Sept. 11, 1934. J. F. PETERS 1,972,901

SIFTER TOP CAN

Filed Jan. 20, 1932

Fig. 1

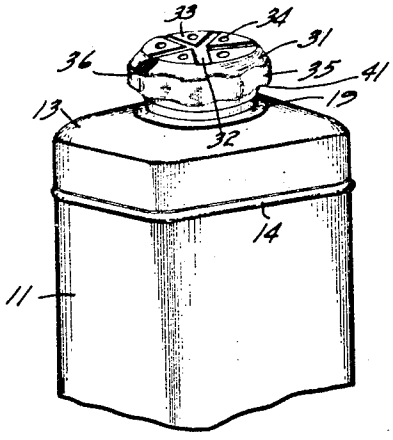


Fig. 4

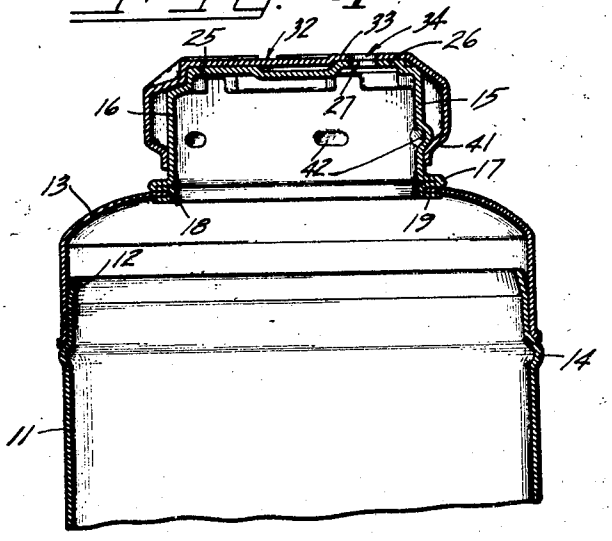


Fig. 2

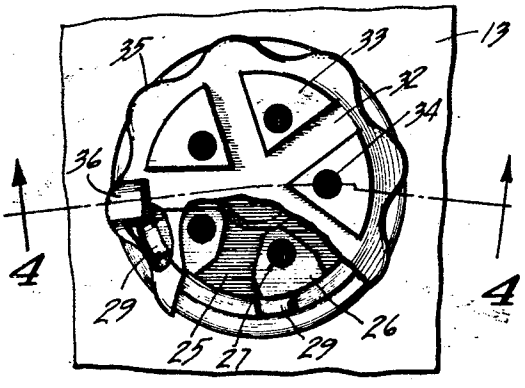


Fig. 5

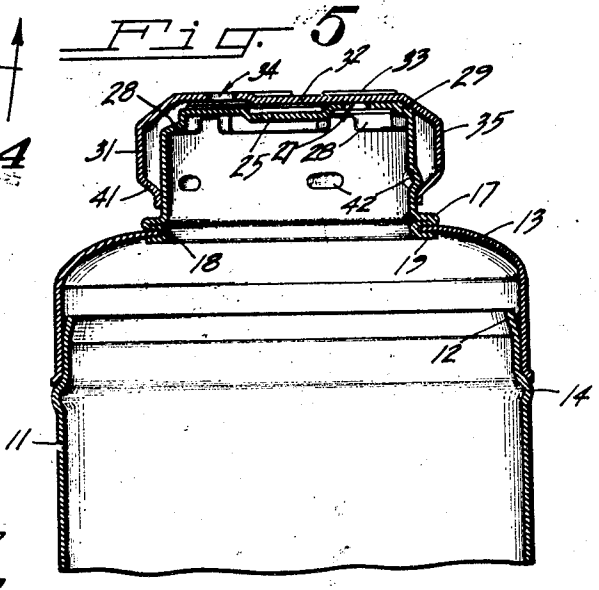
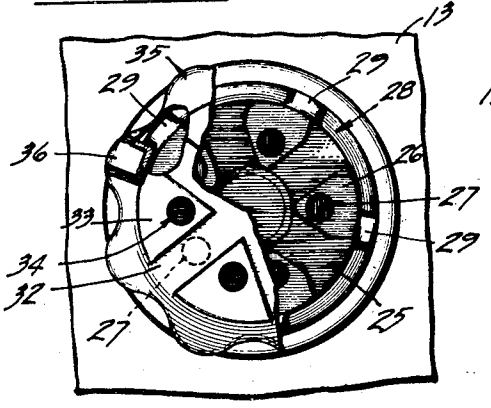


