F. JEBSEN.

CAPSULE FOR BOTTLES AND THE LIKE.

APPLICATION FILED APR. 28, 1908.

907,808. Patented Dec. 29, 1908.

Fig. 1.

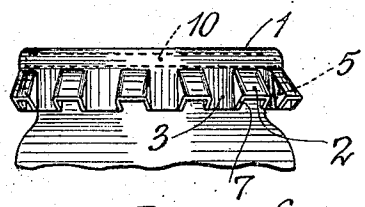


Fig. 2.

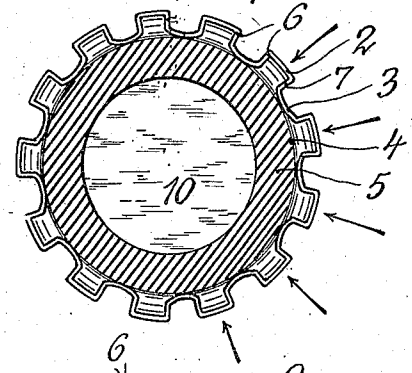


Fig. 3.

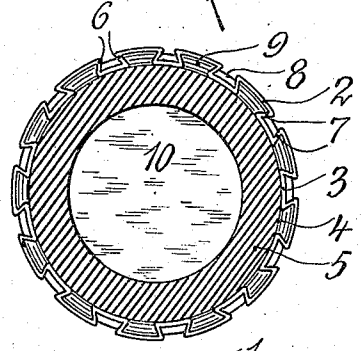
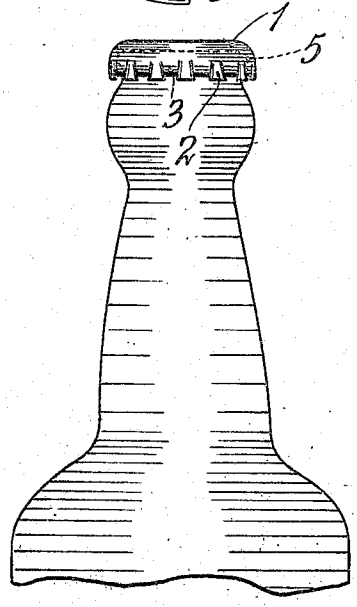


Fig. 4.



Witnesses:

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CAPSULE FOR BOTTLES AND THE LIKE.

No. 907,803. Specification of Letters Patent. Patented Dec. 29, 1908.

Application filed April 26, 1906. Serial No. 313,235.

To all whom it may concern:

Be it known that I, FRIDTJOF JEBSEN, engineer, a citizen of the Kingdom of Norway, residing at St. Olaps Gate 24, Christiania, Norway, have invented a new and useful Improvement in Capsules for Bottles and the Like; and I do hereby declare the following to be a full, clear, and exact description of the same.

In the usual bottle sealing or closing devices, a capsule is placed over the bottle mouth and its lower corrugated edge portion is clamped or crimped in beneath the upper mouth roll. However, in devices of this kind, it is necessary to use a comparatively yielding tightening material such as cork, caoutchouc, etc., in order to obtain perfect tightness. I now have observed, that the reason for this inconvenience is to be sought in the fact, that, on account of the shape of the capsule corrugations contacting the mouth roll during the clamping of the capsule, only compressive strains arise in the edge material, so that the latter, as soon as the clamping-tool is removed, has a tendency to yield somewhat back, *i. e.*, the length of the clamping or crimping edge of the capsule tends to be extended. This extension must be taken up by the tightening or packing material, which therefore must be comparatively thick.

In order to remove this drawback, my present invention has for its object to provide a sealing capsule in which during the crimping, and later on (as long as the capsule covers the bottle mouth), tensile strains are produced along the edge portion, said strains, therefore, holding said portion at all times in a state of tension, so that the edge of the capsule has no tendency whatever to be extended but, on the contrary, has a tendency to clamp the edge more strongly around the bottle mouth. The tightening or packing material may, therefore, be unelastic and of less thickness than heretofore.

My invention is illustrated in the accompanying drawing in which:—

Figure 1 is a side elevation of a capsule, before it has been clamped fast on the bottle mouth; Fig. 2 is the same capsule, seen from beneath, and showing, in section, a bottle neck to which it is to be clamped; Fig. 3 is a view, similar to Fig. 2, the capsule having been clamped fast; and Fig. 4 is a side elevation of the neck of a closed or sealed bottle drawn to a smaller scale.

The edge of the capsule, 1, is corrugated, but, according to my invention, the corrugations differ from those heretofore used as to shape, the edge being dove-tailed, or, in the form shown, provided with outer slightly-curved or flat portions, and with inner broad portions for directly gripping a bottle-neck, in contradistinction to a capsule having wave-like edge corrugations. If now the outer portions, 2, of the corrugations are pressed inwards, the inner portions, 3, thereof will first engage the outer surface, 4, of the mouth-roll, 5, of the bottle. Thereupon, the slightly curved outer parts, 2, will be stretched out so that the ends, 6, of two adjacent portions, 2, approach each other, and adjacent connecting radial walls or portions, 7, will be inclined, as shown in Fig. 3, in opposite directions, so that all around the edge dove-tailed grooves, 8, and projections, 9, are formed. If the outer portions, 2, are pressed further inwards, it is obvious that, the inner edge of the capsule will be contracted at each of the points where the walls or portions, 7, engage the inner portions 3, and it is also in these outer portions, 2, as well as in the portions, 3, tensile strains are produced, which strains are balanced by corresponding pressure strains in the portions 7. All around the edge of the capsule contracting strains are established in this manner, and tend to hold the capsule in its position.

I have found that, during the first part of the crimping operation, the inner portions, 3, have a tendency to be pressed together so that they curve outwardly, or bow, at the middle. This especially tends to take place if the side walls or portions, 7, of a projection, 9, before crimping, diverge from the center instead of converging towards the same or disposed so as to be parallel. On that account, I preferably make the portions, 3, curved inwardly (see Fig. 2) so that the adjacent end points, 6, of two projections 9, will, during the clamping or crimping, move somewhat apart from each other and thereby move in beneath the projections, 9. The tightening is obtained by means of a disk, 10, arranged in the base of the capsule and consisting of paper or a similar thin material.

Having now described my invention what I claim as new and desire to secure by Letters Patent is:—

1. A capsule for effecting sealing or closing of bottles and the like, having a corrugated edge whose corrugations are of such shape

that, upon contraction upon a bottle-neck, the edge is provided with a series of dovetailed projections for the purpose of producing, in the edge portion, strains tending to contract the said portion around the upper mouth roll of the bottle.

2. A device for sealing or closing bottles and the like, comprising a capsule the crimping edge of which has a plurality of projections the sides of which converge towards the center of the capsule.

3. A device for sealing or closing bottles and the like, comprising a capsule the crimping edge of which has a plurality of projections the sides of which converge towards the center of the capsule, the inner parts of the edge connecting the projections with each other being curved inwardly towards the center of the capsule.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

FRIDTJOF JEBSEN.

Witnesses:
AXEL LAHN,
RICHARD STOKKE.