Dec. 18, 1928. 1,695,301

O. N. TEVANDER

BOTTLE CLOSURE

Filed March 28, 1928

Fig. 1.

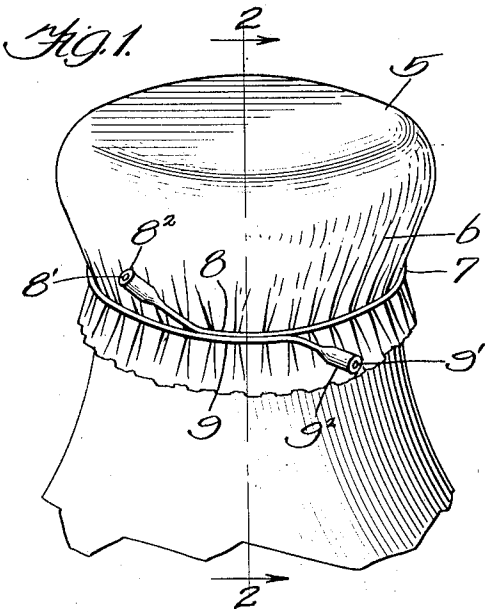
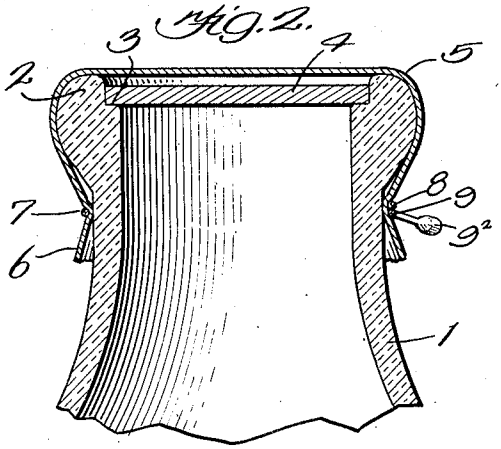
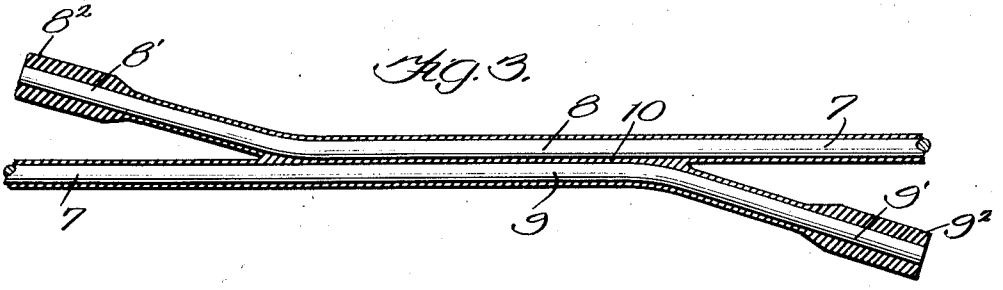
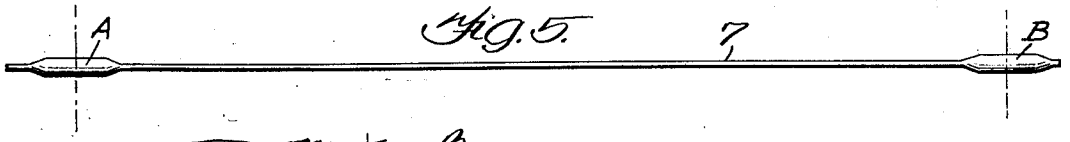


Fig. 2.