Fig. 3



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SIFTER TOP CAN

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9 Claims. (Cl. 221—64)

The present invention relates to a sifter top can an has particular reference to a can of the type usually employed for talcum powder and the like.

The principal object of the present invention is the provision of a sifter top can having a rotatable closure member for opening and closing apertures through which the contents of the can are dispensed, the act of closing these apertures automatically forcing the engaged wall parts closer together to prevent sifting of the contents through the closed joints.

An important object of the invention is the provision of a can of the character described having a rotatable closure cap positioned on a nozzle neck, sections of the cap and neck being formed to insure a tight fitting spring engagement when the cap is moved to closed position, the spring engagement being partially relieved by turning of the cap to open the can for dispensing purposes.

A further important object of the invention is the provision of a closure cap and nozzle neck having cooperating sections surrounding perforations formed in the members whereby relative rotation of the parts increases and decreases the closeness of fit with the closing and opening of the perforations so that no gasket or other extraneous sealing medium is needed.

Numerous other objects of the invention will be apparent as it is better understood from the foregoing description, which, taken in connection with the accompanying drawing, discloses a preferred embodiment thereof.

Referring to the drawing:

Figure 1 is a perspective view of the upper portion of a sifter top can embodying the present invention;

Fig. 2 is an enlarged plan view of the can looking directly at its top, parts being broken away, this view illustrating the can in open position;

Fig. 3 is a view similar to Fig. 2, showing the can in closed position;

Fig. 4 is a transverse sectional view taken substantially along the broken line 4—4 in Fig. 2; and

Fig. 5 is a view similar to Fig. 4 illustrating a different position of the can parts.

The sifter top can illustrated in the drawing for the purpose of exemplifying the invention is formed of a minimum number of parts which are of such shape and construction as to insure close fitting joints when the can is closed to prevent leaking of powder or other product enclosed therein, this being accomplished without the use of a gasket or other sealing medium. A rotating closure cap is disposed upon a nozzle neck so as to open and close the can by bringing perforations of the can parts into and out of registration.

The nozzle neck is provided with a top wall in which its perforations are disposed and this wall is formed with embossed raised portions that cooperate with a perforated embossed wall similarly formed in the closure cap. Rotation of the cap brings the two sets of perforations into alignment when the can is open and when closed places parts under spring tension which action holds them in closer relationship, and ordinarily tightly pressed together, when the perforations are out of alignment. This prevents leaking of powder when the can is closed.

The can shown in the drawing comprises a body 11 having an upper reduced or necked-in end 12 over which a breast 13 is disposed in tight engagement. A bead 14 formed in the body wall provides a stop for the lower end of the breast. A nozzle neck 15 is provided which has cylindrical walls 16, formed with an outwardly extended flange 17 doubled back on itself adjacent its lower end, this end being inserted in an opening 18 formed in the breast. A seam 19 secures the nozzle neck onto the breast in a tight joint.

The nozzle neck 15 is provided with a top wall 25 formed with raised and embossed triangular sections or projections 26. Perforations 27 extend through the wall 25, a perforation being located within each triangular section. Five embossed projections or sections are disclosed in the drawings, although this number is entirely arbitrary. The corner edge of the nozzle is chamfered or recessed at spaced intervals as at 28, there being one recess adjacent each section 26. The spaced corner edge parts not recessed provide intermediate bridge members 29 for a purpose hereinafter described.

