Oct. 20, 1953

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2,656,090

NONSPILL POWDER CONTAINER

Filed Sept. 10, 1947

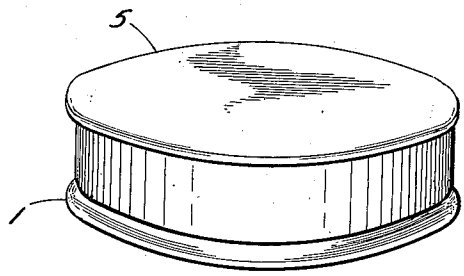


Fig. 1

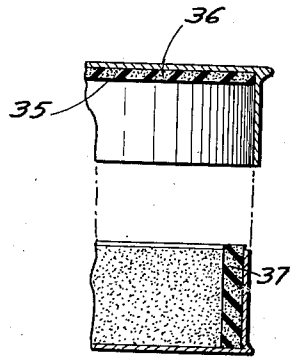


Fig. 7

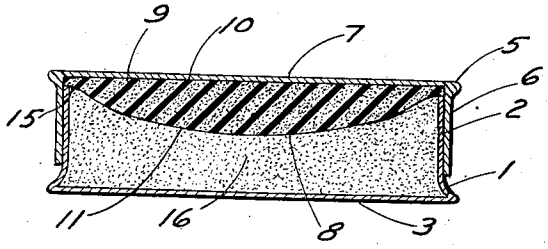


Fig. 2

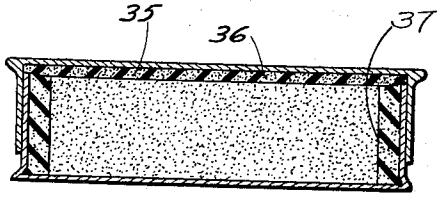


Fig. 6

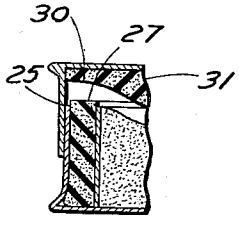


Fig. 5

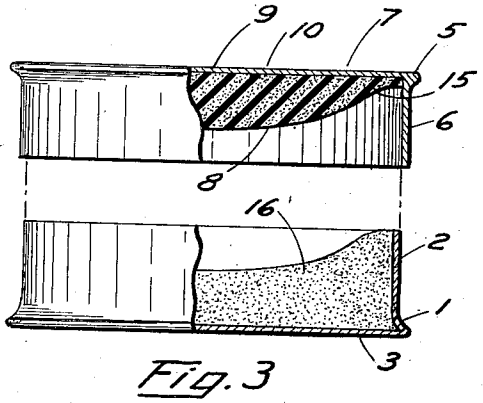


Fig. 3

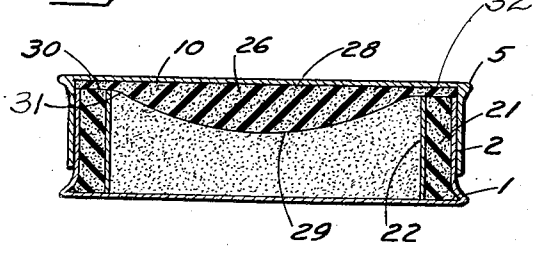


Fig. 4

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NONSPILL POWDER CONTAINER

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4 Claims. (Cl. 229—14)

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My invention relates to talcum, toilet, bath or face powder containers, and more particularly to boxes for holding face powder.

In general face powder is sold in boxes, which are of round, square or of irregularly shaped cross-section. The cover in the form of a flat cylinder, or other cross-section with an open bottom, fits snugly over the box proper which is also in the form of a cylinder, the height of which is generally less than the diameter or has a cross-section identical with that of the box.

While many boxes are made in the telescoping form, the container may also be made with a hinged cover. In a square, rectangular or oval box or one of irregular cross-section the cover may be attached to the box proper by means of a hinge which connects one flat side of the box, or a flat portion of the side of the box to the cover, which is flat, and somewhat greater in size and identical in contour than that of the box opening. Generally a narrow border is provided on the cover, around the top of the box, to assure a seal between the box and cover when the cover is closed. At the side opposite the hinge, a latch, lock or clasp is provided and attached to the body of the box to keep the cover tightly closed, particularly when the box is moved to a position off its base.

Frequently a pivoted portion is provided inside the cover, to fit an opening of equal size and cross-section in the interior of the top of the box, thus helping to maintain the necessary seal.

