A dispenser cap composed of a pliable resilient material formed into a tubular member having open ends and a dispensing face covering one of said open ends whereby a first segment of the dispensing face is comprised of a pair of parallelly juxtapositioned elements forming a pocket therein disposed over a portion of the end opening and a second segment of said dispensing face provided with a vent hole passing therethrough near the forward edge thereof, is accommodated in the pocket of said first segment so as to close the remainder of the end opening when said dispensing cap is in the normally closed position. When inwardly converging forces are simultaneously applied to the first and second segments of the dispensing face, the interengaged edges of the first and second segments are outwardly bulged so that the second segment is displaced from the slotted pocket of the first segment, thereby providing an opening in the dispensing face for the expulsion of the contents of the container to which the dispensing cap is attached. When the converging forces are released, the resilient characteristics of the material return the segments to their interengaging normally closed positions.

5 Claims, 8 Drawing Figures
SELF-SEALING DISPENSING CAP

This invention relates to dispensing caps and more particularly to dispensing caps which are self-sealing.

Heretofore to dispense the contents of a container it was necessary to remove the cap from the dispenser and replace the cap after the dispensing operation, or provide an extraneous means for closing the same after use. These methods were disadvantageous in that the removed cap would often become lost, or the extraneous means were costly or impractical.

The dispensing cap of the instant invention overcomes these disadvantages by providing a simple, inexpensive dispensing cap which remains in constant engagement with the dispenser yet automatically reseals itself after use without the necessity of extraneous means or additional action of the user.

The dispensing cap of the invention is made of any pliable resilient material, such as plastic or the like, which is formed so as to provide a continuous tubular side wall and a dispensing face secured to one end thereof, laterally disposed over the opening in said end. The dispensing face is comprised of two segments each of which has an exposed edge extending in the same direction across the dispensing face so that said edges completely span the opening of the tubular end. One segment is comprised of a pair of parallelly disposed elements so as to form a pocket therebetween which intersects the exposed edge of said segment. As an alternative this segment may have its exposed edge slit so as to provide an inwardly extending slot substantially parallel to the exterior and interior faces thereof thereby forming said pocket. The exposed edge of the other segment is normally accommodated in the pocket in the first mentioned segment. The cap is thus in the closed position.

To dispense the contents of a container to which the cap of the invention is attached, convergent forces are simultaneously applied to the cap, preferably at the corners or ends of the segment edges where said ends intersect the wall of the cap. These converging forces will cause the dispensing fact, and concomitantly the segments of the cap, to bulge outwardly thereby displacing the accommodating segment from the pocket or the other segment so that the edges of the two segments are separated, thereby resulting in an opening from which the dispenser contents may be expelled.

By releasing the converging forces the resilience of the cap material will return at least to the exposed edges of the segments into interlocking relationship, thereby again sealing the opening in the cap and the dispenser. From the foregoing, it can be seen that an extremely simple and inexpensive, yet effective self-sealing dispenser cap is thus provided.

Other objects and advantages of the invention will become apparent from the following descriptions taken in conjunction with the accompanying drawings in which:

FIG. 1 is a top plan view of the self-sealing cap of the instant invention in the normally closed position;
FIG. 2 is a side elevational view of the cap of FIG. 1;
FIG. 3 is a side elevational, sectioned view of the cap of FIGS. 1 and 2;
FIG. 4 is a perspective view of the cap of FIG. 1;
FIG. 5 is a top plan view of the self-sealing cap of the instant invention in the open position;
FIG. 6 is a side elevational view of the cap of FIG. 4;
FIG. 7 is a side elevational sectioned view of the cap of FIGS. 5 and 6; and
FIG. 8 is a perspective view of the cap of FIG. 5.

Referring to FIGS. 1-8, reference numeral 10 designates generally the dispensing cap of the instant invention which is provided with a dispensing face 11 and a continuous tubular wall 12. Dispensing face 11 is comprised of two segments 13 and 14. Segment 13 is provided with an opening 15 on edge 16 thereof. Opening 15 extends inwardly to form a pocket 17 which divides segment 13 into top portions 13a and a lower position 13b. Except for edge 16, segment 13 is secured to the upper open end of tubular wall 12. It should be noted that segment 13 is disposed over a portion of said open end so that edge 16 spans the opening of tubular wall 12, being anchored at its ends to the periphery of the tubular wall end.

