May 10, 1927. 1,628,106

P. C. P. BOOTY

BOX FOR FACE POWDER AND THE LIKE

Filed March 25, 1926

Fig. 1

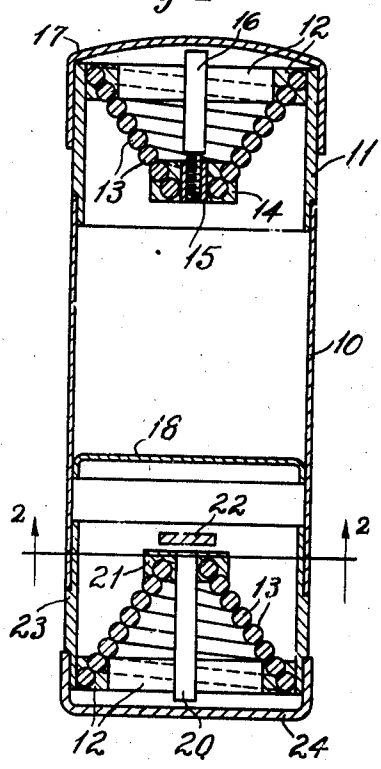
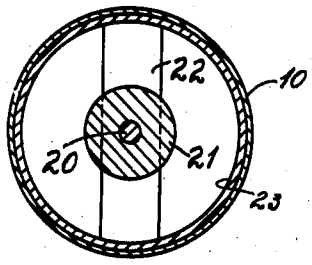


Fig. 2



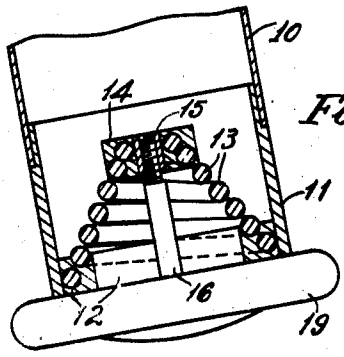


Fig. 3

Fig. 4

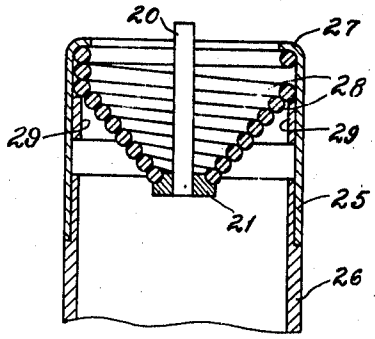
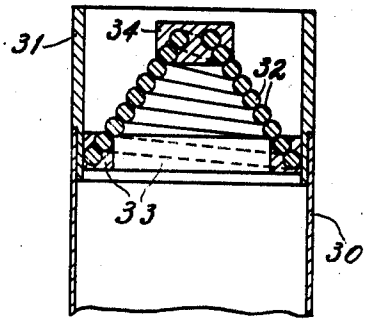


Fig. 5



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UNITED STATES PATENT OFFICE.

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BOX FOR FACE POWDER AND THE LIKE.

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My invention relates to containers, and it has for its object to provide a new and improved form and arrangement of parts for holding and dispensing the contents of the container in small quantities as may be desired. It is one of the objects of my invention to provide a construction of this type in which the closure means is very effective when the box is acting merely as a retainer for face powder, for example, so that the accidental escape of powder from the box is prevented, the arrangement being such, however, that when the device acts as a dispenser its action shall be sure and effective. To this end, it is one of the objects of my invention to provide the combination closure and dispensing means in such a form that there shall be a minimum tendency of the powder to pack at any point in the container, and a maximum tendency of the device to loosen the powder in case it may have become caked therein.

It is one of the objects of my invention to provide a closure means of a new form which may be very effective, may be produced very easily and cheaply by simple machine operations, and may be capable of operation in the simplest possible manner so that anyone at all can readily control the operation for ejecting from the receptacle the desired amount of the powder or other contents.

It is another object of my invention to improve devices of this type in sundry details hereinafter pointed out. The preferred means by which I have accomplished my several objects is illustrated in the drawing and is hereinafter specifically described. What I desire to cover by Letters Patent is set forth in the claims.

In the drawing,—

Fig. 1 is a central longitudinal section through the preferred form of my improved device.

Fig. 2 is a cross section taken at line 2—2 of Fig. 1.

