

M. L. RHEIN.
POWDER HOLDING AND DISPENSING CONTAINER.
APPLICATION FILED OCT. 21, 1908.

966,053.

Patented Aug. 2, 1910.

2 SHEETS—SHEET 2.

Fig. 2.

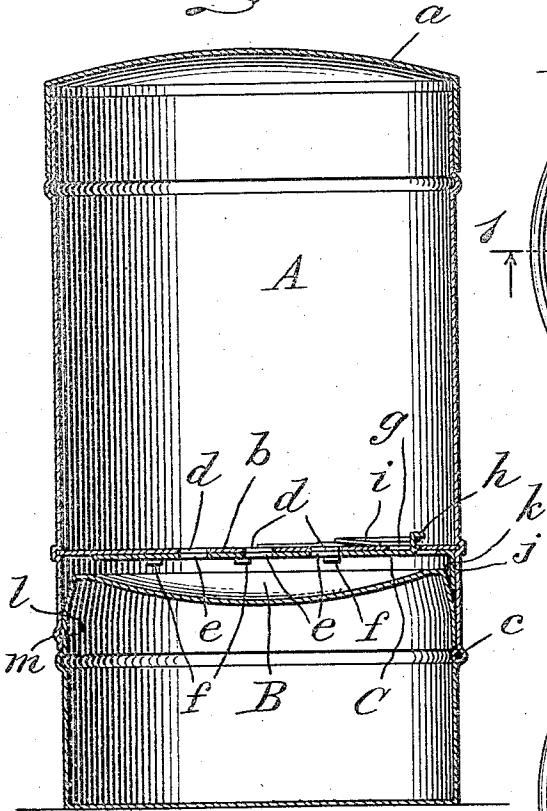


Fig. 3.

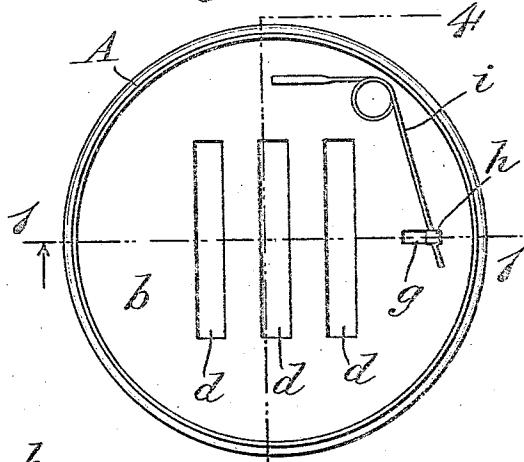


Fig. 4.

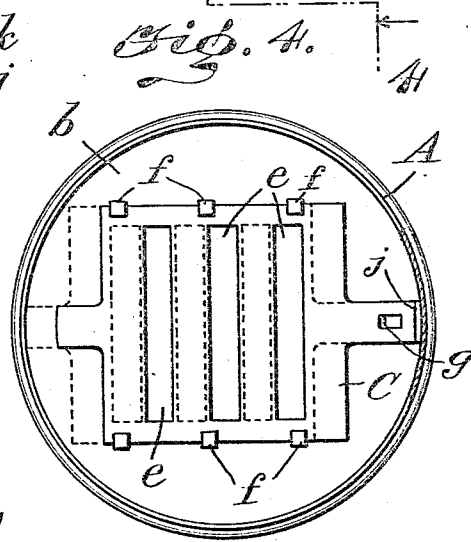


Fig. 7.

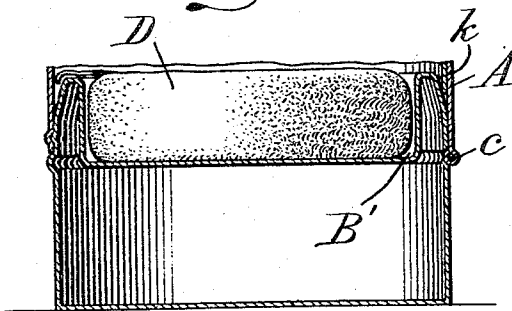
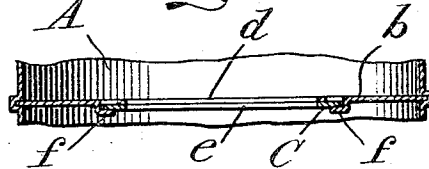


Fig. 5.



WITNESSES

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3 SHEETS—SHEET 1.

