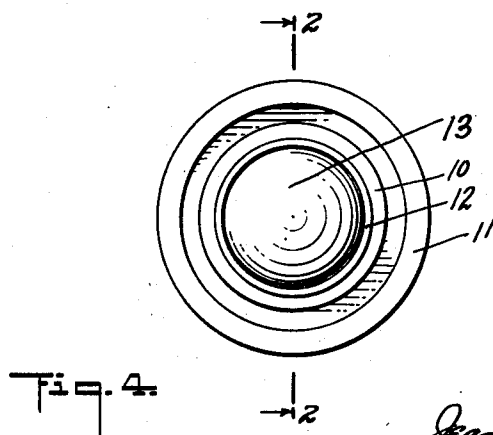
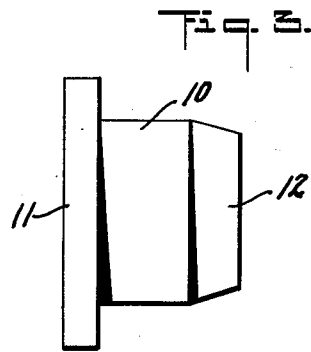
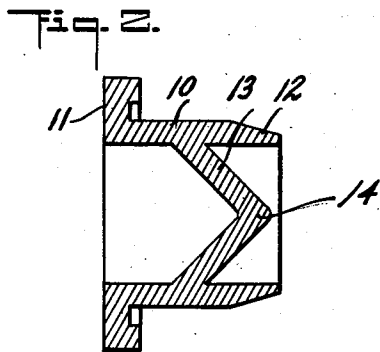
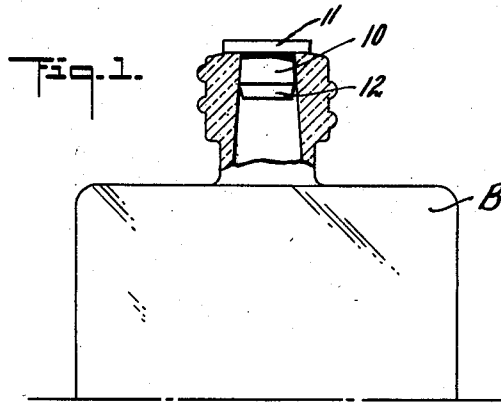


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J. R. L. MARTIN
BOTTLE SEALING DEVICE
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BOTTLE SEALING DEVICE

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2 Claims. (Cl. 215—47)

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This invention relates to bottle sealing devices. Perfume bottles or the like are generally provided with a decorative cap so that the user of the perfume may have access thereto. This cap is generally unfit for producing an effective seal as otherwise it would be difficult for the user to apply and remove it. Accordingly, the practice by producers of bottled perfume is to insert a temporary sealing device which serves from the time the package is assembled until first use by the consumer. Such a sealing device remains in place during transit and during the shelf life of the article. In general, after the first removal thereof, it is discarded, although in the present invention, it may be used throughout the life of the article, if desired.

It has been difficult to provide a sealing device which effectively prevents leaking of fluid and without requiring complicated assembling techniques. The present invention provides an extremely simple form of sealing member which has been found to perform its functions with extreme effectiveness.

The sealing member of the instant invention takes the form of a one-piece resilient plastic stopper having a substantially hollow body and wherein an integral portion of the device performs a spring function in urging the body into its normal shape in every direction. Accordingly, the stopper effects firm sealing contact with the inner walls of the bottle mouth notwithstanding irregularities in the shape of such mouth. The device may be removed by the consumer without great difficulty and it may be replaced when desired.

The invention will be further understood from the following description and drawings in which:

Fig. 1 is an elevational view of the sealing member showing its application to the mouth of a bottle.

Fig. 2 is a cross-sectional view taken along the lines 2—2 of Fig. 4.

Fig. 3 is a side elevational view of the device.

Fig. 4 is a bottom plan view thereof.

The article takes the form of a stopper having a body 10 and a shoulder 11. It is preferably fabricated of a resilient plastic material. For example, it has been found that polyethylene is a very satisfactory material for this purpose. Polyethylene can be fabricated so as to be resilient and it is largely inert and non-absorbent so as not to be affected by the liquid perfume in the bottle B. The leading end 12 of the body (referring to its introduction into the body mouth) is tapered or beveled inwardly so as to

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be of lesser diameter than the remainder of the body.

Body 10 is substantially hollow and thin-walled as shown and an interior spring member is formed therein. This spring member takes the form of a cone 13 the rim of which connects to the inner wall of body 10 by being integral therewith. The apex 14 of the cone terminates just short of the leading edge of the body. Cone 13 appears as a depression when viewed from the top of the device as illustrated in Fig. 4. It is circular in cross-section and, being of a resilient material, tends to push outwardly upon the inner walls of body 10 in response to a compressive force on the outer walls. Since cone 13 is circular, its action is effective in all directions.

The sealing member or stopper is applied to bottle B by introducing its leading or beveled end 12 into the mouth of the bottle and pressing upon it. Bottles as presently manufactured have the neck opening tapering slightly toward the mouth. Some times a slight lip on the mouth causes it to be narrower in diameter, but in any event, the necks of such bottles are rarely perfectly cylindrical. When the body 10 is pushed inwardly, it conforms to the shape of the neck or mouth regardless of its formation, whether tapered or cylindrical. Conical spring member 13 effectively urges body 10 radially outwardly in all directions so as to perform an extremely efficient sealing function.

The device is removed by inserting a finger nail or other object below the shoulder 11 and lifting upwardly. It is of extreme simplicity as far as manufacture and assembly with the bottle are concerned. It is molded in one piece of resilient plastic material and is applied by a most simple procedure as described above. The hollow spring member, although shown as coming to a point, may be rounded off or may be spherical or arcuate in cross section as will be evident. It is the divergent sides from the center line thereof which create the spring action. The top of the spring member is integrally connected at about the center of body 10 and, as will be apparent, it may well be reversed in that the apex 14 may extend toward the top instead of the bottom end.

While there has been shown what at present is considered a preferred embodiment of the invention, it will be evident that many changes and modifications may be made therein without departing from its spirit. It is therefore aimed in the appended claims to cover all such changes and modifications which fall within the true spirit and scope of the invention.

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What is claimed is:

1. A bottle mouth sealing device comprising a substantially hollow tubular body of resilient plastic material, a shoulder formed adjacent one end of said body, and a hollow substantially conical member having its rim integrally joined with the inner wall of said body at approximately the center of said inner wall and the apex extending toward an end of said body, said conical member being of resilient plastic material so as to exert an outward thrust against said inner wall of said body in response to a compressive action against the outer wall of said body when said body is inserted into the opening of a bottle mouth.

2. A bottle mouth sealing device comprising a substantially hollow, tubular body of resilient plastic material, and a conical spring member formed internally of said body, said conical member having its rim integral with the inner wall of said body at approximately the center of the

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body and having its apex extending toward one end of the body, said conical member being formed of the same resilient plastic material as said body so as to exert an outward thrust against said inner wall of said body in response to a compressive action against the outer wall of said body when said body is inserted into the opening of a bottle mouth.

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