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F. J. VICKI

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FACE POWDER FEEDER

Filed June 4, 1931

Fig. 1

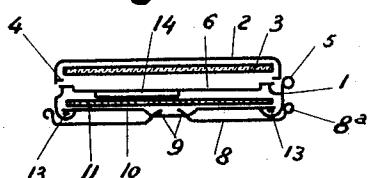


Fig. 2

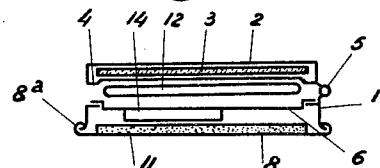


Fig. 3

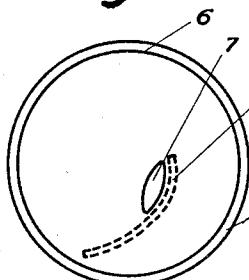


Fig. 4

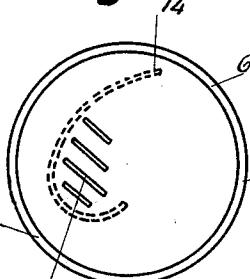


Fig. 5

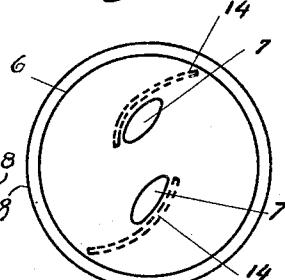


Fig. 6

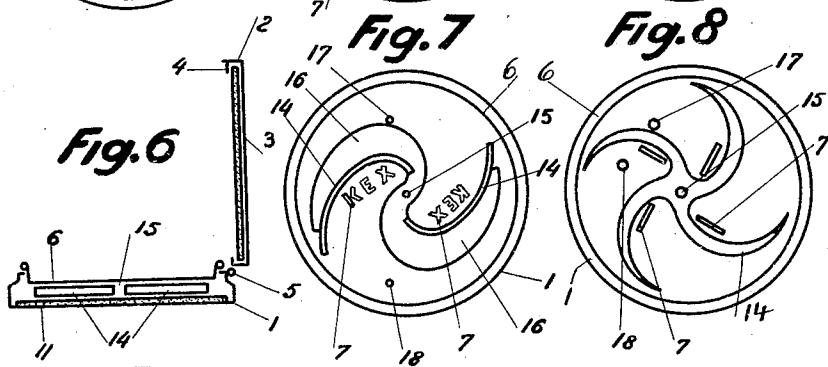


Fig. 9

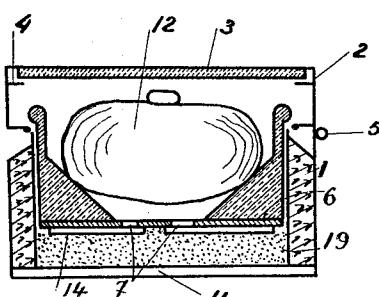
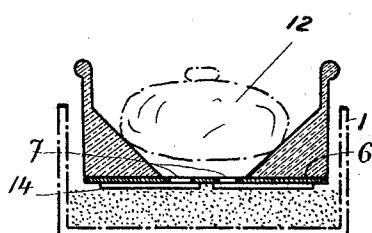


Fig. 10



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## UNITED STATES PATENT OFFICE

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## FACE POWDER FEEDER

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The present invention relates to boxes or containers for feeding face powder and has more particular reference to an improved face powder feeder that may be constructed either in the form of an ordinary portable powder box such as the ones commonly carried by ladies in their hand bags or in the form of a powder feeder adapted to be used for extracting measured quantities of face powder from any ordinary powder carton or can in view of picking up said powder by means of a puff without spilling off the powder.

The primary object of the invention is to provide a face powder feeder adapted to use exclusively loose powder to the exclusion of any cake of compressed powder which is always difficult to replace by another cake having exactly the same size, said loose powder being, as is well known, easily procurable everywhere.

A further object of the invention is to provide a face powder feeder adapted to permit the escape through a slotted partition plate of strictly the exact quantity of powder that has to be picked up by a usual puff whereby no powder can be spilled off the feeder or puff which, while keeping the feeder tidy and unstained by powder, precludes any substantial loss of powder.

