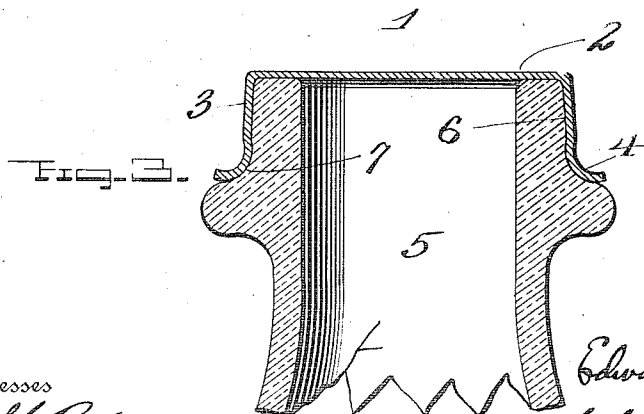
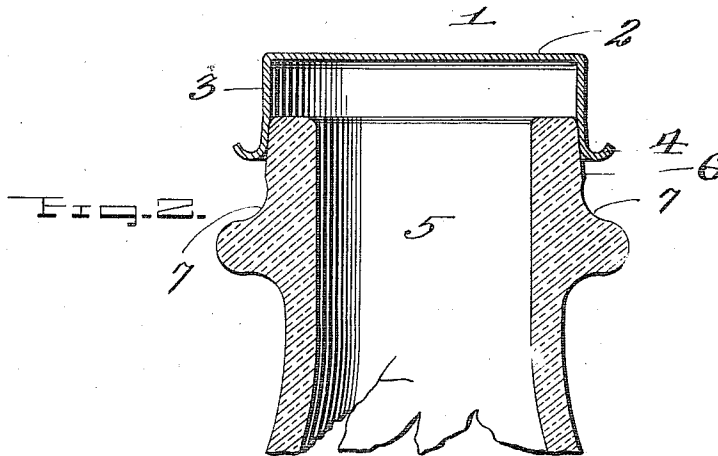
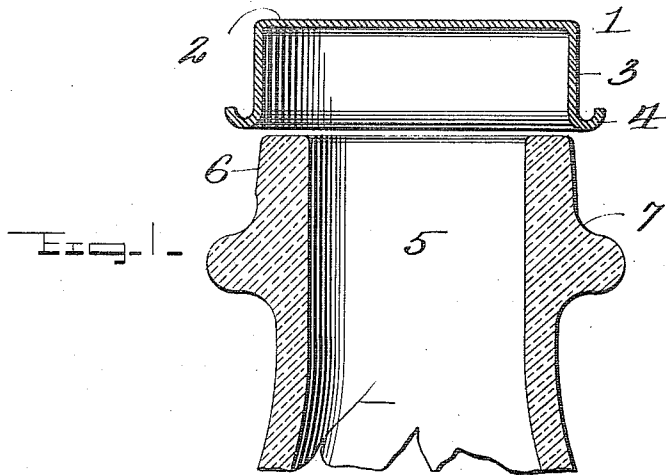


E. D. SCHMITT.
CAP OR CLOSURE FOR MILK AND OTHER BOTTLES.
APPLICATION FILED APR. 13, 1910.

995,377.

Patented June 13, 1911.



Witnesses

W. H. Lockwood

Frank H. Branton

Inventor

Edward A. 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.

CAP OR CLOSURE FOR MILK AND OTHER BOTTLES.

995,377.

Specification of Letters Patent. Patented June 13, 1911.

Application filed April 13, 1910. Serial No. 555,243.

To all whom it may concern:

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

This invention relates to improvements in closures or caps for jars, bottles and like receptacles.

The invention more particularly relates to a novel closure for milk bottles and has for its object primarily, the provision of a cap that may be readily applied to the bottle by the use of very little force and one which will hold sufficiently by friction to seal and contain the contents of the bottle, but which, at the same time, may easily be removed by hand.

The construction of the jar is such that it is entirely sanitary and in its construction, the interior groove and seat for the ordinary disk closure, is eliminated, the bottle presenting inside of the neck, a perfectly smooth surface, which enables the bottle to be thoroughly cleaned and sterilized and provides no recesses for the accumulation of decomposed milk or cream, which is almost invariably found in the grooves in the interior of the necks of the bottles in common use. Further, by providing the cap on the outside of the neck of the bottle, a smooth outer surface is presented which provides no room for the accumulation of dirt or foreign substances which accumulate on the top of the ordinary disk closure and which, when opened, falls into the milk, or is forced into the milk or other contents of the bottle. This cap about to be described, further eliminates the very objectionable feature of having to use a knife or other sharp-pointed instrument to pry the ordinary disk out of the mouth of the bottle, in doing which, the milk or other contents of the bottle is often splashed out of the bottle, entailing the loss of the contents, and the untidy operation in opening the jar.

