F. C. DORMENT.

POCKET ATOMIZER.

APPLICATION FILED JULY 30, 1909.

956,052.

Patented Apr. 26, 1910.

Fig. 2

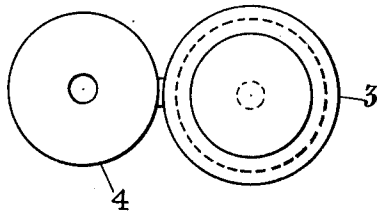


Fig. 1

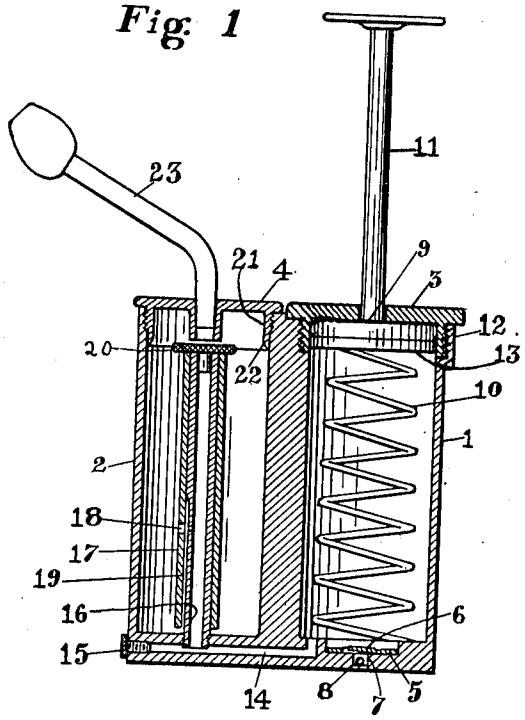
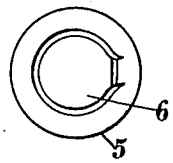


Fig. 3



WITNESSES:

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FRANK C. DORMENT, OF DETROIT, MICHIGAN.

POCKET-ATOMIZER.

956,052. Specification of Letters Patent. Patented Apr. 26, 1910.

Application filed July 30, 1909. Serial No. 510,350.

To all whom it may concern:

Be it known that I, FRANK C. DORMENT, a citizen of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Pocket-Atomizers, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to a pocket atomizer, and more especially to an arrangement thereof whereby the parts are readily cleansed, and also whereby a comparatively small quantity of medicament is used to produce a large volume of vapor.

The invention consists in the matters hereinafter set forth and more particularly pointed out in the appended claims.

In the drawings, Figure 1 is a view in longitudinal section of a pocket atomizer embodying features of the invention; Fig. 2 is a plan view thereof with delivery tube removed; Fig. 3 is a view in detail, enlarged, of an intake air valve.

Referring to the drawings, an air chamber 1 and medicament holder 2, preferably similar cylinders secured together in parallel relation, and, if molded of rubber or like material, integrally formed, are each provided with centrally apertured caps 3 and 4 screw-threaded or otherwise detachably secured in their open, upper ends, the bottom of the cylinders being permanently closed. A leather disk 5 with tongue or flap 6, is seated in a counterbored recess in the base of the air chamber 1, so as to form an inwardly opening valve closure over an opening 7 into a diametrically disposed air inlet duct 8. A piston 9 with return spring 10 in the air chamber, is reciprocable by means of a piston stem 11 extending through the aperture of the cap 3. The flange 12 of the latter is deeper than the width of the piston and is seated in the counterbored end of the air chamber so that the inner periphery of the flange is flush with the inner periphery of the chamber, and the piston, when at the upper limit of its stroke, is wholly within the cap. The piston has a soft leather or rubber packing ring 13.

A diametrically disposed duct 14 is drilled or formed across the base of the holder 2, its outer end being closed by a removably secured cleaning plug 15, and its inner end opening upwardly into the lower end of the air cylinder. An atomizing tube 16 is screw-threaded or otherwise removably secured in the holder base with its bore communicating with the duct 14. An outer tube 17 concentric thereon, has a spray orifice 18 in communication with a longitudinal passage 19 formed between the tubes from the lower end of the outer shorter one to said orifice by flattening or grooving the periphery of the inner tube longitudinally. A milled head 20 or the like affords means for readily unscrewing the tube for cleansing. The cap 4 has a deep flange 21 whose lower portion is adapted to form a close slide fit with the holder wall, the edge 22 thereof being made very thin to yieldingly conform to minor irregularities and insure against leakage, while the portion near the cap body has the screw-threads or other outerlocking means. A nasal tube 23 or other preferred discharge member is removably secured in the aperture of the cap 4.

By this construction, the passages and tubes may be all readily opened for cleaning, and there is no packing to get in contact with the contents. Furthermore, as the piston is within the cap when the latter is unscrewed, and may be readily replaced in the cap when reassembling the atomizer, there is no difficulty in inserting the soft flaring rim of the piston packing in the chamber.

Obviously, changes in the details of construction may be made without departing from the spirit of the invention and I do not care to limit myself to any particular form or arrangement of parts.

What I claim as my invention is:—

1. An atomizer comprising a pair of cylinders secured together in parallel relation and permanently closed at their lower ends, one of the cylinders forming a medicament holder and the other an air chamber, a cap detachably secured in the upper end of the holder provided with a depending flange adapted to yieldingly seat itself closely against the inner periphery of the holder, a cap detachably secured in the upper end of the air chamber, an inlet air valve in the base of the chamber controlling an inlet duct extending radially to the cylinder periphery, a piston reciprocable in the chamber, a stem therefrom extending through the cap, a return spring for the piston, an atomizing tube detachably secured in the holder with its lower end in communication with a

duct leading transversely through the base into the chamber, and a cleaning plug detachably secured in the outer end of the duct.

2. An atomizer comprising a pair of cylinders secured together in parallel relation and permanently closed at their lower ends, one of the cylinders forming a medicament holder and the other an air chamber, a cap detachably secured in the upper end of the holder provided with a depending flange adapted to yieldingly seat itself closely against the inner periphery of the holder, a cap detachably secured in the upper end of the air chamber, an inlet air valve in the base of the chamber consisting of a flexible disk seated in a counterbored recess in the chamber base with a central flap, an inlet duct extending radially from the recess to the cylinder periphery, a piston reciprocable in the chamber, a stem therefrom extending through the cap, a return spring for the piston, an atomizing tube detachably secured in the holder with its lower end in communication with a duct leading transversely through the base into the chamber, and a cleaning plug detachably secured in the outer end of the duct.

3. An atomizer comprising a pair of cylinders secured together in parallel relation and permanently closed at their lower ends, one of the cylinders forming a medicament holder and the other an air chamber, a cap detachably secured in the upper end of the holder provided with a depending flange adapted to yieldingly seat itself closely against the inner periphery of the holder, a cap detachably secured in the upper counterbored end of the air chamber, a depending flange on the cap whose inner periphery is flush with the interior periphery of the chamber, and whose depth equals the piston thickness, an inlet air valve in the base of the chamber controlling an inlet duct extending radially to the cylinder periphery, a piston reciprocable in the chamber, a stem therefrom extending through the cap, a return spring for the piston, an atomizing tube detachably secured in the holder with its lower end in communication with a duct leading transversely through the base into the chamber, and a cleaning plug detachably secured in the outer end of the duct.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK C. DORMENT.

Witnesses:
C. R. STICKNEY,
A. M. SHANNON.