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METHOD AND APPARATUS FOR TEMPERATURE MODIFYING PRESSURE DISPENSED MATERIALS

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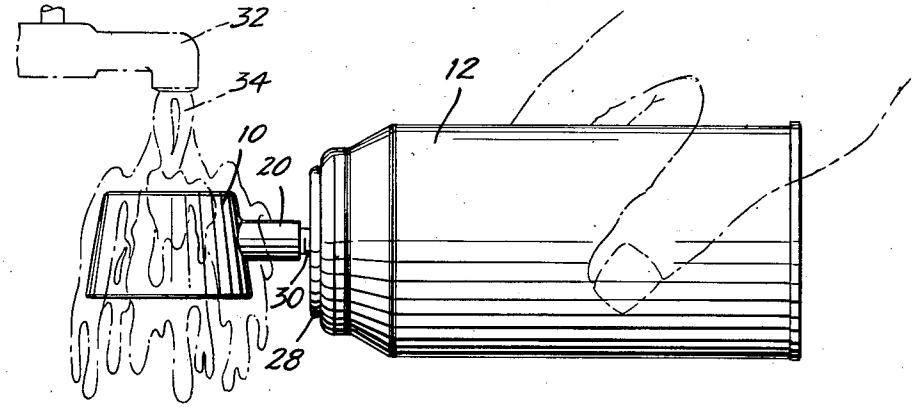


Fig. 4

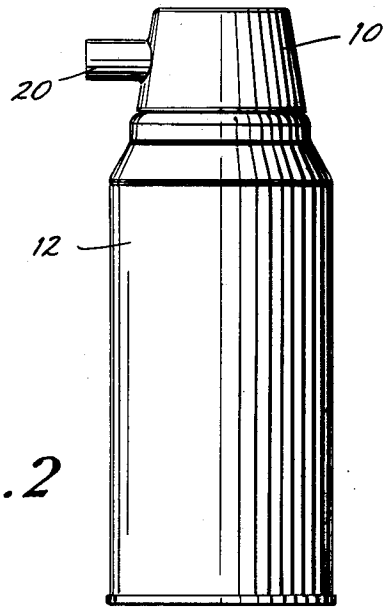


Fig. 2

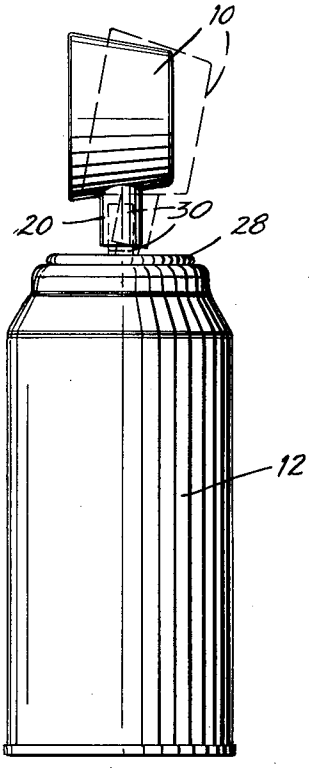
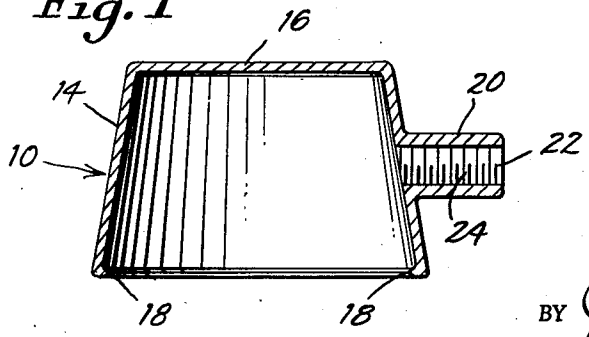


Fig. 3

Fig. 1



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METHOD AND APPARATUS FOR TEMPERATURE MODIFYING PRESSURE DISPENSED MATERIALS

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This invention relates to a method and apparatus for modifying the temperature of pressure dispensed materials and more particularly relates to a method and apparatus for heating shaving lather dispensed from a pressurized can.

