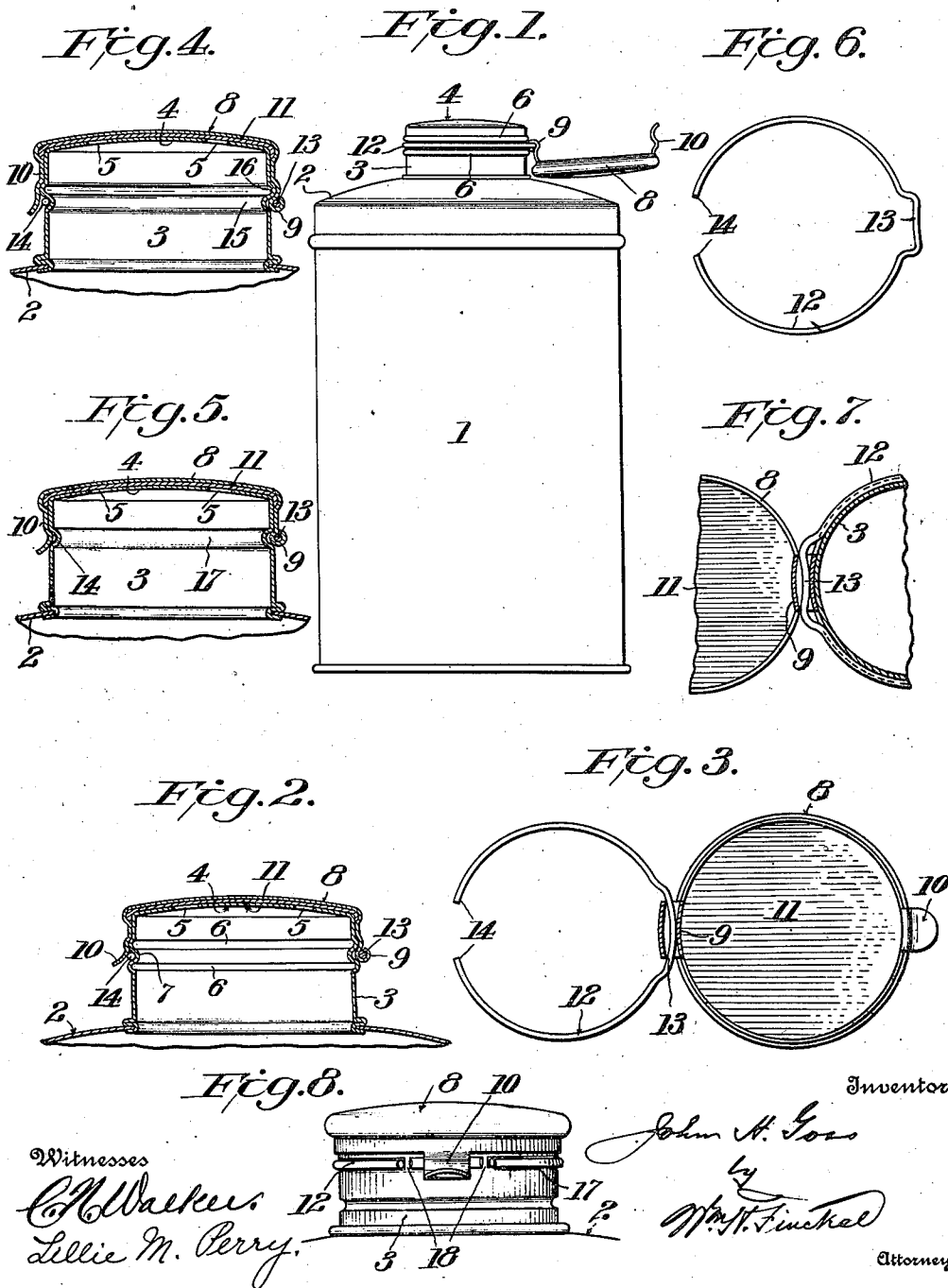


J. H. GOSS.
HINGED CAP FOR POWDER CANS.
APPLICATION FILED MAR. 24, 1911.

1,009,239.

Patented Nov. 21, 1911.



UNITED STATES PATENT OFFICE.

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HINGED CAP FOR POWDER-CANS.

1,009,239.

Specification of Letters Patent. Patented Nov. 21, 1911.

Application filed March 24, 1911. Serial No. 616,686.