A still further object of the invention is to provide a face powder feeder adapted to permit the easy and regular escape of enough powder through the slots of a partition plate for evenly ejecting the powder through the whole area of said slots, the latter being advantageously so shaped and arranged as to form or delineate signs, designs, preferably of artistic outline such as flowers, or letters making up a word which may be for example an index or the trade name or trade mark of the maker of the box or feeder.

A still further object of the invention is to provide a face powder feeder which while employing loose powder can never become choked by the same and permits the powder to be readily ejected through the slots of the partition plate by the exertion of a very limited stress without any risk of the powder clogging into cake form and preventing further operation of the feeder.

Still a further object of the invention is to provide a face powder feeder comprising means for easily masking and thus closing the powder slots in the partition plate on completion of the ejection of the powder through these slots, said means being adapted to be brought into a position eclipsing and closing said slots very simply and by a very limited stress exerted in an angular direction reverse to that causing ejection of the powder and being moreover adapted to be automatically brought back into a position freeing the slots as soon as proper angular stress is exerted to eject the powder therethrough.

Still a further object of the invention is to provide a face powder feeder of simple mechanism that is cheap to manufacture and to assemble and is most reliable in use even in the long run and when handled without care as is often the case with such feeders.

Still a further object of the invention is to provide a face powder feeder of smart and compact appearance which, being composed of a small number of parts that are cheap to manufacture, permits making to be carried out on an industrial scale while allowing decoration of each powder feeder to suit the particular taste of every different user.

With these and such other objects in view as will incidentally appear hereafter, the invention comprises the novel construction, combination and arrangement of parts that will now be described, reference being had to the accompanying diagrammatic drawings wherein are shown, by way of examples, several embodiments of same.

In the drawings:

Figure 1 is a diametrical sectional view of a face powder feeder in the form of an ordinary powder box utilizable for example in a vanity bag and constituting a first embodiment of the invention, assuming the box to be closed.

Figure 2 is a view similar to Figure 1 of a constructional modification.

Figure 3 is a fragmentary top plan view showing a constructional form of the partition plate formed with a powder slot of olive shape, the dotted line illustrating the shape

of the arcuate rake fixed to the under face of this partition plate.

Figure 4 is a view similar to Figure 3 showing another constructional form of the partition plate, several parallel slots of decreasing size being formed therein, the outline of the arcuate rake partly encompassing these slots.

Figure 5 is a view similar to Figure 3 showing a further constructional form of the partition plate, two symmetrically located olive-shaped powder slots being formed in the partition plate.

Figure 6 is a diametrical sectional view of a face powder feeder in the form of an ordinary powder or vanity box, of a structure simplified and rendered more shallow, assuming the lid of this box to be open.

Figure 7 is an inverted plan view of another constructional form of the partition plate, showing a double arcuate rake fitted with webs in a position unmasking slots formed in said plate, said slots being so shaped and arranged or grouped as to form the word "Kex".

Figure 8 is a view similar to Figure 7 showing a modified form of the partition plate, rake and powder slots.

Figure 9 is a diametrical sectional view of another constructional form of a face powder feeder or holder according to the invention, assuming the outer casing to be of larger volume than in the embodiment shown in Figures 1, 2 and 6.

Figure 10 is a view similar to Figure 9, assuming the feeder or ejector proper to be used per se in an ordinary powder carton.

Like reference characters designate like parts throughout the several views.

Reference being first had to the first embodiment as shown in Figure 1, 1 designates the container part of the box, and 2 the lid or cover fitted with a mirror 3 held in position by an annular flange 4, a hinge 5 pivotally connecting the body or container 1 and lid 2.

In the container part 1 of the box and adjacent its upper end is rigidly mounted a partition plate or shutter plate 6 formed with one or several slots or apertures 7 offset from the centre of said plate, as and for a purpose that will be described hereafter.

