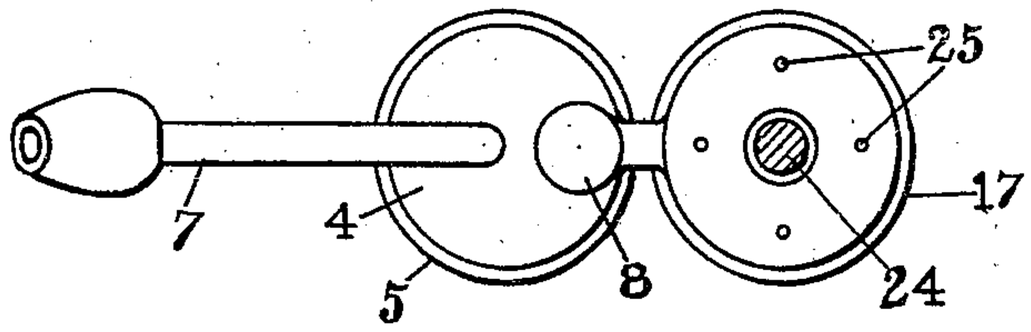
F. C. DORMENT.

ATOMIZER.

APPLICATION FILED JULY 30, 1909.

958,697. Patented May 17, 1910.

Fig. 3



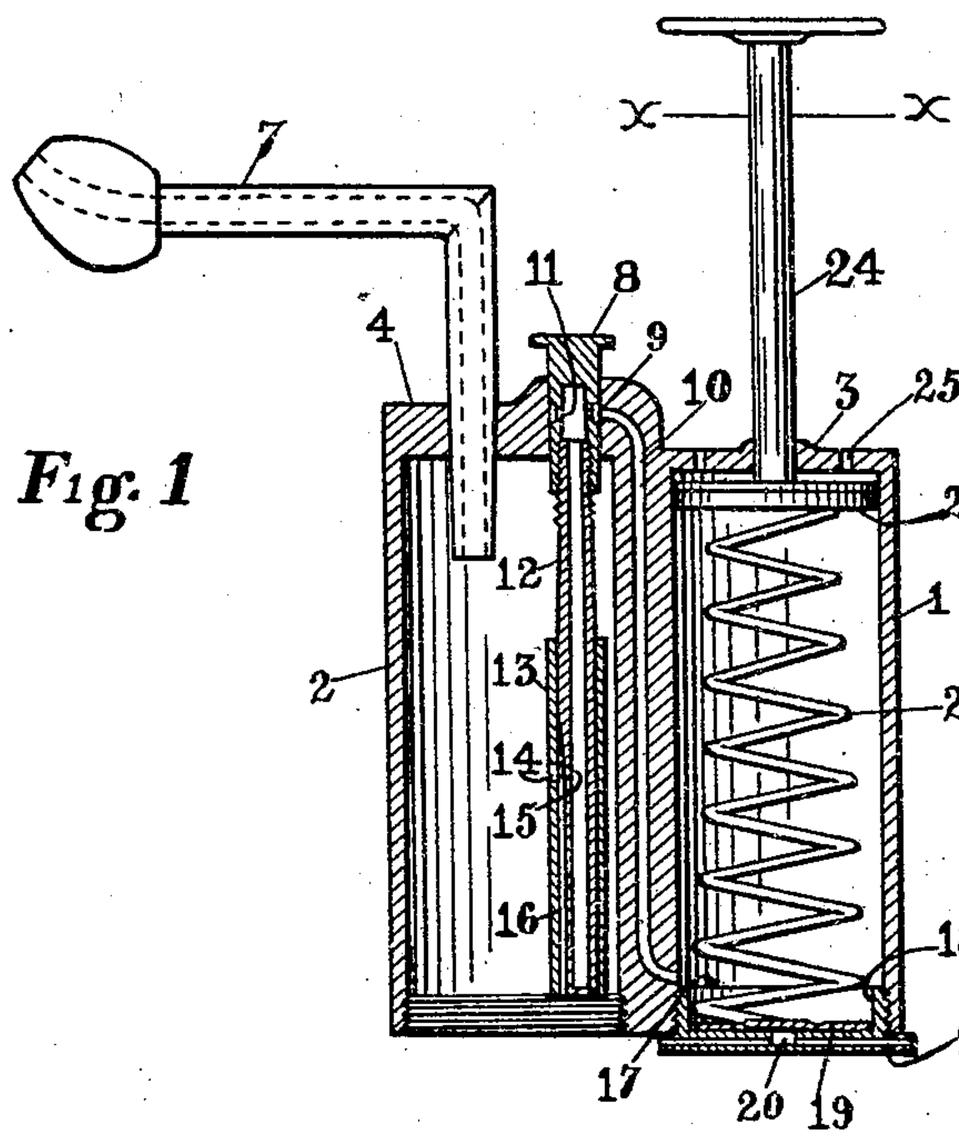
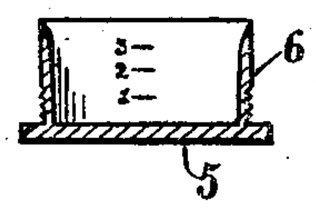
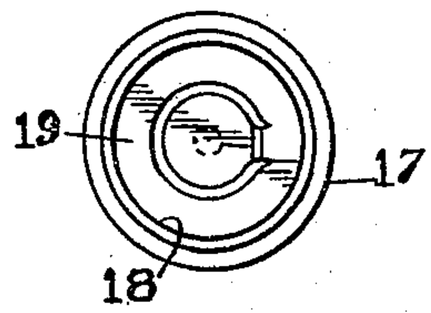


Fig. 1

Fig. 2





WITNESSES:

A. M. Shannon.

A. M. Dorr.

INVENTOR

FRANK C. DORMENT,

BY Dewey & Thacher

ATTORNEYS.

