

April 5, 1932.

M. V. TREMBLAY

1,852,685

POWDER DISPENSER

Filed Sept. 24, 1930

2 Sheets-Sheet 1

Fig. 1.

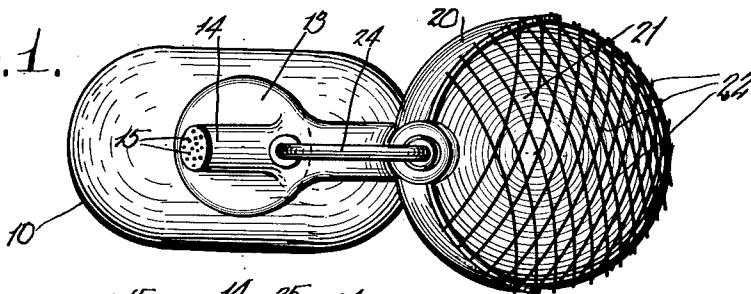


Fig. 2.

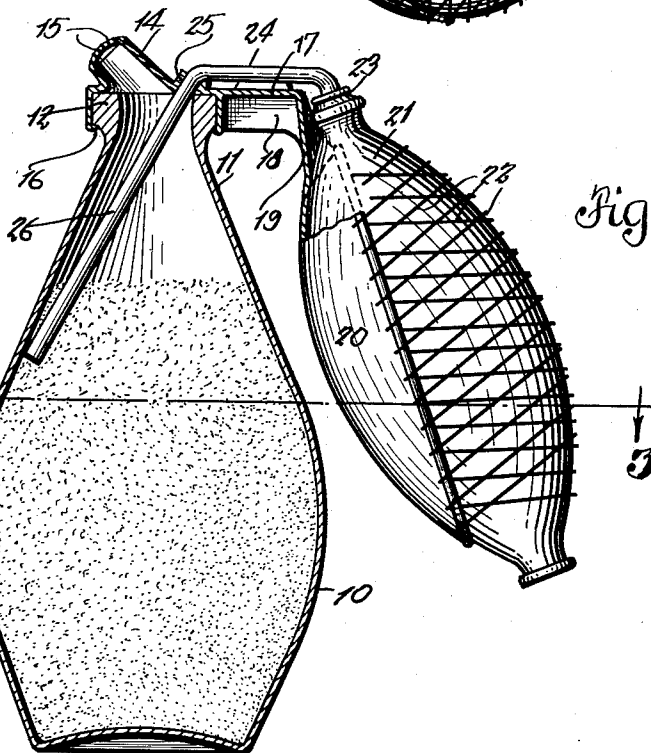


Fig. 10.

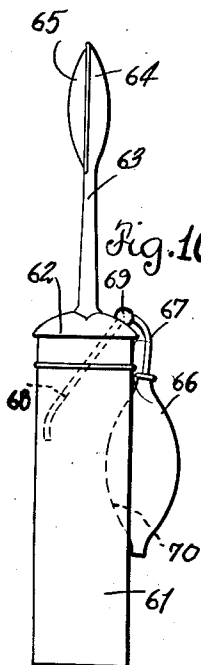
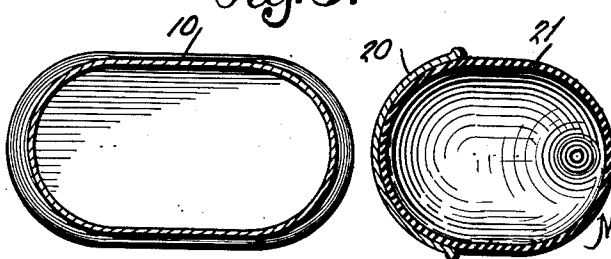


Fig. 3.



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2 Sheets-Sheet 2

Fig. 4.

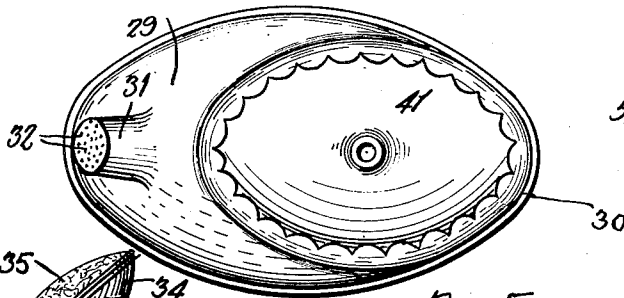


Fig. 6.