To all whom it may concern:

Be it known that I, JOHN H. GOSS, 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 Hinged Caps for Powder-Cans, of which the following is a full, clear, and exact description.

The primary object of this invention is to provide a talcum powder or toilet powder can with a cap that is capable of being closed and held down over the perforated discharge end of the can, so as to close such end when the can is not in use and prevent the escape of the contents, and which cap may be swung back to expose the discharge end and held in such open position while the can is being manipulated to discharge the contents, the cap being capable of being detached from the can at pleasure when not required, as when the can is temporarily in extended use, and again replaced.

It is to be understood that the invention is not limited to use on powder cans, but is capable of being used on other cans and vessels.

Hinged caps for cans of various sorts have heretofore been produced, and the hinging of the cap has been effected by placing the knuckle of the hinge on the cap and the pintle element on that portion of the can containing the discharge medium. In some instances the said pintle has been an added part, and in other instances the pintle has been an integral part. It is deemed advantageous to have such a hinge connection as will insure the retention of the cap in open position when the can is being used to discharge the contents. In those cans where the pintle member has been made integral with the neck, an opening is necessarily made in the neck which has to be closed in order to prevent the accidental escape or the leakage of the contents of the can. Various expedients have been proposed for applying the cap to the neck without cutting the neck, and this present invention relates to that class of cap-attaching devices.

The invention consists of a cap-attaching member made as a wire spring, having an offset portion forming the pintle, and adapted to be sprung upon the neck without closing or uniting the ends of the wire, and without soldering or otherwise permanently

attaching the wire to the neck, the cap-attaching member thus being in construction and operation an open ring spring, 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 an elevation of a can showing the cap turned back into discharging position, and a pair of beads between which the cap attaching wire is held; Fig. 2 is a vertical cross-section on a larger scale, showing the cap closed, and Fig. 3 is a plan view of the cap and its attaching spring, detached and in open position, the knuckle being in section. Fig. 4 is a vertical cross-section showing the cap closed and having a spring-receiving groove surmounted by a single bead. Fig. 5 is a vertical cross-section showing the cap closed, and having a groove only to receive the cap-attaching spring. Fig. 6 is a plan view of the cap-attaching spring detached and illustrating another form of pintle. Fig. 7 is a fragmentary horizontal section, in exaggerated proportions, showing the pintle of Fig. 6, the cap being open. Fig. 8 is a front elevation showing a spring-receiving groove with stops or abutments to obstruct rotation of the spring and cap around the neck.

The can 1 and its breast 2 may be of any ordinary construction. The breast has applied to it a neck 3, having an integral top 4, provided with perforations or other discharging apertures 5, of any number.

In the construction shown in Figs. 1 and 2, the neck is provided with parallel circumferential outwardly extending beads 6, which form between them a groove 7, to receive the cap-attaching spring. The cap 8 is provided with a hinge knuckle 9, and a fastening tongue 10. It may be provided also with the lining or pad 11 of any suitable material that will serve to close the apertures 5 against the accidental escape of the contents of the can when the cap is closed down over the top 4. The pintle member, by which the cap is hinged to the neck, comprises a wire spring 12, having the offset portion 13 which constitutes the pintle itself and which is engaged by the knuckle 9 to complete the hinge. The ends 14 of this wire spring are separated preferably by a space equal to or greater than

the width of the fastening tongue 10 of the cap, so that this tongue may snap down upon and engage the uppermost bead 6 to lock the cap in closed position. The cap is applied to the neck by springing the wire 12 into the groove 7 formed by the parallel beads 6, and the spring should be sufficiently strong to secure the cap to the neck against peradventure of accidental displacement.

10 The engagement of the spring with the neck may be of such nature that the cap may be rotated around the neck so as to open in any direction, either laterally, as shown in Fig. 1, or transversely, or at any other point

15 that the user may find most convenient. The offsetting of the hinge pintle and the construction of the knuckle with relation thereto combine to afford sufficient friction, in connection with the tension of the spring,

20 to hold the cap in the open position shown in Fig. 1, against the possibility of the cap flying back or vibrating on its hinge pintle, when the can is inverted or turned in any direction to discharge the contents. The

25 open ring spring contributes materially to draw the cap into this sustaining relation when thrown open.

As shown in Fig. 4, there may be used instead of the parallel beads of Figs. 1 and 2, an internally projecting bead 15 forming a groove to receive the cap-attaching spring; and an externally projecting bead 16 may be arranged above this groove to prevent the upward escape of the spring and to afford a hold for the tongue 10; and as shown in Fig. 5, a single inwardly projecting bead 17 may be used to receive the spring.

