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CAP APPLYING MEANS

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2 Claims. (Cl. 226—85)

This invention aims to provide a novel means for applying to a container, such as a milk bottle, the cap which goes on the bottle in addition to the usual closure disk. The invention aims, further, to provide a novel sleeve, so constructed and retained that it will roll over the edge of the bottle or other container and fit the cap closely across the end of the bottle and around the neck thereof.

It is within the province of the disclosure to improve generally and to enhance the utility of devices of that type to which the present invention appertains.

With the above and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, may be made within the scope of what is claimed, without departing from the spirit of the invention.

In the accompanying drawing:

Fig. 1 shows in vertical longitudinal section, a device constructed in accordance with the invention, parts being in the positions which they will assume before the capping of the container or bottle begins;

Fig. 2 is a similar view showing the device as it will appear during the capping operation;

Fig. 3 is a cross section on the line 3—3 of Fig. 1;

Fig. 4 is a cross section showing a modification. In carrying out the invention, as disclosed in Figs. 1, 2 and 3, there is provided a base 1, of any desired construction, having an opening 2. A tubular body 3 is supported on the base 1.

Any suitable means may be provided for heating the body 3. For instance, as shown in Figs. 1, 2 and 3, the body may be provided with a steam chamber 4, through which steam may be furnished by any desired number of pipes 5.

It is not necessary that the body 3 be heated by steam. The body can be heated in any desired way. Thus in Fig. 4, the body, shown at 6, includes an electric heating means 7.

Disposed within and closely embraced by the body 3 is a flexible sleeve 8, the sleeve being marked by the numeral 9 in Fig. 4. The sleeve may be made of any material which will hold air and water or other liquid. Often, it is desirable to make the sleeve out of rubber or a rubber compound, but that material is not insisted upon.

The sleeve 8 is supplied at its upper end with an outstanding flange 10 which overlaps the up-

per end of the body 3. On the flange 10 is superposed a lid 11, having a central depression 12, fitting within the sleeve. The lid 11 may be connected to the base 1 in any suitable way, for instance by draw bolts 14.

The sleeve 8 has a downwardly convexed end wall 15, carrying a central depending button 16. The lid 11 or its equivalent seals the sleeve 8 hermetically, so as to produce, within the sleeve, a resisting cushion of air. If desired, a quantity of liquid, such as water, shown at 17, may be disposed within the sleeve 8.

In practical operation, the usual closure 19 and cap 20 are assembled with a bottle 18, the cap being made of the material usually and commonly employed for that purpose. The bottle 18 is moved upwardly, as indicated in Fig. 2, in machines common in the art and functioning to produce that result. The button 16 fits down in the mouth of the bottle 18 and holds the closure 19 and the central part of the cap 20 in place. The lower portion of the sleeve 8 rolls upon itself and is forced around the mouth of the bottle, the cap 20 being caused to adhere to the side wall of the bottle. During this operation, the heated air trapped within the sleeve 8, affords the necessary resisting cushion. It is unnecessary to employ sponge rubber or any equivalent cushioning material, within the sleeve 8, in order to secure the necessary pressure. The liquid shown at 17 keeps the sleeve 8 moist, and the operative life of the sleeve will be long. The heating of the device not only increases the cushioning effect of the air, but, also, aids in applying the cap 20 to the neck of the bottle or other container.

Among other combinations, the present application discloses a device for applying a cap to a container 18 having a bead 25, the device including a tubular body 3, and a flexible, cushioning sleeve 8 within and closely enclosed circumferentially by the body, the sleeve being provided at one end with a closure 15.

The thickness of the sleeve 8 and the internal diameter of the body 3 are such, considered relatively to the diameter of the bead 25, that when the container 18 is brought into contact with the closure 15, and when the closure is moved to a position within the sleeve, as shown in Fig. 2, to form a plurality of layers 26 in the side wall of the sleeve, those layers will be compressed transversely, and diminished in thickness, to form a depending ring 27, which will expand inwardly beneath the bead 25, and tighten the cap 19 about the container 18, below the bead 25.

The device forming the subject matter of this application is simple in construction, but will be found thoroughly advantageous for the ends in view.

5 Having thus described the invention, what is claimed is:

1. In a device for applying a cap to a container, a tubular body, a flexible sleeve within and closely enclosed circumferentially by the body, the sleeve being provided at one end with an integral wall, and means for sealing the sleeve adjacent to its opposite end, to afford a resisting air cushion within the sleeve.

10 2. In a device for applying a cap to a container having a bead, a tubular body, a flexible, cushion-

ing sleeve within and closely enclosed circumferentially by the body, the sleeve being provided at one end with a closure, and the thickness of the sleeve and the internal diameter of the body being such, considered relatively to the diameter of the bead, that when the container is brought into contact with the closure, and when the closure is moved to a position within the sleeve, to form a plurality of layers in the side wall of the sleeve, those layers will be compressed transversely and diminished in thickness, to form a depending ring which will expand inwardly beneath the bead and tighten a cap about the container, below the bead.

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