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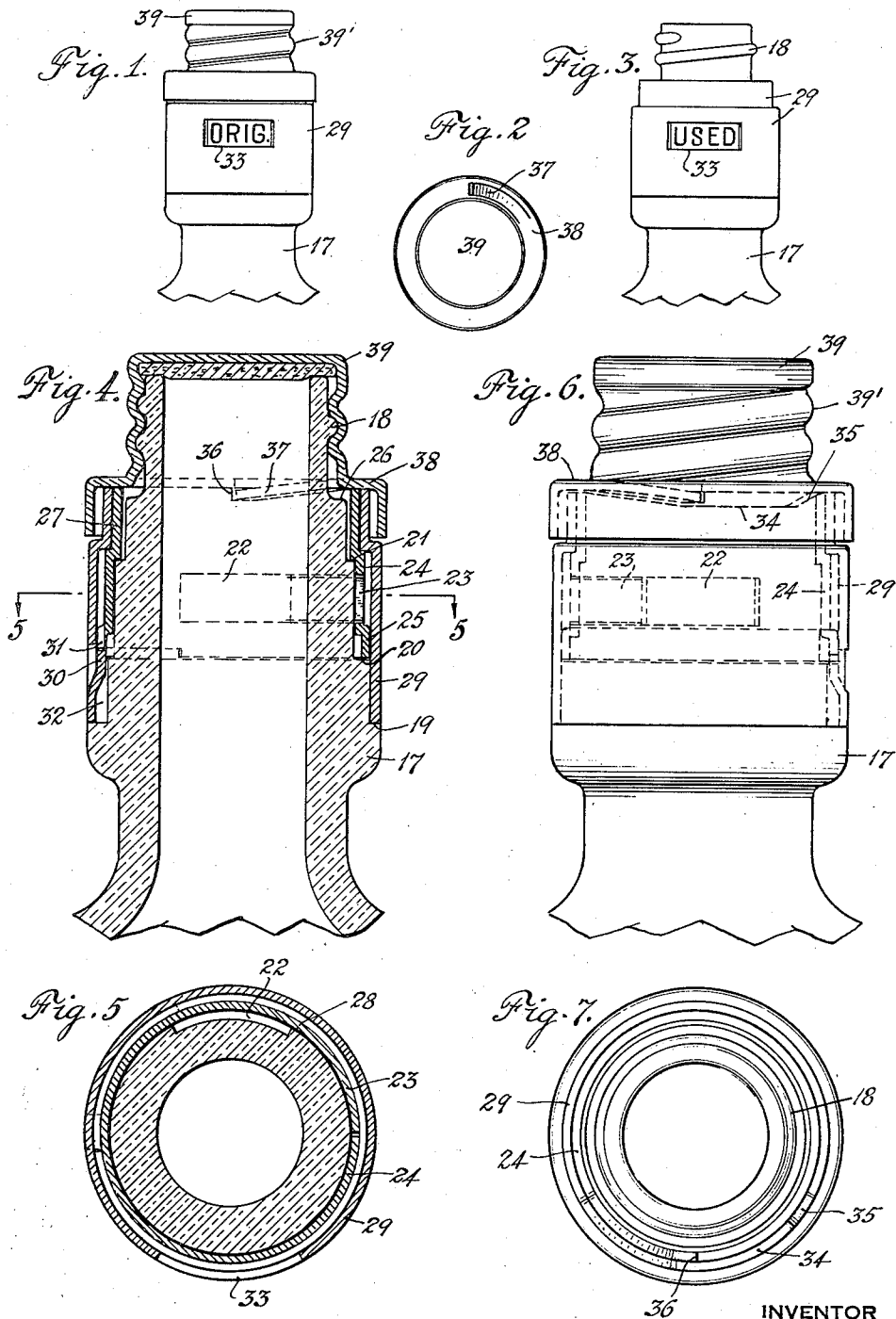
M. SAMBURG

