

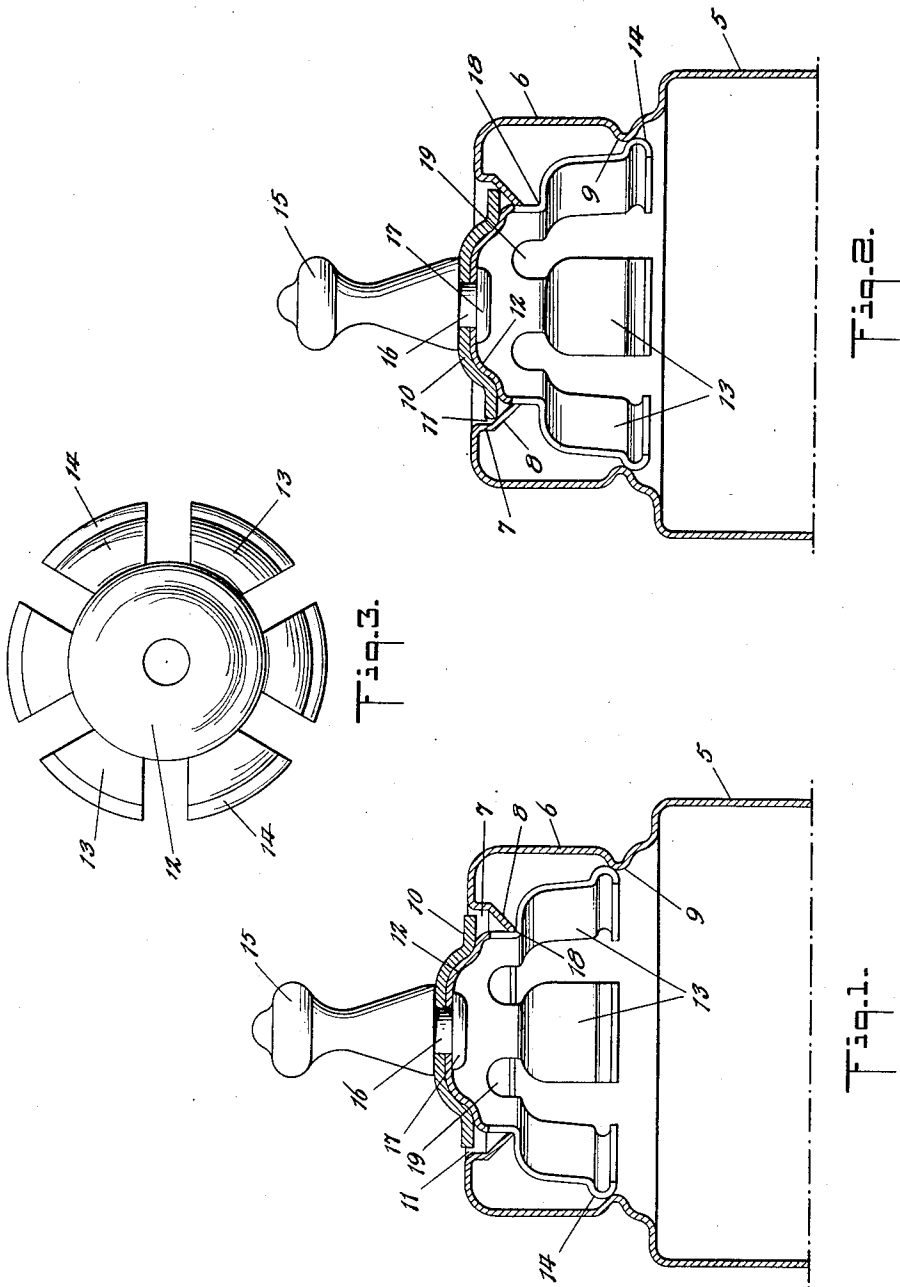
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DISPENSING CAP FOR CONTAINERS

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DISPENSING CAP FOR CONTAINERS

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6 Claims. (Cl. 221—61)

This invention relates to dispensing caps for containers.

It is an object of the invention to provide a simple and economical dispensing cap, more particularly suitable for talcum powder and the like, that is readily moved into and properly retained in open and shut positions.

With this general object in view the invention consists in the features, combinations, details of construction and arrangements of parts which will first be described in connection with the accompanying drawing and then more particularly pointed out.

In the drawing:

Figure 1 is a vertical sectional view of a cap constructed in accordance with the invention and showing the cap in open position;

Figure 2 is a similar view of the cap in closed position; and

Figure 3 is a top plan view of one of the parts removed.

Referring to the drawing, the cap comprises a stationary body portion and a movable portion. As here shown as an example, the stationary body portion comprises a skirt 5 for fitting over the top of a bottle, jar, can or the like. It will be understood that the skirt may be given any desired formation to conform to the particular container involved. The upper part of the body portion is in the nature of a housing 6, open at the top. The top rim is dished downwardly, as at 7, and terminates in an inwardly oblique flange 8 defining the opening. Between the housing 6 and the skirt 5 is an inwardly extending bead-like abutment 9 hereinafter referred to.

The movable portion of the cap here illustrated as an example includes a closure plate 10. In the open position of the cap (Figure 1) this plate lies within the dished portion 7 of the cap housing, but is of a smaller diameter than the latter. This leaves an annular passage 11 between the cap housing and the closure plate for the discharge of the contents of the container. In the closed position (Figure 2) the closure plate 10 moves into contact with flange 8 and so shuts off the annular passage 11.