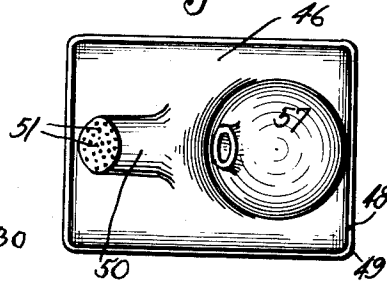


Fig. 5.

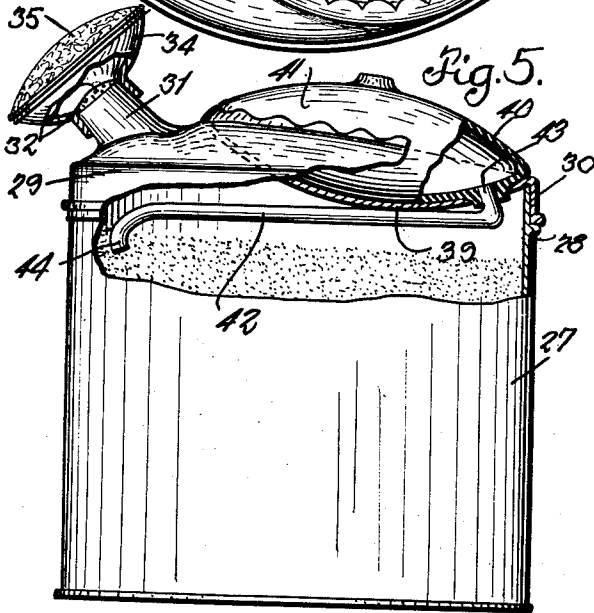


Fig. 7.

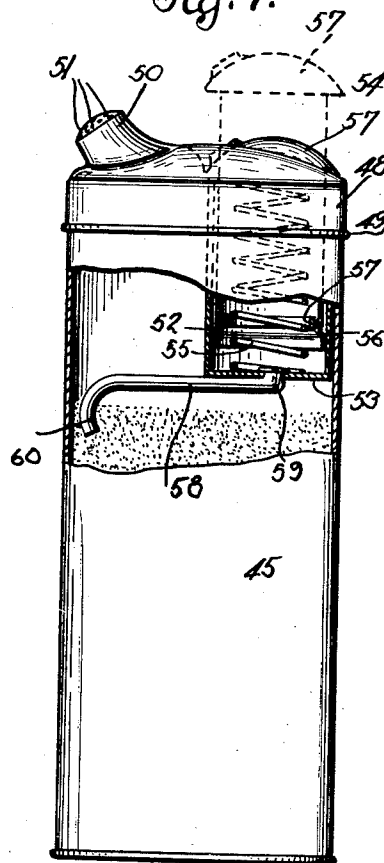


Fig. 8.

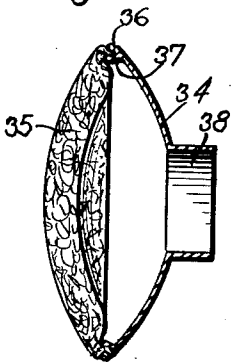
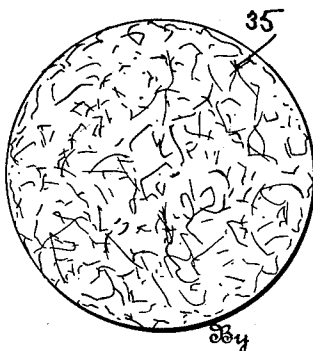


Fig. 9.



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## UNITED STATES PATENT OFFICE

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## POWDER DISPENSER

Application filed September 24, 1930. Serial No. 484,157.

This invention relates to improvements in powder distributors and comprises a receptacle having an upper open end adapted to be closed by a cover having incorporated therein a flexible or other pressure creating device with a tube communicating from the pressure device to the interior of the receptacle, whereby an air current may be set up within the receptacle to agitate the contents thereof. The invention also comprises a novel form of outlet or spraying device which may be in the form of an applicator or may include a fabricated pad similar to a conventional powder puff.

An object of this invention, is to provide a device of the above mentioned character adapted to be positioned on an ordinary powder can in which talcum powder is dispensed for replacing the sifter cap usually accompanying powder receptacles of this type.

A further object of this invention, is to provide a novel support for the flexible compressible air bulb in combination with the receptacle and the removable cap, or dispensing device.