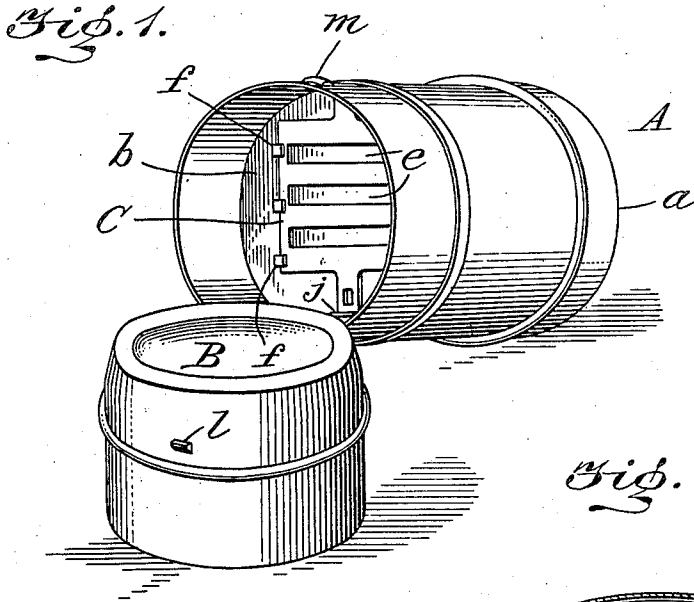


Fig. 8.

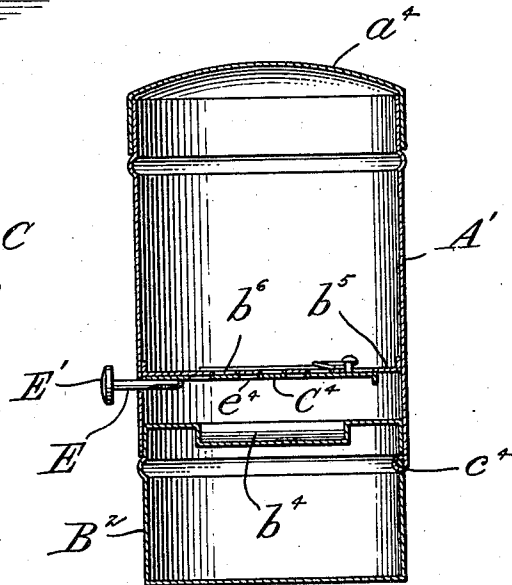
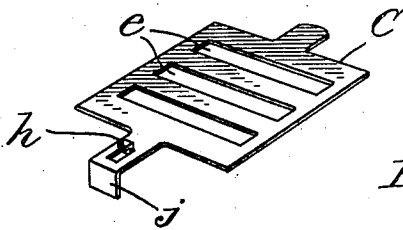


Fig. 6.



WITNESSES

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UNITED STATES PATENT OFFICE.

MEYER L. RHEIN, OF NEW YORK, N. Y.

POWDER HOLDING AND DISPENSING CONTAINER.

966,053.

Specification of Letters Patent.

Patented Aug. 2, 1910.

Application filed October 21, 1908. Serial No. 458,877.

To all whom it may concern:

Be it known that I, MEYER L. RHEIN, a citizen of the United States, residing in the city of New York, borough of Manhattan, county and State of New York, have invented a certain new and useful Powder Holding and Dispensing Container, of which the following is a specification.

This invention is a container, preferably in the form of a box, for holding and dispensing powder, more particularly, for holding and dispensing tooth powder or face powder, although it will be apparent that it may be similarly used in connection with any powdered substance.

The new box or receptacle embodies, among other features, means for holding powder, termed a powder containing receptacle or magazine, and means whereby a predetermined quantity of the powder may be discharged from said receptacle or magazine into a powder receiving receptacle.

To this end, the invention consists of two receptacles or chambers, movable relatively to each other, and valve mechanism whereby the contents of one receptacle may be discharged, in regulated quantities, into or upon the other receptacle. Said valve mechanism is adapted, in one form of the invention, to be operated manually, but said valve mechanism may be operated automatically upon the relative movement of the two receptacles, the valve mechanism being opened and powder delivered from one receptacle into the other when the magazine is thrown to an abnormal position, whereby said magazine is adapted to expose the other receptacle so as to render the powder therein accessible for use.

In a modified form of the invention, which particularly adapts it for use in connection with face powder, the powder receiving receptacle is provided with a powder bag or puff upon which the powder is delivered.

Other features of novelty embodied in the invention, and the advantages thereof, will be apparent from the hereinafter detailed description.

In the accompanying drawings I have illustrated different practical embodiments of the invention, but the constructions shown therein are to be understood as illustrative, only, and not as defining the limits of the invention.