A closure cap 31 is disposed upon the nozzle neck, its side walls embracing the vertical wall 16 of the neck with which it is associated in a rotatable connection. The cap is formed with an upper top wall 32 portions being pressed outwardly at intervals to provide raised embossed sections 33 which correspond in number to the sections 26 of the nozzle and which are of a shape and size to fit over and interengage with the nozzle sections when the container is in open position. Perforations 34 are cut through the top wall 32, there being a perforation located in each section 33. The parts of the cap be-

tween the sections 33 are in effect downward projections, which are between the projections 26 of the nozzle when the can is open and are pressed tightly down on top of the projections 26, and over the holes 27 when the can is closed. When the can is in open position with the nozzle sections 26 fitting within the cap sections 33, the perforations 27, 34 are in register and provide openings through which the contents of the can may be dispensed.

The cap 31 is rotatable on the nozzle, a series of flutes or scallops 35 being formed in the cylindrical wall of the cap to provide finger holds for this purpose. An indentation 36 is formed in the cap adjacent its upper corner edge and when the cap is assembled on the nozzle during the process of manufacture, this projection is located into one of the channels 28 and intermediate two adjacent spaced bridge stops 29 formed in the nozzle.

When in open position (Fig. 2) the pressed-in wall of this indentation 36 rests against a stop 29 which limits the amount of movement of the cap in that direction. In such position the perforations 27, 34 of the can parts are in accurate register. Upon rotation of the cap into the position illustrated in Fig. 3, the indentation 36 is moved from its engagement with the former stop 29 and its wall is brought into engagement with the adjacent stop on the opposite end of the recess 28.

Provision is made for yieldingly holding the closure cap 31 in its rotatable position upon the nozzle neck. For this purpose the cylindrical wall of the cap is bent inwardly at 41 (Figs. 4 and 5) and is brought into engagement with the cylindrical wall 16 of the nozzle. A series of beads or protuberances 42 are preferably formed in this cylindrical wall by being pressed outwardly and these provide retaining shoulders for the inner lower edge of the cap wall 41. This wall, engaging under the beads, is under some spring tension at all times. The vertical position of the beads in the nozzle neck determines the amount of spring tension.

This inturned wall 41 provides a yieldable portion for the cap and an increasing springing action is brought into play as the cap is rotated from its open position into can closing position. The embossed sections 33 move out of their fitting engagement with the nozzle sections 26 during such rotation and the cap is slightly raised as the lower parts of the cap top wall ride upon the raised sections 26 and occlude the perforations 27 of the nozzle. The term "lower parts" refers to the cap top wall intermediate the raised sections 33. Yielding of the cap flange 41 during such a raising of the cap places more spring pressure between the under side of the cap wall 32 and the raised sections 26 of the nozzle and tightly closes the perforations 27 of the nozzle. This closed position is illustrated in Figs. 3 and 5. No sifting of powder can take place through the nozzle openings or between these engaged surfaces, the tight metal-to-metal contact obviating the need of a gasket or other sealing medium.

It is thought that the invention and many of its attendant advantages will be understood from the foregoing description, and it will be apparent that various changes may be made in the form, construction and arrangement of the parts, without departing from the spirit and scope of the invention or sacrificing all of its material advantages, the form hereinbefore described being merely a preferred embodiment thereof.

I claim:

1. A sifter top can, comprising a nozzle neck having a perforated top formed with elevated and depressed portions, a rotatable closure cap embracing said neck and having perforations rotatable into and out of registration with the nozzle perforations and formed with elevated and depressed portions, and spring means associated with said cap and protuberances on the neck for forcing the said nozzle neck and the said cap into closer engagement when their perforations are out of register.

