

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

1,021,480.

Patented Mar. 26, 1912.

Fig. 1.

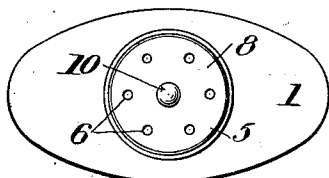


Fig. 2.

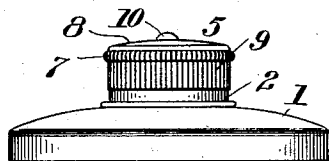


Fig. 3.

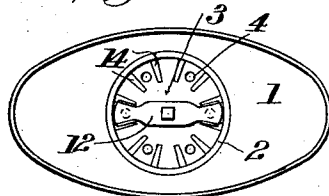


Fig. 4.

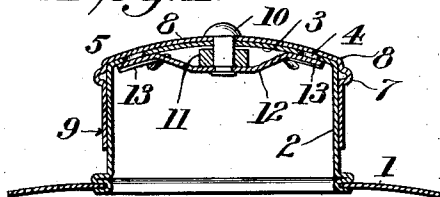


Fig. 5.

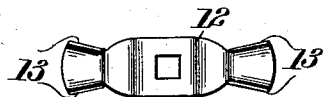


Fig. 6.

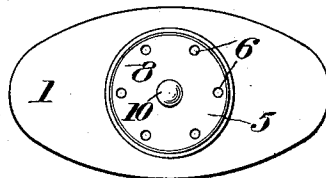


Fig. 7.

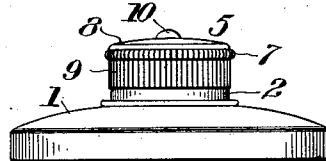


Fig. 8.

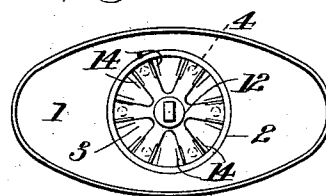


Fig. 9.

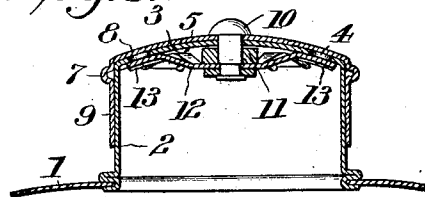


Fig. 10.

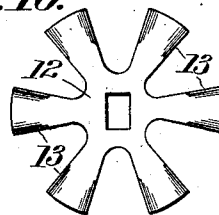
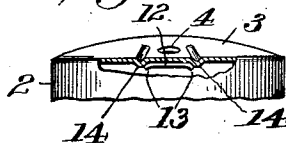


Fig. 11.



WITNESSES

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UNITED STATES PATENT OFFICE.

FREDERICK REUTTER, OF WATERBURY, CONNECTICUT, ASSIGNOR TO SCOVILL MANUFACTURING COMPANY, OF WATERBURY, CONNECTICUT, A CORPORATION OF CONNECTICUT.

POWDER-CAN TOP.

1,021,480.

Specification of Letters Patent.

Patented Mar. 26, 1912.

Application filed April 15, 1911. Serial No. 621,361.

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 invention consists of a top of the above described type, in which the cap is secured to the immovable part, (herein referred to as the neck), by a spring turning with the cap in its movements to open and close the discharge holes, such movements being limited by stops on the neck engaged by the spring, and whereby also the cap is restrained from accidental rotation both when in the open and the closed positions. The spring serves to hold the cap in position in such way as to prevent loss, leakage, or waste of the contents of the can.

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, and Fig. 5 is a plan view of the spring shown in Fig. 4, these several views showing one form of the invention. 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, and Fig. 10 is a plan view of the spring shown in Fig. 9, these several views showing another form of the invention. Fig. 11 is an elevation of a portion of the neck broken out to show the stops and spring as used in both forms.

The top comprises the breast 1, the neck 2 having the head 3 closed save for the discharge holes 4 therein, and the rotary cap 5, placed over the neck and provided with discharge holes 6 which may be made to register with the holes 4. The cap may have the

knurled or milled bead 7 to afford a finger-hold in turning it; its top 8 conforms to the head 3 of the neck, and its depending flange 9 hugs the body of the neck, all substantially as in this type of can top.