A still further object of this invention, is to provide a device of the above mentioned character in which the air feed pipe projects downwardly at an angle to the bottom of the receptacle to create a turbulence of the material therein and feeding the same out through the dispensing opening.

Other objects and advantages of the invention will become apparent during the course of the following description, forming a part of the specification, and in which,

Figure 1 is a top elevation of a preferred embodiment of the invention illustrating the removable cap associated with the receptacle and the dispensing device secured thereto;

Figure 2 is a vertical cross-section of the receptacle illustrating the manner in which the cap is secured to the neck of the receptacle and illustrating the manner in which the compressible bulb is carried by the cap;

Figure 3 is a transverse cross-sectional view, taken on line 3—3 of Figure 2, illustrating the container and the provision of the flexible compressible bulb seated in the novel support;

Figure 4 is a top elevation of a modified form of the invention, illustrating the flexible compressible member carried by the removable cap and illustrating the dispensing nozzle removed;

Figure 5 is a side elevation of the device illustrated in Figure 4 partly in section, illustrating the manner in which the flexible compressible member is seated in a concaved portion of the cap and showing the manner in which the tube leading from the compressible member is presented to the interior of the receptacle;

Figure 6 is a still further modified form of the invention illustrating a different form of air supply device including a dash pot structure carried by the removable cap of the powder receptacle;

Figure 7 is a side elevation of the device illustrated in Figure 6, showing the receptacle partly in section to illustrate the construction of the dash pot air compressor for feeding air to the interior of the powder can or receptacle;

Figure 8 is a cross-sectional view of a powder applicator adapted to be removably secured to the dispensing nozzle of the powder can;

Figure 9 is a top elevation of the powder applicator illustrating the fabricated pad and the contour thereof; and

Figure 10 is a vertical side elevation of a still further modified form of the invention showing an extended nozzle on the end of which is secured a flexible powder applicator, formed of a fabricated material.

In the drawings, wherein for the purpose of illustrating the invention and wherein like reference characters will be employed to designate like parts throughout the same, the reference character 10 will generally be employed to designate a container formed of glass or other material being oblong in cross-section and of a bulbous shape in side-elevation. A neck portion 11 is formed at the upper end of the receptacle 10, terminating in an enlarged lip 12 of annular contour. The neck 11 and lip 12 are provided with a circular cap 13 having an angular extension 14 forming an outlet which is perfo-

rated as at 15. The cap 13 extends downwardly over the lip 12 and is bent inwardly as at 16 in order to hold the cap rigidly in place upon the annular lip 12. Formed integral with the cap 13 is a radial extension 17 having reinforcing side portions 18 bent downwardly therefrom and formed integral with the cap, and the extension 18 terminates in an angular portion 19 bent downwardly forming a spoon-shaped element 20 which is presented angularly to the receptacle 10.

Seated within the concave spoon-shaped member 20 is a flexible rubber bulb 21 and the bulb 21 may be held in place relative to the concave spoon member 20 by lacing 22 as clearly illustrated in Figures 1 and 2. The upper end of the flexible bulb 21 is provided with a nipple 23 to which is secured a metallic tube 24 which extends upwardly and is bent over in the same plane as the radial extension 17 of the cap. The free end of the tube 24 passes through an opening 25 formed in the cap 13 and extends downwardly as at 26 in order that the open end thereof may be presented downwardly at an angle to the receptacle 10. Figure 3 clearly illustrates the concave spoon member 20 which is formed as an integral part of the radial extension 17 formed on the cap 13.

Attention is directed to Figures 4 and 5 wherein is illustrated a modified form of the invention and wherein the reference character 27 designates a receptacle of the talcum powder type which is oval in transverse cross-section and which is provided with an open upper end having an annular flange 28 to form a stop for a removable cap 29 which is of the same transverse cross-section as the receptacle 27. The cap 29 is provided with a downwardly extending flange 30 whereby the cap may be frictionally held on the receptacle 27. The cap 29 is provided with a dispensing nozzle 31 having a plurality of apertures 32 in the end thereof and the dispensing nozzle 31 may be presented at an angle from the cap 29 and may be provided with a metallic applicator 34 having a flexible pad or cloth member 35 held in place by a metallic ring 36 engaging the edges of the pad 35 and holding the same in a recess 37 near the outer edge of the applicator 34. The applicator 34 is provided with an annular flange 38 whereby the flange 38 may receive the nozzle 31 and be frictionally held thereon.

