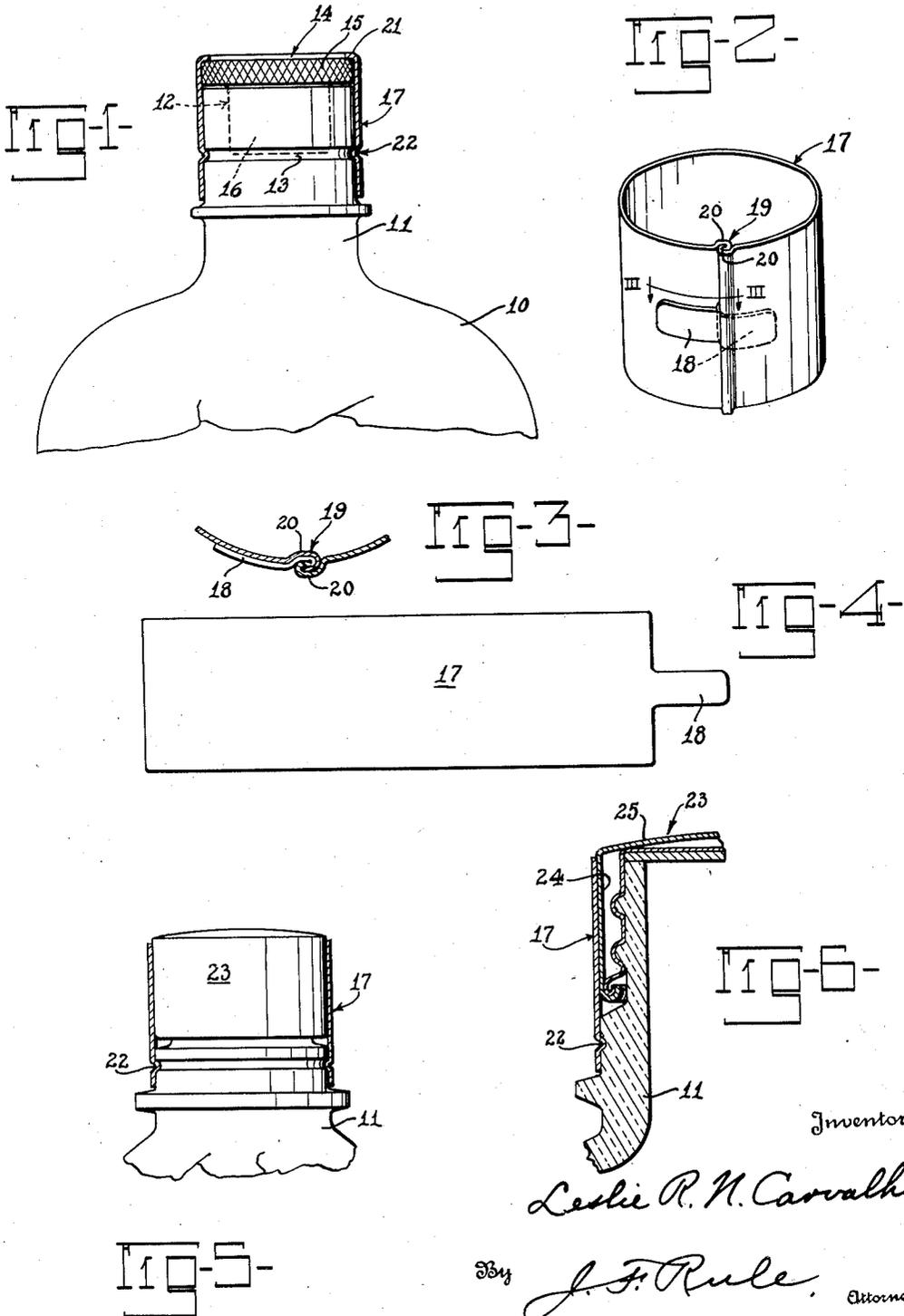


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TAMPERPROOF SEAL FOR BOTTLES

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TAMPERPROOF SEAL FOR BOTTLES

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6 Claims. (Cl. 215—95)

The present invention relates to improvements in "tamper proof" seals for bottles and the like containers.

An object of the present invention is the provision of effective means for preventing unauthorized removal and/or dilution of the contents of a bottle or like container without detection. To this end the invention consists of a metal band designed to encircle a portion of a bottle neck and the closure, the band having its ends so connected that after it has been once removed it cannot be replaced without clearly indicating that the package has been tampered with.

Other objects will be in part apparent and in part pointed out hereinafter.

In the drawing:

Fig. 1 is a fragmentary vertical sectional elevational view showing the invention in connection with a bottle neck.

Fig. 2 is a detail perspective view of the tamper proof seal or band.

Fig. 3 is a detail sectional view taken along the line III—III of Fig. 2.

Fig. 4 is a plan view of the "tamper proof" seal or band prior to rolling into tubular form.

Fig. 5 is a sectional elevational view showing the invention used in connection with a screw cap.