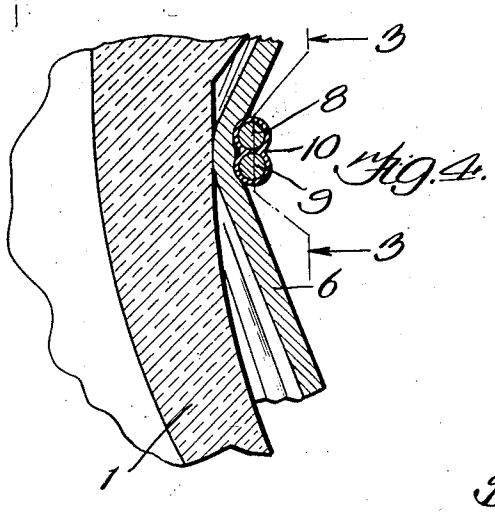


Fig. 4.

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UNITED STATES PATENT OFFICE.

OLOF N. TEVANDER, OF CHICAGO, ILLINOIS.

BOTTLE CLOSURE.

Application filed March 28, 1928. Serial No. 265,270.

My invention relates to bottles having necks which are externally enlarged at the mouths of the bottles and which bottles are provided with skirted caps placed over their mouths and about their necks and wire bands, usually in the form of complete but split rings, that press upon the cap skirts and tightly contract the same to tightly engage them with the bottle necks, though the invention is not to be limited to such rings.

Such a band or ring has hitherto had at least one end and usually each of its ends free of the cap skirt surrounded thereby and sufficiently long to enable them to be grasped to loosen the ring from the cap skirt when the cap is to be removed from the bottle. The wire employed is comparatively fine and, consequently, the ends thereof are liable to find entry beneath the finger nails to the injury of the persons opening the bottles or such wire ends may otherwise cause injury.

In accordance with my invention, the wire ends are provided with enlargements which prevent them from effecting injury. These enlargements are desirably in the shape of knobs which are formed of tin or the like. My invention is of particular utility in connection with the bottle closure illustrated in my United States Letters Patent No. 1,635,510, dated July 12, 1927. As disclosed in this patent, the wire ring is coated throughout its length with tin or the like and is disposed about the cap skirt in a manner to have mutually lapping portions, the tin upon these portions being fluxed together to hold the wire ring in skirt contracting condition. In accordance with my invention, the tin coatings upon the ends of the wire ring are enlarged to form the knobs by which these wire ends may be grasped to break the ring.

The invention will be more fully explained in connection with the accompanying drawing in which Fig. 1 is a perspective view of a milk bottle having a skirted cap whose skirt is contracted into engagement with the bottle neck by the ring of my invention; Fig. 2 is a sectional view on line 2—2 of Fig. 1; Fig. 3 is a sectional view on line 3—3 of Fig. 4; Fig. 4 is a view on a larger scale of a part of the structure as it appears in Fig. 2; and Fig. 5 is a longitudinal view showing enlargements of the tin coating upon the wire which are spaced apart at intervals which correspond to the overall length of the wire employed in each skirt contracting ring.

The bottle 1, illustrated, is one which is commonly employed for containing milk or cream. It has an external enlargement or surrounding bead 2 at the mouth of the bottle. It is customary to provide an annular seat 3 at the mouth of the bottle for receiving a paper closure disc 4, this closure disc, however, forming no essential part of my invention. A cap 5, preferably paper, is placed over the mouth of the bottle and over the closure disc 4, this cap having a skirt 6 integral therewith which is encircled by a ring 7, preferably formed of non-resilient metallic wire, this ring having mutually lapping circumferentially extending portions 8 and 9. A bond 10 of tin or the like is disposed between said mutually lapping and circumferentially extending ring portions and serves to hold these portions in assembly, the bond being brought into its holding relation after the ring portions 8 and 9 have been drawn circumferentially and in opposite directions with sufficient force to tightly hold the cap skirt against the neck of the bottle.

The cap employed permits the ring to be tightly placed into its skirt whereby the cap may have effective and sealing engagement with the bottle neck. The mutually lapping portions of the ring desirably terminate in two free ends 8′, 9′ which may be grasped in order that the mutually lapping ring portions may be torn apart, to break the ring, when the bottle cap is to be removed. The two ring portions are desirably so related that one portion, say the portion 8, is above the other so that both may take part in gripping the cap without imposing undue strain upon the bond 10 between the mutually lapping ring portions.

