

F. REUTTER.
POWDER CAN TOP.
APPLICATION FILED APR. 15, 1911.

1,021,479.

Patented Mar. 26, 1912.

Fig. 1.

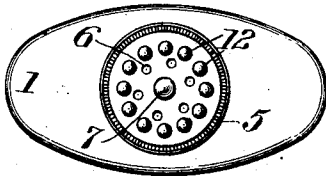


Fig. 6.

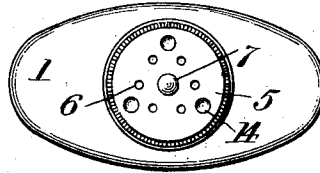


Fig. 2.

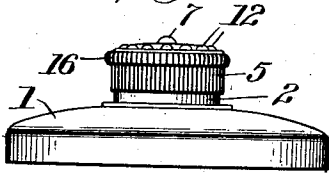


Fig. 7.

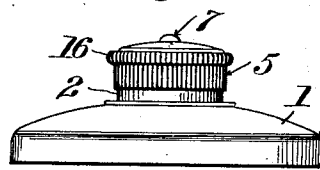


Fig. 3.

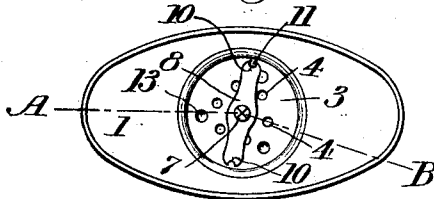


Fig. 8.

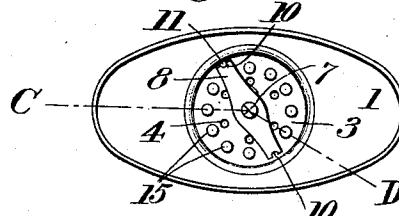


Fig. 4.

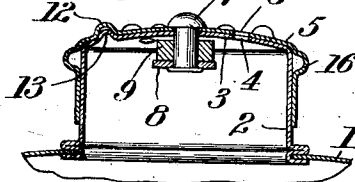


Fig. 9.

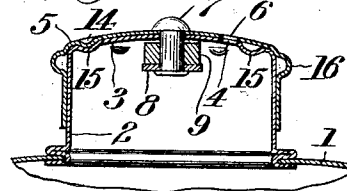


Fig. 5.

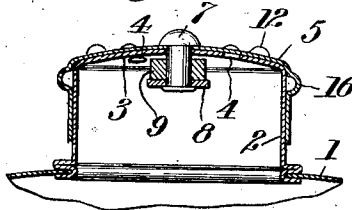


Fig. 10.

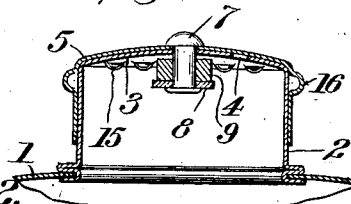


Fig. 11.

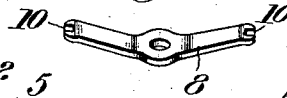


Fig. 12.



WITNESSES

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UNITED STATES PATENT OFFICE.

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POWDER-CAN TOP.

1,021,479.

Specification of Letters Patent.

Patented Mar. 26, 1912.

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To all whom it may concern:

Be it known that I, FREDERICK REUTTER, a citizen of the United States, residing at Waterbury, in the county of New Haven and State of Connecticut, have invented a certain new and useful Improvement in Powder-Can Tops, of which the following is a full, clear, and exact description.

This invention relates to that type of powder can tops in which discharge holes in an immovable part are opened and closed by a rotary cap mounted to turn upon such part and having holes which may be turned into and out of register with the holes in the immovable part, in order respectively to permit of the discharge of the contents of the can and to close the can against escape of its contents.

The object of the invention is to provide a can top for discharging the contents of the can and for closing the can against such discharge, which may be readily turned to open and close the can and yet be so securely applied to the can, without binding, that leakage of the contents of the can is minimized if not entirely prevented, and in which the cap is held in open and closed positions against accidental displacement.

The invention consists of a top of the type referred to, comprising a neck closed at its top end save for the discharge holes, and a shell-like cap placed over the neck and yieldingly and rotarily secured thereto by an axial rivet fixed in a spring within the neck, said cap having discharge holes adapted to be brought into and out of register with the holes in the neck by turning it on the neck, the spring being stationary, and the cap and neck having complementary members of stop devices to hold the cap in given position; the stop members on the cap adding a distinctive and more or less ornamental finish to the top; all as I will proceed now more particularly to set forth and finally claim.

In the accompanying drawings illustrating the invention, in the several figures of which like parts are similarly designated, Figure 1 is a top plan view; Fig. 2 is a side elevation; Fig. 3 is a plan view of the top inverted; Fig. 4 is a vertical cross-section,

on a larger scale, taken on line A B, Fig. 3, showing the top open, and Fig. 5 is a vertical cross-section, also on a larger scale, similarly taken, showing the top closed, these several views illustrating a form of the invention in which the stop members are outwardly projecting beads arranged in a circle around the discharge holes. Fig. 6 is a top plan view; Fig. 7 is a side elevation; Fig. 8 is a plan view of the top inverted; Fig. 9 is a vertical cross-section, on a larger scale, taken on line C D, Fig. 8, in open position, and Fig. 10 is a vertical cross-section, on a larger scale, similarly taken, in closed position, showing another form of the invention wherein the stop members are inwardly projecting beads. Fig. 11 is a perspective view of the spring shown in Figs. 3 to 5, and Fig. 12 is a perspective view of the spring shown in Figs. 8 to 10, either of which may be used.

