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3,164,286

CONTAINER FOR FINELY DIVIDED MATERIAL

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Fig. 1.

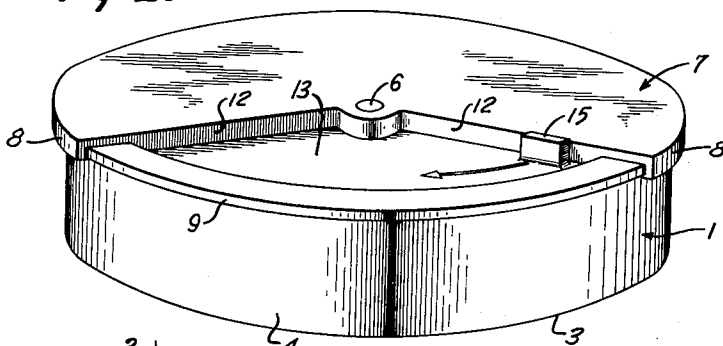


Fig. 2.

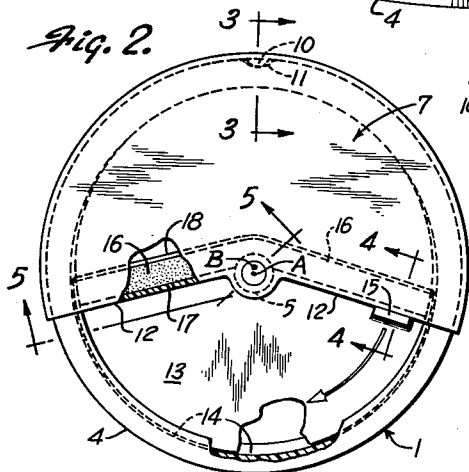


Fig. 3.

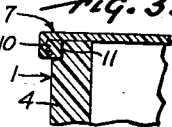


Fig. 4.

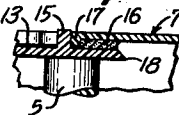


Fig. 5.

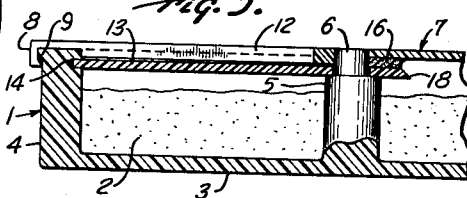


Fig. 6.

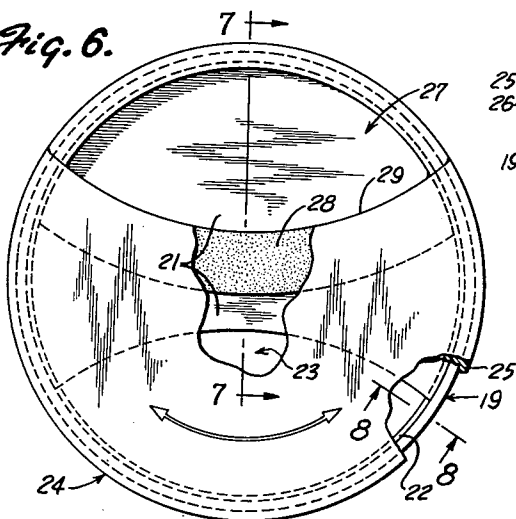


Fig. 7.

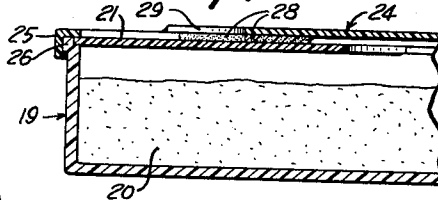
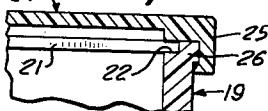


Fig. 8.



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CONTAINER FOR FINELY DIVIDED MATERIAL
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5 Claims. (Cl. 220-33)

This invention relates to an apparatus for containing finely divided material and more particularly to a container for loose face powder.