The wire of the ring is not only tinned at 10 but is preferably tinned throughout its length and entirely around the same, the coatings upon the adjacent portions 8 and 9 being fluxed together after the ring has been properly tightened. The tin coating is desirably thickened upon the extreme end portions 8′, 9′ to constitute enlargements or knobs 8^2, 9^2 which sufficiently thicken the unattached ends of the ring to prevent them from entering beneath the finger nails and otherwise preventing the wires surrounded

thereby from effecting injury. The tin coating upon the wire is enlarged at intervals, as indicated at A, B in Fig. 5. These enlargements are cut midway between their ends, each half of each enlargement constituting such knobs as are indicated at 8^2, 9^2.

The term "split rings" is employed in the sense of rings which are not initially endless but which, when present upon the caps, have free ends by which they may be torn asunder and removed, it being understood that the invention is not limited to rings having mutually lapping ends.

Having thus described my invention, I claim:

1. A bottle; in combination with a skirted cap placed over the mouth of the bottle and about the bottle neck; and a wire band pressing upon the cap skirt and tightly contracting the same and engaging it with the bottle neck and having bonded portions to hold the ring contracted, said band having an end free of the cap skirt and upon which end there is an enlargement by which it may be grasped to loosen the band.

2. A bottle; in combination with a skirted cap placed over the mouth of the bottle and about the bottle neck; and a wire band having a coating of tin or the like substantially throughout its length and pressing upon the cap skirt and tightly contracting the same and engaging it with the bottle neck, said band having overlapped portions held in bonded relation and having an end free of the cap skirt, said coating of tin or the like being enlarged at this end of the band to form a knob by which the band may be grasped to loosen the band.

3. A bottle; in combination with a skirted cap placed over the mouth of the bottle and about the bottle neck; and a split ring of wire tightly contracted about the skirt of the cap and bottle neck and having mutually lapping portions extending circumferentially of the ring in bonded relation and terminating in ends that are free of the cap skirt, each of said wire ends having an enlargement thereon by which it may be grasped to loosen the ring.

4. A bottle; in combination with a skirted cap placed over the mouth of the bottle and about the bottle neck; and a split ring of wire having a coating of tin or the like substantially throughout its length and tightly contracted about the skirt of the cap and bottle neck and having mutually lapping portions extending circumferentially of the ring in bonded relation and terminating in ends that are free of the cap skirt, said coating of tin or the like being enlarged at each end of the wire to form a knob by which the wire may be grasped to loosen the ring.

5. A bottle whose neck is externally enlarged at the mouth of the bottle; in combination with a skirted cap placed over the mouth of the bottle and about the bottle neck; and a split ring of wire having a coating of tin or the like substantially throughout its length and tightly contracted about the skirt of the cap and bottle neck and having mutually lapping portions extending circumferentially of the ring and terminating in ends that are free of the cap skirt, the tin or the like upon parts of said mutually lapping portions being fluxed together to hold the ring contracted, said coating of tin or the like being enlarged at each end of the wire to form a knob by which the wire may be grasped to loosen the ring.

6. A bottle whose neck is externally enlarged at the mouth of the bottle; in combination with a skirted cap placed over the mouth of the bottle and about the bottle neck; and a split ring of wire having a coating of tin or the like substantially throughout its length and tightly contracted about the skirt of the cap and bottle neck and having mutually lapping portions extending circumferentially of the ring and terminating in an end that is free of the cap skirt, the tin or the like upon parts of said mutually lapping portions being fluxed together to hold the ring contracted, said coating of tin or the like being enlarged at said end of the wire to form a knob by which the wire may be grasped to loosen the ring.

In testimony whereof, I hereunto subscribe my name.

OLOF N. TEVANDER.