Sept. 30, 1969 M. MELOCCHI 3,469,746

CAP COMPRISING A SWINGING COVER WHICH SERVES AS A PUSHBUTTON FOR USE WITH A CONTAINER FOR AN AEROSOL PRODUCT

Filed April 13, 1967 2 Sheets-Sheet 1

FIG. 1

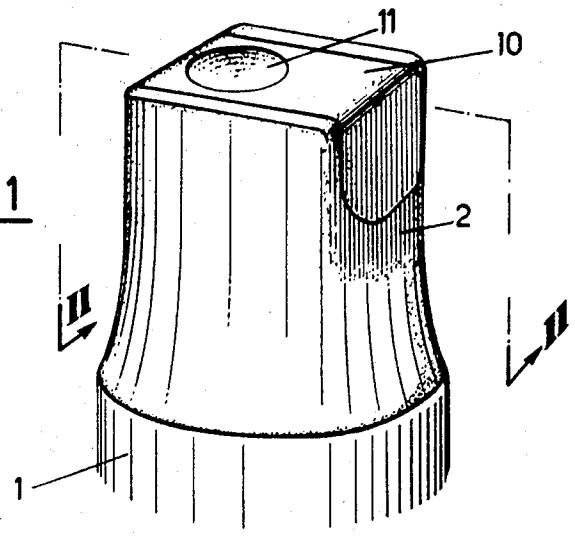
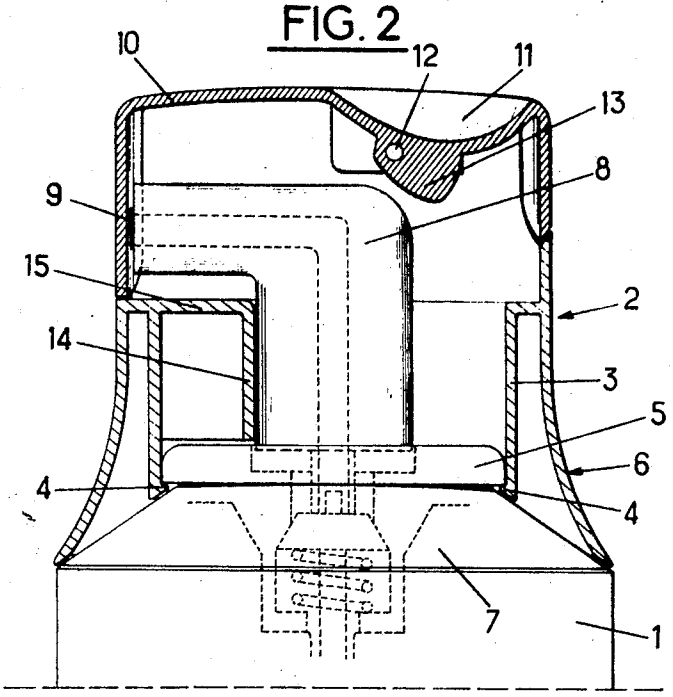


FIG. 2



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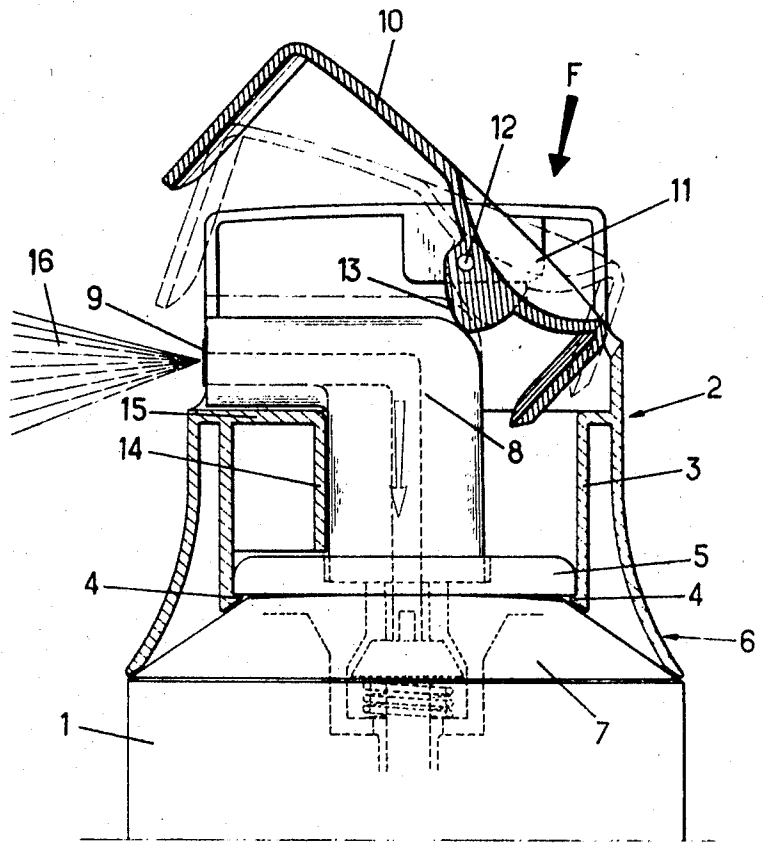

FIG. 3

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CAP COMPRISING A SWINGING COVER WHICH SERVES AS A PUSHBUTTON FOR USE WITH A CONTAINER FOR AN AEROSOL PRODUCT

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Int. Cl. B65d *83/14*
U.S. Cl. 222—400.12 3 Claims

ABSTRACT OF THE DISCLOSURE

This invention relates to a cap for an aerosol container which cap comprises a cover for actuating the control valve of the container. This cover is so designed that pressure on one side thereof both uncovers the container nozzle and actuates the control valve, while release of the pressure automatically results in closure of both valve and cover.