Women generally prefer to use loose face powder rather than compacted face powder because of the better covering properties of the loose powder and due to the fact that the loose powder will "pay off" more easily on the puff. However, most women's compacts or other powder containers carried in a handbag contain compacted powder as it is less messy and more convenient to use than the loose powder. A woman's compact is generally not completely sealed and loose face powder will leak from the compact and coat other articles contained in the handbag.

The present invention is directed to a container for loose powder which has an improved sealing structure and prevents leakage of the loose powder. According to the invention, the container includes a base adapted to contain the loose powder and having a bottom wall and a generally cylindrical side wall. The open top of the base is partially enclosed by a cover which is secured to the top edge of the base, and as the cover does not completely enclose the base, an opening is provided through which the powder within the base is exposed.

The opening is enclosed by a door which is pivoted adjacent the center of the base and the door can be pivoted in the plane of the cover to expose the powder within the base.

To seal the pivotable door to the cover, a strip of flexible material is secured to the undersurface of the cover adjacent the opening and the flexible material engages the door to provide an effective seal and prevent leakage of powder between the members.

In a modified form of the invention the open upper end of the base is partially enclosed by a fixed wall or lid and the unenclosed portion of the base provides an opening through which the powder can be exposed. A cover is secured to the upper edge of the base and is adapted to rotate with respect to the base. The cover is also provided with an opening and by rotating the cover so that the openings are aligned the powder will be exposed. By rotating the cover so that the openings are out of alignment the container will be closed.

As in the case of the first embodiment a positive seal is provided by means of a strip of flexible, resilient material which is secured to the underside of the rotating cover adjacent the opening therein.

The container of the invention provides a positive seal between the fixed and rotating parts which prevents the loose powder from seeping from the container, even though the container may be inverted or subjected to rough handling.

The container is of inexpensive construction and can be readily assembled without the use of adhesives or auxiliary fasteners and this substantially reduces the cost of assembly.

Other objects and advantages will appear in the course of the following description.

The drawings illustrate the best mode presently contemplated of carrying out the invention.

FIG. 1 is a perspective view of the container of the invention;

FIG. 2 is a plan view with parts broken away in section;

FIG. 3 is a vertical section taken along lines 3-3 of FIG. 2;

FIG. 4 is a vertical section taken along lines 4-4 of FIG. 2;

FIG. 5 is a vertical section taken along lines 5-5 of FIG. 2;

FIG. 6 is a plan view with parts broken away in section of a modified form of the invention;

FIG. 7 is a section taken along the lines 7-7 of FIG. 6; and

FIG. 8 is a section taken along lines 8-8 of FIG. 6.

The drawings illustrate a container which is adapted to contain a finely divided material such as face powder or the like. The container includes a base 1 which contains a quantity of loose face powder 2. The base may be formed of plastic, metal or other material and includes a bottom wall 3 and a generally cylindrical side wall 4 which extends upwardly from the bottom wall 3. A post 5 is located generally at the center of the bottom wall 3 and the upper end 6 of the post has a reduced diameter and is received within an opening in a cover 7.

The cover 7 partially encloses the upper open end of the base 1 and the peripheral edge of the cover is provided with a downwardly extending flange 8 which snaps over a lip 9 formed on the upper edge of the side wall 4 of the base. The cover 7 is preferably formed of a transparent material so that the powder is visible within the base and is sufficiently flexible so that the flange 8 can be snapped over the lip 9 on the base to secure the cover to the base.

As best shown in FIGS. 1 and 2, the cover 7 does not completely enclose the open upper end of the base 1 but instead extends through an arc of approximately 190° to 220°, leaving a substantial portion of the base open to expose the powder.

To prevent the cover 7 from rotating with respect to the base, the cover, as shown in FIGS. 2 and 3, is provided with a projection 10 which is engaged within a notch 11 formed in the side wall 4 of the base. The engagement of the projection 10 with the notch 11 prevents rotation of the cover in relation to the base 1.