In order to hold the cap to the neck snugly but without binding, an axial rivet 10 is passed through the cap 5 and head 3, and has applied to it inside the neck a washer 11 and a spring 12 in which it is riveted, so that the spring turns with the cap. The spring is bowed and its extremities flattened out so as to hug the inner surface of the head 3 where the holes 4 in said head are located, and its edges 13 are flared for operation with the stops 14, made in said head 3. These stops 14 are radially arranged, inwardly extending depressions, as seen in Fig. 11, between which are made the holes 4. The flattened and flared ends of the spring fit between these stops and close the holes 4 on the inside against the escape of the contents of the can at the same time that the solid portions of the cap close the same holes on the outside. By properly rotating the cap against the tension of the spring, the holes 6 of the cap may be made to register with the holes 4 in the head 3, and simultaneously the spring is moved to uncover said holes 4 from the inside of the can, so that the contents of the can may be discharged. The stops 14 engage the sides of the ends of the spring to hold the spring and consequently the cap in both the closed and opened positions against accidental movement.

The edges 13 of the spring are flared to facilitate the movement of the spring over the stops and to stiffen or strengthen the spring's ends. As the spring's ends ride over these stops, the tension imparted is sufficient to cause the ends to snap up against the inner side of the head 3 and hold the spring and cap as described.

The modification shown in Figs. 6 to 10 is the same in all respects as the construction just described, excepting that the spring has as many arms as there are holes in the top, and hence each hole is closed from the inside as well as from the outside. In this case as many holes are made as there are arms on the spring, and they are spaced apart so that there may be an equal number of unperforated spaces between the stops into which the ends of the spring enter

when the holes are uncovered for discharging purposes.

In both constructions the spring serves also to effect a close fit of the cap with the neck in order to prevent leakage of the contents of the can, but without undue binding of the cap on the neck.

Variations in the embodiment of the principle of this invention are designed and intended to be within the scope of the claims herein made; and the invention is applicable to other vessels than powder cans, notwithstanding the title in the claims.

What I claim is:—

1. A powder can top, having a neck provided with a head having perforations and intermediate stops, a perforated cap inclosing said head, having a flange hugging the neck, and axially riveted to said head so as to turn on the neck, and a spring arranged within the neck next to its head and connected with said cap by its axial rivet to turn therewith and having ends cooperating with the stops to hold the cap against accidental movement in both open and closed positions.

2. A powder can top, having a neck provided with a head having perforations and intermediate stops, a perforated cap inclosing said head, having a flange hugging the neck, and axially riveted to said head so as to turn on the neck, and a spring arranged within the neck next to its head and connected with said cap by its axial rivet to turn therewith and having ends cooperating with the stops to hold the cap against accidental movement in both open and closed positions, said spring ends being equal in number to the number of perforations in the head and cap and serving to open and close the perforations in the head from within the top.

3. A powder can top, having a neck provided with a head having perforations and intermediate stops, a perforated cap inclosing said head, having a flange hugging the neck, and axially riveted to said head so as to turn on the neck, and a spring arranged

within the neck next to its head and connected with said cap by its axial rivet to turn therewith and having ends cooperating with the stops, said ends being equal in number to the number of perforations in the head and cap and serving to open and close the perforations in the head from within the top, there being twice as many stops as there are such perforations so as to hold the spring and cap against accidental rotation in either direction.

4. A powder can top, having a perforated head provided with stops, a perforated cap axially riveted to said head to turn thereon, and a spring connected with said cap to turn therewith and having ends cooperating with the stops to hold the cap in a given position, the spring's ends having flared sides.

5. A powder can top, having a perforated head provided with stops, a perforated cap axially riveted to said head to turn thereon, and a spring connected with said cap to turn therewith and having ends cooperating with the stops to hold the cap in a given position, the stops formed as radial depressions in the head extending inwardly and the ends of the spring formed to ride over and engage the same.

6. A powder can top, having a neck provided with a head having perforations and intermediate stops, a perforated cap inclosing said head, having a flange hugging the neck and axially riveted to said head so as to turn on the neck, a bowed spring arranged within the neck and having ends cooperating with the stops to arrest the movement of the cap, a washer interposed between the spring and the neck's head, and a rivet connecting the cap and spring so that the two will turn together.

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.