G. H. GILLETTE.

PROCESS OF MAKING BOTTLE SEALS.

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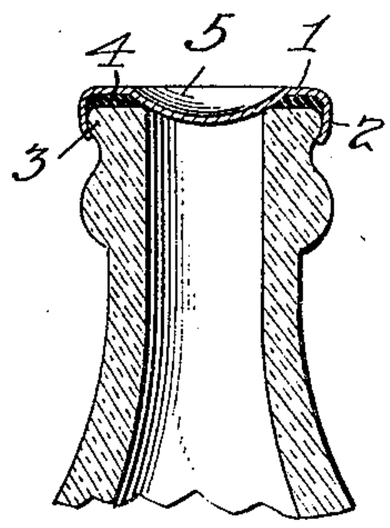
934,399. Patented Sept. 14, 1909.



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UNITED STATES PATENT OFFICE.

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PROCESS OF MAKING BOTTLE-SEALS.

934,399. Specification of Letters Patent. Patented Sept. 14, 1909.

Original application filed September 30, 1902, Serial No. 125,396. Renewed May 18, 1904, Serial No. 208,559. Divided and this application filed October 29, 1904. Serial No. 230,583.

To all whom it may concern:

Be it known that I, GEORGE H. GILLETTE, a citizen of the United States, residing at New York, N. Y., have invented certain new and useful Improvements in Processes of Making Bottle-Seals, of which the following is a specification.

The invention relates to the form of bottle seal comprising a cap of sheet metal locked to the head of the bottle by a flange on the cap bent under a shoulder on the exterior of the bottle.

The bottle seal produced by my method consists of a cap of sheet metal having a flange locked to a shoulder on the exterior of the bottle with packing material interposed between said cap and the bottle, said cap having a depressed concave center entering the mouth of the bottle, and my invention consists in the process of applying the cap and giving it the form just mentioned.

The accompanying drawing illustrates the head of a bottle in section with the cap applied according to my invention.

The seal as shown in the drawing consists of a sheet metal cap 1 extending across the bottle mouth and lip and having a depending flange 2 which is locked to the exterior of the bottle by being bent into locking engagement with the shoulder 3 on the bottle head. Suitable packing is interposed between the cap and the bottle as indicated at 4 and the center of the cap is depressed as at 5 into the bottle mouth. This depressed center is of concave form and is in direct contact with the glass within the mouth of the bottle at a point inside of the line of the gasket. One effect of this is to keep the contents of the bottle away from the gasket to prevent the action of the acids thereon which the liquid contents may contain, and another effect is to insure a proper compression of the packing and its firm contact with the bottle and with the cap. It will be noticed that the diameter of the concave or depressed portion is slightly larger than that of the mouth of the bottle and this construction causes a part of the metal portion of the center to extend over or across the inner corner of the bottle lip to contact therewith and at the same time the packing is subjected to both a downward and an outward compressing action causing it to seat itself closely upon the lip of the bottle.

In making a seal of the form just described, I first apply the closure to the bottle in the form of a plain cap and then I lock the flange to the shoulder on the bottle and also force the central part of the cap down into the bottle mouth to make the depression and to cause the metal to contact closely with the glass at a point within the line of the gasket or packing material. In other words, I apply pressure to the flange of the cap to lock it into connection with the shoulder on the bottle and I also apply pressure to the center of the cap to cause the sealing effect to be augmented at this point by compressing the packing as shown at or near the inner corner of the bottle lip and causing the metal to contact with the glass at a point within the line of the gasket. The locking of the flange and depressing of the center of the cap takes place simultaneously.

A bottle seal of the form described renders it possible to apply the cap and form the depression by a spinning action the flange being spun under the shoulder on the bottle and the center being spun into firm contact with the glass and spun also down upon the packing having thereon an effect akin to a wiping action securing a maximum compression at the inner edge of the packing.

The present invention is a division of that disclosed in an application for Letters Patent of the United States, filed by me September 30, 1902 #125396, renewed May 18th 1904 #208559, patented December 20, 1904 #777784.

I claim as my invention:—

1. The hereindescribed process of applying metallic sealing caps to bottles having exterior shoulders and with packing material interposed between the cap and the lip of the bottle, consisting in locking the flange of the metallic cap beneath the shoulder on the bottle and subjecting the cap to external pressure exerted vertically within the bottle mouth to a point below the upper edge of the bottle lip to compress the packing on the bottle lip, the metal being of sufficient rigidity to maintain the shape in which it is pressed.

2. The hereindescribed process of applying metallic sealing caps to bottles with packing material interposed between the cap and bottle lip consisting in placing a

cap over the bottle mouth, locking the exterior to the bottle and forcing the central part of the cap down into the bottle mouth to form a depressed center and compress the packing on the bottle lip, the metal being of sufficient rigidity to maintain the shape into which it is pressed, substantially as described.

3. The hereindescribed process of applying sealing caps to bottles consisting in placing a cap over the bottle mouth; locking the cap to the exterior of the bottle and spinning the central part of the cap into the mouth of the bottle to form a depressed center, substantially as described.

4. The hereindescribed process of applying sealing caps to bottles consisting in placing a cap over the bottle mouth; locking the cap to the exterior of the bottle by spinning, and simultaneously spinning the central part of the cap into the mouth of the bottle to form a depressed center, substantially as described.

5. The herein described process of applying sealing caps to bottles consisting in locking the metal of the cap to the exterior of the bottle and simultaneously forcing downwardly the metal at or near the edge of the bottle mouth to compress the packing.

6. The herein described process of applying sealing caps consisting in locking the cap to the exterior of the bottle and forcing the metal downwardly throughout an area greater than that of the bottle mouth to compress the packing on the bottle lip, the metal of the cap being of sufficient rigidity to maintain the shape into which it is pressed, substantially as described.

7. The herein described process consisting in locking the cap to the exterior of the bottle and depressing the center to compress the inner edges of the packing on the bottle lip, and to contact with the glass at the inner edge of the bottle lip, the metal of the cap being of sufficient rigidity to maintain the shape into which it is pressed, substantially as described.

GEORGE H. GILLETTE.

Witnesses:
CHAS. H. WHITE,
HAROLD LETH.