2,201,205

TAMPERPROOF CLOSURE

Filed April 8, 1938

2 Sheets-Sheet 1



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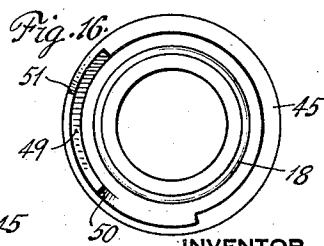
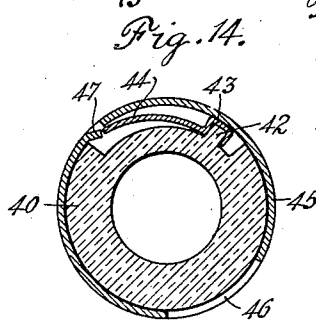
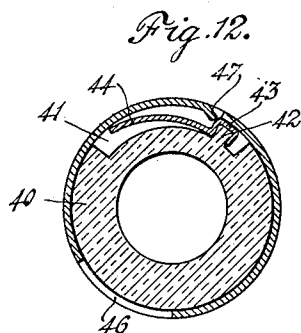
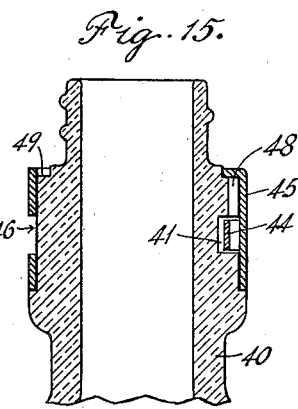
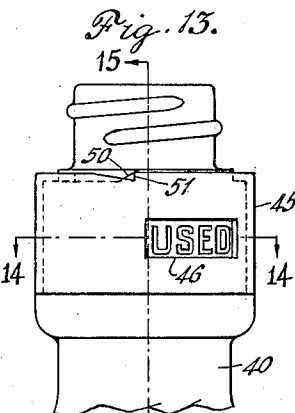
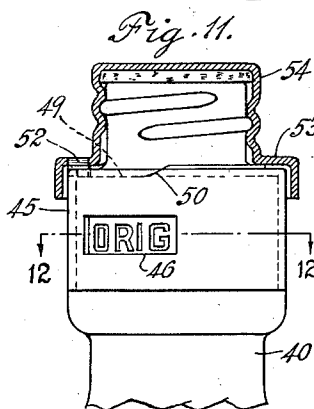
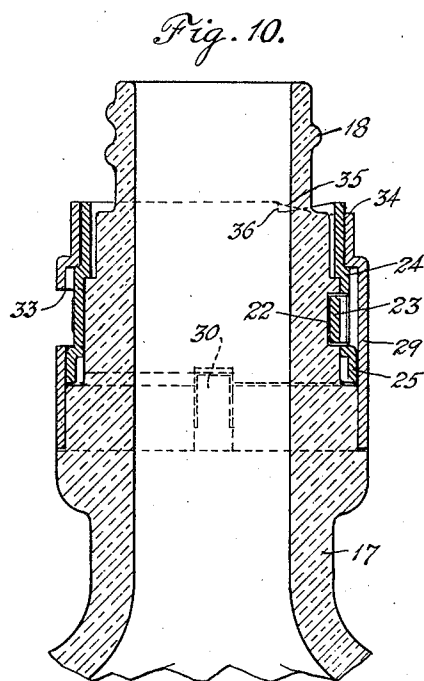
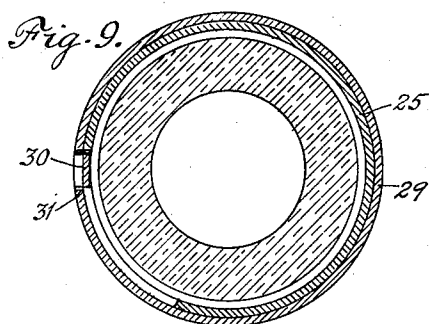
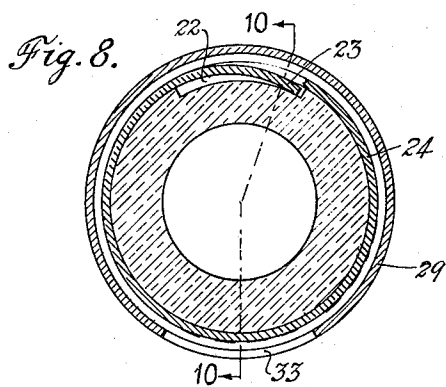
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TAMPERPROOF CLOSURE

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2 Sheets-Sheet 2



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TAMPERPROOF CLOSURE

Maurice Samburg, New York, N. Y.

Application April 8, 1938, Serial No. 200,839

18 Claims. (Cl. 215-7)

The invention relates to a closure structure for bottles and the like, particularly containers of glass conventionally used as containers for spiritual liquors or other liquids, for instance, perfumes and the like.