Fig. 3 is a view of one end portion of the device shown in Fig. 1, but with the device in inverted position as compared with the showing of Fig. 1 and with the parts in changed position for dispensing a quantity of powder.

Fig. 4 is a view similar to the upper end portion of the device of Fig. 1 but showing a slightly modified form of construction; and

Fig. 5 is a central sectional view of one end portion of the device showing another modified form of construction.

Referring to Figs. 1, 2 and 3, in which corresponding parts are indicated by the same reference characters, 10 indicates a casing formed of sheet metal, and preferably cylindrical in form. In the upper end of the casing member 10 I have slidably mounted a ring or collar 11 which forms an extension of the casing 10 at the open end of the member 10. Within the ring or sleeve 11 by means of a ring 12 of solder or other suitable material, I have mounted a volute spring 13, the plies or convolutions at the upper end of the spring 13 being joined tightly to the inner face of the ring 11 about the entire periphery of the spring. At its lower and smaller end, the spring 13 is provided with a block 14 of solder or other suitable material, such block being provided with a metal bushing 15 in which is mounted by means of screw threads a pin 16 which extends upwardly a short distance beyond the upper end of the ring or sleeve 11.

In the construction as illustrated, the several plies or convolutions of the spring 13 stand normally in close contact with each other so as to serve as a closure means for the ring 11, in the construction shown the convolutions being held in such close contact by the resiliency of the spring itself. A metal cap 17 of any approved type is slidably mounted and secured by means of friction upon the upper end of the sleeve 11. In the preferred construction, the fit of the cap 17 on the ring 11 is slightly looser than the fit of the ring 11 on the casing member 10, so that normally when upward pressure is exerted upon the cap 17 with reference to the casing member 10 the separation will occur between the cap 17 and the ring 11 rather than between the ring 11 and the member 10.

In the construction shown a partition plate 18 of any suitable character is provided across the casing member 10 at a point between its ends.

With a quantity of powder contained in the casing 10 above the partition 18, the device can be subjected to fairly rough treatment without any danger of any of the pow-

der sifting out between the convolutions of the spring 13. When, however, it is desired to eject a small quantity of the powder, and the casing is inverted into the position shown in Fig. 3, and the pin 16 is brought into contact with a powder puff 19 so as to press the pin and the block 14 inwardly (upwardly in Fig. 3), the convolutions of the spring are forced apart to a very slight extent so as to permit a limited quantity of the powder to escape between the plies of the spring. As will be readily understood, the amount of powder so ejected will depend very much upon the extent of separation of the plies of the coil, so that it will be understood that the amount of powder so ejected can be controlled to a very large extent by an adjustment of the pin 16 with respect to the block 14.

Inasmuch as the powder within the casing 10 is brought into contact with the spring 13 at each operation of ejecting powder from the casing, and since the coil has a churning and cutting effect with respect to the powder which is brought into contact with it, it will be understood that there is a strong tendency of the spring to prevent caking of the powder and to break up any cakes of powder which may have started to form at this point. This action of the spring 13 is enhanced by reason of the fact that the block 14 and the spring 13 itself are free to move laterally of the casing as well as longitudinally when the pressure upon the pin 16 is applied from one side or the other.

The construction at the bottom of Fig. 1 is similar to that above described, except that the pin 20 of this construction is rigidly mounted within the block 21 rather than being secured by screw threads. For controlling in part the action of the construction as shown at this point, a bar 22 of any suitable type is secured across the ring or sleeve 23 for limiting the inward movement of the pin 20 and the block 21 and thereby controlling the separation of the plies of the coil. The ring 23 is similar to the ring 11, except that it is provided with a shoulder near its upper end for limiting the movement of the cap 24 into closure position. By the construction as shown in this figure, the user is enabled to carry two different forms of face powder.

The construction in Fig. 4 is similar to that above described except for certain details of construction. In this structure the ring 25 is mounted upon the outer face of the casing member 26 rather than upon the inner face, such ring having an inturned annular flange 27 at its outer end. The spring 28 differs from the spring 13 in that its upper convolutions are of equal size so as to be in cylindrical form rather than of varying size characterizing the volute form at the lower end. The spring 28 has a pressed fit within the sleeve 25 so as to be held securely in position by friction, a collar 29 being also pressed in position for assisting to hold the spring in place. It will be understood that a suitable cap may be mounted upon the upper end of the sleeve 25 if desired.