The spring's offset pintle portion may be curved, as shown in Fig. 3, or reversely curved as shown in Fig. 6, or as shown in Fig. 7, in order to put tension on the knuckle when the cap is opened. The bending of this hinge knuckle and the pintle should be in all cases relative to each other in such a way that when the cap is closed the curvature of the pintle where it passes through the hinge knuckle will be to the same contour, so that when the cap is opened, friction is caused by the curvatures becoming gradually opposed to each other as the cap swings backward.

As shown in Fig. 8 the groove for the spring in any of the forms shown may be ironed out or provided with cross abutments 18, so as to prevent rotation of the cap and spring around the neck, or, in other words, to fix the location of the cap, or obstruct its turning on the neck.

These and other modifications coming within the principle of the invention are intended to be claimed in the claims following.

An important feature of the invention is the relation between the hinge knuckle and

the open ring spring. This ring serves not only as the hinge pintle but also as a means for anchoring the cap to the neck of the receptacle. The component members of the hinge, namely, the offset pintle portion of the ring and the knuckle on the cap, are so curved as to be in opposition, and, hence, when the cap is wide open there is enough friction or tension exerted between these hinge members to hold the cap open against the shock incident to shaking the receptacle to discharge its contents, as already indicated. As the cap is swung over toward closing position, this friction or tension loosens up, until just before the cap reaches its final resting place the friction or tension disappears. The cap is held closed by the fastening tongue 10 engaging the beaded neck. The friction or tension feature is purposely caused by giving to the hinge elements their relative curvatures; and the same cause of friction or tension between these parts also produces friction or tension between the knuckle and the grooved and beaded neck of the receptacle. Furthermore, the open ring spring admits of the cap being wholly detached from the receptacle at pleasure, and as readily replaced. This detachable feature is valuable and important when the receptacle is in extended use and it is not desired to close the cap between periods of use. It is a specially desirable feature when the invention is applied to a shaving stick box. For example, a traveler desiring to use a shaving stick, may detach the cap from the box and place it in his traveling bag, while shaving, and then at his convenience replace the cap.

What I claim is:—

1. A powder can, having a discharge neck provided with a groove, an open ring spring sprung into said groove and held in place in the groove solely by its elasticity and having an integral offset portion, and a cap provided with a knuckle engaging said offset portion to effect the hinging of the cap to the can, the offset portion and the knuckle being of such relative curvature as to hold the cap in open position.

2. A powder can, having a discharge neck provided with a circumferential groove, an open ring spring sprung into said groove and held in place in the groove solely by its elasticity and having an integral offset portion forming a hinge-pintle member, and a cap provided with a knuckle engaging said offset portion to effect the hinging of the cap to the can, the knuckle member of the cap and the pintle member of the ring spring arranged with relation to one another and to the neck so that the tension of the spring and friction between the knuckle and neck will be exerted to hold the cap in open position against accidental closing while the contents of the can are being discharged.

3. A powder can, having a discharge neck provided with a groove, an open ring spring sprung into said groove and having an offset portion, said groove having abutments to
5 limit the movement of the spring around the neck, and a cap provided with a knuckle engaging said offset portion to effect the hinging of the cap to the can.

4. A powder can, having a discharge neck
10 provided with a circumferential bead, and a groove next to it, an open ring spring sprung into said groove and having an offset portion, and a cap provided with a knuckle engaging said offset portion to effect the hinging of the cap to the can, the
15 offset portion of the spring and the knuckle being of opposite curvature so as to hold the cap in open position, said cap having a spring tongue adapted to engage the bead on
20 the neck to lock the cap in closed position.

5. A powder can, having a discharge neck provided with parallel circumferential beads, and a groove between them, an open ring spring sprung into said groove and having an offset portion forming a hinge
25 pintle, and a cap provided with a knuckle engaging said offset portion to effect the hinging of the cap to the can, the offset portion of the ring spring and the knuckle made of opposite curvature so that as the cap is
30 turned into open position sufficient friction or tension is exerted to effect the retention of the cap in such open position.

In testimony whereof I have hereunto set my hand this 21st day of March A. D. 1911.
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JOHN H. GOSS.

Witnesses:

J. EMMET HALL,
G. F. HODGES.