Distillers of liquor who bottle and market such beverages or perfume manufacturers selling high-priced perfumes under trade-marks of considerable value and whose products are identified by the public by such trade-mark or a distinctive label, are faced with the serious problem of preventing the refilling of bottles in which their products were originally sold, by products of inferior quality or of a different brand. There has been no means previously devised for protecting either the public or the manufacturer from this practice. For instance, manufacturers are subject to the loss of valuable good-will and a great deal of business by the illegal practice of unscrupulous persons in refilling the bottle of the manufacturer after the original contents thereof have been dispensed, for instance, in the case of spiritual liquors, at bars of restaurants and other establishments, one form of such practice being for the unscrupulous person to buy up empty bottles of a particular distiller and to refill them with a product of inferior grade and therefore of cheaper price and to recap and resell such bottles thus filled. Loss of a large amount of revenue from taxes by governments, both State and Federal, is also incurred when such practice is carried out, as no stamp or band, evidencing the payment of tax is affixed to such refilled container.

One of the objects of the present invention is to prevent this practice by providing a bottle which, so long as it is filled with its original contents, indicates such fact by the appearance of a legend, for instance, the word "original" upon a tamper-proof type of closure provided upon the bottle. In accordance with my invention, I provide a construction of bottle closure which is tamper-proof to the extent that the word "original" or other similar indicating legend, appears clearly upon the closure so long as the original contents of the bottle have not been dispensed, in part or in whole. As soon as the bottle has been opened, for instance, by the removal of the original cap therefrom, the closure member is necessarily rotated in such manner as to bring into view another legend, for instance, the word "used," indicating that the bottle has been opened, that it is no longer in its original condition in which it was shipped from the establishment of the distill-

er, and that at least a part of its original content of liquid has been removed from the bottle.

In accordance with my invention, I accomplish these objects by providing a container, such as a glass bottle, with a construction of the neck of the glass bottle which has been slightly modified from the conventional glass neck of a bottle, so as to be adapted to receive a metal or other closure member and a cap which cooperate with the modified form of glass neck in such manner as to indicate, immediately upon the unscrewing of the cap, the fact that the bottle has been opened. In this manner, anyone handling the bottle so opened, is immediately apprised of that fact. My novel construction is such that it is impossible, after the bottle has been opened and the word "used" brought to appear on the closure member, to again bring it to a condition in which the word "original" could appear. In other words, my novel construction of closure member or band provides an insurance that once the bottle has been opened such factor is permanently evident and any refilling of the bottle with liquid of inferior quality or of a different origin would be brought to the attention of the purchaser or user.

In one form of my invention, my novel construction embodies the use of two sleeve members constituting elements of the novel structure of closure member with a system of slots and tongues disposed for cooperative engagement by one sleeve or the other and by an element carried by the cap of the bottle which causes movement of one of the sleeves in one direction upon the removal of the cap so as to bring into view the notation indicating that the bottle has been opened, which notation becomes visible through an aperture or window in the outer sleeve. In another form of my invention, I make use of a single sleeve member, cooperating, in substantially like manner, with a tongue or spring member anchored directly to the glass neck of the bottle.

Various structural features embodied in my novel construction of closure will be pointed out in conjunction with the description of two embodiments of my inventive structure illustrated in the accompanying drawings.

In such drawings, Fig. 1 is a front view of the upper portion of the glass neck of the bottle with the metal cap in position thereon and showing the bottle in its condition of its original content; Fig. 2 is a bottom view of the metal cap; Fig. 3 is a front view of the bottle neck and closure with the cap removed therefrom indicat-

ing that the bottle has been opened by the appearance of the notation "used" in the window of the closure member; Fig. 4 is a vertical section through the neck of the bottle and through the various elements of the closure member; Fig. 5 is a section on the line 5—5 of Fig. 4; Fig. 6 is an outside view of the bottle closure; Fig. 7 is a plan view of the closure in the position thereof shown in Fig. 6; Fig. 8 is a horizontal section similar to Fig. 5 but showing the parts in a different position, i. e. after rotation of the inner sleeve member by the bottle cap; Fig. 9 is a horizontal section showing the position of the parts on still further rotation; Fig. 10 is a vertical section along lines 10—10 of Fig. 8; Fig. 11 is a partial section through the closure of a modified form; Fig. 12 is a section on the line 12—12 of Fig. 11; Fig. 13 illustrates the modified form of closure member after removal of the cap; Fig. 14 is a section on the line 14—14 of Fig. 13; Fig. 15 is a section on the line 15—15 of Fig. 13; and Fig. 16 is a plan view of the closure member with the cap removed as shown in Fig. 15.

