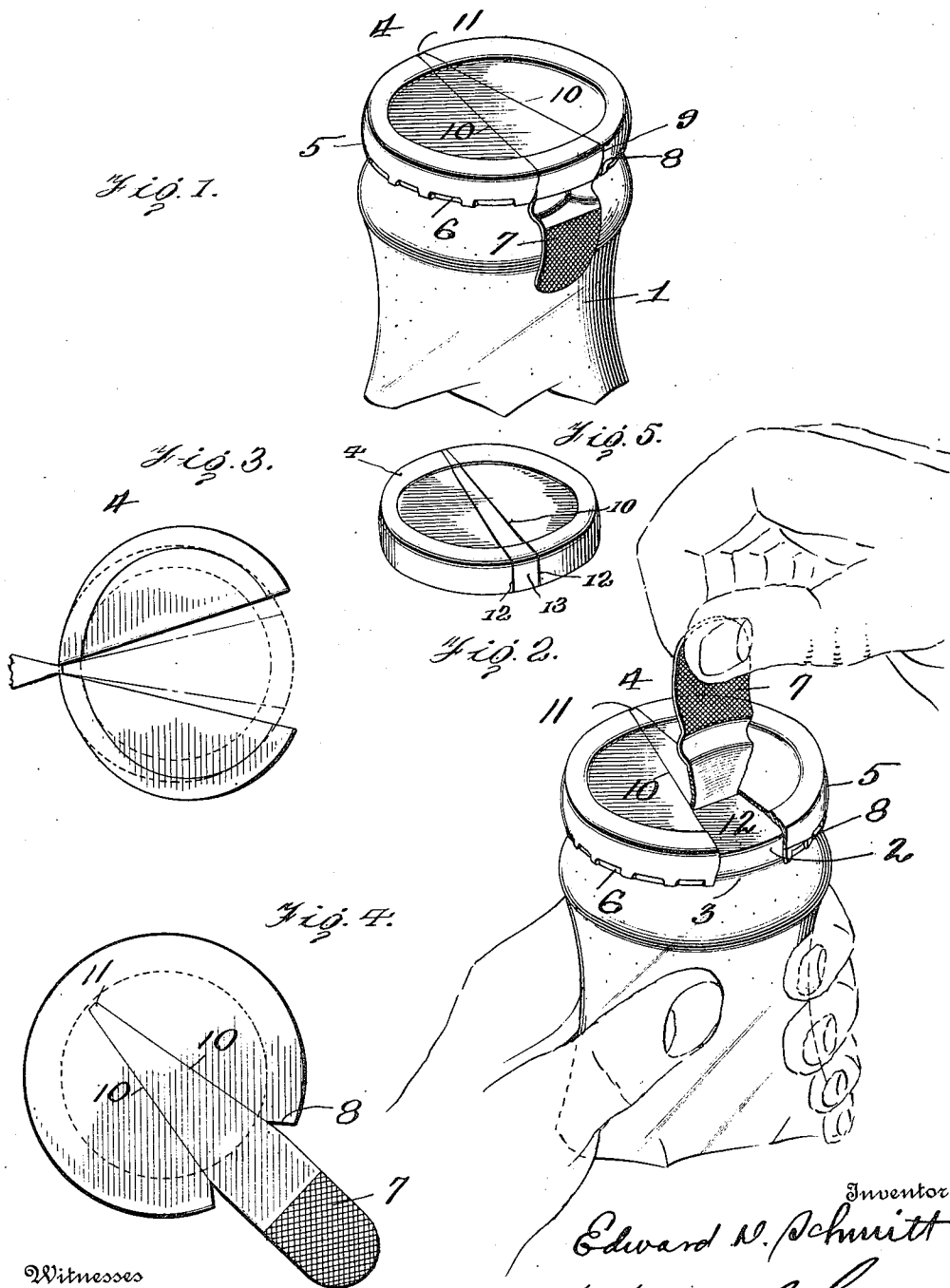


E. D. SCHMITT.
BOTTLE CAP OR CLOSURE.
APPLICATION FILED NOV. 30, 1910.

Patented Feb. 4, 1913.