In the present invention, I provide the jar with an inclined outer annular surface, inclining downwardly and outwardly for a short distance from the mouth and termi-

nating in an annular shallow depression. The cap which is made preferably of straw-board, and therefore readily yielding, so as to require little pressure in its application, is reinforced at its lower edge by turning the lower edge up slightly and thereby putting more material in the lower edge of the flange of the cap than in the body. By doing this, I am enabled to force the flange of the cap down the incline on the outer surface of the bottle, without splitting or rupturing the lower edge and at the same time, making a close frictional contact between said inclined portion on the jar and the inner surface of the flange of the cap. When the cap has been completely pressed in place, the reaction of the additional material in the lower edge of the cap and immediately adjacent thereto, seats the lower edge of said flange in the groove with sufficient tightness to prevent accidental displacement in handling, but at the same time, permit the cap to be removed by a very inconsiderable force when intentionally and properly applied, for the purpose of removing the cap.

Other advantages of the invention will become apparent from the course of the following description.

In the drawing: Figure 1 is a sectional view of the cap and upper portion of the bottle to which it is adapted to be applied; Fig. 2 is a similar view showing the cap in a position it would occupy when partly applied to the cap; and Fig. 3 is a similar view showing the cap applied.

Referring to the drawings, the numeral 1 designates a non-metallic cap, preferably made of straw board, paraffined or not, as the exigencies of the case may require. This cap is formed with a flat upper surface 2, a straight flange 3 which is reinforced at its lower edge by the provision of a slightly turned up portion 4. By the provision of the turned-up portion, the lower part of the cap is strengthened and material is provided which is sufficient to undergo the strain in applying the same to the jar and to compensate for the changes in form of the lower portion of the cap in its application to the bottle. The numeral 5 designates the bottle which I form with an inclined annular outer surface 6 terminating at the lip

of the bottle and extending downwardly and outwardly and verges at its lower end into a shallow annular recess 7 in which the lower portion of the flange of the cap is adapted to rest when the cap is applied.

In applying the cap, the internal diameter of which is normally about the same as the bottle adjacent to the lip, the inner wall of the flange will engage the inclined surface 6 of the bottle, and be expanded laterally thereby bringing it in close frictional contact with such surface, and as the cap is forced downward to its final position, considerable tension will be brought upon the flange of the cap, particularly at the lower edge thereof, causing the slightly curved lower edge of the cap to unfold or straighten out to a certain extent, as shown in Figs. 1 and 2, until it assumes about the position shown in Fig. 3, wherein a reasonably and sufficiently tight frictional contact is made between the cap and the outer surface of the bottle.

The fact of providing the cap at its lower edge with a reinforced portion, completely obviates the likelihood of slitting the cap in forcing it into place, which would invariably be the case where the flange of the cap was straight. The frictional contact between the cap and the bottle is such, and the material of the cap is such, that very little force is required to apply the cap and consequently, very little force is required to remove the said cap. However, the force both incident to the application and the removal of the cap is such as to make a sufficiently tight seal, in application, and at the same time, to be removed with sufficient ease in opening, as the purpose of the invention, when applied to milk or other bottles, demands. The closure may be made entirely air-tight and sanitary by dipping the same in a bath of paraffin or other like material.

While I have described the invention as being particularly applicable to milk bottles to which it is admirably adapted for innumerable reasons, it is to be understood that the invention may have other uses in stoppering or closing bottles where it is desirable to effect a seal just sufficient to hold the contents, but not sufficient to resist internal pressures, and in such instances, the whole cap and mouth of the bottle may

be paraffined to keep the contents from outside atmospheric influences.

From the foregoing it will be seen that a closure is provided that at once presents a great many advantages from a sanitary standpoint and one which will be cheap to manufacture, easily applied and readily removed.

Having thus described my said invention, what I claim is:—

1. The combination with a bottle or jar having the exterior surface of its neck inclined and provided with an annular depression below said inclined surface, of a cap formed with a flange of flexible material, said flange having its lower edge terminating in an outwardly-extending portion, whereby, by reason of its flexible character, said flange will accommodate itself to said inclined surface and the depression, without the danger of splitting.

2. The combination with a bottle or jar having the exterior surface of its neck inclined and provided with an annular depression below said inclined surface, of a cap composed of straw-board, said cap having the lower edge of its flange curved outwardly, whereby, by reason of its flexible character, it will expand and contract to conform to the inclined surface and annular depression, respectively, without splitting.

3. The combination with a bottle or jar having an annular depression on the neck thereof and a surface above said depression of greater diameter than the jar neck at the point of depression, of a cap formed with a flange of flexible material, said flange being of slightly less internal diameter normally, than the surface of the bottle or jar above the depression and having its lower edge terminating in an outwardly extending portion, whereby, by reason of its flexible character, said flange will accommodate itself to the surface above the depression and to the depression without danger of splitting.

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

EDWARD D. SCHMITT.

Witnesses:

HENRY WILLIAM HARDWICK,
DAVID A. RALSTON.