Fig. 6 is a fragmentary detail sectional view of the construction shown in Fig. 5.

In one adaptation of the invention (Figs. 1 to 4 inclusive) it is shown in connection with a bottle 10 having a neck 11, the neck as usual defining a filling and discharging opening 12. An external annular groove 13 or channel encircles the neck and provides an upwardly facing shoulder for a purpose which will be apparent presently.

The opening 12 is closed by means of a stopper 14 consisting of a disk-like head 15 and a depending plug 16. The "tamper proof" seal 17 or retaining band, by means of which the stopper is secured in sealing position, consists of an elongated light gauge metal strip such, for example as aluminum. At one end the strip is reduced in width to form a finger piece 18 which facilitates removal of the seal or band as will be apparent hereinafter.

The strip is rolled into tubular form and has its ends connected by means of a vertical seam 19 (Figs. 2 and 3), this seam being obtained by folding the end portions of the band upon themselves and providing fingers 20 or hooks for interlocking engagement with each other. The length of these fingers is such that once they are

separated after initial attachment of the band to a bottle, they cannot again be connected, at least without showing clearly that the package has been tampered with. Preparatory to applying the "tamper proof" seal to a bottle closed by means of a stopper (Fig. 1), the upper marginal portion of the strip is bent or turned at right angles to the main part to form a flange 21 which takes over the marginal areas of the head 15 of the stopper, it being understood that the ends of the band have already been connected as shown in Figs. 2 and 3. The band is then slipped over the neck and stopper and an intermediate portion 22 thereof is spun into the annular groove 13 or channel. Thus the seal or band is securely attached to the container. Removal of the seal is obtained by gripping the finger piece 18 and pulling it outwardly and perhaps circumferentially in a direction substantially opposite to that in which it normally extends. Such an operation opens the seam 19 and allows ready removal of the seal.

In Figs. 5 and 6 the seal is illustrated applied to a bottle which is closed by means of a metal screw cap 23. The seal or band in this instance may well terminate substantially at the juncture of the skirt 24 and top portion 25 or button instead of extending inwardly over the marginal areas of said top portion. In this connection it is obvious that removal of the cap must of necessity involve gripping of the skirt portion in unscrewing the cap and that with the band covering this skirt portion as shown in Figs. 5 and 6 a satisfactory grip or hold on the skirt cannot be obtained. It will also be noted that the exterior surface of the skirt 24 and the exterior surface of that portion of the neck immediately below the skirt are in substantially the same vertical plane. Thus the application of the seal or band is greatly facilitated and the appearance of the package as a whole is improved.

Modifications may be resorted to within the spirit and scope of the appended claims.

What I claim is:

1. In combination, a container having a neck defining a filling and discharging opening, a closure for the opening, a seal for securing the closure against movement, said seal comprising an elongated metal band encircling the neck and closure, a vertical seam connecting the ends of the band, and a finger piece formed integral with the band and providing means for opening the seam and removing the band.

2. In combination, a container having a neck defining a filling and discharging opening, a clo-

sure for the opening, a seal for securing the closure against movement, said seal comprising an elongated metal band encircling the neck and closure, a vertical seam connecting the ends of the band, and a finger piece formed integral with one end of the band and constituting an extension of a part of the seam, said finger piece providing means for opening the seam and removing the band.

3. In combination, a container having a neck defining a filling and discharging opening, a closure for the opening, a seal for securing the closure against movement, said seal comprising an elongated metal band encircling the neck and closure, a vertical seam connecting the ends of the band, and a finger piece constituting a reduced longitudinal extension at one end of the band providing means for opening the seam and removing the band.

4. In combination, a container having a neck defining a filling and discharging opening and an annular downwardly facing shoulder encircling the neck, a closure for the opening, a seal for securing the closure against movement, said seal comprising an elongated metal band encircling the neck and closure, and having an area intermediate its upper and lower ends contracted to take over said shoulder, a vertical seam connecting the ends of the band, and a finger piece formed integral with the band and providing means for opening the seam and removing said band.

5. In combination, a container having a neck defining a filling and discharging opening, a closure for the opening, a retaining band for securing the closure against movement lengthwise of the neck, said band comprising an elongated metal strip encircling the neck and closure, a vertical seam connecting the ends of the band and including interlocking hooks formed by folding the end portions of the strip upon themselves, and a finger piece providing means for opening the seam and removing the band.

6. In combination, a container having a neck defining a filling and discharging opening, a closure for the opening, a retaining band for securing the closure against movement lengthwise of the neck, said band comprising an elongated metal strip encircling the neck and closure, a vertical seam connecting the ends of the band and including interlocking hooks formed by folding the end portions of the strip upon themselves, and a finger piece providing means for opening the seam and removing the band, said finger piece constituting a reduced longitudinal extension formed integral with and at one end of said band.

LESLIE R. N. CARVALHO.

30	105
35	110
40	115
45	120
50	125
55	130
60	135
65	140
70	145
75	150