The lower part of the container 1 is encompassed by a cup or dished-shape bottom 8 advantageously knurled or otherwise roughened on its outer peripheral surface 8<sup>a</sup> for providing a better grip to the user's fingers. The cup 8 is rigidly secured for example by clipped or clinched portions 9 to a bottom plate 10 revolvably fitted in the lower part of the container 1 and advantageously furnished on its upper face with a sheet or layer 11 of an adhesive material such as rough fabric or felt.

The face powder to be fed or ejected upwardly through the slots 7 is contained in the space between the lower face of the parti-

tion plate 6 and the upper face of the bottom plate 10 or of the adhesive sheet or layer 11, if one is provided as is preferable.

In the space between the mirror 3 fitted in the lid 2 and the upper face of the slotted plate 6 may be accommodated a puff 12 (not shown in Fig. 1 but illustrated diagrammatically in Fig. 2).

The peripheral space between the container 1 and the bottom plate 10 is preferably fitted with a washer 13 made of felt or another substance capable of precluding any leakage of the powder.

The slotted partition plate 6 has rigidly secured (for example riveted or welded) to its lower face an arcuate rake 14 formed by an uprightly disposed metal strip. As will be described in detail hereafter, with reference to Figures 3, 4 and 5, this arcuate rake 14 is offset from the centre of the plate 6.

Reference being now had to the constructional form shown in Figure 2, the structure is here simplified due to the bottom plate 10 located intermediate the slotted plate 6 and the revoluble cup 8 being omitted. In this construction, the cup 8 preferably having a knurled or otherwise roughened peripheral edge 8<sup>a</sup> is revolvably mounted in any approved way for example by means of a doubled-over flange on the lower end of the container 1 and advantageously roughened or fitted on its inner face with an adhesive sheet or layer 11 of felt or like rubbing substance.

The loose powder is contained in the space between the lower face of the slotted plate 6 and the upper face of the cup 8 or of the adhesive sheet or layer 11. A puff 12 is housed in the free space between the upper face of the slotted plate 6 and the mirror 3 fitted on the internal face of the lid 2. As in the embodiment shown in Figure 1, the lower face of the slotted plate 6 has rigidly secured thereto an arcuate rake 14 which projects downwardly into the powder space of the container 1.

No matter whether the general structure of the powder box is according to Figure 1 or to Figure 2, the slotted partition or shutter plate 6 may be formed with one or several offset or eccentric powder slots or apertures 7. Constructional forms of this slotted plate are illustrated diagrammatically but not limitatively in Figures 3, 4 and 5.

In the constructional form of partition plate 6 shown in Figure 3, only one slot 7 is provided. This slot is olive-shaped and offset from the centre of the plate and the rake 14 rigidly secured to its under face has such an arcuate shape as to encompass or partly enclose the outermost edge of said slot. The inner end of the rake 14 is thus also offset from the centre and its convexity extends in the angular direction (as shown by the arrow) in which the cup 8 of the box or feeder

must be rotated to eject the powder through the slot 7.

In the constructional form of partition plate 6 shown in Figure 4, a plurality of parallel slots 7 of decreasing size towards both ends of the groups of these slots are provided. All these slots are offset from the centre of the plate and the rake 14 rigidly secured to its under face has such an arcuate shape as to encompass or partly enclose the outermost edges of these slots. The inner end of the rake 14 is thus also offset from the centre and its general convexity extends in the angular direction (as shown by the arrow) in which the cup 8 of the powder box or feeder must be rotated to eject the powder through the slots 7.

In the constructional form of partition or shutter plate 6 shown in Figure 5, two olive-shaped slots 7 symmetrically offset from the centre are provided. The outermost edge of each of these slots is encompassed or partly enclosed by a stationary arcuate rake 14 as the one shown in Figure 3.

