July 23, 1957 T. WILL 2,800,240

CONTAINER CAP

Filed Aug. 30, 1954

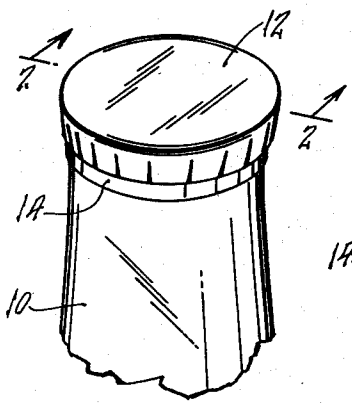


Fig. 1.

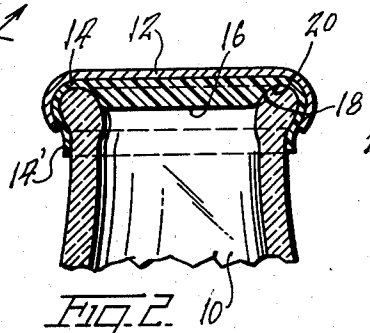


Fig. 2.

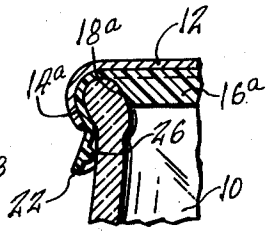


Fig. 6.

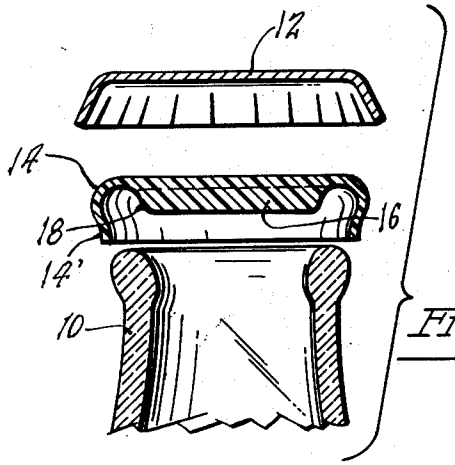


Fig. 3.

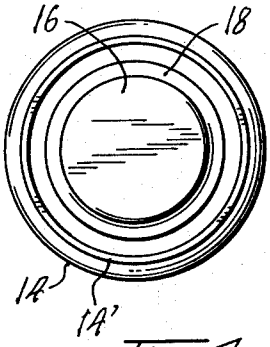


Fig. 4.

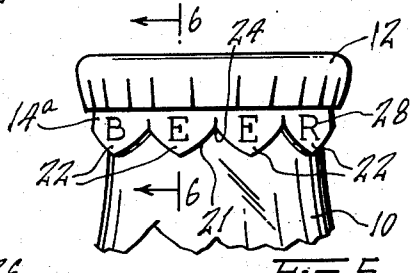


Fig. 5.

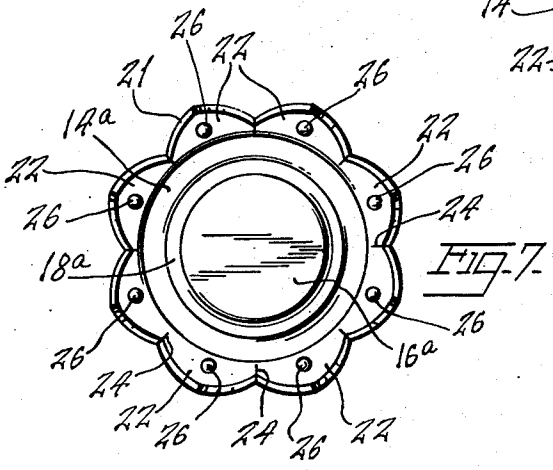


Fig. 7.

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CONTAINER CAP

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3 Claims. (Cl. 215—40)

This invention relates to a container cap, adapted to be applied to the neck of a conventional container of the type to which a crown cap is applied. Such a container is one adapted for holding beer, soda, and the like. Most usually, a container of this type is formed of glass. However, caps of the nature referred to are often applied to metal cans, and it will be understood that the invention is intended to apply to the latter type of containers, as well as to glass bottles.