When the telescoping type of box is shipped from the powder factory a piece of smooth paper is generally furnished, attached to the sides of the box at the inside. This sheet fits over the open top, covering the powder to prevent the powder from spilling, while the box is in transit. A retainer may also be provided inside the box to support the paper seal in position.

This paper seal must be cut off or torn open to render the powder available for use when the box is opened.

After the paper seal is removed, the loose powder comes in contact with the cover of the box, and slides into the space between the cover and the top of the sides of the box particularly if the box is vibrated or tipped, as in a handbag or suitcase.

When the cover is lifted the loose particles of powder, adhering to the space between the cover and the upper sides of the box spills over the outside of the box, and onto the table, floor or whatever surface the box is resting on, or over which

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it is held. This causes the loss of a substantial amount of powder, is unsightly on furniture and floors and also tends to soil the clothing of the user of the powder.

An object of my invention is to provide a cover or insert in the cover of the box of the telescoping type to prevent the powder from spilling over when the box is opened.

A further object of my invention is to provide an effective seal between the top of the box and the interior of the cover to prevent the powder from spilling over the sides of the box, without the necessity of making the fit between the cover and the box so tight as to render it difficult to open the box, without distorting it.

A further object of my invention is to provide a positive seal, between the top of the box and the inner surface of the cover, to avoid the possibility of the powder being deposited in the space between the top of the box and the cover when the box is tilted or vibrated.

The various features of the invention, are illustrated in the accompanying drawings, in which,

Fig. 1 represents a modified perspective view of a telescoping type of cylindrical powder box, with the cover in position.

Fig. 2 represents a vertical section thru the box of Fig. 1, with the cover closed, showing a resilient pad, attached to the cover with its outer rim pressed against the top of the outer cylindrical portion of the box proper.

Fig. 3 is a vertical section similar to Fig. 2, showing the box with the cover raised to show the resilient pad and the powder in their free position.

Fig. 4 represents a section similar to Fig. 2, of the same type of box and cover construction, in which a cylindrical resilient ring is inserted inside the cylindrical portion of the box, and a retaining ring, inside the resilient ring, added to keep the resilient ring in position.

Fig. 5 is a vertical section taken on the centerline of the box and cover, showing the resilient pad, in place on the inside of the cover, and the rubber sealing ring and the retaining ring in position in the body of the box.

Fig. 6 represents a section similar to that shown in Fig. 4, in which a resilient pad, the bottom of which is flat, is used. A resilient ring, similar to that shown in Fig. 4, is used.

Fig. 7 is a section thru the box shown in Fig. 6, with the cover raised to show the flat pad, and the resilient ring in their free position.

In the telescoping type of boxes, there is gen-

erally a short distance between the top of the box proper, and the under surface of the cover. When the box is tilted, tipped or vibrated, some of the powder is deposited around the rim, formed between the top of the box cylinder and the under surface of the cover.

When the cover is removed, the powder deposited at the edge of the box, falls down over the outside of the box, and is distributed over the floor, or any other surface on which the box rests or over which it is held. This is not only extremely wasteful of powder but necessitates the removal of the powder from rugs, clothes, and furniture.

In the box of my invention, a pad made of a resilient, absorbent material such as sponge rubber is inserted in the top of the cover and may be attached to the inner surface of the cover or held in place by the pressure of the edge of the pad against the inner surface of the sides of the cover. The circumference or perimeter of the pad is equal to or slightly larger in size than the interior of the cover in order to provide a snug fit against the inner edge of the cover. The top surface of the pad may be either flat, convex or concave, depending upon the contour of the top of the cover. The lower surface of the pad may be either flat or convex.

The pad, while generally made of a resilient material such as sponge rubber, should be made of a material which has strong adhesive properties, so that any powder particles which are dislodged or detached from the top of the powder, when the cover is removed will adhere to the under surface of the pad, and thus be prevented from spilling over the sides of the box.

In a further modification of my invention a circular ring, made of sponge rubber, or a similar resilient or absorbent material is inserted inside the cylindrical portion of the box proper. A retaining ring made of cardboard, or a plastic sheet material, may be inserted at the inner diameter of the rubber ring which is thus pressed tightly against the cylindrical portion of the box. The resilient ring may also be attached to the inner sides of the box, or made of a resilient material and fitted tightly against the inner sides of the box, so that the ring is kept in place by the pressure of the ring against the sides of the box.

The rubber ring may project slightly above the top of the box cylinder and the retaining ring, where a retaining ring is used, to enable the resilient ring to press tightly against the resilient pad attached to the top of the cover.