The open sector between the radially extending edges 12 of the cover 7 is enclosed by a door 13 which is pivotally connected to the upper end 6 of post 5. The door 13 has a greater circumferential dimension than the open sector between the edges 12 so that when the door is in alignment with the open sector it will completely close off the same.

The door 13 is guided in pivotal movement within a groove 14 formed in the inner surface of the side wall 4. The groove 14 varies in depth due to the fact that the center of radius of curvature of the groove coincides with the post 5 and the post 5 is not aligned with the center of the base 1. As best shown in FIG. 2 the center of the radius of curvature of groove 14 is indicated by A while the center of the base B is indicated by B. The door 13 pivots about point A and this construction enables the door 13 to be initially inserted on the post 5 in the upper portion of the base 1, as viewed in FIG. 2, and then pivoted about the post and within groove 14 to the position shown in FIG. 2. This off-center feature permits the door 13 to be assembled within the pre-formed groove 14 without bending the door or base.

Pivotal movement of the door 13 within the groove 14 is limited by a stop 15 which is attached to the upper surface of the door and is adapted to engage the edges 12 of the cover as the door is pivoted.

To prevent powder from leaking outwardly between the cover 7 and the door 13, a pair of sealing strips 16 are secured to the under surface of the cover adjacent the edges 12. The sealing strips 16 can be any flexible mate-

rial such as polyurethane foam or the like. The lower edge of the seal 16 engages the upper surface of the sliding door 13 to prevent powder from passing therebetween. As best shown in FIG. 4 the edges 12 of the cover are provided with downwardly extending flanges 17 which retain the seals 16 in their proper location.

To enable the door 13 to pass under the seal without dislodging it, the edges 18 of the door 13 are beveled, as best shown in FIG. 4.

While the seal 16 is shown as a separate strip of generally flexible material secured to the cover by an adhesive, it is contemplated that the seal can be molded integrally with the cover and be in the form of a wiper strip.

To assemble the container the door 13 is initially mounted on the post 5 and then rotated into the groove 14. The cover 7, having the sealing strips 16 attached, is then mounted on the post 5 and the flange 8 of the cover snapped over the lip 9 on the base to complete the assembly. With the construction of the invention, the container can be completely assembled without the use of adhesives or auxiliary fasteners and this substantially reduces the cost of manufacture.

The door 13 is normally in the closed position as shown in FIG. 2. When it is desired to expose the powder 2, the door 13 is moved clockwise as shown in FIG. 2. After use, the door 13 is pivoted counterclockwise as shown in FIG. 2 until the stop 15 engages the edge 12.

A modified form of the invention is shown in FIGS. 6-8. In this embodiment the container includes a base 19, similar to base 1 of the first embodiment, which contains a quantity of loose material 20 such as face powder. The open upper end of the base 19 is partially enclosed by a wall or lid 21 which is secured by an adhesive or the like in a recess or shoulder 22 formed in the upper edge of the base. The open sector 23 of the base, not enclosed by the wall 21 provides access to the powder 20 located within the base.

The open sector 23 of the base 19 is adapted to be closed by a generally circular cover 24 having a peripheral flange 25 which snaps over a lip 26 formed on the upper edge of base 19. With this connection the cover 24 can be rotated with respect to the base. The cover 24 is provided with an opening 27 similar in shape to the open sector 23 and by rotating the cover so that opening 27 is in alignment with the open sector 23, the powder 20 can be withdrawn from the base. By rotating the cover 24 so that opening 27 is out of alignment with the open sector 23, as shown in FIG. 6, the open sector 23 will be closed off.

To prevent leakage of the powder 20 or other finely divided material, a sealing strip 28 is secured to the undersurface of the cover 24 adjacent the curved edge 29. The sealing strip 28 is similar in nature and function to sealing strips 16 and serves to prevent leakage of powder between the wall 21 and cover 24. As in the case of the first embodiment, the sealing strip can be a flexible, resilient material such as polyurethane or rubber foam bonded by a suitable adhesive to the cover, or it can be molded integrally with the cover 24 as a flexible wiper strip.

