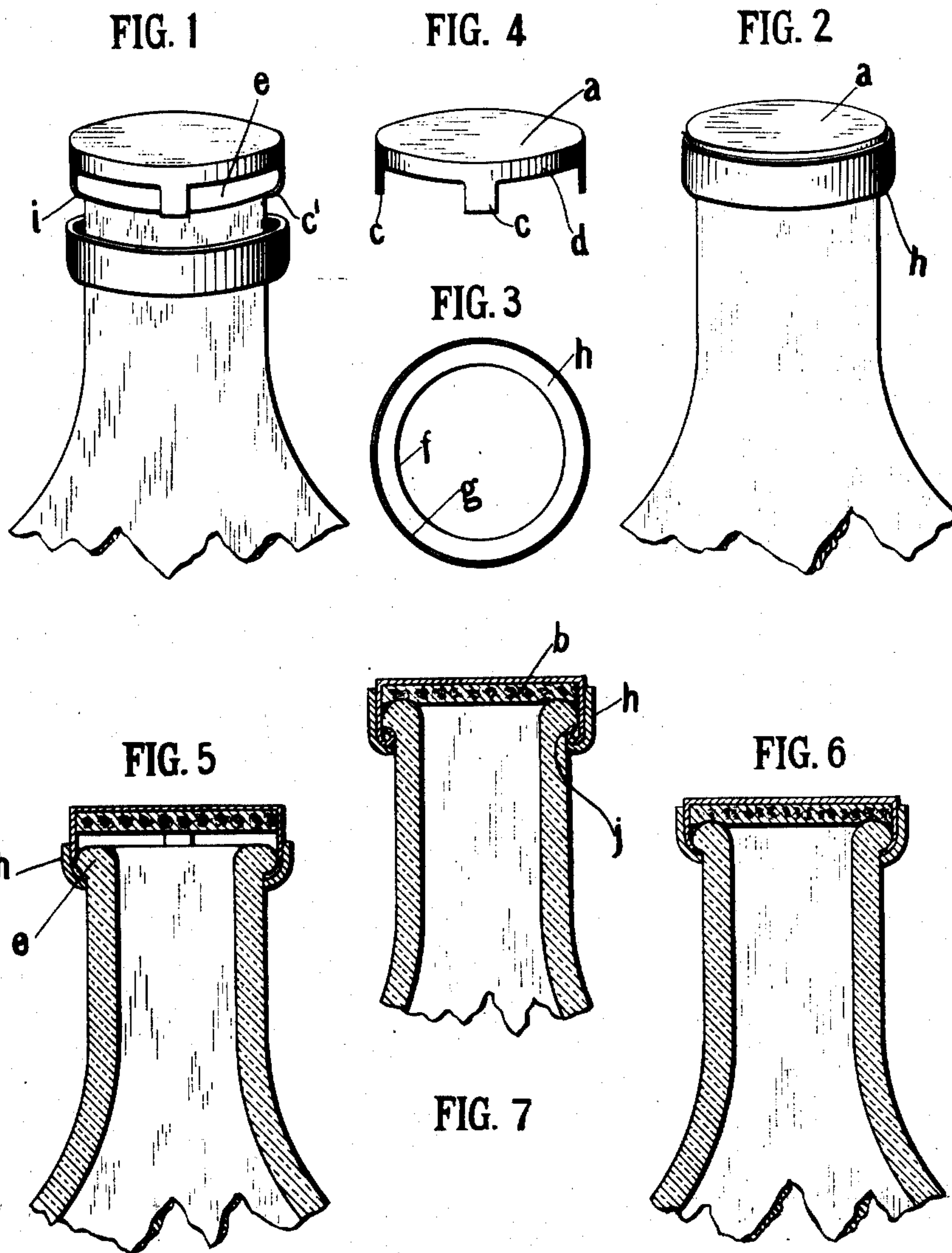


No. 864,757.

PATENTED AUG. 27, 1907.

W. F. PURCELL.
BOTTLE CLOSURE.

APPLICATION FILED OCT. 4, 1906.



Witnesses
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UNITED STATES PATENT OFFICE.

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BOTTLE-CLOSURE.

No. 864,757.

Specification of Letters Patent.

Patented Aug. 27, 1907.

Application filed October 4, 1906. Serial No. 337,353.

