

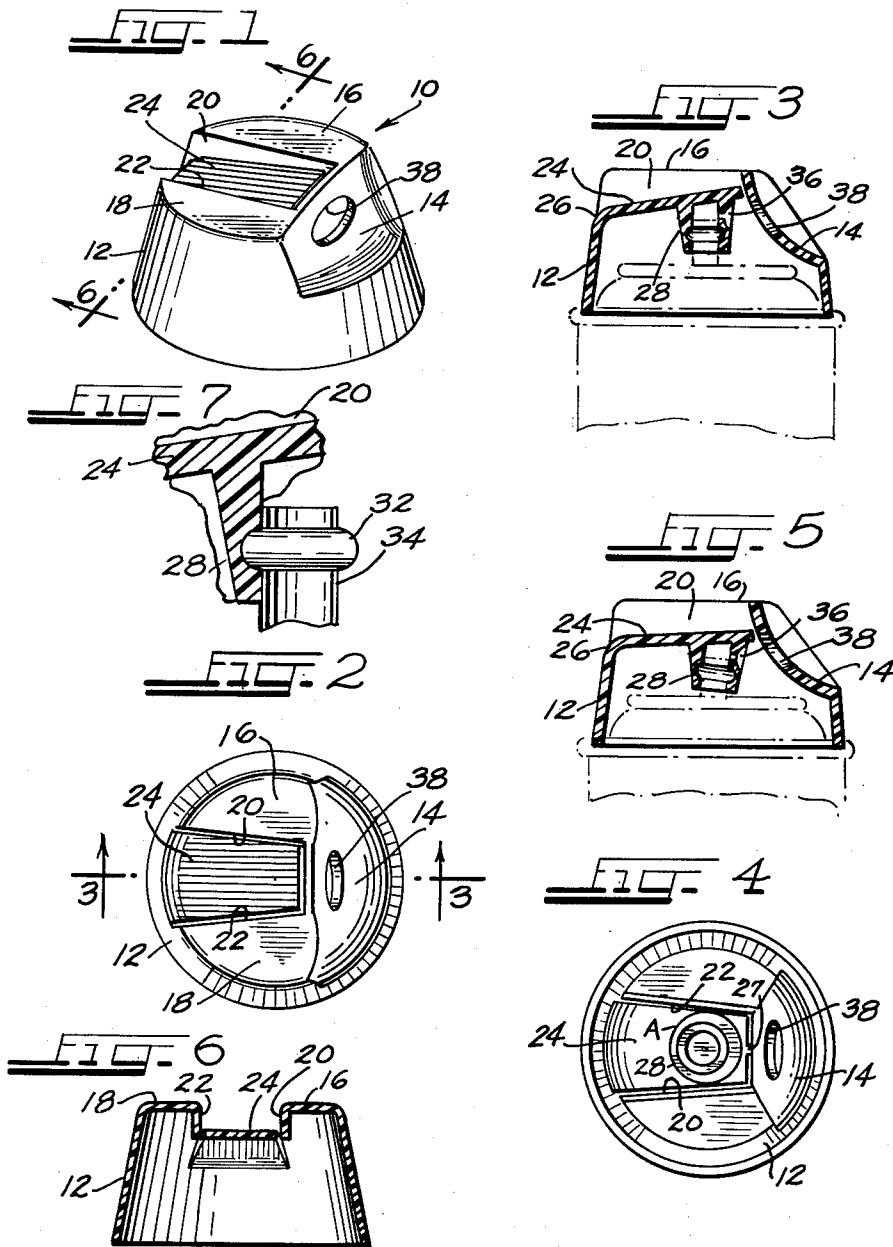
July 7, 1964

N. B. LERNER

3,140,014

CAP FOR AN AEROSOL TYPE CONTAINER

Filed June 27, 1962



INVENTOR
NATHAN B. LERNER
BY
Max R. Kraus
ATTORNEY

1

3,140,014

CAP FOR AN AEROSOL TYPE CONTAINER
Nathan B. Lerner, Chicago, Ill., assignor to W. Braun
Company, Chicago, Ill., a corporation of Illinois
Filed June 27, 1962, Ser. No. 205,746
4 Claims. (Cl. 222-182)

One of the objects of this invention is to provide a cap for protecting and for actuating the nozzle of an aerosol container.

Another object of this invention is to provide an integrally formed cap which may be readily secured to conventional aerosol containers for the purpose of providing a protective covering for the nozzle so that the container may be shipped, handled, transported and stored, even with the containers stacked, one on top of the other, without the nozzle or discharge spout being depressed, yet the cap has means permitting the nozzle to be depressed or actuated with the cap in a protective covering position.

In conventional aerosol containers, the nozzle extends upwardly of the top of the container. The fluid or liquid under pressure within the container is discharged by depressing the nozzle. Various means have been provided for protecting the nozzle during shipment, however, the protective coverings have to be removed when the nozzle is to be manually depressed during use. With the present invention these objectionable features are eliminated and there is provided a cap which is very simple and inexpensive to produce, which may be readily applied, and which serves to protect the nozzle against any accidental or unwanted depression or actuation, but which permits the user to readily depress and actuate the nozzle without removing the cap.

Other objects and advantages will become apparent as this description progresses.

In the drawings:

FIGURE 1 is a perspective view of the cap.

FIGURE 2 is a top plan view of same.