The can, not shown, but of any usual or preferred construction, has a breast 1, neck 2, having the top end 3 closed excepting for the discharge holes 4, and flanged or secured to the breast in any suitable way, and the inclosing rotary shell-like cap 5, having a complementary series of holes 6, all which may be of any usual or approved construction, excepting as modified by the incorporation of the features of this invention, as I will now proceed to explain.

The cap is mounted to turn upon an axially arranged rivet 7 which passes through the cap and neck's end 3 and is fixed in a flat, bowed spring 8. A washer 9 is interposed between the neck's end and the spring so as to preserve a proper tension to the spring to draw the cap into waste-proof relation to the neck's end and to hold the cap in adjusted position without undue binding. The spring 8 has one or both of its ends notched, as at 10, to engage a projection 11 on the inside of the neck's end, to hold the spring stationary while the cap is turned. Provision for holding the spring stationary is made so that the spring may not obstruct the discharge holes and its wearing away may be minimized if not wholly prevented. The cap, by virtue of its shell-like form and its spring connection with the neck, has a

longitudinal bodily movement toward and from the top of the neck as it is turned to open and close the discharge holes, and this movement is imparted to it by the coaction
5 of the beads next described.

In order to retain the cap in open or closed position, the cap is provided with a series of outwardly extending hollow beads 12 which may be arranged in a circle around
10 the discharge holes 6, and the neck's end is provided with three, more or less, outwardly extending beads 13 in line with the beads 12 and adapted to fit in the hollow beads, so that as the cap is turned to open or close the
15 can, the cap will ride over the beads 12 until they come opposite certain of the hollow beads, when under the tension of the spring 8, the cap is snapped into a stopped relation with the neck and so held until its position is changed by positive movement of the
20 cap. As shown by Fig. 3, the beads 13 need be only three in number, and they are arranged in triangular order, or in such other order relative to the beads 12 that the cap's
25 holes 6 will be in or out of register with the neck's holes 4 in accordance with the extent of rotation of the cap. Thus these beads under the influence of the spring will hold the cap against accidental turning when in
30 either position.

The foregoing detail description applies to that form of the invention shown in Figs. 1 to 5, and it also applies to that form shown in Figs. 6 to 10, excepting that in the latter,
35 the cap has the three inwardly extending beads 14 adapted to engage a circle of complementary inwardly extending stop member beads 15 in the top of the neck. In other words, these two forms of the invention
40 differ in essence only in the direction of projection and arrangement of the stop beads. In Figs. 1 to 5 the cap has a circle of outwardly projecting beads cooperating with three, more or less similar complementary
45 beads on the neck's end, while in Figs. 6 to 10 the cap has three, more or less, inwardly projecting beads cooperating with a circle of similar or complementary inwardly projecting beads on the neck's end. The beads
50 are circular in outline and add distinctiveness and ornamental effect to the top. The cap may be provided with a knurled, milled, or otherwise roughened rim 16 to afford a finger-hold in turning the cap axially about
55 its rivet 7. The washer 9 is of a height or thickness sufficient to allow enough play of the spring to permit the cap to move away from and then return to the neck's top end as the stop member of the cap respectively
60 moves out of and into engagement with the stop member of the neck. The spring is strong enough to draw and keep these members in cooperative relation at all times.

While the invention is entitled a powder can top, it is to be understood that it is applicable to other vessels or receptacles than
65 powder cans, and to vessels or receptacles for other materials or substances than powder, and it is herein so intended to be claimed.
70

What I claim is:—

1. A top for powder cans and other receptacles, having a neck provided with discharge holes and projections thereon, a shell-like cap fitted to the neck and having
75 complementary discharge holes and projections, the projections on the neck and cap cooperating as stops, a spring arranged within the neck, and an axial rivet connecting the spring and cap with the neck and
80 permitting a bodily yielding movement of the cap toward and from the neck as said cap is turned upon the rivet to open and close the discharge holes, the projections co-acting in both positions of the discharge
85 holes to hold the cap against accidental turning.

2. A top for powder cans and other receptacles, having a neck provided with discharge holes and a stop member, a cap provided with complementary discharge holes
90 and stop members and mounted to turn upon the neck, a spring stationarily held within the neck clear of the discharge holes, and an axial rivet connecting the cap and
95 spring to the neck and permitting longitudinal bodily movement of the cap toward and from the top of the neck and rotation of the cap upon the neck to open and close the discharge holes and to stop and hold
100 the cap in either position, the stop members being beads arranged in a circle on one of the named parts and complementary beads of less number disposed at greater intervals on the other part.
105

3. A top for powder cans and other receptacles, having a neck provided with discharge holes and a stop member, a cap provided with complementary discharge holes
110 and stop members and mounted to turn upon the neck, a spring stationarily held within the neck clear of the discharge holes, and an axial rivet connecting the cap and spring to the neck and permitting rotation
115 of the cap upon the neck to open and close the discharge holes and allowing sufficient longitudinal play of the cap to permit it to move bodily toward and from the neck so that the stop members may cooperate to stop
120 and hold the cap in either position, the stop members being outwardly projecting beads of different numbers on the neck and cap.

4. A top for powder cans and other receptacles, having a neck provided with discharge holes and a stop member, a cap provided with complementary discharge holes
125

and stop members and mounted to turn upon the neck, a spring having a notched end in engagement with a projection on the neck whereby it is stationarily held within the neck clear of the discharge holes, and an axial rivet connecting the cap and spring to the neck and permitting rotation of the cap upon the neck to open and close the dis-

charge holes and to stop and hold the cap in either position.

In testimony whereof I have hereunto set my hand this 13th day of April A. D. 1911.

FREDERICK REUTTER.

Witnesses:

G. F. HODGES,
L. H. BASSETT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."