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BOTTLE CAP AND OPENER

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FIG. 1.

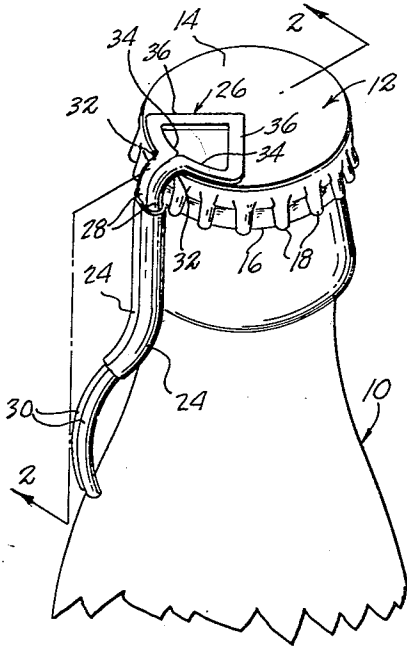


FIG. 2.

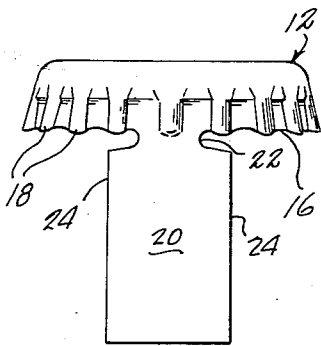
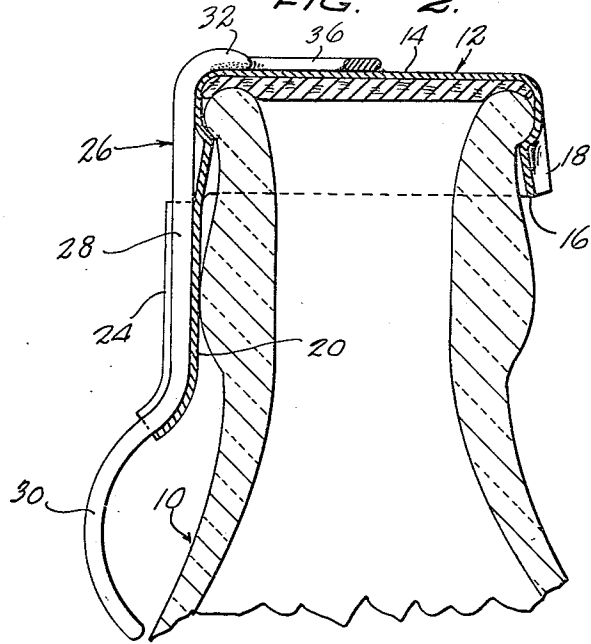
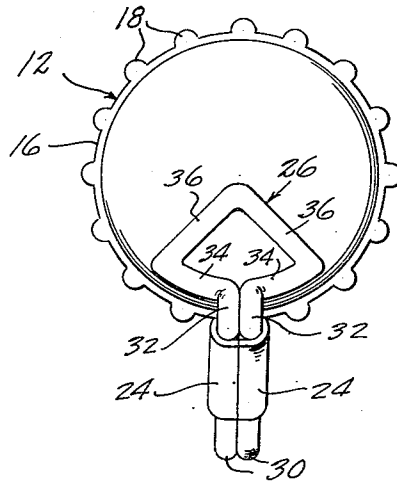


FIG. 4.

FIG. 3.



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1

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**BOTTLE CAP AND OPENER**

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4 Claims. (Cl. 215-46)

This invention relates to bottle caps and opening devices therefor. More particularly, the invention has reference to a bottle cap having associated therewith an opener, which opener is attached to the bottle cap and is adapted to remain in association therewith from the time the cap is first applied to the bottle until the time the cap is to be removed, the opener thus constituting a single-use opening means which eliminates the necessity of an opener separate from the cap.