FIGURE 3 is a sectional view taken on lines 3-3 of FIGURE 2.

FIGURE 4 is a bottom plan view of the cap, also showing the temporary connection between the actuating strip and the front wall.

FIGURE 5 is a view similar to FIGURE 3, but with the actuating portion of the cap depressed to depress the nozzle.

FIGURE 6 is a sectional view taken on lines 6-6 of FIGURE 1, and

FIGURE 7 is an enlarged sectional view showing the connection between the cap and the nozzle.

The cap, which may be integrally molded of a plastic material, such as polyethylene or the like, is generally indicated at 10 and includes a body formed of a generally cylindrical skirt portion 12, having a generally concave front wall 14. The top of the cap is formed to provide spaced end horizontal top walls 16 and 18 which merge with the cylindrical vertical portion and the concave front wall 14. Spaced inwardly facing parallel walls 20 and 22 extend downwardly from the top. The bottom of the inwardly facing vertical walls 20 and 22 incline or slope downwardly from the front to the rear of the cap.

Extending forwardly from the rear of the cap is a depressible member generally indicated at 24 which is inclined upwardly at an angle corresponding generally to the slope of the bottoms of the vertical inner walls 20 and 22. The depressible member 24 is an elongated strip of generally rectangular shape across the top. It is not connected to the rest of the cap along the sides of the strip or at the front of the strip, except for the temporary connection at the front. The connection to the cap is only at the rear top portion indicated by the numeral 26, the

2

connecting portion thus forming in effect a hinge for the depressible strip 24. The temporary connection at the front is indicated at 27 and this is formed during the molding of the cap by providing the narrow connecting wall between the front of the depressible strip 24 and the front wall 14. This is broken when the depressible strip is depressed the first time, and therefore provides a tamper-proof cap.

Depending from the depressible strip 24 and formed integrally therewith is a tubular depending portion or sleeve generally indicated at 28, which has an annular recess 30 adapted to engage the bead or shoulder 32 on the nozzle 34. This is best shown in the enlargement in FIGURE 7. This forms the only connection between the cap and the container, the connection being only along the nozzle and sleeve, and this is sufficient to retain the cap on the container.

The sleeve 28 has a transversely extending opening 36. The curved front wall 14 of the cap is provided with an enlarged opening 38 in line with the transverse opening 36, and it is through these two openings that the pressurized liquid is dispensed.

The cap is positioned over the top of the container, with the sleeve 28 over the nozzle 34. The cap is pressed downwardly so that the bead 32 of the nozzle 34 will engage the annular recess or groove 30 of the sleeve and interlock therewith. This interlocking will provide the securement between the cap and the container and the interlocking will remain effective for the duration of use of the can. The cap is thus in position for use.

The bottom of the skirt 12 seats on the top of the container, as shown in FIGURE 3, and the skirt remains in this position as long as the cap is on the container, which is normally for the life of the container's use. However, it may be detached therefrom by an upward pull on the cap.

To operate the valve means within the nozzle, the nozzle 34 has to be depressed and this is accomplished by applying a finger to the depressible strip 24 and depressing same, as seen in FIGURE 5, which causes the sleeve 28 on the strip to move the nozzle downward. As this occurs, the fluid under pressure will come up through the nozzle and be discharged laterally through the openings 36 and 38. After the finger has been removed from the strip 24, the strip will return to the position shown in FIGURE 3.

It will be seen that the depressible strip 24 is below the top surface of the cap so that containers may be stacked on top of each other, resting on the top surfaces 16 and 18, and not engaging the depressible strip 24. The lowered position of the strip 24 adjacent the vertical inner walls 20 and 22 provides a guide for the user's finger in depressing the depressible strip 24. A person is thus able to quickly locate the depressible strip and to readily apply the finger thereto.

The container can be handled without causing the nozzle to be depressed unless it is desired to depress same. The cap provides a protective covering for the nozzle and the top of the container, yet remains in its protective position while the nozzle is depressed through the depressible member.

It will be understood that various changes and modifications may be made from the foregoing without departing from the spirit and scope of the appended claims.

What is claimed is:

1. A cap for an aerosol container having a discharge nozzle, said cap comprising a body including a skirt portion and a pair of spaced generally flat top portions, a centrally positioned depressible strip of generally rectangular shape secured to said cap and extending between said spaced flat top portions, said strip being attached at its outer end to said skirt portion a short distance to form

3

a hinge portion therewith and otherwise unattached so that hinging of said strip is at the rear of said cap, said depressible strip having a downwardly depending sleeve for engagement with the discharge nozzle so that depressing said strip will depress said nozzle and discharge the contents from said container, said sleeve having an outlet opening communicating with the nozzle through which the liquid is discharged under pressure.

2. A structure defined in claim 1 in which the depressible strip is positioned below the plane of the pair of spaced flat top portions.

3. A structure defined in claim 1 in which the cap has

4

a generally concave front portion and an opening therein communicating with the outlet opening in the sleeve.

4. A structure defined in claim 1 in which a pair of spaced vertical inner walls are adjacent the depressible strip.

References Cited in the file of this patent

UNITED STATES PATENTS

2,819,116	Abplanalp -----	Jan. 7, 1958
2,975,943	Miles et al. -----	Mar. 21, 1961
3,058,626	Hibbs et al. -----	Oct. 16, 1962