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G. A. WILLIAMS

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BOTTLE CAP

Filed April 19, 1928

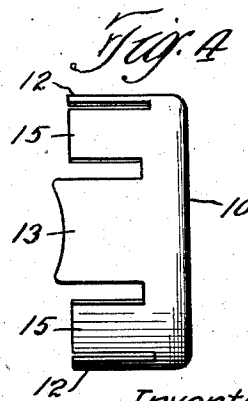
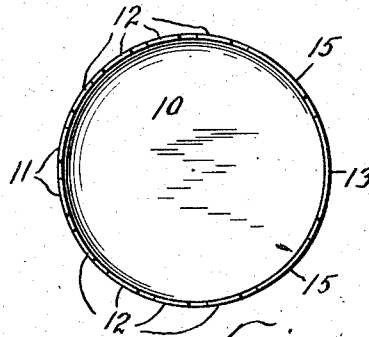
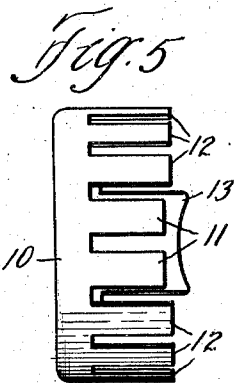
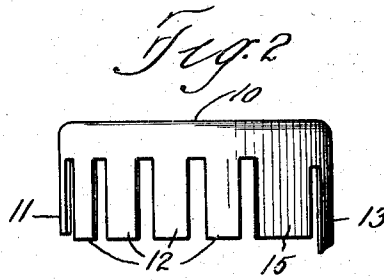
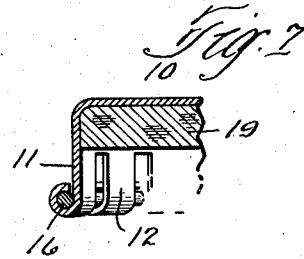
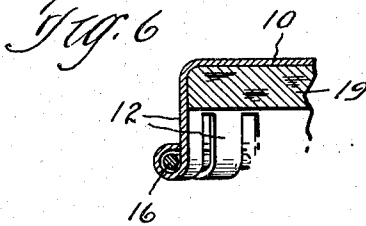
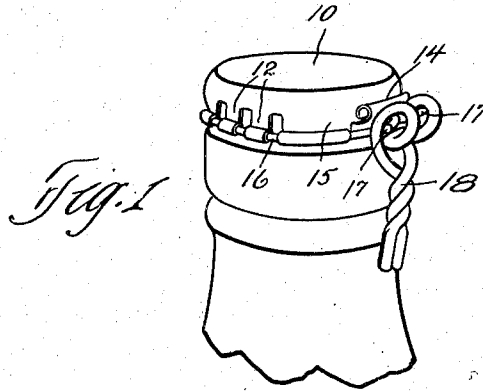


Fig. 3
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UNITED STATES PATENT OFFICE

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BOTTLE CAP

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This invention relates generally to caps for containers such as bottles, jugs and metallic containers provided with nozzles; and the invention relates particularly to a cap embodying a slotted skirt, a divided ring attached thereto and provided with oppositely disposed hooks at its ends, and a lever having a cam head engaging the said hooked ends of the ring, the cap being fastened upon the neck or nozzle of the container by turning down the lever to bring the divided ring and slotted skirt into locked engagement with the said container.

It will also be understood that caps of this nature have usually been provided with a suitable liner so that when properly fastened upon the neck or nozzle of the container an effective seal is provided.

Heretofore in the manufacture of caps of this character it has been found that there is a tendency for the divided ring to move circumferentially with reference to the slotted skirt.

This has been overcome to a certain extent by putting a crimp or sharp bend in the divided ring between two adjacent depending tongues.

This, however, is somewhat objectionable inasmuch as it calls for additional tools and operations and sometimes impairs the uniformity of the caps in large quantities; also causes the wire ring to break when crimped or bent.

The present invention aims to overcome these objections, providing absolute uniformity, and also avoiding the necessity of additional tools and operations, thereby reducing the cost of fabrication and eliminating defective caps.

Broadly speaking, the invention consists in making two or more of the tongues of the slotted skirt somewhat shorter than the other tongues, which shorter tongues are rolled into tight and intimate contact with the ring and thereby preventing circumferential movement of said ring while at the same time permitting the contraction of the ring and the skirt of the cap in order to effect the fastening and sealing operations.