While the above description is directed to a container for face powder, it is contemplated that the container may be used for any loose or finely divided material.

The base, cover, door and other elements of the container may be fabricated from plastic, glass, metal or other materials and it is preferred that at least one of the members be transparent so that the color of the powder is visible through the container. In addition, the cover 7 and movable door 13 of the first embodiment and the wall 21 and cover 24 can be both conical or dome shaped rather than flat as shown in the drawings.

Various modes of carrying out the invention are contemplated as being within the scope of the following

claims particularly pointing out and distinctly claiming the subject matter which is regarded as the invention.

I claim:

1. A container for finely divided material comprising,
 - (a) a base adapted to contain a quantity of finely divided material and including a bottom wall and a side wall extending upwardly from said bottom wall and having an open upper end, the inner surface of the side wall having a groove therein,
 - (b) a closure member attached to the upper portion of said side wall above said groove and partially enclosing said open upper end with a sector of the base being open, said closure member including a pair of radially extending edges bordering said open sector,
 - (c) a door having an edge disposed within the groove and mounted for pivotal movement on said base from a closed position in alignment with said open sector to an open position out of alignment with said open sector, and
 - (d) a flexible sealing member secured to the closure member adjacent the open sector and disposed to engage the adjacent surface of said door when said door is in the closed position to prevent leakage of said material from the container.
2. A container for finely divided material comprising,
 - (a) a generally circular base adapted to contain a quantity of finely divided material and including a bottom wall and a side wall extending upwardly from said bottom wall and having an open upper end, the inner surface of said side wall having a groove located adjacent said open upper end,
 - (b) a closure member attached to the outer edge of said side wall and partially enclosing the open upper end of said base, said closure member having an opening therein to expose the material in the base,
 - (c) a door movably disposed within the groove in said base, and
 - (d) means for pivotally mounting the door at a location spaced from the center of the base whereby said door can be pivoted from a closed position in alignment with said opening to an open position out of alignment with said opening.
3. A container for finely divided material comprising,
 - (a) a generally circular base adapted to contain a quantity of finely divided material and including a bottom wall and a side wall extending upwardly from said bottom wall and having an open upper end, said side wall having a recess in the inner surface thereof adjacent said open upper end extending at least partially around the circumference of said side wall and said recess varying in depth,
 - (b) a post extending upwardly from said bottom wall and spaced from the center of said base,
 - (c) a closure member attached to the upper edge of said side wall and partially enclosing the open upper end of the base with a sector of said base being open,
 - (d) a door pivotally connected to said post and mounted for pivotal movement within said groove, said door having a shape similar to said open sector and being movable from a closed position in alignment with said open sector to an open position out of alignment with said open sector to thereby expose the material in said base, and
 - (e) a resilient sealing member secured to the under surface of said closure member adjacent the open sector, said sealing member disposed to engage the adjacent surface of the door when the door is in the closed position to prevent leakage of said material from the container.
4. The structure of claim 3 in which the sealing member is formed of polyurethane foam.
5. A container for loose powder, comprising
 - (a) a base adapted to contain a quantity of powder and including a bottom wall and a side wall extend-

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- ing upwardly from said bottom wall and having an open upper end,
- (b) a closure member having a flexible peripheral edge portion snap-fitted over the upper edge of said side wall, to partially enclose the upper end of said base with a sector remaining open, 5
- (c) means for preventing relative rotation between the closure member and the base,
- (d) a door mounted for pivotal movement on said base from a closed position in alignment with said open sector to an open position out of alignment with said open sector, and 10
- (e) a flexible sealing member secured to the closure member adjacent the open sector and disposed to en-

6

gage the adjacent surface of said door when said door is in the closed position to prevent leakage of said material from the container.

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