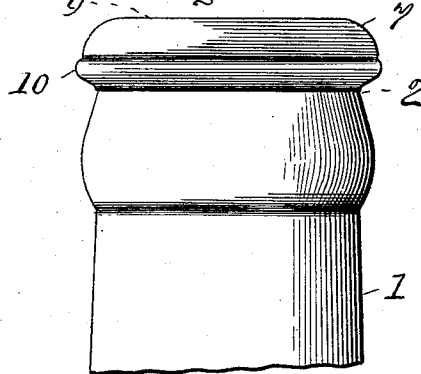


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

GEORGE H. GILLETTE, OF NEW YORK, N. Y., ASSIGNOR TO ALUMINUM BOTTLE CAP COMPANY, A CORPORATION OF MAINE.

BOTTLE-SEALING DEVICE.

SPECIFICATION forming part of Letters Patent No. 734,459, dated July 21, 1903.

Application filed April 22, 1903. Serial No. 153,783. (No model.)

To all whom it may concern:

Be it known that I, GEORGE HERMAN GILLETTE, of the city, county, and State of New York, have invented certain Improvements in Bottle-Sealing Devices, of which the following is a specification.

This invention consists in combining with a bottle having a circumferentially-projecting head, or such head with an annular groove therein whereby a circumferential shoulder is produced, a compressible packing ring or gasket which is placed under the head or in the annular groove, and a sealing-cap comprising a crown and an annular dependent flange the edge of which is turned in and upon the said packing-ring to form a tight joint.

It further consists in a peculiar construction of the flange of the cap whereby it may be placed over the said packing-ring without disturbing it in the preliminary operation of forming the joint in the capping operation, all of which will hereinafter fully appear.

In the further description of the said invention which follows reference is made to the accompanying drawings, forming a part hereof, and in which—

Figure 1 is a central vertical section of a bottle-head of ordinary description provided with a packing-ring and a cap in accordance with present invention and illustrating the relative positions of the packing-ring and cap before the edge of the flange of the latter is turned in to complete the joint in the capping operation. Fig. 2 is a similar view illustrating the condition of the cap and the packing-ring after the joint is completed. Fig. 3 is an exterior view of Fig. 2.

Referring now to the drawings, 1 is a bottle-head having a circumferential groove 2, whereby an annular shoulder 3 is produced. The bottle-head is of well-known description. Within the annular groove 2 and immediately under the shoulder 3 is placed an elastic compressible packing-ring 5, preferably of rubber.

7 is the sealing-cap, comprising a disk forming the crown 9 and the dependent flange 10. By preference the cap is made from thin sheet-aluminium, for the reason that that

metal is easily worked, is innocuous, and may be readily cut with a knife. It is intended that the inner surface of the crown of the cap shall come in direct contact with the bottle-lip; but I do not debar myself from employing a varnish or even a lining for the cap-crown if such should prove an advantage. The flange 10 adjacent to the crown 9 partakes of the shape of the exterior lip of the bottle, and either fits the same when first applied to the bottle or is made to conform to its contour in the capping operation hereinafter described.

In the bottle-head shown in the drawings the annular groove 2 is hardly as deep as the thickness or width of the packing-ring. That device will therefore project slightly beyond the shoulder 3 formed by the groove 2.

It is evident that should a cap with a flange of practically the same diameter as the exterior lip of the bottle or the portion of the head above the groove be placed over the packing-ring that device would likely be displaced—that is to say, it would be pushed or rolled down out of the groove. I therefore give to the cap-flange an outward flare, so as to increase its diameter at the edge and allow it to pass over the packing-ring without touching it, and to effect this and still make the portion of the flange adjacent to the crown conform to the shape of the exterior lip of the bottle I limit the depth of the flared portion of the flange or flare that part of the flange only which is to pass over the packing-ring, as shown in the drawings.

The capping operation consists in placing the packing-ring under the shoulder of the bottle-head, then placing the cap over the bottle-head and packing-ring, and while the cap is held tightly in place turning in the edge of the flange under the packing-ring so as to compress it against the under surface of the shoulder. The packing-ring may be applied to the bottle-head by hand or by mechanical means, and it is my intention to file an application for patent for a machine whereby the packing-rings are placed in position on bottles mechanically, the operation to be performed in connection with that of turning in the edge of the flange to complete the joint. It will be understood that with a

joint formed as described pressure in the bottle, which has a tendency to raise the crown of the cap from the bottle-lip, will not loosen the joint, but rather tighten it, for the reason that any upward movement of the in-
5 turned edge of the flange increases the compression of the packing-ring.

To open the bottle, the cap may be removed by any suitable tool; but should the cap be
10 formed of thin sheet-aluminium, which is the preferred material, the crown of the cap may be cut out by means of a knife at its junction with the bottle-lip and a clear orifice for the passage of the contents of the bottle there-
15 by effected.

I claim as my invention—

1. In combination with a bottle having a head with an external annular shoulder, and a packing-ring situated under the said shoulder,
20 a flanged disk adapted to be placed over

the head of the bottle and the packing-ring, and the flange of the disk turned in, and under the packing-ring and thereby compress the same against the under side of the shoulder, substantially as, and for the purpose
25 specified.

2. In combination with a bottle-head having a circumferential shoulder and a packing-ring situated under the shoulder, a cap for the same comprising a crown which con-
30 forms to the contour of the exterior lip of the bottle-head, and a dependent flaring flange adapted to be placed over the head and its edge turned in under the packing-ring to compress the same against the under side of
35 the shoulder, substantially as specified.

GEORGE H. GILLETTE.

Witnesses:

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