With the advent and wide acceptance of the pressurized dispensing container, aerated shaving lather has in great measure supplanted the previously used shaving soap and brushless lather as the standard shaving preparation. Both of these latter materials were mixed to some degree with hot water when being applied to the face of the shaver, and were thus raised to a temperature that made shaving easier and more pleasant. Due to the preference of shavers for warm shaving lather, efforts have been made to heat the aerated lather after it has been dispensed from a pressurized container. All of these efforts have, however, entailed the use of some bulky external device containing a heating element such as an electrical resistance in conjunction with the dispenser. Such attachments, while satisfactorily heating the aerated lather, are expensive and generally non-portable, and thus severely limited in utility to barber shops and similar establishments.

According to the present invention, it has now been found that it is possible to provide a simple yet effective apparatus and method for heating aerated shaving lather which apparatus adds nothing appreciable to the size, weight or expense of the present shaving lather can, the lather being heated by the use of an improved cap for the aforementioned pressurized containers.

It is accordingly a primary object of the present invention to provide an improved cap structure for a pressurized dispensing container.

It is a further object of the invention to provide a cap for a pressurized dispensing container that can be used both to heat the material dispensed and to prevent the accidental discharge of the material.

It is a still further object of the invention to provide a method for changing the temperature of pressure dispensed material such as shaving lather.

These and further objects and advantages of the present invention will become more apparent upon reference to the following specification, appended claims and drawings wherein:

FIGURE 1 is a vertical section of the cap of the present invention;

FIGURE 2 is a perspective view of the cap of the present invention mounted on a container in a first position;

FIGURE 3 is a perspective view of the cap of the present invention mounted on a container in a second position; and

FIGURE 4 shows the cap and can being held in the material temperature modifying position.

Referring now to the several figures, a cap **10** is provided for cooperation with a container or can **12** of the well-known type for dispensing material such as shaving lather in an aerated state. In the preferred embodiment, the cap **10** has a side wall **14** and a top wall **16**. The side wall may be cylindrical in shape or may slope inwardly and upwardly to form a truncated cone. The top surface of this cylinder or cone is closed by the top wall **16** while the bottom of the cylinder or cone is left open to form an annular aperture or opening **18**.

The side wall **14** is provided with a sleeve **20** having an open end **22**. The cavity or recess formed by the side wall **14** and the top wall **16** of the cap is thus in fluid communication with the atmosphere through the sleeve **20**. The interior of the sleeve is preferably provided with threads **24** for a purpose presently to be described. In commercial practice the side wall, top wall and sleeve are formed integrally by molding or pressing in the well-known manner.

Referring to FIGURES 2 and 3, it may be seen that the can **12** is provided with a ridge or rim **28** and a discharge outlet or spout **30**. The spout **30** is of the type commonly provided on pressurized dispensing containers and is provided with a valve that will cause material to be discharged when the spout is moved relative to the can. This type of can is well known and further detailed description is deemed unwarranted. The cap **10** is so formed that the aperture **18** fits tightly over the rim **28** when the cap is placed on the container in a first position, as shown in FIGURE 2. Placing the cap on the can in this position prevents the accidental discharge of the material due to an unintended displacement of the spout **30** relative to the can **12**. This use of the cap **10** is similar to the use of caps presently employed for this purpose.

FIGURE 3 shows the cap **10** mounted on the container **12** in a second position. In this position, the sleeve **20** engages the spout **30** which may be threaded if desired for engagement with the threads **24** of the sleeve **20**. If desired, a friction fitting may be used both to attach the cap **10** to the can **12** and to attach sleeve **20** to spout **30**. In the position shown, the outlet of the spout **30** is in fluid communication with the cavity or recess formed by the walls **14** and **16** of the cap through the medium of the bore of the sleeve **20**.

As may be seen from FIGURE 3, the recess or cavity in the cap **10** may be filled with material from the can **12** by merely moving the can **12** relative to the spout **30** and cap **10** which are fixedly engaged. This relative movement may be conveniently accomplished by holding the aperture **18** of the cap against the palm of one hand and bending the can **12** away from the hand. After the cap **10** has been filled with the dispensed material, e.g., shaving lather, the lather may be heated in the manner shown in FIGURE 4.