It will be understood that the foregoing general description, and the following detailed description as well, are intended as explanatory of my invention and not restrictive thereof.

In the drawings, the same reference numerals represent the same parts, thruout the various views.

Referring now, in detail to the various drawings and particular to Figs. 1 and 2, the cylindrical box 1, consists of an open cylinder 2, made of cardboard or a similar material, and a base 3, which is attached to the bottom of the cylinder, or made integral therewith.

The cover 5, consists of a cylindrical body portion 6, open at the bottom, and a top 7, which is attached to the top of the cover cylinder, or formed integral therewith.

The diameter of the cover cylinder is made slightly larger than that of the body cylinder to enable it to fit over the body cylinder, with a minimum of clearance. The use of the pad permits a somewhat looser fit than is ordinarily necessary, thus minimizing distortion of the box and cover, when the cover is removed.

A resilient pad 8, made of sponge rubber or a similar resilient, or absorbent material is attached to the under surface of the cover and accurately fitted to the interior of the cylindrical portion of the cover.

The upper surface 9, of the pad 8, is either flat, in the case of a box with a flat top, or may be concave or convex, depending upon the shape of the top of the box cover. It is fitted and attached to the under surface 10, of the cover by means of glue, cement or other suitable binding material, or it may be made slightly larger than the inner diameter of the cover so that the outer edge of the pad is pressed against the cylindrical portion of the cover, and held in place without other means of attachment.

The central section of the under surface 11 of the pad may be in the form of a segment of a sphere, as indicated in Fig. 2, with a narrow thin rim 15, parallel to the top of the pad, provided around the outer circumference of the pad, to engage the top of the body cylinder 2, thus sealing it, and preventing the powder from spilling over the top of the body cylinder, when the box is tilted or vibrated.

The spherical lower surface of the pad, also engages the top of the powder 16, in the box when the box is filled to a level equal to or higher than that of the bottom of the pad, thus smoothing the upper surface of the powder, and preventing the powder from spilling out when the cover is removed.

In another modification of my invention as indicated in Figs. 4 and 5, the box 1, and the cover 5, are essentially the same as those previously described. A thin cylindrical ring 21, made of sponge rubber, or a similar resilient or absorbent material is mounted inside the body cylinder 2, with a retaining ring 22, made of cardboard or a similar sheet material mounted inside the rubber ring, to press the rubber ring against the inner surface of the box cylinder. The retaining ring 22, may be made seamless or it may be formed from a cardboard or thin plastic sheet, with a joint at the edges. In either construction it is important that the material of the ring be sufficiently stiff, to enable the ring to act as a retainer, and hold the rubber ring against the inner surface of the body cylinder. The line of contact between the bottom of the retainer and the bottom of the box must be tight enough to retain the powder and prevent it from seeping through. The ring 21 may also be made either in one piece or dovetailed at the joint, of a material which is sufficiently resilient to press the outside diameter of the ring, against the inner wall of the box, without additional support. In this construction, the outside diameter of the ring would be made slightly larger than the inner diameter of the cylindrical portion 2 of the box, to press the ring tightly against the box cylinder.

The height of the retaining ring from the bottom of the box, could be substantially equal to the height of the body cylinder 2, although it may be made somewhat lower than the top surface 25, of the body cylinder to provide room for the pad 26. The top of the rubber ring 21, may project slightly above the top 25, of the body cylinder, and the top of the retaining ring 22, where a retaining ring is used, in order to permit the rubber ring 21, to be compressed when it en-

gages the outer rim of the under surface of the pad **26**.

A resilient pad **26**, similar to pad **8**, is mounted below the under surface of the box cover. The upper surface **28** of the pad is attached to the under surface **10**, of the cover. The pad may however be made slightly larger than the inner diameter of the cover to press the rim of the pad against the inner diameter of the cover cylinder. The central section of the under surface **29**, of the pad may be made in the form of a segment of a sphere or any smooth curve of revolution, in order to smooth the top of the powder. The pad may also be made flat, convex, or even slightly concave.

For a distance, substantially equal to the thickness of the rubber ring plus the retaining ring, the under surface of the pad, around the outer circumference at **30**, may be left substantially flat, and slightly thinner than the rest of the pad. The outer edge may however follow the contour of the bottom of the pad, and be pressed into position by engagement with the cylindrical resilient ring. A fillet **31**, is provided to form a smooth juncture between the bottom of the rim **32** and the curved under surface **29** of the pad.