1,052,382.



Witnesses
Hazel M. May
Frank G. Branton.

Inventor
Edward N. Schmitt
By *Wm. A. Johnson*
Attorney

UNITED STATES PATENT OFFICE.

EDWARD D. SCHMITT, OF BALTIMORE, MARYLAND, ASSIGNOR TO AMERICAN BOTTLE CAP COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF DELAWARE.

BOTTLE CAP OR CLOSURE.

1,052,382.

Specification of Letters Patent.

Patented Feb. 4, 1913.

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To all whom it may concern:

Be it known that I, EDWARD D. SCHMITT, a citizen of the United States, residing in Baltimore city and State of Maryland, have invented certain new and useful Improvements in Bottle Caps or Closures, of which the following is a specification.

This invention relates to improvements in caps for milk and other bottles.

The primary object of the invention is to provide a cap embodying such construction, that any attempt to tamper with the cap, or remove it, will be readily detected. The provision of such a cap is highly desirable. With the ordinary disk closure and other closures now in use, fraud is practised upon the consumer by unscrupulous drivers and others into whose possession the milk may happen to come before reaching the consumer, for whom the milk is intended in its original condition, or as it has left the bottling department of the milk company. This fraud is usually practised by simply removing the cap, taking out part of the original contents and replacing it with water. The fact that the caps of ordinary construction can be removed and replaced without detection, or without any signs of having been tampered with, renders it comparatively easy for drivers and others to fill bottles which they may obtain elsewhere than from the bottling establishment, with the part of the original contents of the bottles, as they left the bottling establishment, and dispose of such milk to their own private customers or others who would purchase the milk, and the fact that the removed part of the milk intended for the consumer has been replaced by water, the fraud is only detected by the inferior quality of the article. The cap is of such construction that it must, of necessity be applied at the bottling establishment by machinery, thus further preventing the possibility or probability of fraud or tampering with the contents of the bottle, as originally sealed.

A further object of the invention is to provide a cap embodying such construction, that can be readily removed from the bottle with comparatively little force, without the aid of any special tool or opening implement. The construction is such that when the cap is removed, it is entirely destroyed and thus rendered unfit for second use.

In the drawings, Figure 1 is a perspective

view of the cap applied to a milk bottle; Fig. 2 is a similar view showing the cap partly torn in the removing operation; Fig. 3 is a plan view showing the position the partly separated parts of the cap assume at the final point of removal; Fig. 4 is a plan view of the blank from which the cap is made, and Fig. 5 is a perspective view of a slightly modified form of cap, in which the tab is omitted.

Referring to the drawings, the numeral 1 designates a milk jar, formed with an annular bead 2 at its mouth and a locking shoulder 3 which is formed by the underside of the bead.

The numeral 4 designates the cap. The material of which the cap is made, is preferably of the lightest tin obtainable, as this material is found sufficiently hard or rigid to make the necessary hold upon the bead when portions of the flange are indented at intervals into locking engagement with the locking shoulder 3 of the jar, as will be described. The flange of the cap 5 is indented at intervals as shown at 6 into locking engagement with the shoulder 3 of the bottle. At one side of the cap, I provide a tab 7 which normally assumes about the position shown in Fig. 1. Adjacent to the tab, the flange 5 is cut for about one-half its depth, as indicated at 8 and from the extreme upper end of the cut portion, I provide vertical indentations 9 which run into linear indentations 10 converging toward the opposite side of the cap, where at the edge of the cap, or at the point 11, the indentations cease.

I prefer to use beneath the cap, a thin disk 12 of pasteboard or other material, which when the cap is applied rests upon the lip of the bottle, and prevents the contents from coming into contact with the metal. This disk may be paraffined or otherwise treated as the exigencies of the case may require.