2. A sifter top can, comprising a nozzle neck having a perforated top, a rotatable closure cap embracing said neck and having a perforated wall the perforations of which are rotatable into and out of registration with the nozzle perforations, and cooperating embossed sections formed in the perforated walls of said nozzle and said cap, the sections of said cap being adapted for movement out of alignment with the sections of said nozzle top to provide closer engagement between the wall parts when their perforations are out of register, and means whereby close engagement between the walls is effected.

3. A sifter top can, comprising a nozzle neck having a perforated top and raised sections surrounding each perforation and embossed in said top, and a rotatable closure cap embracing said neck and having a perforated wall and having raised sections embossed in said wall and surrounding each perforation, the embossed sections of said nozzle fitting within those of said cap when the perforations of one are in alignment with those of the other, said cap sections being rotatable out of alignment with said nozzle sections, said cap having means for holding the top of the cap yieldingly against the top of the nozzle to provide spring engagement and closer contact between cap and nozzle when the perforations of the one are out of register with those of the other.

4. A sifter top can, comprising a cylindrical nozzle neck having a top formed with triangular, perforated, raised sections, a rotatable, cylindrical closure cap embracing said neck and having a top wall also formed with triangular, perforated, raised sections, the triangular sections of nozzle and cap fitting one within the other when their respective perforations are in alignment and the can is open, and spring yielding means on the cap and protuberances on the neck for holding the said cap in its rotating position, said holding means yielding as the can is closed and the respective perforations are brought out of register with one another at which time the sections of said cap are removed from their fitting position with the sections of said nozzle to effect a closer engagement of the can parts.

5. A sifter top can, comprising a nozzle neck having a perforated and upwardly embossed top, a rotatable closure cap embracing said neck and having embossed portions at its under side and perforations rotatable into and out of registration with the nozzle perforations, spring means associated with said cap and protuberances on the neck for forcing the said nozzle neck and the said cap into closer engagement when their perforations are out of register, and a stop device for limiting rotation of said cap into its open and into its closed positions.

6. A sifter top can, comprising a can body,

a breast secured to said body, a nozzle neck secured to said breast and having a perforated and upwardly embossed top, a rotatable closure cap downwardly embossed and embracing said neck and having perforations rotatable into and out of registration with the nozzle perforations, and spring means associated with said cap and protuberances on the neck for forcing the said nozzle neck and the said cap into closer engagement when their perforations are out of register.

7. A sifter top can, comprising a nozzle neck having a perforated and upwardly embossed top, a rotatable closure cap downwardly embossed embracing said neck and having perforations rotatable into and out of registration with the nozzle perforations said cap having a scalloped wall terminating in an inturned yielding flange, means embodied in said nozzle neck and cooperating with said yielding flange for holding the cap in rotatable position, and means associated with said cap and nozzle and acting on said flange to provide closer engagement between them when their perforations are moved out of register.

8. A sifter top can having a nozzle perforated on its top, and fitting on said nozzle a cap formed with a perforation and rotatable on the nozzle to cause said perforations to register in one position for the delivery of contents from said can or to be out of registry in another position for the closing of the perforations, said nozzle and cap having upward and downward interengaging projections by which the cap is forced slightly outward when the perforations are closed and may be drawn down tightly on to the top of the nozzle, and means for holding the cap to the nozzle yieldingly to permit said outward movement and cause the tight fitting of the cap when rotated to the closed position.

9. A sifter top can having a nozzle perforated on its top, and fitting on said nozzle a cap formed with a perforation and rotatable on the nozzle to cause said perforations to register in one position for the delivery of contents from said can or to be out of registry in another position for the closing of the perforations, said nozzle and cap having upward and downward interengaging projections by which the cap is forced slightly outward when the perforations are closed and may be drawn down tightly on to the top of the nozzle, and means for holding the cap to the nozzle yieldingly to permit said outward movement and cause the tight fitting of the cap when rotated to the closed position, said perforations being formed in the top parts of said projections of the nozzle and cap.

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