A concave portion 39 is formed in the cap 29 for receiving a flexible compressible member 40 of the same general contour as the elongated concave portion 39 and a metallic plate 41 may be secured to the flexible member 40 for manually compressing the member 40 and causing air to be forced through the tube 42 which has one of its ends connected to the flexible chamber 40 as at 43 and its opposite end or open end bent down-

wardly as at 44 in the direction of the bottom of the receptacle 27. In this manner a turbulence is set up within the receptacle 27 in a similar manner as described in Figures 1 to 3 inclusive.

In Figures 6 and 7, is illustrated a still further modified form of the invention and the reference character 45 will be employed to designate a talcum powder receptacle rectangular in transverse cross-section and the receptacle 45 may be of the conventional talcum powder type in which talcum powder or other powder is dispensed.

The receptacle 45 is provided with a removable cap or cover 46 having a downwardly extending flanged portion 48 which fits over the upper open end of the receptacle 45 and is held therein in a frictional manner. The lower edge of the flange 48 is provided with a bead 49 to strengthen and reinforce the cap. A dispensing nozzle 50 extends at an angle to the cap 48 and is provided with a series of apertures 51 through which the powder in the receptacle 45 is adapted to pass. Formed integral with the cap 48 is a cylinder 52 having its bottom end closed as at 53 and its upper end opened for the reception of a plunger 54 which is reciprocally mounted within the cylinder 52 and is adapted to be held in a vertical normal position by means of a coil spring 55. A leather packing element 56 is provided on the lower end of the plunger 54 and is held in place by a ring 57 engaging one edge of the packing element 56 and holding the same into engagement with the plunger in a frictional manner. The free edges of the packing member 56 extend radially from the cylindrical plunger 54 and engage the cylinder wall of the cylinder 52. The upper end of the cylindrical plunger 54 is provided with a push button 57 whereby the finger or thumb of the operator may rest thereon while reciprocating the plunger 54 against the action of the coil spring 55. An air pipe 58 has one of its ends as at 59 secured to the bottom 53 of the cylinder 52 and the opposite end of the tube 58 is curved as at 60 in order that the open end may extend downwardly toward the bottom of the receptacle 45. In this manner, turbulence is also set up within the receptacle 45 in a manner similar to the devices illustrated in Figures 1 to 5 inclusive.

In Figure 10 is illustrated a still further modified form of the invention in which the reference character 61 designates a powder receptacle having an open upper end to which is secured a cap 62 having a nozzle 63 extending vertically therefrom and provided with a dish-shaped element 64 which is concave and which is provided with a fabricated pad 65 in the form of a powder puff. The nozzle 63 is provided with a bore which communicates with the interior of the receptacle 61 and with the dish-shaped concave member 64

whereby powder in the receptacle 61 may be fed to the powder puff element 65 by means of an air supply device in the form of a collapsible tube 66 connected to the cap 62 by means of a pipe 67. An air supply pipe 68 is connected to the pipe 67 at the juncture 69 and the air supply pipe 68 passes through the receptacle cap 62 and has its open end presented to the bottom of the receptacle 61. The receptacle 61 may be provided with a concave side wall 70 in order to receive the compressible bulb 66 whereby the receptacle and bulb 66 may be held in one hand and operated to cause the contents of the receptacle to be agitated and dispensed by means of air pressure.

The operation of the device illustrated in Figures 1 to 10 inclusive will be readily understood and by operation of the air devices or compression members 21, 40 and 54, air is forced through the respective tubes 26, 42 and 58 within the receptacles 10, 27 and 45. The tubes above described extend within the receptacle in such a manner that the open ends are presented to the bottom of the receptacle to agitate and cause a turbulence of the powder material within the receptacle whereby the powder material may be dispensed through the nozzle 14, 31 and 50 respectively. The operation of the device as illustrated in Figure 10 is obvious and it is to be understood that the device is provided with an extension nozzle 63 whereby the fabricated pad 65 may be caused to reach difficult parts of the body of the user.

It is also to be understood, that various changes in the shape, size and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the sub-joined claims and that the forms of the invention herewith shown and described, are to be taken as the preferred embodiments of the invention, but the invention may be carried out in any number of devices in which dispensing of fluid or granular materials is necessary.