The invention consists also in certain de-

tails of construction, all of which will be fully described hereinafter and set forth in the appended claims. In the drawings forming part of this specification, Fig. 1 is a perspective view of a complete cap embodying my invention; Fig. 2 is a side elevation of the shell; Fig. 3 is an inverted plan view; Fig. 4 is a front elevation; Fig. 5 is a rear elevation; Fig. 6 is a detail section taken through one of the long tongues; and Fig. 7 is a similar view taken through one of the short tongues.

In constructing a cap in accordance with my invention, I provide a cap embodying in a single piece the circular top portion 10 and the depending slotted skirt comprising a plurality of the depending tongues 11 and 12. The tongues 11 are slightly shorter than the adjacent tongues 12 and are preferably arranged at the back of the cap. Directly opposite the shorter tongues 11, is a wide tongue 13 which is rolled back upon itself to provide a bearing sleeve 14, and upon opposite sides of this tongue 13, there are tongues 15 which are approximately twice the width of the tongues 12 adjacent thereto.

In the fabrication of the cap a divided ring 16 is connected to the depending skirt by rolling back the ends of the tongues over and around the divided ring and inasmuch as the center tongue 13 is rolled back to provide the bearing sleeve 14, the tongues 15 are rolled around the ends of the ring adjacent to the hooked ends 17 thereof while the tongues 11 and 12 are rolled around the remainder of the ring.

The locking lever 18 is connected to the hooked ends of the ring, and the head of this lever is of such construction that when the shank of the lever is in an upright position, the cap can readily be applied to the neck or nozzle of the container and then by turning the shank of the lever downwardly the ends of the ring are brought together and at the same time the slotted skirt of the cap is also contracted about the neck or nozzle of the container, effectively fastening the cap to the container.

A cork or other liner 19 is placed within the cap for the purpose of aiding in making

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a perfectly tight seal upon the mouth of the container neck or nozzle.

By making the tongues 11 slightly shorter than the tongues 12 the ends of these tongues 11 are rolled around and brought into tight engagement with the adjacent portion of the ring, whereas, the ends of the tongues 12 and 15 will be rolled about the ring and the extreme ends will contact with the depending tongues and will leave some slight intervening space between the ring and the rolled over end of the tongues 12. In other words, with the tongues 11, their extreme ends are brought into engagement with the wire ring whereas, with the tongues 12 their extreme ends contact with the depending portions of said tongues. These features are most clearly brought out in Figs. 6 and 7.

By fastening the ends of the tongues 11 securely to the ring at the point opposite the lever all circumferential movement of the ring is prevented, but the other tongues being not in such close relation to the ring, permit the necessary movement of the ring when contracted to accomplish the proper operation of the cap as a whole.

By making the tongues 11 shorter than the tongues 12, the provision of the centrally disposed crimp in the ring can be dispensed with and a perfectly uniform cap can be produced in large quantities and at a slightly reduced cost.

Having thus described my invention, what I claim is:

1. An improved bottle cap comprising a slotted skirt, a divided ring provided with hooked ends attached to said slotted skirt, and a lever having a cam head connected to the hooked ends of said ring for the purpose of contracting the cap, one or more of the depending tongues of the slotted skirt being shorter than the other depending tongues, said shorter depending tongues being brought into positive engagement with the adjacent portions of the ring and the longer tongues being bent around said ring but out of positive engagement therewith whereby the ring may move circumferentially with respect to such longer tongues through the movement of said lever while being held by the shorter tongues against such circumferential movement.

2. A bottle cap comprising a slotted skirt providing a plurality of depending tongues, a divided ring having hooked ends, and a lever having a cam head for engagement with said hooked ends, a plurality of the depending tongues of the slotted skirt being shorter than the remainder of said tongues and said shorter tongues being folded around said ring and contacting therewith, the longer tongues being folded around said ring and spaced therefrom, the said tongues supporting the said ring in substantially the same plane.

3. A bottle cap comprising a slotted skirt providing a plurality of depending tongues, a divided ring and a lever having a cam head, the ends of the ring being hooked and engaging the cam head of the lever, the tongues of the slotted skirt being rolled around said ring to connect said ring to the slotted skirt of the cap, the tongues opposite the head of the lever being shorter than the other tongues of the slotted skirt and rolled into close engagement with the ring whereby circumferential movement of said ring with relation to such other tongues is prevented, the longer tongues being rolled about said ring but out of positive engagement therewith, the said tongues supporting the ring in substantially the same plane whereby the ring will be free to move through the lower ends of the longer tongues by the operation of the lever.

In testimony whereof, I hereunto affix my signature.

GEORGE A. WILLIAMS.