In the construction shown in Fig. 5, the casing 30 is substantially the same as the casing 10, and the ring or sleeve 31 is substantially the same as the ring 11. Within the ring 31, I have provided a volute spring 32 held in position on the interior of the ring by means of a band of solder 33 and closed at its smaller end by means of a block 34 of solder or other suitable material, the construction being substantially like that of Fig. 1 except that the spring is reversed with respect to the sleeve, and except that the block 34 is not provided with any part corresponding to the pin 16. In this construction, the powder is to be ejected from the casing member 30 by means of a light blow on the end of the ring 31 with the casing in inverted position as shown in Fig. 3, the weight of the block 34 being sufficient to carry it by its inertia a short distance for momentarily spreading the convolutions of the spring 32 for permitting the escape of the desired amount of powder. The blow by which the relative movement of the block 34 is effected is preferably brought about by striking the casing as a whole against a powder puff or other object upon which it is desired to deposit the powder.

It will be understood that the operation of the device of Fig. 5 is substantially the same as that of the device of Fig. 1, since it makes no particular difference in principle whether the spring is spread apart by the use of the pin 16 or by the use of the block or weight 34. The extent of movement of the block 34 for any given strength of blow can be controlled by regulating the weight of the block with respect to the strength of the spring.

In the construction of each of the several forms illustrated in the drawing, the plies are arranged in progressively extended position longitudinally of the coil whether the end of the coil which is movable with respect to the casing is outwardly positioned as in Fig. 5 or is inwardly positioned as in the remainder figures. In either case, the plies are adapted by contact with each other in their progressively extended position to close the opening in the casing, the adjacent plies being arranged to conform to each other whereby the face contact of each ply with the adjacent ply serves to provide a tight closure.

While I prefer to employ a construction substantially like that illustrated in the drawing, it will be understood that I do not wish to limit my invention to such forms,

except so far as the same is specifically so claimed, inasmuch as it is evident that changes might well be made in the construction of the device without departing from the spirit of my invention.

I claim:

1. In a container, the combination of a casing having an opening thereinto, and means comprising a coil mounted in said opening and having a plurality of plies overlying each other in progressively extended position along the axis of the coil and serving by contact with each other in such progressively extended position to close said opening.

2. In a container, the combination of a casing having an opening thereinto, and means serving under normal conditions to stand yieldingly in position to close said opening, said closing means comprising a coil having a plurality of plies arranged in progressively extended position longitudinally of the coil and held normally in contact with each other in such progressively extended position for bringing about the closing effect.

3. In a container, the combination of a casing having an opening thereinto, and means comprising a coiled spring mounted in said opening and having a plurality of plies arranged in progressively extended position longitudinally of the coil and held normally by their resiliency in contact with each other in such progressively extended position for closing said opening.

4. In a container, the combination of a casing having an opening thereinto, and means comprising a coil mounted in said opening and having a plurality of plies held by contact with each other from moving into a common plane and forming by such contact with each other a closure for said opening.

5. In a container, the combination of a casing having an opening thereinto, a volute coil mounted at its larger end in said opening and having a plurality of plies normally held in contact with each other in progressively extended position longitudinally of the coil, and means for closing the smaller end of said coil.

6. In a container, the combination of a casing having an opening thereinto, a volute spring mounted at its larger end in said opening and having a plurality of plies normally held by their resiliency in close contact with each other in progressively extended position longitudinally of the spring, and means for closing the smaller end of said spring structure.

7. In a container, the combination of a casing having an opening thereinto, means comprising a coil mounted in said opening and having a plurality of plies arranged in progressively extended position longitudinally of the coil and adapted by contact with each other in said progressively extended position to close said opening, and a pin mounted on said coil and adjustable longitudinally on the coil with respect to said casing for spreading the plies of the coil.

8. In a container, the combination of a casing having an opening thereinto, means comprising a coil mounted in said opening and having a plurality of plies arranged in progressively extended position longitudinally of the coil and adapted by contact with each other in said progressively extended position to close said opening, and means carried by the casing adjacent to the normal position of the coil for limiting the spreading movement of the plies.

9. In a container, the combination of a casing having an opening thereinto, a coiled spring mounted at one end in said opening and extending inwardly from the opening along the casing and forming a closure member for the opening by the progressive contact of the several plies with each other in their inwardly extended position, and a pin connected to the inner end of the coil and projecting outwardly therefrom through the coil for spreading the several plies against the resiliency of the spring.

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