There is provided means for yieldingly holding the closure plate in either of its positions. As here shown as an example, secured to the closure plate, as later described, is a so-called "bird-cage" spring. This latter comprises a dome-shaped top portion 12 and a plurality of spring fingers 13, the arms forming, in effect, an interrupted skirt. The bottom of this skirt is formed with an outwardly extending bead 14 which cooperates with

abutment 9 in holding the movable portion of the cap in position.

The movable unit of the cap may be moved in any suitable manner. As here shown as an example, there is provided a finger piece or knob 15. As a convenient method of assembly, this knob has a pin 16 passing through holes in closure plate 10 and the dome 12 of the bird-cage spring, the end of the pin then being headed, as at 17, in the manner of a rivet.

When the cap is open, bead 14 of the spring element engages the upper side of abutment 9 (Figure 1) and holds the movable unit in up or open position. The unit is moved down to closed position by a downward pressure thereon. This force causes spring arms 13 to be compressed radially, bead 14 sliding over abutment 9. As soon as bead 14 has passed abutment 9, the spring arms re-expand and the bead snaps into position, below the abutment. The engagement of closure plate 10 with flange 8 not only shuts off the dispensing passage but serves also as a stop to limit the downward movement of the movable unit. The parts are now held closed, upward or opening movement being opposed by the engagement of flange 14 with the underside of abutment 9 (Figure 2).

To open the cap, the movable unit is pulled upwardly. The spring arms are again compressed the bead 14 sliding over abutment 9 to snap into place above the abutment. Upward movement is limited by the engagement of the rim of flange 8 with a shoulder 18 formed by the junction of the spring arms 13 with the dome 12.

It will be observed that the open spaces between the spring arms 13 are extended, as at 19, above the shoulder 18 so that when the cap is in open position (Figure 1) the contents can pass flange 8 and reach the annular discharge opening 11. When the cap is in closed position, these extensions are shut off by flange 8, thus giving an added closing effect.

During movement of the movable unit the latter is guided by having a sliding bearing in the rim of flange 8.

What is claimed is:

1. A dispensing cap comprising a body portion having an opening, a closure plate movable toward and away from said opening and arranged to contact with the body portion to shut off the opening, an abutment on said body portion, a spring element connected with said closure plate and having a spring finger engaging one side of the abutment when the closure plate is in open position and the other side of the abutment when

the closure plate is in closing position, thereby yieldingly holding the closure plate in the position to which it is moved, and a finger piece for moving the closure plate.

- 5 2. A dispensing cap comprising a body portion having an opening, a closure plate movable toward and away from said opening and arranged to contact with the body portion to shut off the opening, an abutment on said body portion, a spring element connected with said closure plate, and having a spring finger engaging one side of the abutment when the closure plate is in open position and the other side of the abutment when the closure plate is in closing position, thereby yieldingly holding the closure plate in the position to which it is moved, a finger piece for moving the closure plate, and stop means for limiting the movement of the closure plate in each direction.
- 10 3. A dispensing cap comprising a body portion, a flange on the body portion defining an opening, a movable unit comprising a closure plate movable toward and away from said opening and arranged to contact with said flange to shut off said opening, an abutment on said body portion, a spring element connected with said closure plate and having a spring finger engaging one side of the abutment when the closure plate is in open position and the other side of the abutment when the closure plate is in closing position, thereby yieldingly holding the closure plate in the position to which it is moved, the engagement of the closure plate and flange also serving to limit the movement of the movable element in one direction, a shoulder on the movable unit for engaging said flange to limit said movement in the opposite direction, and a finger piece for moving the movable unit.
- 15 4. A dispensing cap comprising a body portion, a flange on the body portion defining an opening, a closure plate movable toward and away from said opening and arranged to contact with the body portion to shut off the opening, an annular, internal, bead-like abutment on the body portion, a bird-cage spring secured to the closure plate, the lower end of the interrupted wall of said spring having a bead for engaging one side of the abutment when the closure plate is in open position

and the other side of the abutment when the closure plate is in closing position, thereby yieldingly holding the closure plate in the position to which it is moved, and a finger piece connected with said closure plate and spring for moving the same. 80

5. A dispensing cap comprising a body portion, an inwardly oblique flange on said body portion defining an opening, a closure plate movable toward and away from said opening and arranged to contact with said flange to shut off the opening, an annular, internal, bead-like abutment on the body portion, a bird-cage spring secured to said closure plate and comprising a dome-like portion and an interrupted skirt having a shoulder therebetween, the lower end of said skirt having a bead for engaging one side of the abutment when the closure plate is in open position and the other side of the abutment when the closure plate is in closing position, thereby yieldingly holding the closure plate in the position to which it is moved, the openings in the skirt of the bird-cage spring being extended beyond said shoulder into the dome portion, the edge of said flange engaging said shoulder when the closure plate is in open position and the extension of said openings being below said flange when the closure plate is in closed position, and a finger piece for moving the movable unit. 95

6. A dispensing cap comprising a body portion, an inwardly oblique flange on said body portion defining an opening, an annular, internal, bead-like abutment on the body portion, a bird-cage spring comprising a dome-like portion slidable within the rim of said flange and an interrupted skirt, the spring element having a shoulder between the dome portion and the skirt engaged by the rim of said flange when the cap is in open position, the lower end of said skirt having a bead for alternately engaging the respective sides of the abutment, thereby yieldingly holding the spring in the position to which it is moved, the dome portion of the spring having openings therein connected with the openings in the spring skirt and arranged to lie below the rim of said flange in one position of the spring, and means for moving the spring. 105 110 115 120

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