Figure 1 is a perspective view showing

the device opened for permitting access to be obtained to the powder receiving receptacle. Fig. 2 is a vertical sectional view of the container, taken on line 1—1 of Fig. 3. Fig. 3 is a plan view of the inside of the container, when the cover of the container is removed, showing the openings leading from the powder containing receptacle into the powder receiving receptacle. Fig. 4 is a plan view of the underside of the powder containing receptacle showing the valve mechanism in open position. Fig. 5 is a fragmentary sectional view taken on line 4—4 of Fig. 3. Fig. 6 is a detail perspective view of one form of the valve mechanism from the powder container. Fig. 7 shows a modified form of powder receiving receptacle with a powder puff positioned therein, and Fig. 8 is a vertical section of a powder container embodying another part of the invention wherein the valve mechanism is adapted for operation manually instead of automatically.

Referring particularly to Figs. 1 to 6, both inclusive, A is a powder receiving receptacle, provided with a cover or cap, *a*, and a bottom, *b*, and B is the powder receiving receptacle pivoted to A at *c*, whereby the receptacle, A, may be thrown backward on the pivot to expose the powder receiving receptacle, as shown clearly in Fig. 1.

The bottom, *b*, of the powder containing receptacle, A, is provided with an opening, and preferably a plurality thereof, *d*, *d*, *d*, and coöperating with said bottom, *b*, is a valve mechanism shown as a plate, C, and having openings, *e*, therein corresponding to openings, *d*, in bottom, *b*, these openings being adapted to be placed in and out of register with each other, whereby communication is opened or closed between the powder containing receptacle, A, and the powder receiving receptacle, B. Valve plate, C, is held in contact with bottom, *b*, by means of guides, *f*, depending from bottom, *b*.

Bottom, *b*, is provided with a slot, *g*, into which takes a headed pin or lip, *h*, extending upwardly from valve plate, C. Pin, *h*, is adapted to reciprocate in slot, *g*, thereby moving valve plate, C, backward and forward, thus enabling it to open or close communication between receptacle, A, and receptacle, B. The forward movement of valve plate, C, or the movement of the valve which closes communication between recep-

tacles, A and B, is effected by means of a spring, *i*, one arm of which normally exerts tension on pin, *h*, to press said pin forward in slot, *g*.

Depending from valve plate, C, is a lug, *j*, against which one edge, *k*, of receptacle, B, is adapted to press during the movement of receptacle, B, into the position shown in Fig. 2, thereby retracting or pushing backward said valve plate, C, against the tension of spring, *i*, thus serving to uncover the openings, *d*, in bottom, *b*, and establish communication between receptacle, A, and receptacle, B.

One side of receptacle, B, is provided with a small rib, *l*, which takes into a groove, *m*, formed in a depending portion of receptacle, A, whereby the receptacle, B, may be locked in the position shown in Fig. 2, or receptacle, A, may be readily unlocked therefrom and thrown backward on pivot, *c*, so as to render receptacle, B, accessible, as shown in Fig. 1.

In the modified form of the invention illustrated in Fig. 7, receptacle, B', is made deeper than the corresponding receptacle, B, so as to provide ample space for a powder puff or bag, D, positioned therein.

From the foregoing description of the device it is believed its mode of use and operation will be readily understood, but it may be described briefly as follows. Powder having been placed in receptacle, A, a certain portion thereof is delivered into receptacle, B, through openings, *d*, *e*, when the parts of the device are positioned as shown in Fig. 2; when receptacle, A, is tilted backward, however, on pivot, *c*, as shown in Fig. 1, the top portion, *k*, of receptacle, B, ceases to press on lug, *j*, depending from valve plate, C, whereupon the tension of spring, *i*, operating on pin, *h*, forces valve plate, C, forward, thereby closing the openings, *d*, in the bottom of receptacle, A. The tilting of receptacle, A, backward uncovers receptacle, B, thereby rendering the powder therein accessible. In the case of using the receptacle for tooth powder, receptacle, B, is usually made of such capacity as to hold sufficient powder for a single use, and, moreover, said receptacle provides a convenient way of applying powder to a tooth brush, instead of the customary way of depositing the powder on the brush.

In a modified form of the invention shown in Fig. 7, the parts operate in substantially the same way as described, except that instead of the powder being delivered on to the bottom of the powder receiving receptacle, B', it is deposited on a powder puff or bag, D, therein, whereupon the powder puff or bag may be taken out of the receptacle and used in the customary manner.