To all whom it may concern:

Be it known that I, WILLIAM F. PURCELL, a citizen of the United States, residing in the borough of Brooklyn, county of Kings, State of New York, have invented certain new and useful Improvements in Bottle-Closures of which the following is a specification.

This invention comprises a new form of closure for bottles, jars or similar vessels wherein the sealing device is formed with a plurality of fingers adapted to engage a shoulder on the outside of the bottle neck or head, and are retained in locking engagement therewith by a retaining device permanently mounted upon the bottle and movable longitudinally thereon to lock the retaining fingers in engagement with the bottle shoulder or to release them to permit removal of the sealing device.

Figure 1 is a perspective view illustrating one form of the invention with the retaining device, that is permanently connected with the bottle, out of engagement with the retaining fingers. Fig. 2 is a similar view with the retaining device embracing the seal retaining fingers. Fig. 3 is a plan of the retaining ring or device; Fig. 4, a perspective view of one form of the sealing device; Figs. 5 and 6 are sectional views showing the position of the parts before and after the sealing device is pressed into position. Fig. 7, a similar view showing a slight modification in it.

The sealing device comprises a metal plate *a* beneath which is located a sealing washer *b*, of cork or other appropriate material, and from the edges of which, and at an angle (at or about right angles) to the plane of which, extend retaining fingers *c*. Preferably, this plate is provided also with a flange *d* making it a cup-like structure within which the sealing disk is seated and from which the parallel retaining fingers project.

In Fig. 1, the ends of these fingers are set inwardly, as indicated at *i*, so that when the device is pressed over the head of a bottle, such as shown in Figs. 5 and 6, the fingers will be expanded somewhat and, re-acting, engage the under side of a shoulder *e* on the outside of the bottle head. Around the bottle, below this shoulder, is a continuous retaining device embracing and conforming to the shape of the bottle. The diameter across its lower edge *f* is such as to loosely fit around the bottle and be capable of up and down movement longitudinally of the bottle. The diameter across its upper edge *g* is greater and is such that, when this retaining device (designated by the letter *h*) is pushed upwardly, it embraces and clamps the retaining fingers in their position of engagement with the shoulder *e*. By slipping the ring or retaining device *h* downwardly out of en-

gagement with the fingers, the sealing device may be removed and may readily be replaced and again locked.

Figs. 5 and 6 show the retaining ring or device *h* as of somewhat heavier metal than that of which the sealing device is made. In this case, the sealing device is of the construction shown in Fig. 4. If the ring *h* be held up and the sealing device forced down until the washer seats upon the end of the bottle head, the fingers *c* will be guided or deflected so as to pass under and engage the shoulder *e* on the bottle, the ring in this case acting as a die. The final position of the parts is shown in Fig. 6. In this case, the sealing device may be removed and re-placed as described.

In Fig. 7, the retaining fingers are of somewhat greater length than in Figs. 5 and 6 and the shoulder on the bottle is preferably concavely curved as shown at *j*. When the ring *h* is held up in the position indicated and the sealing device is forced down, the fingers will be deflected and curled inwardly at their lower ends and closely engage the curved shoulder of the bottle. In this construction, also, the seal may readily be removed and replaced.

The drawing shows what may properly be described as a bottle having a neck of reduced diameter which, as usual, is circular in cross section. The invention, however, is not limited to vessels of this particular shape nor to devices of circular formation. The shape of the cap and of the retaining ring should conform to the cross section of the part of the vessel to which it is applied.

I claim as my invention:

1. The combination with a vessel having an external shoulder around and adjacent its mouth and a seal retaining ring permanently mounted on the vessel below the shoulder and movable longitudinally of the vessel, of a sealing device having a plurality of fingers adapted to engage said shoulder and to be held in locking engagement therewith by the ring.

2. A bottle having an annular external shoulder adjacent its mouth, a metal ring permanently mounted on the bottle below the shoulder, its diameter across its lower edge being less, and its diameter across its upper edge being greater, than the diameter through the shoulder on the bottle combined with a sealing device having a plurality of retaining fingers adapted, when the device is pressed upon the bottle mouth, to pass between the ring and the shoulder on the bottle and to be deflected by the former into engagement with the under side of the shoulder.

In testimony whereof, I have hereunto subscribed my name.

WILLIAM F. PURCELL.

Witnesses:

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