Second segment 14 is positioned opposite segment 13 and is provided with an exposed edge 19. In its normal position, exposed edge 19 of segment 14 is accommodated in the pocket 17 of segment 13, while the remaining edges of segment 14 are secured to the upper edge of the tubular wall 12. As was the case with the first segment 13, segment 14 is disposed over the open end of the tubular member so as to cover the remaining opening in said end. Again, edge 19 spans said opening and is anchored at its ends to the periphery of the tubular wall end. It should be noted that the opposite ends of exposed edge 19 are accommodated in pocket 17 of segment 13 so that whether dispensing face 11 is in the open or closed position the contents of the container will not leak out.

Passing through segment 14 is a vent hole 20 which is positioned sufficiently near exposed edge 19 so that when said edge 19 is accommodated within pocket 17 of segment 13, top portion 13a and lower portion 13b of said segment 13 overlap said vent hole 20 so that no exposed interconnection exists between the interior and exterior of the cap and concomitantly the dispenser.

Thus, it can be seen that when the dispensing cap is in the normally closed position, exposed edge 19 of segment 14 and at least a portion of said segment 14 is snugly accommodated in slotted pocket 17 in segment 13, thereby sealing the interior of the dispensing cap and dispenser from the exterior thereof.

The dispensing cap is placed in the open position by simultaneously applying convergent forces at opposite ends of edges 16 and 19 (where indicated by the letter A in FIGS. 1, 4, and 5), thereby causing the edges of segments 13 and 14, and concomitantly edges 16 and 19 thereof, respectively, to buckle outwardly. By such action, edge 19 of segment 14 will be displaced from within pocket 17 of segment 13, thereby creating an opening 21 between edges 16 and 19 from which the contents of the dispenser may be expelled. The emission or expulsion of the contents of the dispenser is facilitated by vent hole 20 provided by segment 14 by permitting the entrance of atmosphere into the dispenser.

By releasing the converging forces applied at A at the ends of the respective edges of the segments the resilience of material of the dispensing cap will return the segments to their original respective positions. That is, edge 19 of segment 14 will again be accommodated in slotted pocket 17 of segment 13, thereby sealing the
dispenser cap and prohibiting the further emission or explosion of the contents of the dispenser.

The dispensing cap opposite dispensing face 11 is open, and is secured over an opening 22 of a dispenser 23 (shown fragmentally in FIGS. 2, 3, 6, and 7). Dispensing cap 10 may be permanently fixed to dispenser 22 by means of any suitable adhesive agent, or the interior of tubular wall 12 may be threaded to engage external threads carried by dispenser 23 about opening 22.

While one embodiment of the invention and the method of using same has been described, it is understood that the embodiment of the invention herein disclosed is for illustrative purposes only.

I claim:

1. A self-sealing dispensing cap for securement to a dispenser, comprising:
a tubular member open at both ends;
a pliable, resilient first facing segment comprised of a pair of juxtapositioned, parallelly disposed elements forming a pocket therebetween secured to said tubular member laterally projecting over a portion of one of said open ends of said tubular element, at least one edge of each parallel element of said first facing segment spanning said open end of said tubular member;
a pliable, resilient second facing segment secured to said tubular member laterally projecting over the remaining portion of the tubular end to which said first segment is secured, said second facing segment having at least one edge thereof spanning said open end extending in substantially the same direction of said first segment, said second seg-

2. A self-sealing dispensing cap for securement to a dispenser as described in claim 1, wherein the corresponding ends of said spanning edges of both facing segments intersect the edge of the open end of said tubular member in approximately the same location.

3. A self-sealing dispensing cap for securement to a dispenser as described in claim 2, wherein the ends of the spanning edge of the first facing segment overlap the corresponding ends of the spanning edge of the second facing segment.

4. A self-sealing dispensing cap for securement to a dispenser as described in claim 1, wherein the first facing segment is comprised of one element and the pocket therein is formed by a slit extending throughout the length of the spanning edge of said first facing segment and inwardly between both surfaces of said facing segment extending immediately of the surfaces of the facing segments.

5. A self-sealing dispensing cap for securement to a dispenser as described in claim 1, wherein the peripheral configuration of said tubular member is cylindrical. * * * * *