Referring more particularly to the drawings, in which similar reference characters identify similar parts in the several views, 17 designates the neck of a glass bottle or container, which is provided near its upper extremity with the usual threading 18. The neck 17 is conveniently formed with a series of peripheral shoulders 19, 20 and 21. In the peripheral surface of the neck, lying between the shoulders 20 and 21, there is formed a slot 22 of a depth sufficient to accommodate a tongue 23, cut from the surface of a sleeve 24 of metal mounted for rotation upon the shoulder 20 of the bottle neck by flange 25. The sleeve 24 extends upwardly to a point above the shoulder 26, its upper portion 27 being of somewhat smaller diameter than the body of the sleeve. The tongue 23 is adapted to be flexed about its pivot 23 to cause the tongue to enter the slot 22 as hereinafter more fully explained.

Surrounding the sleeve 24 is an outer sleeve 25, also of metal, seated upon the shoulder 19 and extending upwardly to a point beyond the shoulder 21, and thence inwardly into contact with the inner sleeve 24 and again upwardly to the upper extremity of said inner sleeve. At one point along the bottom peripheral portion of the sleeve 25, a tongue 30 is cut therein which, upon rotation of the sleeve, as hereinafter described, enters a slot 31 extending along the lower peripheral edge of the inner sleeve. For accommodating such tongue 30, a slot 32 is provided in the glass neck. The sleeve 25 is provided with a peripheral window 33 through which the legend "Orig." or "Used," printed, lithographed, or otherwise produced, upon the outer surface of the inner sleeve 24 will appear, as hereinafter described.

The upper peripheral edge of the outer sleeve 25 is cut to provide a cam surface 34 having a rise 35, while the upper peripheral edge of the inner sleeve 24 is provided with a notch 36. Into this notch is adapted to enter and abut against the upstanding edge thereof, a tongue 37 cut and depressed, from the horizontal annular surface 38 of a metal cap 39 having threads 40 cooperating, when the cap is screwed onto the upper end of the bottle neck, with the threads 18 thereof. The engagement of such edge of the notch 36 by the tongue 37 occurs, as will be pointed out hereinafter, after the cap has been placed in position, the tongue being free to ride up the rise 35, and when the cap is rotated in

the opposite direction (to remove the same). Engagement of the edge of notch 36 by the tongue 37 will then cause rotation of the inner sleeve 24 to bring the legend "Used" opposite the aperture 33 in the outer sleeve 25.

In the modified form of my inventive structure, illustrated in Figs. 11 to 16, inclusive, the neck 40 of a glass bottle is provided with a peripheral slot 41 having a projection or post 42 extending thereinto near one end of the slot, a metal spring being anchored at one end 43 about said post, the free end 44 of the spring extending within and along the length of the slot. In this form of my inventive structure, a single sleeve 45 is used in which, at a point conveniently substantially diametrically opposite the aperture 46 in the sleeve, there is provided a tongue 47 cut, and depressed, from the peripheral surface of the sleeve, which tongue, upon rotation of the sleeve, as hereinafter described is abutted by the free end of the spring 44. The glass neck, extending above the slot 41, between the post 42 and the free end of the spring 44, may be provided with a notch 48 to permit the sleeve to be placed in position by the passage, through such notch, of the inwardly extending tongue 47, or such tongue, after being cut, may be depressed from the peripheral surface of the sleeve after the latter has been positioned upon the glass neck.

The upper peripheral edge of the sleeve 45 of this modified form is provided with a cam surface 49 having a rise 50 and an abrupt edge 51, against which latter a depressed tongue 52, cut from the horizontal annular portion 53 of the cap 54, is adapted to abut and cause rotation of the sleeve 45 to bring the aperture thereof opposite the legend "Used," when the cap is turned for removal from the bottle neck.

While I have described particular embodiments of my invention, it is obvious that various changes therein, particularly in the configuration and arrangement of the several elements thereof, may be made without departing from my invention as circumscribed by the following claims.

I claim:

1. A closure structure for a container having an elongated neck, comprising an opaque band surrounding said neck, a symbol on the container neck covered by said band in one position thereof and indicating that the container has been opened, a closure member, and means associated with said closure member and said band to bring the symbol on the container neck into visibility.

