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J. DOBLIN

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AEROSOL DISPENSING CAP

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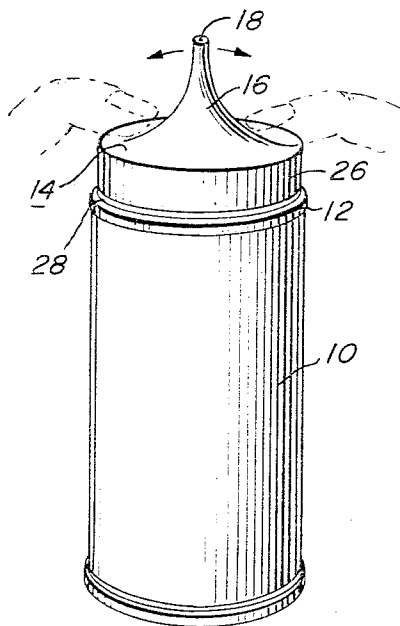


Fig. 1

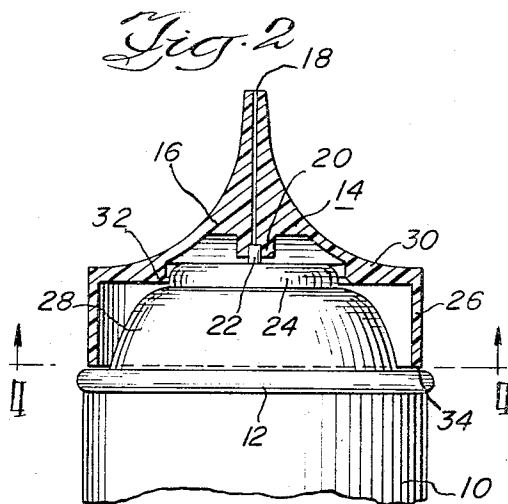


Fig. 2

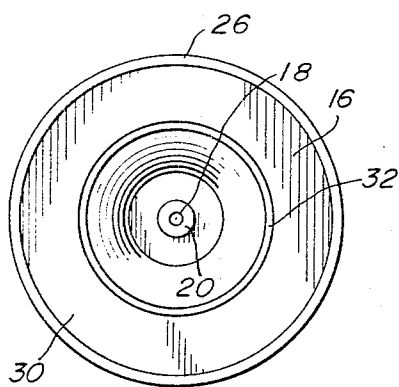


Fig. 4

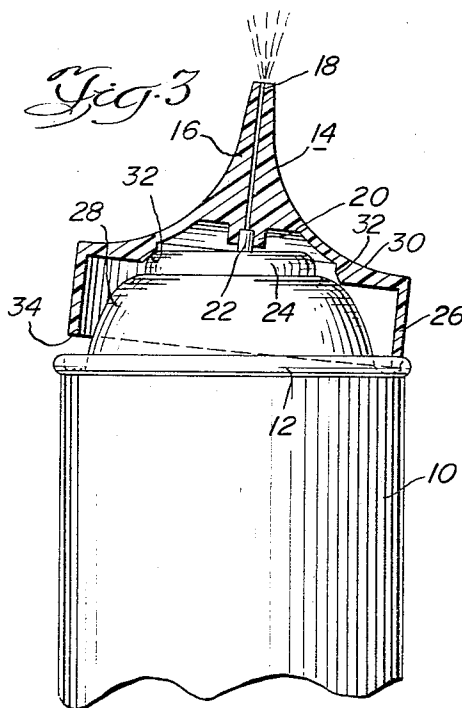


Fig. 3

INVENTOR.

Jay Doblin

BY

Dresler, Tiedemith, Clement, Gordon & Ladd

ATTORNEYS

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AEROSOL DISPENSING CAP

Jay Doblin, Chicago, Ill., assignor to W. R. Frank Packaging Engineers, Inc., a corporation of Illinois

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1 Claim. (Cl. 222-402.13)

This invention relates to a novel aerosol dispensing cap and, more particularly, to a dispensing cap which causes actuation of an aerosol valve as a result of a downward force against any portion of a large surface area.

The usual aerosol container on the market today consists of a container can having a rim, a container neck, a mounting cup attached to the neck, and an aerosol valve stem within the mounting cup. The valve stem is generally cylindrical in shape and has an outlet channel approximately one-eighth inch in diameter. Frictionally attached to the outer surface of the valve stem is generally a plastic valve button which has a channel extending therethrough. The valve button is ordinarily approximately a quarter inch to one-half inch in diameter and the outlet aperture which communicates with the valve button channel is generally situated on one side of the valve button.

The fineness of the spray is controlled by the diameter of the outlet aperture of the valve button. When the valve button is urged downwardly the aerosol valve is actuated and a spray is expelled from the container via the outlet aperture of the valve button.

Before pressing the valve button it has been necessary to first locate the outlet aperture so that the spray will be aimed in the proper direction. Furthermore, the portion of the container above the rim including the neck, the mounting cup and the valve button has been considered distasteful in appearance to many consumers. An effort to pacify these consumers has been made whereby a large separate cap is provided which completely surrounds the portion above the container rim and is frictionally affixed to the container. However, in order to have access to the valve button to release the spray this container cap must be disengaged from the can. In many applications the separate cap has been misplaced or broken after removal from the can.