Summary

The object of the present invention is to provide the new article of manufacture which consists of a cap for a container holding an aerosol solution and provided with a valve of a type already known in itself, which may be either depressed or swung. My new cap is essentially characterized by the fact that it comprises in combination means for fastening the cap to the container and a cover mounted so that the valve may be swung between two extending positions for actuating the control valve by means of an elbow containing a passageway which ends in an aerosol nozzle. The cover is provided with an inner wall which guides the elbow as it swings, by cooperating with suitable means inside the cap, and the nozzle is uncovered at one of the extreme positions of the cover, but closed at the other extreme position.

In one embodiment of the invention, which is designed to actuate the valve which is actuated by axial depression, the cover uncovers the outlet of the sleeve which is usually elbow-shaped, before the cam comes into contact therewith. The aerosol nozzle is guided perpendicularly to the axis of the valve by two parallel lateral walls, a front wall guides the elbow parallel to the axis of the container while it is being moved and limits its path of travel.

Description of the drawings

In order that the invention may be better understood, one embodiment thereof will now be described, purely by way of illustration, with reference to the annexed drawings, in which:

FIG. 1 is a perspective view showing my cap with the cover closed;

FIG. 2 is a sectional view taken along the line II—II of FIG. 1; and

FIG. 3 is a view like that of FIG. 2, but showing the cap open and the sleeve at the end of its path of travel.

A cap **2** moulded from a relatively rigid material, which nevertheless possesses some degree of flexibility, preferably a plastic material, is mounted on a container **1** holding an aerosol solution.

This cap **2** is provided with an inner vertical cylindrical wall **3** which serves as a partition and is terminated by a circular rim **4**, which is snapped over the collar **5** of the container **1**, thus holding the outer wall **6** of the cap against the upper frusto-conical part **7** of the container **1**.

An elbow **8** comprising a main portion and a perpendicular extension is formed with an inner passageway on the drawing and terminated at one end by a conventional device for actuating the valve of the container and at the other end by a nozzle **9**.

A cover **10** provided with a depression **11** for receiving a finger is pivotally mounted on a pin **12** seated in the cap **2**. The inner surface of the cover **10** carries beneath the depression **11***a* protuberance **13** which is cam-shaped in section and cooperates with the rounded surface of the elbow **8**.

In order to use a container according to the invention, the cover **10** is swung by pressing a finger against the depression **11** in the direction indicated by the arrow F of FIG. 3. The front part of the elbow **8** carrying the nozzle **9** is uncovered well before the cap reaches the position shown in broken lines on FIG. 3, at which time the cam comes into contact with the elbow **8**. When pressure is continued, the sleeve is urged forward, but since it abuts the wall **14**, it can only move downward, with the profile of the cam **13** sliding on the cooperating rounded part of the elbow **8**. The vertical movement of the sleeve is guided by two lateral walls inside the cap, not shown on the drawings, between which the horizontal part of the sleeve is retained against turning. The elbow descends as far as the horizontal wall **15**, to a position which permits the emission of a jet of aerosol. As it moves, the part of the sleeve carrying the nozzle **9** is adequately retained perpendicularly to the axis of the valve by the lateral walls provided for this purpose within the cap.

In order to stop the flow **16** of aerosol it suffices to release the finger, and spring means within the sleeve returns the sleeve **8** to its original position while the cam **13** closes the cover **10**.

What is claimed is:

1. A cap for a container of the type containing an aerosol solution and provided with a movable outlet valve, said cap comprising means for fastening it to said container, a sleeve defining an elbow pierced by an inner passageway and terminating at one end in a spray nozzle, said sleeve being mounted on said cap for movement between a first position in which the end of said sleeve remote from said nozzle opens said outlet valve and a second position in which it permits said outlet valve to close, and a cover mounted on said cap for movement between a first position in which it covers the nozzles end of said passageway and a second position in which it urges said sleeve into its valve opening position, and uncovers said nozzle end of said passageway, said sleeve having a longitudinally curved cam surface on the outside of the bend in said elbow, and said cover being provided with inwardly projecting means which exerts pressure against said cam surface as said cover is swung toward its second position, thereby urging said sleeve in a direction having a component toward said valve and a component at an angle to said first component, and guide means constraining said sleeve to translational movement toward and away from said valve and guiding the nozzle end of said sleeve during said translational movement.

2. A cap as claimed in claim **1** in which the sleeve has the shape of an elbow and comprising means provided inside of the cover for limiting the depth of the stroke exerted by said elbow against said valve, said means being positioned to be encountered by said elbow only after said passageway and has been uncovered.

3. A cap as claimed in claim **1** in which said cover is permanently connected to the remainder of said cap

and mounted for swinging movement between said first and second positions.

References Cited

UNITED STATES PATENTS

2,954,904	10/1960	Potoczky	222—402.12 XR
3,089,624	5/1963	Micallef	222—402.12 XR
3,146,922	9/1964	Tuttle	222—402.12
3,154,224	10/1964	Wakeman	222—402.12
3,155,291	11/1964	Wakeman	222—402.12
3,236,421	2/1966	Glazier	222—182
3,254,677	6/1966	Wakeman	222—402.12 XR
3,323,695	6/1967	Monahon	222—402.13
2,811,289	10/1957	Davis et al.	222—402.13 XR

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