Combined bottle caps and openers of the type stated are not new per se. Nevertheless, so far as is known, those devices of the type referred to that have heretofore been conceived have not found widespread commercial application, and this may be due in part to the fact that many of the devices hitherto known are relatively complex and expensive. Further, other combination devices of the class described, it is believed, may not have been commercially feasible due to the fact that they are incapable of lifting the bottle cap efficiently in every instance.

The main object of the present invention is to provide a generally improved combination device of the type stated which, in the first place, will be relatively inexpensive, and secondly, will be particularly adapted to insure that the bottle cap will be effectively open on every occasion.

Another object of importance is to provide a device of the type stated which will be compact in form, and will not take up more than a minimum amount of area at the side and top of the bottle, thus to permit the bottle to be packed in conventional cases such as those in which soft drinks, beer, and other beverages are distributed.

A further object of importance is to provide a device of the type referred to wherein a portion will be provided, overlying the top of the bottle cap, which portion will be of the shape and size of a one fourth segment of a circle, with the apex of the portion being disposed substantially over the center point of the bottle cap, to serve as a fulcrum when the opening device is rocked for the purpose of lifting the bottle cap, the angularly related sides of the portion providing an effective reinforcement therefor to reduce to a minimum the possibility of bending of the opener while the same is in use.

Still another object is to provide, on the cap, an integral, depending portion the sides of which may be rolled into sleeves, with said sleeves being engaged about parallel, contacting legs of the opener, the opener having at its lower end an offset or curved portion providing a finger grip or handle, with the sleeves continuing into a part of the length of said offset to hold the opener against movement longitudinally of the sleeves.

Other objects will appear from the following description, the claims appended thereto, and from the annexed drawing, in which like reference characters designate like parts throughout the several views, and wherein:

Figure 1 is a fragmentary perspective view of a bottle to which has been applied a combination bottle cap and opener formed in accordance with the present invention;

2

Figure 2 is an enlarged sectional view on line 2-2 of Figure 1;

Figure 3 is a top plan view of the bottle cap and opener, on an enlarged scale; and

Figure 4 is a side elevational view of the cap with the opener removed, the opener-engaging portion of the cap being shown in blank, prior to being formed into adjacent sleeves.

The reference numeral 10 has been applied generally in Figures 1 and 2 to a conventional bottle, having the usual beaded neck to which is applied a cap 12 formed in accordance with the present invention. The cap is of the well known "crown" type, and accordingly is formed with a flat, circular body 14 integral at its periphery with a depending, continuous skirt 16 formed at equidistantly spaced intervals throughout the circumference of the skirt with crimps or corrugations 18.

Integrally formed upon the lower edge of the skirt, at one location upon the periphery thereof, is a depending opener support portion 20, formed as a vertically elongated, generally rectangular tab of bendable material integrally connected at its upper end to the skirt through the medium of a connecting part 22 reduced in width relative to the main width of the support member 20, thus to define at opposite sides of said support member a pair of side portions 24 extending the full length of the support member.

The opener member generally designated 26 is formed from a long length of stout wire of a strength sufficient to resist bending, after said length of wire material has been shaped during manufacture thereof into the opener illustrated in the several figures of the drawing.

The opener member is shaped to include a pair of elongated, laterally contacting legs 28 coextensive in length, said legs being formed, at their lower ends, with longitudinally and outwardly curved lower end portions 30 forming a finger grip or handle. At their upper ends, the legs 28 are straight, and are extended in parallelism with the axis of the bottle. The legs 28, at said upper ends thereof, are formed with laterally projecting portions 32 extending substantially radially, inwardly of the bottle cap and overlying the marginal portion of the bottle cap. At their inner ends, the laterally projecting portions 32 merge into base portions 34 of a triangular opener head, the base portions 34 being arcuately shaped, and being struck upon a common radius, in concentric relation to the cap. At their outer ends, the base portions 34 of the head merge into side portions 36 of said head, the side portions 36 being disposed at 90° to one another and meeting substantially at the center point of the cap. Thus, the head of the opener member may be considered as being of quadrantal or segmental shape, forming a one-fourth segment of the circle defined by the top of the bottle cap.