2. A closure structure for bottles and the like comprising a neck extending from the container, at least one band surrounding a portion of said neck, a symbol indicating that the bottle has not been opened or tampered with, and a second symbol, not visible, indicating that the bottle has been opened or tampered with, a cap for the bottle, and means cooperating with said cap and band to bring into visible position, the second, originally not visible, symbol, said means being inoperative to permit a resetting of such first symbol.

3. A closure structure as claimed in claim 1 in which the band is provided with a tongue cut from the surface thereof.

4. A closure structure as claimed in claim 1, in which said means comprises a tongue extended from the lower peripheral edge of the cap adapted to engage a notch on the upper peripheral edge of the band.

5. A closure structure as claimed in claim 1, in which the container neck is provided with a peripheral recess, a projection extending from a point within said recess, a resilient tongue member secured at one end to said projection and having the free end thereof adapted to engage an inwardly extending projection of the band.

6. A closure structure for a container having an elongated neck, comprising a sleeve surrounding a portion of said neck, an outer sleeve having an elongated aperture, a symbol upon the outer face of the inner sleeve, indicating the original position of such sleeve and therefore the unopened condition of the container, a second symbol upon the inner sleeve indicating a rotated position thereof, and a cap adapted for threaded engagement with the upper portion of the container neck having means, which upon rotation of the cap to open the container, rotates the inner sleeve to bring the second symbol thereon into registry with the aperture on the outer sleeve.

7. A closure structure as claimed in claim 6 in which the outer sleeve is provided with a slot and the inner sleeve is provided with a tongue cut from the surface thereof and adapted to be flexed into operative engagement with an end wall of the slot in said outer sleeve.

8. A closure structure as claimed in claim 6 in which the upper peripheral surface of the inner sleeve is provided with a vertical surface for engagement by the means upon the cap effecting rotation of such sleeve.

9. A closure structure as claimed in claim 6 in which the inner sleeve is provided with a tongue adapted to engage, upon rotation of said inner sleeve, a slot in the neck portion of the container.

10. A closure structure as claimed in claim 6, in which the means on said cap comprises a tongue extending from the lower peripheral edge thereof to engage a notch on the upper peripheral edge of the inner sleeve.

11. A closure structure for a container having an elongated neck, comprising a sleeve surrounding a portion of said neck and having an elongated aperture cut in the surface thereof, a symbol provided upon the outer face of the neck in registry with said aperture indicating the original position of such sleeve and therefore the unopened condition of the container, a second symbol provided upon the face neck indicating, when in registry with said aperture, a position of the sleeve upon rotation from its original position, and a cap in threaded engagement with

the upper portion of the container neck having means which upon rotation of the cap to open the container, rotates the sleeve to bring the second symbol thereon into registry with the aperture in the sleeve.

12. A closure structure as claimed in claim 11 in which the container neck has anchored thereon a spring member adapted to be flexed into abutting engagement of the free end thereof with an end wall of the slot in said sleeve.

13. A closure structure as claimed in claim 11 in which the upper peripheral surface of the sleeve is provided with a vertical surface for engagement by the means upon the cap effecting rotation of such sleeve.

14. A closure structure as claimed in claim 11, in which the means on said cap comprises a tongue extending from the lower peripheral edge thereof to engage a notch on the upper peripheral edge of the inner sleeve.

15. A closure structure as claimed in claim 11, in which the container neck is provided with a peripheral recess, a projection extending from a point within said recess, a resilient tongue member secured at one end to said projection and having the free end thereof adapted to engage an inwardly extending projection of the sleeve member.

16. A closure structure as claimed in claim 6, in which the neck portion is provided with a peripheral recess into which is adapted to enter upon rotation thereof, a tongue cut from the surface of the inner sleeve.

17. A closure structure for a glass bottle having an elongated neck, comprising an inner metal sleeve having a peripheral slot therein, an outer metal sleeve having a peripheral window, a lug projecting inwardly from said outer sleeve and a tongue secured to the inner sleeve and having a free end adapted to abut said lug upon rotation of the inner sleeve.

18. A closure structure for a glass bottle having an elongated neck, comprising an inner metal sleeve having a peripheral slot therein, an outer metal sleeve of greater length than said inner sleeve and having a horizontal elongated window, a lug projecting inwardly from said outer sleeve, and a tongue secured to the inner sleeve and having a free end adapted to abut said lug upon rotation of the inner sleeve, a cap for said bottle, the lower portion of which encompasses the upper edge portions of said sleeves and having means for rotating the inner sleeve in only one direction.

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