In FIGURE 4, the cap **10** is held with the aperture **18** in a lowermost position under a tap **32** from which hot water **34** flows. The can **12** may be used as a handle in this position and the cap **10** may be held under the hot running water for 50 or 60 seconds. By making the cap **10** of a thin plastic having a good heat conductivity characteristic, the lather contained in the cap can be heated to the desired temperature. The cap is then removed from the running water and the shaving lather taken out of the cap by the fingers and applied to the shaver's face. The warm lather thus provided gives the shaver a better and more comfortable shave. The interior of the cap **10** may then be rinsed and snapped onto the can in its original position, such as shown in FIGURE 2, to prevent accidental discharge of the can.

It should be understood that the above description is descriptive and not limiting as many modifications may be made to the described structure that would embody the spirit of the invention. For example, the cap may be made in any desired shape such as dome-shaped, semi-spherical, a cone sloping in the inward direction, or any combination of these and other shapes. The cap may be made of any good heat conductivity material and may be modified to cooperate with any known dispensing container.

It can be seen from the foregoing description that a novel apparatus and method have been provided for tem-

perature modifying material dispensed from a pressurized container such as aerated shaving lather. The cap provided is extremely simple to manufacture and use, is not appreciably more expensive than present caps and is completely portable. The method disclosed is one that can be easily used by any shaver without any special equipment.

The invention may be embodied in other specific forms without departing from the spirit or essential characteristics thereof. The present embodiments are therefore to be considered in all respects as illustrative and not restrictive, the scope of the invention being indicated by the appended claims rather than by the foregoing description, and all changes which come within the meaning and range of equivalency of the claims are therefore intended to be embraced therein.

What is claimed and desired to be secured by United States Letters Patent is:

1. A cap for a pressurized dispensing container having a discharge outlet, said cap comprising a cup-shaped shell of good heat transfer material having bottom and side walls defining a cavity for receiving said discharge outlet when said cap is affixed to said container in a first position so as to prevent accidental discharge of material from said container, said shell having an aperture in its side wall, and hollow sleeve means connected to said side wall and being in fluid communication with said cavity through said aperture for engaging said discharge outlet when said cap is affixed to said container in a second position so that said cavity acts as a reservoir for material discharged through said outlet and said sleeve means.

2. A cap according to claim 1 wherein said bottom wall is imperforate and formed integral with said side walls.

3. The cap of claim 1 wherein said discharge outlet and said engaging means are screw threaded.

4. Apparatus for temperature modifying a pressure dispensed material comprising in combination: a pressurized container having a peripheral rim and a discharge outlet for dispensing said material; a generally cup-shaped cap of good heat transfer material having side and bottom walls defining a cavity; means on said cap for securing said cap tightly over said rim when said cap is placed on said container in a first position so as to prevent accidental discharge of said materials; said side wall of said cap having an aperture; a sleeve connected to said side wall over said aperture so that the interior of said sleeve is in fluid communication with said cavity through said aperture; said sleeve being adapted to releasably engage over said outlet when said cap is placed on said container in a second position so that said material may be collected in said cavity when said outlet is moved relative to said container.

5. A method of heating shaving lather dispensed from a pressurized can of the type having outlet means which, when moved relative to said can, will cause lather to be discharged, comprising the steps of attaching a cup shaped member having good heat transfer characteristics to the outlet means of said can, discharging said shaving lather into said cup shaped member by moving said can relative to said member and said outlet means, and holding said cup shaped member under hot running water so that water contacts said member but not said lather, whereby heat is transferred from said water to said lather.

6. A method for heating shaving lather dispensed from a pressurized can of the type having outlet means which, when moved relative to said can, will cause lather to be discharged, comprising the steps of removing a cap which has good heat transfer characteristics from said can, repositioning said cap so that it engages said outlet means, moving said can relative to said cap and said outlet means so as to discharge lather into said cap, and holding said cap under hot running water so that water contacts said member but not said lather, whereby heat is transferred from said water to said lather.

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