In the manufacture of the device, the side portions 24 of the tab 20 are rolled upon the legs 28, as shown in Figures 1-3, to provide a leg-embracing sleeve. The sleeve, at its lower end, is arcuately shaped (Figures 1 and 2), correspondingly to the curvature of the finger grip part of the opener member. As a result, the opener member is held by the sleeve against movement longitudinally of the sleeve out of its proper position.

In use of the device, one need merely grasp the handle or finger grip, with the index finger, while the thumb is positioned upon the base part of the head. The opener member is now rocked about the fulcrum represented by the apex of the head, in a clockwise direction in Figure 2. As the finger grip moves away from the bottle, one is permitted to slide his or her index finger upwardly along the sleeve, so as to reduce the overall length of the lever constituted by the opener member. Progressively increased strength is thus applied for the purpose of lifting

3

the cap, and on continued rocking of the opener member, the cap will be spread out of engagement with the bead of the bottle neck, and will be lifted off said neck.

If desired, one may spot-solder the opener head to the top of the cap, under the base portions 34 of the head, and in this way provide a firm connection of the opener head to the cap, that will aid in the opening of the bottle.

It is believed apparent that the invention is not necessarily confined to the specific use or uses thereof described above, since it may be utilized for any purpose to which it may be suited. Nor is the invention to be necessarily limited to the specific construction illustrated and described, since such construction is only intended to be illustrative of the principles, it being considered that the invention comprehends any minor change in construction that may be permitted within the scope of the appended claims.

What is claimed is:

1. In a combined cap and opener for a container, a circular body having a depending peripheral crimped skirt having an outer side and a lower edge, an integral sleeve on and depending from said lower edge, an opener member comprising a pair of elongated legs in lateral contact with each other and securably engaged lengthwise through said sleeve, said legs having upper ends projecting above said sleeve and bearing against said outer side of the skirt, and a head on the upper ends of and connecting the upper ends of the legs and overlying the circular cap body.

2. In a combined cap and opener for a container, a circular body having a depending peripheral crimped skirt having an outer side and a lower edge, an integral sleeve on and depending from said lower edge, an opener member comprising a pair of elongated legs in lateral contact with each other and securably engaged lengthwise through said sleeve, said legs having upper ends projecting above said sleeve and bearing against said outer side of the skirt, and a head on the upper ends of and connecting the upper ends of the legs and overlying the circular cap body, said legs having lower end portions extending below the sleeve, said lower end portions being

4

curved outwardly away from the axes of the legs to provide a finger grip.

3. In a combined cap and opener for a container, a circular body having a depending peripheral crimped skirt having an outer side and a lower edge, an integral sleeve on and depending from said lower edge, an opener member comprising a pair of elongated legs in lateral contact with each other and securably engaged lengthwise through said sleeve, said legs having upper ends projecting above said sleeve and bearing against said outer side of the skirt, and a head on the upper ends of and connecting the upper ends of the legs and overlying the circular cap body, said head being triangular and comprising laterally oppositely extending base portions on the upper ends of the legs, said base portions terminating in convergent side portions having terminal ends connected together.

4. In a combined cap and opener for a container, a circular body having a depending peripheral crimped skirt having an outer side and a lower edge, an integral sleeve on and depending from said lower edge, an opener member comprising a pair of elongated legs in lateral contact with each other and securably engaged lengthwise through said sleeve, said legs having upper ends projecting above said sleeve and bearing against said outer side of the skirt, and a head on the upper ends of and connecting the upper ends of the legs and overlying the circular cap body, said head being triangular and comprising laterally oppositely extending base portions on the upper ends of the legs, said base portions terminating in convergent side portions having terminal ends connected together, said base and said side portions being in contact with the circular cap body.

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