The use of a powder holding and dispens-

ing container embodying this invention secures many practical advantages, some of which have been hereinbefore set forth. It will be manifest that no adulteration or contamination of the contents of the container can take place for the reason that the containing receptacle is automatically locked when the box is in use. Furthermore, no evaporation or volatilization of any medicinal present in the contents of the container, A, can take place owing to exposure to the atmosphere, said receptacle, A, being securely closed by its cover and by the valve mechanism.

An especially useful feature of my container is that the powdered contents thereof are measured and discharged to the receptacle, B, each time the container is closed, so that the same measured or uniform quantity of powder is delivered from container, A, to receptacle, B.

It will be noted that my container embodies in its construction two chambered members, A, B, the member, A, constituting a powder containing receptacle or magazine, whereas member, B, forms a powder receiving receptacle. In contradistinction to containers of this and analogous arts, the two members of my container are so connected that they are movable relatively to each other, thus enabling member, A, to be thrown or moved backward to the position of Fig. 1, whereby member, B, is fully exposed for access to the top portion thereof. Said top of member, B, is provided with a concave depression in Figs. 1 and 2, or with a deeper chamber, B', in Fig. 7, or with a shallow chamber, *b*⁴, in Fig. 8; but in each instance, said member, B, is shown as having a chamber adapted to form a tray or receptacle for the purpose of receiving the powder from member, A. When member, A, is thrown back to the position of Fig. 1, the operator can easily remove the powder from the tray or chamber of the base member, as by wiping a brush across the tray thereof, and the tray can also be kept in a clean condition.

While I have shown and described the invention as being particularly useful in connection with tooth powder and face powder, it is to be distinctly understood that the container is not restricted to these particular materials, for the reason that it may be used to contain and dispense in measured quantities any other material which it is desirable shall be protected from atmospheric influences. The container is especially useful for holding bi-carbonate of soda, or Rochelle salts, and chemicals or drugs generally, particularly when such materials are to be used or dispensed in regulated or measured quantities. The sealing of the contents of container, A, as embodied in this invention renders the article peculiarly useful in packing

hygroscopic powdered materials so as to preclude the absorption of moisture, as well as for containing dental cements of a hygroscopic nature.

5 Fig. 8 illustrates another embodiment of the invention wherein the valve mechanism is adapted for operation by hand for the purpose of discharging a quantity of the material in the magazine upon or into a separate chamber or receptacle, said separate
10 chamber or receptacle being below the magazine. In many respects the container shown in Fig. 8 is similar to the construction of Figs. 1 to 6, inclusive. Magazine, A', is provided with a removable cover, a', and said magazine is connected to a bottom section or base, B², such connection being preferably effected by a hinge, c'. The magazine, A', is thus capable of movement relative to base, B², by tilting or throwing
20 magazine, A', backwardly on the hinge, c', whereby base, B², is adapted to be fully exposed to view so that access may be obtained to the material deposited on the base or in the chamber, b⁴, thereof. Magazine, A', is provided at its bottom with a plate, b⁵, and in said plate are openings or slots, b⁶, similar to slots, d, in the construction of Figs. 2, 3, 4 and 5. Bottom, b⁵, is provided with suitable guides adapted to receive a slidable
30 valve plate, C⁴, and said valve plate is provided with openings, e⁴, which are separated by intervening solid parts of the plate. The valve, C⁴, is acted on normally by a spring, similar to the spring, i, of Fig. 3, and said spring holds said valve, C⁴, in position for the solid parts of the plate to close openings, b⁶, in bottom, b⁵. Communication is thus cut off, normally, between the magazine, A', and the chamber of base, B², thus preclud-
40 ing the passage of material from said magazine into or upon said base. For the purpose of operating said valve, C⁴, it is preferred to employ a push pin, E, which passes through a suitable opening provided in the wall of magazine, A', below bottom, b⁵. Said push pin is attached in any suitable way to valve, C⁴, and at its exposed end, said push pin is provided with a knob or head, E'.
50 When it is desired to discharge a limited quantity of powder or other material contained in magazine, A', the operator presses push pin, E, inwardly, thereby operating valve, C⁴, against the tension of its spring, and moving the slots or openings of said valve into register with the slots or openings in bottom, b⁵. The material is free to pass from said magazine into chamber, b⁴, of base, B², and the material will continue to
60 pass so long as the valve is in an opened position. When pressure on the push pin is removed, the spring forces valve, C⁴, to a closed position. The operation of depositing powder or other material into the chambered base section should be performed prior to

opening the container, but when a limited quantity of powder is discharged from the magazine, the operator presses on magazine, A', so as to turn it on hinge, c', thereby opening the container and exposing base, B², so that ready access can be obtained to the material present in the chamber of said base.