The cap is applied by machinery or with a device which will indent the lower edge of the cap at regular intervals into locking engagement with the shoulder on the jar. To remove the cap, it is only necessary to grip the tab and manipulate it as shown in Fig. 2 of the drawing, continuing to lift the same until the cap is torn entirely across it, as shown in Fig. 3. By the time the central portion of the cap is torn to the point

11, the two lateral portions of the cap will have, of their own resiliency, expanded apart or separated, as shown in Fig. 3, when a further moving of the tab in the lateral direction, will remove the whole cap laterally from the bottle. Thus it will be seen that with a single operation of simply lifting the tab and tearing that portion of the top of the cap which is integral with the tab, entirely across the cap, the removal of the seal and its absolute destruction is accomplished. It is also obvious that should the tab be forced to an extent necessary to expose the mouth of the jar, or remove any of the contents from the bottle, such interference with the seal would be readily detected.

Referring now particularly to the modification, Fig. 5, the numeral 12 designates two vertical indentations which extend for the full depth of the flange and serve as initial starting means for the portion 13 between the indentations, whereby said portion may be started either by hand, or with some sharp instrument. I may also, if desired, slit the flange in this form of cap for about one-half the depth of the flange, as in the preferred form shown in the other figures, or for the full depth of the flange.

I have found in practice that by so arranging the linear indentations upon the cap, that they will converge at the opposite side from that at which they start, that the cap will be invariably torn completely from one side to the other, and that the tearable central portion of the cap will invariably follow the indentations throughout the whole width of the cap, because of arranging the indentations in the line upon which the metal has a tendency to tear naturally, without the indentations. However, without the indentations there is no certainty as to where the central portion will leave off under the tearing strain, but it invariably would at some portion of the cap usually before reaching the center tear out to a point. This is entirely obviated by arranging the indentations in the manner shown. I have found also that the provision of parallel indentations will not serve the purpose of the invention, as the torn portion will not follow such line, due to the constant tendency of the metal to tear to a point.

I do not desire to be understood as limiting myself to the shape of the cap, and while I have shown it applied to a milk bottle or jar, it is obvious that it may be applied to receptacles of various shapes, so long as they are provided with a means in

the way of a locking surface, into engagement with which the flange of the cap may be forced.

Having thus described my invention, what I claim is:

1. An article of manufacture, a cap for bottles, jars and the like, formed of easily rupturable material, said cap having its flange formed with vertical markings to serve as starting means for rupturing the said flange, said markings extending to the upper edge of the flange and running into converging linear markings extending entirely across the surface of the cap, whereby the tearable portion of the cap will invariably follow said markings entirely across the cap, to facilitate the ready separation or spreading apart of the two cap sections to facilitate the removal of the same.

2. An article of manufacture, a metallic cap for bottles, jars or the like, formed of easily rupturable material and having its flange formed with an integral tab provided with a cut or slit on each side of the tab, the cuts or slits extending approximately midway the depth of the flange and serving as initial starting means for rupturing or tearing the cap, and converging linear markings extending from the upper ends of the slits and entirely across the surface of the cap, whereby the adhering material of the torn portion integral with the tab will permit the ready separation or spreading apart of the two sections of the cap to facilitate the removal of the same.

3. In a closure for bottles, jars or the like, the combination of a bottle having a locking surface on the exterior of its neck, a cap formed of easily rupturable material, said cap having a flange adapted to make locking engagement with the locking surface of the bottle, said flange being formed with vertical markings to serve as starting means for rupturing said flange, said markings extending to the upper edge of the flange and running into converging linear markings extending entirely across the surface of the cap, whereby the tearable portion of the cap will invariably follow said markings entirely across the cap to facilitate the ready separation or spreading apart of the two cap sections, to facilitate the removal of the same.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD D. SCHMITT.

Witnesses:

D. A. RALSTON,

G. R. BIXLER.