The operation is the same in all embodiments of the partition plate 6, the powder driven by the rotation of the cup 8 owing to its inertia particularly on account of the adhesive sheet or layer 11 abutting the stationary rake or rakes 14 rigidly secured, as aforesaid, to the under face of the partition or shutter plate 6 and being thus fed or ejected up through the slot or slots 7 without any clogging of the powder taking place owing to the arcuate and offset shape of said rake or rakes and the obtuse angle delineated by its or their concave sides with respect to the periphery of the plate 6. At the same time, the encompassing outline of the slot or slots 7 ensures an even distribution of the powder through their whole sectional area. This is of particular advantage in case of slots so shaped and arranged to one another as to delineate a word such for example as the trade name or trade mark of the box maker as a strip of powder following the contour of said word seems to come up through the slots, which produces a very attractive effect.

Reference being now had to the simplified form of powder box or feeder as illustrated in Figure 6, the container 1 provided on its inner face with an adhesive sheet or layer 11 or more simply merely roughened in a known way is stationary and hingedly carries the lid 2 fitted with a mirror 3 held by a flange 4. The slotted partition or shutter plate 6 provided on its under face with one or more arcuate offset rakes 14 is revolvably fitted in the open end of the container.

In this constructional form, the ejection of the powder through the slot or slots of the partition plate 6 is produced by rotating said plate with respect to the stationary container 1, the abutting action of the powder

against the single or multiple rake 14 being the same as that described in connection with Figures 3, 4 and 5, the arrangement of the rake being similar.

Reference being now had to Figure 7, this shows a modified form of partition or shutter plate 6 formed with a plurality of offset slots 7 so arranged to one another as to delineate twice the coined word "Kex" and provided on its under face i. e. on its face in contact with the mass of powder located in the container 1 with two arcuate offset rakes 14 symmetrically disposed to the centre of the plate 6 and each formed by a strip arranged edgewise and adequately sized to engage enough powder. The rakes 14 are pivotally mounted on the central pivot pin 15 so as to be angularly movable with respect to the partition plate 6 but their angular stroke is limited by abutments 17, 18. To the rakes 14 is rigidly secured a continuous web 16 of serpentine shape so sized as to allow of an angular movement that will unmask or mask the slots 7 depending on the rakes 14 rotating in the direction in which the powder is driven by the rotation of the plate 6 or cup 8 (as the case may be) or rotating in the reverse direction.

The operation of this constructional form is easy to understand: Assuming the powder ejection slots 7 to occupy the unmasked position shown by Figure 7, that is to say with the web 16 in contact by its outermost edge with the abutment 17, when the plate 6 (in the constructional form shown in Figure 6) or when the cup 8 (in the constructional forms shown in Figures 1 or 2) is rotated in such a direction as to drive the powder against the concave side of the rake or rakes 14, the powder is ejected through the slots 7. On completion of the powder ejection i. e. when enough powder has been picked up by the user by means of the puff 12, all that is necessary to mask or cover the slots 7 and prevent egress or leakage of the powder is to rotate the plate 6 or cup 8 (as the case may be) in the reverse direction to an angular extent substantially equal to that allowed by the abutments 17, 18. The slots 7 are thus closed up and no powder can be spilled off for example when the powder box is turned upside down as frequently occurs in vanity bags.

The construction of slotted partition or shutter plate 6 illustrated in Figure 8 works in the same way as the one shown in Figure 7, the only difference being in the four-armed rose or spider shape of the rake 14 which, being made up of shallow or flat arms, has no web such as 16, the outermost edge of one of its arms contacting with the abutment 17 when said rake 14 unmasks the slots 7 whereas the innermost edge of said arm contacts with the abutment 18 when the rake masks or covers the slots 7, as will be clearly under-

stood. The central pivot pin 15 allows of the required angular movement of the rake 14 to the extent permitted by the abutments 17 and 18.

5 Reference being now had to Figure 9, this shows a partition or feeder plate 6 having an integral or separate flaring extension delineating a dished receptacle for the puff 12. Offset slots or apertures 7 are formed in the 10 plate 6 and an arcuate offset rake 14 made of a single or multiple edgewise disposed strip as in the foregoing embodiments is secured thereto rigidly or pivotally so as to be movable to an angular extent limited by 15 abutments such as 17 or 18 in Figures 7 and 8. The slotted feeder plate 6 can be removably used in a known container 1 advantageously fitted with a roughened or adhesive bottom 11 and coated or lined internally with 20 felt or the like as shown at 19. A lid 2 provided with a mirror 3 held in by a flange 4 and hinged at 5 to the container or body 1 is provided. The depth of the flaring end or mouth of the dished plate 6 is so calculated 25 that its brink still projects up from the open end of the container 1 when the powder in the latter is nearly exhausted, which facilitates the use of the device.