Having thus fully described the invention, what I claim as new, and desire to secure by Letters Patent is:

1. In a device for holding and dispensing powder, a containing receptacle provided with an outlet in its lower part, a tray pivoted to said containing receptacle, whereby said receptacle may be moved relative to the tray, said tray being adapted to receive material from the containing receptacle through said outlet, and valve mechanism, separate from the tray, for closing the said outlet in the containing receptacle.

2. In a device for holding and dispensing powder, a containing receptacle having an outlet in its lower part, a receiving receptacle communicating therewith and movable relatively thereto, a movable valve, separate from the receiving receptacle, and carried by the containing receptacle for closing the said outlet when one receptacle is moved relatively to the other, and means coöperating with the receiving receptacle for opening said valve.

3. In a device for holding and dispensing powder, a powder containing receptacle having an opening in its lower part, a powder receiving tray adapted to communicate with said containing receptacle and movable relatively thereto, a valve separate from said tray adapted to open and close said opening, and means for closing said valve independently of the tray.

4. In a device for holding and dispensing powder, a powder containing receptacle, a powder receiving receptacle communicating therewith, valve mechanism intermediate said receptacles for establishing communication between them, means coöperating with the containing receptacle for closing said valve mechanism, and means coöperating with the receiving receptacle for opening said valve mechanism.

5. In a device for holding and dispensing powder, a powder containing receptacle, a powder receiving receptacle, and a valved connection between said receptacles, said powder receiving receptacle being provided with a chamber or tray adapted to receive a powder puff or bag.

6. In a container for holding and dispensing loose materials, a tray forming the base section of said container, a containing receptacle hinged to said tray and tiltable relatively thereto for exposing said tray to convenient access, said containing receptacle being provided with an outlet in its lower part for the discharge of the material con-

tained therein and said receptacle being normally in line with said tray, and a movable valve for establishing and shutting off communication between the receptacle and the tray, said valve being separate from the tray.

7. In a container for holding and dispensing loose materials, a tray constituting the base section of said container, a containing receptacle closed at its top and on all sides except at the bottom, said bottom of the receptacle being an outlet for the discharge of the material, said containing receptacle being pivotally connected to said tray and movable relatively thereto whereby the tray may be exposed for ready access; and valve mechanism for establishing and shutting off the flow of material from the containing receptacle to the tray.

8. In a container for holding and dispensing loose materials, a tray constituting the base section for said container, a containing receptacle hinged to said tray, said parts being movable relative to each other for exposing the tray to convenient access when the parts are out of alinement, whereby material deposited upon the tray may be removed therefrom, and valve mechanism carried by said containing receptacle for controlling the passage of material from the containing receptacle to the tray.

9. In a container for holding and dispensing loose materials, a tray constituting the base section for said container, a containing receptacle hinged to said tray, said parts being movable relative to each other for exposing the tray to convenient access when the parts are out of alinement, whereby material deposited upon the tray may be removed therefrom, said containing receptacle having an outlet in the lower part thereof, valve mechanism carried by the containing receptacle and operating to open said outlet upon the movement of said containing receptacle into alinement with the tray, and means for closing said valve mechanism

automatically when the containing receptacle is shifted out of alinement relative to the tray.

10. In a container for holding and dispensing loose materials, a tray constituting a base section of said container, a containing receptacle provided with an outlet, said containing receptacle being movable relative to the tray for exposing the latter in one position and for closing it in another position, valve mechanism in cooperative relation to the outlet, a spring acting to open the valve mechanism when the containing receptacle covers the tray, and means for closing the valve mechanism upon the movement of the containing receptacle to expose the tray.

11. In a device for holding and dispensing powder, a powder containing receptacle, a powder receiving receptacle in alinement therewith and being substantially the same in cross sectional area as said powder containing receptacle, said receptacles being movable relatively to each other, whereby the top of the powder receiving receptacle is exposed, a bottom for the powder containing receptacle provided with an outlet for establishing communication between the two receptacles, and valve mechanism for controlling said outlet.

12. In a device for holding and dispensing powder, a powder containing receptacle, a powder receiving receptacle provided with a tray, said receptacles being movable relatively to each other whereby the tray of the powder receiving receptacle is exposed, means for delivering powder from said powder receiving receptacle to said tray, and means for controlling the delivery of said powder.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

MEYER L. RHEIN.

Witnesses:

H. I. BERNHARD,
M. C. POWELL.