ANDREW B. GRAHAM CO., PHOTO-LITHOGRAPHERS, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

FRANK C. DORMENT, OF DETROIT, MICHIGAN.

ATOMIZER.

958,697. Specification of Letters Patent. **Patented May 17, 1910.**

Application filed July 30, 1909. Serial No. 510,351.

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 Atomizers, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to an atomizer, and to features thereof whereby a measured amount of medicament may be placed therein, and whereby the parts may be readily withdrawn for inspection and repair.

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 an atomizer embodying features of the invention, showing a measuring cup removed and in position for reinsertion. Fig. 2 is a view in detail of a compression cylinder base and air inlet valve therein. Fig. 3 is a view in section on or about line *x*—*x* of Fig. 1.

Referring to the drawings, a compression cylinder 1 and an atomizing cylinder 2, both with integral or permanent upper end walls 3 and 4, are secured together in parallel relation, and, if of suitable material for such construction, are formed integrally.

A measuring cup 5 having a deep, graduated flange 6, is screw-threaded or otherwise detachably secured in the lower end of the atomizing cylinder 2, and a spray nozzle 7 is removably inserted in the upper end 4. A removable tapered plug 8 engages a correspondingly shaped aperture in the wall 4, and is provided with an annular groove 9 which registers with one end of a passage 10 whose inlet is in communication with the lower end of the compression cylinder 1. Openings 11 connect this groove 9 with the central bore of the plug.

A spray pipe having an inner tube 12 whose upper taper screw-threaded end is inserted in the plug 8 and whose lower end extends well down into the cup 5, has an outer tube 13 enveloping the inner tube, registering jet apertures 14 and 15 through the walls of said tube communicating with a longitudinal duct 16 extending to the lower ends of the tubes between their walls.

A valve cap 17 closes the lower end of the compression cylinder, and has a retaining flange 18, screw-threaded or detachably secured in the cylinder, and adapted to retain a flap-valve disk 19. The latter controls a central opening 20 in communication with cross-ducts 21 through the cap.

A piston 22 acting against a return-spring 23, is reciprocated in the compression cylinder 1 by a piston stem or push-rod 24 passing through the end wall 3, vent holes 25 in the latter permitting rapid play of the piston.

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 compression cylinder, an atomizing cylinder secured in parallel relation thereto, both permanently closed at the upper end, a graduated cup detachably engaging and closely fitting the lower end of the atomizing cylinder, a hollow plug inserted through an aperture in the upper end of the atomizing cylinder whose bore is in communication with the upper end of a passage whose lower end opens into the lower end of the compression cylinder, a spray pipe whose upper end is detachably secured in the plug bore, and whose lower portion extends well into the inserted cup, a removable spray nozzle in the upper end of the atomizing cylinder, a cap closing the lower end of the compression cylinder, an inlet air valve in the cap, and a spring returned piston in the compression cylinder.

2. An atomizer comprising a compression cylinder, an atomizing cylinder secured in parallel relation thereto, both permanently closed at the upper end, a graduated cup detachably engaging and closely fitting the lower end of the atomizing cylinder, a hollow plug inserted through an aperture in the upper end of the atomizing cylinder, whose bore is in communication with openings into an annular groove that registers with the upper end of a passage whose lower end opens into the lower end of the compression cylinder, a spray pipe whose upper end is detachably secured in the plug bore, and whose lower portion extends well into the inserted cap, a removable spray nozzle in the upper end of the atomizing cylinder, a cap closing the lower end of the compression cylinder, an inlet air-valve in the cap, and a spring returned piston in the compression cylinder.

3. An atomizer comprising a compression cylinder, an atomizing cylinder secured in parallel relation thereto, both permanently closed at the upper end, a graduated cup detachably engaging and closely fitting the lower end of the atomizing cylinder, a hollow plug inserted through an aperture in the upper end of the atomizing cylinder whose bore is in communication with the upper end of a passage whose lower end opens into the lower end of the compression cylinder, a spray pipe consisting of an inner tube whose upper tapered end is screw-threaded into the lower open end of the plug and whose lower closed end is within the graduated cup, and an outer tube on the inner tube, a passage being formed between the tubes from the lower ends thereof to registering jet apertures through the walls of the tubes, a removable spray nozzle in the upper end of the atomizing cylinder, a cap closing the lower end of the compression cylinder, an inlet air-valve in the cap, and a spring returned piston in a compression cylinder.

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

FRANK C. DORMENT.

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