The relatively small valve button has been a problem in itself because a steady pressure against the top portion of the button to release the spray has caused much discomfort in the past. In addition, the valve button has a tendency to slip away from the finger applying pressure thereto, causing an interruption of the spray.

The foregoing disadvantages of the prior art valve button have been obviated by the present invention in which a dispensing cap for an aerosol container is provided. The cap of the present invention has an upper portion through which a channel extends. The channel is adapted for communication with the outlet channel of the valve stem. A downwardly extending skirt contiguous with the upper portion of the cap is provided to surround at least a portion of the container neck. The skirt forms the portion of the outer periphery of the dispensing cap. The cap is adapted to frictionally engage the aerosol valve stem by the means of an annular flange which extends downwardly from the upper portion of the cap whereby the cap is sustained in a floating position with respect to the container rim thereby causing actuation of the aerosol valve when pressure is exerted against the outer periphery of the upper portion of the dispensing cap.

In a preferred embodiment of the invention the dispensing cap channel extends vertically therethrough so that a fountain type cap is provided having the outlet aperture directly on the top of the cap.

In another embodiment of the invention the upper por-

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tion has a flared outer periphery which not only adds to its attractive appearance but also provides a surface which the consumer will find comfortable to press.

A more detailed explanation of the invention is provided in the following description and claim and illustrated in the accompanying drawing which discloses by way of examples the principle of the invention and the best mode contemplated of applying that principle.

In the drawing:

FIGURE 1 is a perspective view of an aerosol container with a dispensing cap of the present invention affixed thereto;

FIGURE 2 is a sectional elevation showing a dispensing cap of the invention in its normal position;

FIGURE 3 is a sectional elevation showing the same dispensing cap in an actuated position; and

FIGURE 4 is a view of the dispensing cap of FIGURE 2 taken along the line 4-4 of that figure.

Referring to the drawing, in FIGURE 1 an aerosol container can 10 having a container rim 12 is illustrated with one embodiment of the dispensing cap of the present invention, generally designated as 14, affixed thereto.

As shown most clearly in FIGURES 2 through 4, dispensing cap 14 comprises an upper portion 16 through which a channel 18 extends. In a preferred embodiment of the invention the channel 18 extends substantially vertically through the upper portion 16 as shown in the drawing. In this manner a fountain top is provided which is decorative and allows the user to know exactly from where the spray will be expelled without having to search for the outlet. The size of the channel 18 diameter is determined in view of the fineness of the spray desired.

An annular flange 20 which extends downward from the upper portion is provided and is adapted to frictionally engage valve stem 22 which is positioned above container rim 12 and within mounting cup 24 of aerosol container 10. A downwardly extending skirt 26 is provided contiguous with upper portion 16 and is adapted to surround at least a portion of the container neck 28.

In one embodiment of the invention a spacer means 30 in the form of an annular ring is provided to restrict the movement of dispensing cap 14. As seen in FIGURE 3, edge 32 of spacer 30 is caused to contact mounting cup 24 upon actuation of the dispensing cap. In one embodiment of the invention movement of the floating cap is limited by bottom edge 34 of skirt 26 which will ultimately contact a portion of container neck 28.

In the operation of the dispensing cap, any downward pressure against the outer periphery of upper portion 16 will cause actuation of the aerosol valve. It is preferable that a "side action" valve be employed wherein actuation is caused by a sideward force against the valve stem as an alternative to a downward force. Hence, positive actuation will result due to pressure on any part of the entire surface of upper portion 16. In order to achieve a more comfortable and attractive dispensing cap, a flared upper portion may be provided as illustrated in the drawing.

To prevent accidental actuation during shipment or in stores a paperboard collar can be inserted between container rim 12 and bottom edge 34 of the dispensing cap. In this manner dispensing cap 14 will be fixed in the position shown in FIGURE 2. When actuation of the device is required the paperboard collar may be simply removed.

It is preferred that dispensing cap 14 be a unitary molded piece. However, it is to be understood that the invention is not limited to such a construction.

The fundamental novel features of the invention as applied to a preferred embodiment have been shown and described. It will be understood that various omissions and substitutions and changes in the detail and form of

the device illustrated may be made by those skilled in the art without departing from the spirit of the invention.

What is claimed is:

A dispensing cap for an aerosol container having a cylindrical body portion, a container rim in the form of an annular bead at the top of the body portion, a container neck, a mounting cup attached to the container neck and a valve stem positioned above the bead and within the mounting cup, which comprises: a substantially cylindrical upper portion having a channel extending substantially vertically therethrough, said channel being adapted for communication with the outlet aperture of said valve stem; an outwardly concave, intermediate portion, tangentially and continuously merging with the upper portion and having a surface adapted for pressure by an operator; a cylindrical skirt joined to the lower edge of the intermediate portion, said cylindrical skirt surrounding said container neck and forming a portion of the outer periphery of said dispensing cap; means connected to said upper portion and being adapted to engage frictionally said valve stem; the lower edge of said skirt being spaced in an axial direction from said annular bead a sufficient distance whereby said dispensing cap is sustained in a floating position with respect to said bead thereby per-

mitting actuation of the aerosol valve when pressure is exerted against said surface of said intermediate portion of the dispensing cap and whereby said skirt substantially constitutes a continuation of the outer wall of the aerosol container when said cap and valve stem are in their non-dispensing position.

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RAPHAEL M. LUPO, *Primary Examiner.*