Often, when a cap of the type stated is removed, it is found that there may be left, upon the mouth of the container, spots of rust, dirt, or other foreign particles. This is clearly an unsanitary characteristic of containers and caps of the nature described, and may create a hazard to the health of the user, especially if, as is often the case, the bottle or can is lifted directly to the lips.

The main object of the present invention is to provide an improved gasket or sealing element to be interposed between the crown cap and bottle, which will be so designed as to hold the cap fully out of contact with the bottle, thereby to prevent impurities from lodging upon the mouth of the bottle or can.

Another object it to provide a sealing element as described which will not only serve to keep the mouth of the bottle completely clean, but will also provide an effective, improved seal that will completely prevent leakage of the bottle contents or loss of carbonation.

A further object is to provide a seal as described which can be formed entirely from flexible plastic material.

Another object is to provide a seal as stated which will be in one piece, and will eliminate the usual cork gasket provided in a crown cap.

Still another object is to provide an area of increased thickness at the center of the sealing element, which will engage the mouth of the bottle and will be compressed at its periphery into tight, sealing contact with the interior of the bottle mouth.

A further object is to provide, in at least one form of the invention, tongue-like elements extending about the periphery of the sealing element through the full circumference thereof, exteriorly of the container cap and container, which tongues will be attractively shaped and will be adapted for the imprinting of a suitable legend thereon, such as the trademark of the product.

A further object is to so design the tongue-like elements as to cause them to be spaced outwardly from the adjacent surface of the container, so as to be readily grasped between the fingers of a user to facilitate removal of the sealing element after the conventional crown cap has been lifted.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawings forming a material part of this disclosure:

Fig. 1 is a fragmentary perspective view of a container to which has been applied a container cap and a sealing element formed in accordance with the invention.

Fig. 2 is an enlarged longitudinal sectional view on line 2—2 of Fig. 1.

Fig. 3 is an exploded view in longitudinal section of the container neck, crown cap, and sealing element, prior to the application of the sealing element and crown cap to the container.

Fig. 4 is a bottom plan view of the sealing element per se, before application to the bottle or other container.

Fig. 5 is a fragmentary side elevational view of a modified form applied to a conventional container neck.

Fig. 6 is a sectional view on line 6—6 of Fig. 5.

Fig. 7 is a bottom plan view of the sealing element shown in Figs. 5 and 6.

In both forms of the invention, a conventional container 10 has a crown cap applied thereto. The usual cork gasket of the cap can be omitted, in view of the use of the sealing element 14 constituting the present invention. The sealing element 14 includes a flat, circular, relatively thin body of flexible plastic material with shaped downwardly turned annular marginal edge 14'. The center portion 16 of the body is considerably thicker than the marginal part of the body. In a preferred embodiment, the center portion 16 is three times as thick as the marginal part of the body, and is formed with a conically sloped side wall 18. Thus, the center portion is of frustro-conical shape, previous to application of the element to the bottle.

The sealing element is shown preliminary to its application to the container in Fig. 3. The element is positioned as shown, after which the crown cap 12 is applied to the container and crimped about its periphery. This forces the marginal part of the sealing element downwardly to form the same into an annular, depending skirt as shown in Figs. 1 and 2. The periphery of the skirt is exposed below the bottom of the crown cap, as shown.

The application of the crown cap to the container results in the center portion 16 being compressed, at its periphery, against the inner surface of the mouth or bead of the bottle neck. This causes the inherent resiliency of the center portion 16 to exert a radial, outward pressure throughout the circumference of the center portion 16, against the bead, thereby resulting in a tight seal that will prevent leakage of the container contents, and will also prevent loss of carbonation and admission of air. Further, the underside of the marginal part of the body 14, between the upper end of the skirt and the periphery of the center portion 16, is compressed against the top of the bottle, as shown in Fig. 2. This further aids in the sealing engagement.