Figure 10 shows an embodiment wherein 30 the slotted feeder plate 6 has substantially the same shape and structure as in Figure 9 but wherein the powder container 1 in which said plate is rotated for ejecting the powder may be for example a carton powder 35 box such as the ones commonly sold on the market. This shows that a dished plate 6 having the aforesaid structure can be sold as a ready-made attachment or toilet accessory utilizable in replaceable containers such 40 as the one shown and designated by 1. The arrangement of the slots and/or rake or rakes may of course be according to any of the foregoing embodiments.

What I claim is:

45 1. A face powder feeder comprising, in combination with a powder container open at one end, a feeder plate fitted in the open end of the container and having a slotted portion offset from the centre of the plate, said container and feeder plate being revoluble relatively to each other, and a rake so associated with the feeder plate as to partake of the relative revolution between the container and the feeder plate, said rake having a convex outline encompassing the outermost edge of the slotted portion of the feeder plate, the convexity being in the direction of revolution causing ejection of the powder through said slotted portion.

50 2. A face powder feeder comprising, in combination with a powder container open at one end, a feeder plate fitted in the open end of the container and having at least one slot offset from the centre of said plate, said container and feeder plate being revolu-

ble relatively to each other, and an arcuate rake offset from said centre and so associated with the feeder plate as to stationarily partake of the relative revolution between the container and the feeder plate in the direction of rotation causing ejection of the powder through said slot, said rake having a convex outline encompassing the outermost edge of the slot, the convexity of the rake extending in said direction of rotation.

55 3. A face powder feeder comprising, in combination with a powder container open at one end, a feeder plate fitted in the open end of the container and having a slotted portion offset from the centre of said plate, said container and feeder plate being revoluble relatively to each other, and a rake offset from said centre and so associated with the feeder plate as to stationarily partake of the relative revolution between the container and the feeder plate in the direction of rotation causing ejection of the powder through the slotted portion of the plate while being able to rotate in the reverse direction to a limited extent for covering and closing said slotted portion, said rake having a convex outline encompassing the outermost edge of the slotted portion, the convexity of the rake extending in the direction of rotation causing ejection of the powder through said slotted portion.

60 4. A face powder feeder comprising, in combination with a powder container open at one end, a feeder plate fitted in the open end of the container and having a slotted portion offset from the centre of said plate and spaced abutments on its powder engaging face, said container and feeder plate being revoluble relatively to each other, and a rake offset from said centre and so pivotally associated with the feeder plate as to partake of the relative revolution between the container and the feeder plate in the direction of rotation causing ejection of the powder through the slotted portion of the plate without angularly moving relatively to the latter while being able to rotate in the reverse direction to an extent limited by the abutments for covering and closing said slotted portion, said rake having a convex outline encompassing the outermost edge of the slotted portion, the convexity of the rake extending in the direction of rotation causing ejection of the powder through said slotted portion.

65 5. A face powder feeder comprising, in combination with a powder container open at one end, a feeder plate fitted in the open end of the container and having a slotted portion delineating a sign and offset from the centre of said plate, spaced abutments on the powder engaging face of the feeder plate, said container and feeder plate being revoluble relatively to each other, and an arcuate rake offset from said centre and so pivotally associated with the feeder plate as to partake

of the relative revolution between the container and the feeder plate in the direction of rotation causing ejection of the powder through the slotted portion of the plate without angularly moving relatively to the latter while being able to rotate in the reverse direction to an extent limited by the abutments, said rake having a convex outline encompassing the outermost edge of the slotted portion and webs substantially corresponding to the area of said portion, the convexity of the rake extending in the direction of rotation causing ejection of the powder through said slotted portion.

15 In testimony whereof I affix my signature.  
FÉLIX JOSEPH VICKI.

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