This flat portion **32**, provides a gasket surface between the pad and the top **27**, of the rubber ring as well as the top of the retainer ring and the box cylinder to prevent the powder from being deposited at the top of the box, between the under surface of the cover and the rings.

In another modification of this construction shown in Figs. 6 and 7, the lower surface **35**, of the pad **36** may be flat, thus permitting more powder to be placed in the box.

A cylindrical ring **37** made of a resilient material similar to that shown in Fig. 4, is also provided.

The outside diameter of the ring **37** shown in Fig. 6, is made slightly larger, than the inner diameter of the box. This fit coupled with the resiliency of the material of the ring holds the ring in place against the inner surface of the sides of the box, without the necessity of a retaining ring.

The box **1** and cover **5**, shown in Figs. 6 and 7 are in all other respects identical with those shown in Figs. 4 and 5.

While the above description is confined to telescoping type of boxes of round cross-section, my invention can be applied with equal facility to telescoping boxes of oval, square or irregular cross-section or to boxes with hinged covers of various types.

The hinged type of cover may be used with a box of square, rectangular, oval or irregular cross-section. A cover, which is comparatively flat is attached by means of a paper, or other type of hinge to one side of the box.

Generally in boxes with covers of the hinged type a flat rim is furnished, at the top of the box body to act as a seat for the cover. In this type of construction a resilient or absorbent pad the upper surface of which is of the same size and contour as the cover, may be attached to the cover, by any suitable means.

The lower surface of the pad may be either slightly convex, or flat, depending upon the amount of compression desired. When the cover is closed, a lock or latch of some type is provided at the side of the box body, opposite the hinge to keep the cover tightly closed against the body.

In this manner the pad or gasket is pressed tightly against the flat portion of the top of the box, and acts as a seal to prevent the powder from accumulating between the under surface of the cover and the top of the box and later spilling over when the cover is raised.

In some types of hinged boxes a shallow pilot of circular or oval cross-section is provided to fit an opening of slightly larger cross-section at the top of the box. When such a pilot is provided in the cover, a flat gasket, the outer perimeter of which is cut to fit the outside of the cover, and the inside cut out to fit the pilot, may be used in place of the pad, above described.

The lower surface of the gasket engages the flat surface at the top of the box opening, thus preventing the powder from accumulating on this surface, when the box is tilted, or shaken.

Having thus described several embodiments of my invention, I do not wish to be limited thereby. What I claim is:

1. A powder container comprising a box, of circular cross-section, a cover telescoping over the top of said box, the fit being loose enough to permit removal of the cover without distorting the box, a resilient pad mounted on the under-surface of said cover, the central portion of the bottom of said pad being in the form of a convex curve of revolution, a sponge rubber lining on the interior walls of said box, and a tubular retainer supporting the inner surface of the sponge rubber lining, said lining engaging the bottom of the rim of said pad when said cover is closed.

2. A powder container comprising a box of circular cross-section having substantially vertical sides and a bottom attached thereto, a cover for said box having a closed top and substantially vertical sides telescoping over said box sides, a resilient pad mounted in the interior of said cover, the central portion of the bottom of the pad being in the form of a convex curve of revolution, with a flat rim surrounding the central portion, a resilient ring removably fitted against the inner surface of the vertical sides of said box, and a tubular retainer supporting the inner surface of the resilient ring, the flat outer rim around the bottom surface of said pad engaging the top of said resilient ring, thereby compressing the resilient ring to seal the box when said box is closed.

3. A powder container comprising a cylindrical box open at the top, a cylindrical cover open at the bottom thereof, said cover telescoping the sides of said box, a sponge rubber pad attached to the top of said cover at the interior thereof, the central portion of the bottom of the pad being of convex spherical segmental contour, with a flat rim surrounding the central portion, a sponge rubber ring removably mounted on the inside of said box adjacent the sides thereof, and a retaining ring mounted inside said rubber ring, the flat outer rim of said pad engaging the top of the sponge rubber ring, thereby compressing the rubber ring to seal said box, when said cover is closed.

4. In a powder container, a box of circular cross-section, open at the top, a cover, telescoping over the top of said box, an absorbent pad attached on the lower surface of said cover, the central portion of the bottom of the pad being in the form of a convex curve of revolution, with a flat rim surrounding the central portion, and a resilient lining removably mounted adjacent the inner walls of said box, and a tubular retainer extending over the entire height of the box, supporting the inner surface of the resilient liner, said lining engaging the flat outer rim around

the under surface of said pad to seal said box, when said cover is closed.

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