In Figs. 5–7 a modified sealing element 14^a is shown which, like the first form, is formed from a single piece of flexible plastic material. The general shape of the piece is circular, but the periphery thereof is scalloped as at 21, thus defining pointed or rounded tongues 22 arranged side-by-side throughout the circumference of the skirt of the sealing element. Small slits 24 are formed in the sealing elements, extending inwardly from the periphery thereof at the sides of the tongues, said slits extending radially inwardly of the sealing element to separate the tongues.

The center portion 16^a has a conically sloped side wall, as in the first form of the invention.

In the modified form, there are integrally formed, on the inner surfaces on the tongues 22, in spaced relation to the pointed free ends of the tongues, semi-spherical projections 26. These engage against the adjacent surface of the container, so as to hold the tongues 22 outwardly, at their free ends, from the container (see Fig. 6).

On the outer surfaces of the several tongues, indicia 28 may be provided. For example, a single letter may be

printed upon or otherwise marked upon each tongue, with the several letters combining to spell out a word or words, for example the trademark of the product. An attractive packaging of the product thus results from the arrangement.

In use of the modified form, the cap **12** is removed in the regular manner. Then, since the tongues **22** are held outwardly from the container, any one of them can be readily grasped between the thumb and index finger and lifted, to remove the sealing element.

While I have illustrated and described the preferred embodiments of my invention, it is to be understood that I do not limit myself to the precise constructions herein disclosed and the right is reserved to all changes and modifications coming within the scope of the invention as defined in the appended claims.

Having thus described my invention, what I claim as new, and desire to secure by United States Letters Patent is:

1. The combination, with a container having a beaded mouth and having a crown cap thereover, of a shaped sealing element including a center portion engageable within the confines of the mouth of the container and a marginal skirt portion extended about said mouth, said element being interposed between the container and cap through the full area of the cap to hold the same completely out of contact with the container, said element being formed from a single piece of flexible plastic material, and being generally circular in respect to its outer configuration, the peripheral area of the skirt portion depending below the cap, and being scalloped to form a circumferential series of tongues, adjacent the cap, said skirt portion having radial slits at the sides of the tongues, said skirt portion further including a projection formed upon the inner surface of each tongue to support the tongue outwardly from the adjacent surface of the container.

2. The combination, with a container having a beaded mouth and having a crown cap thereover, of a shaped sealing element including a center portion engageable within the confines of the mouth of the container and a marginal skirt portion extended about said mouth, said element being interposed between the container and cap through the full area of the cap to hold the same completely out of contact with the container, said element being formed from a single piece of flexible plastic material, and being generally circular in respect to its outer configuration, the peripheral area of the skirt portion depending below the cap, and being scalloped to form a circumferential series of tongues, adjacent the cap, said skirt portion having radial slits at the sides of the tongues, said skirt portion further including a projection formed upon the inner surface of each tongue to support the tongue outwardly from the adjacent surface of the container, said projections being semi-spherical in shape, and being integrally formed upon the tongues inwardly from the free ends of the tongues.

3. The combination, with a container having a beaded mouth and having a crown cap thereover, of a shaped sealing element including a center portion engageable within the confines of the mouth of the container and a marginal skirt portion extended about said mouth, said element being interposed between the container and cap through the full area of the cap to hold the same completely out of contact with the container, said element being formed from a single piece of flexible plastic material, and being generally circular in respect to its outer configuration, the peripheral area of the skirt portion depending below the cap, and being scalloped to form a circumferential series of tongues, adjacent the cap, said skirt portion having radial slits at the sides of the tongues, said skirt portion further including a projection formed upon the inner surface of each tongue to support the tongue outwardly from the adjacent surface of the container, said projections being semi-spherical in shape, and being integrally formed upon the tongues inwardly from the free ends of the tongues, said tongues having indicia on their outer surfaces so as to provide a legend extending peripherally of the part of the skirt portion exposed below the container cap.

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