Having thus described the invention, what I claim is:—

1. A device of the character described, comprising a receptacle, a removable cover for the receptacle, a nozzle formed integral with the cover, an air supply device supported on a part of the cover, an air feed pipe carried by the cover adapted to extend downwardly within the receptacle at an angle to the vertical axis of the receptacle for creating a turbulence therein, whereby material within the receptacle will be dispensed through the nozzle.

2. A device of the character described, comprising a receptacle having an open upper end, a removable cover frictionally held on the receptacle, a dispensing nozzle supported on a part of the cover, an air supply device carried by the cover, and an air feed pipe hav-

ing one of its ends connected to the air supply device and extending into the receptacle with its open inner end angularly disposed adjacent a side wall of the receptacle whereby the material within the receptacle will be blown from the adjacent side wall of the receptacle and a turbulence created to cause the material to be dispensed through the dispensing nozzle.

3. A device of the character described, comprising a receptacle having an open upper end, a removable cap for closing the upper end of the receptacle, a dispensing nozzle extending angularly from the cap, formed integral therewith and in direct communication with the interior of the receptacle, an air supply device carried by the cap, and a pipe for feeding air from the air supply device to the interior of the receptacle in such a manner as to cause a turbulence within the receptacle to dispense the material therein in a substantially straight line through the dispensing nozzle of the cap.

4. A device of the character described, comprising a receptacle having an open upper end, a removable cap or cover frictionally held on the open end of the receptacle, a dispensing nozzle presented at an angle to the cap and having a series of dispensing apertures and having a straight line communication with the interior of the receptacle, an air feeding and supplying device supported by the removal cap or cover, and a pipe connecting the air supply device with the interior of the receptacle in such a manner as to cause a turbulence therein for dispensing the contents of the receptacle.

5. A device of the character described, comprising a receptacle having an open upper end, a cap or cover removably secured to the open upper end of the receptacle, a dispensing nozzle extending angularly from the removable cover or cap, an air supply device carried by the removable cover or cap, and a pipe connecting the air supply device extending through the cap into the receptacle, having its open end presented angularly to the bottom wall of the receptacle, whereby a turbulence will be set up within the receptacle for dispensing the contents thereof through the dispensing nozzle.

6. A device of the character described, comprising a receptacle, a cap removably secured to the opening of the receptacle, a dispensing nozzle formed integral with the cap, a padded applicator carried by the outer end of the dispensing nozzle, and means for forcing air into the interior of the receptacle in such a manner as to cause a turbulence therein for dispensing the contents of the receptacle through the padded applicator.

7. A device of the character described, comprising a receptacle having an open upper end, a removable cap carried by the receptacle at the open end thereof, a concaved

portion formed in a portion of the cap, an air bulb mounted within the concaved portion of the top, and a pipe communicating with the air bulb and with the interior of the receptacle in such a manner as to cause a turbulence therein for dispensing the contents through the removable cap.

8. A device of the character described, comprising a receptacle having an open upper end, a cap removably carried by the open end of the receptacle, a concaved portion formed in a portion of the removable cap, a bulb of flexible material mounted within the concaved portion and held therein, a pipe connecting one end of the bulb member to the interior of the receptacle, the open end of the pipe being presented at an angle to the bottom of the receptacle whereby a turbulence will be set up therein and a dispensing nozzle formed integral with the cap extending angularly therefrom.

9. A device of the character described, comprising a receptacle having an upper open end, a cap removably secured to the open end of the receptacle, a dispensing nozzle extending angularly from the removable cap, a fabricated applicator adapted to be carried by the outer end of the dispensing nozzle, a concaved portion formed in a section of the cap, an air supply bulb seated within the concaved portion, means at one end for admitting air to the bulb, a pipe connecting the opposite end of the bulb, said pipe extending within the receptacle and having its open end presented at an angle to the bottom of the receptacle whereby a turbulence will be set up therein to cause the contents to be dispensed through the fabricated applicator.

10. A device of the character described, comprising a receptacle having an open upper end, a removable cap carried by the open end of the receptacle, a dispensing nozzle presented at an angle to the cap, an air bulb for supplying air to the receptacle, means formed integral with the cap for supporting the air bulb, and a pipe connecting one end of the air bulb to the interior of the receptacle whereby the open end of the pipe will be presented at an angle to the bottom of the receptacle for causing a turbulence therein and causing the dispensing of the material through the dispensing nozzle.

In testimony whereof I affix my signature.

MARIA V. TREMBLAY.