(No Model.)

H. ROBINSON.

ATOMIZER.

No. 456,205. Patented July 21, 1891.

Fig. 1.

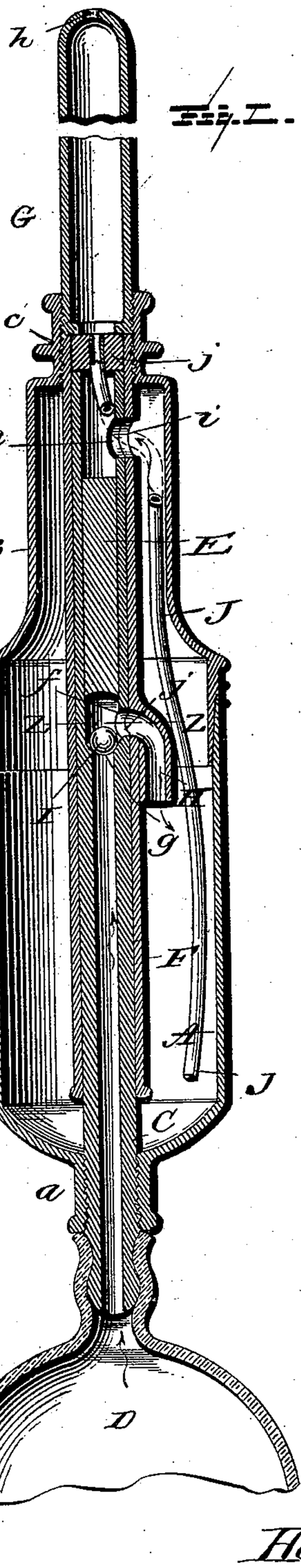


Fig. 2.

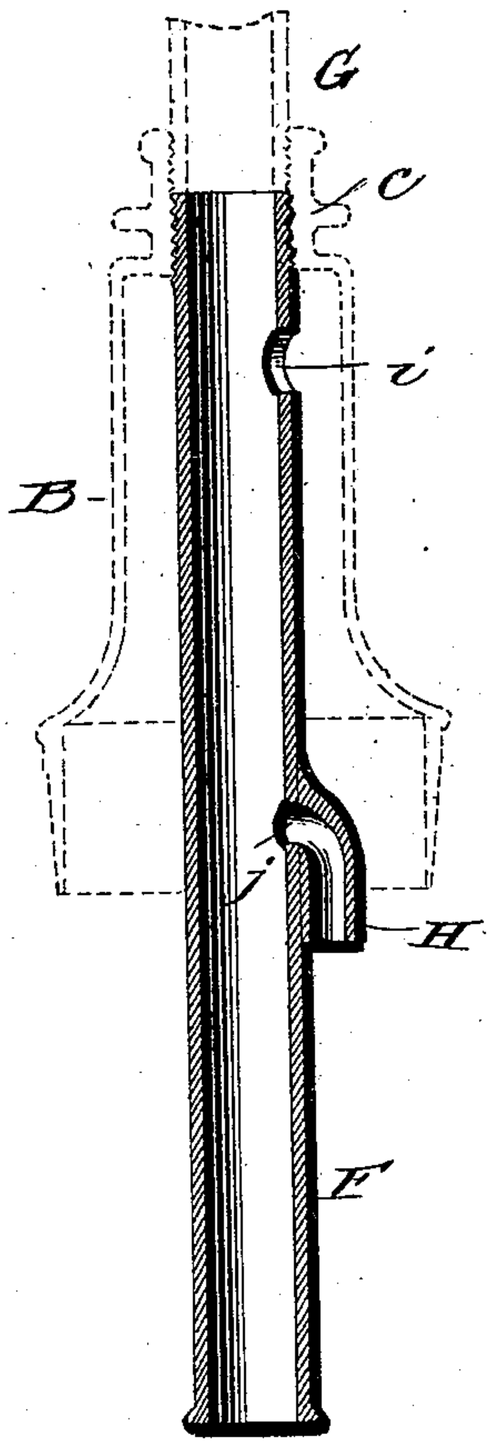


Fig. 3.

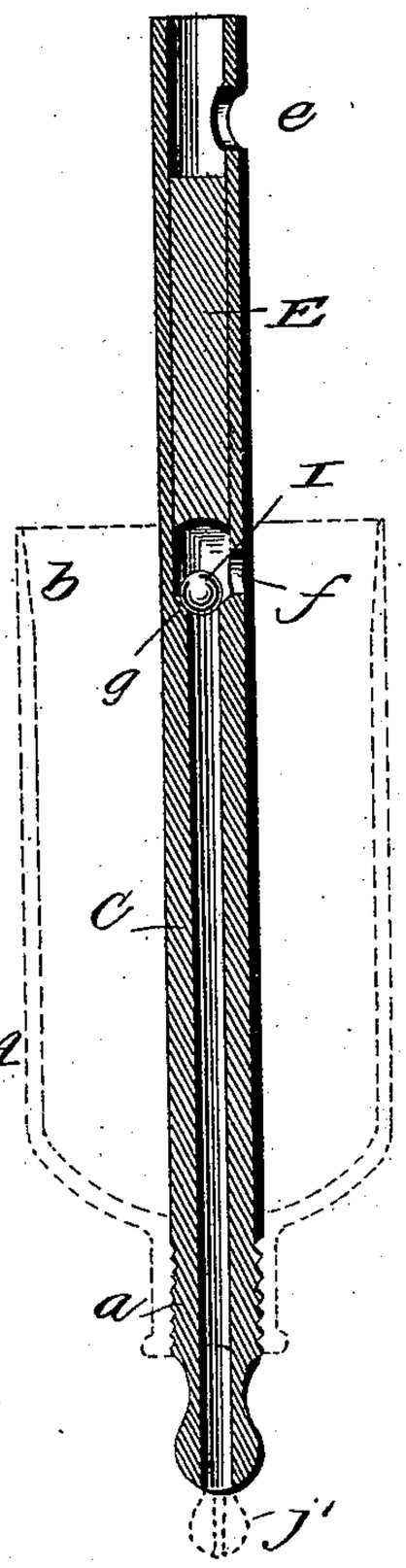
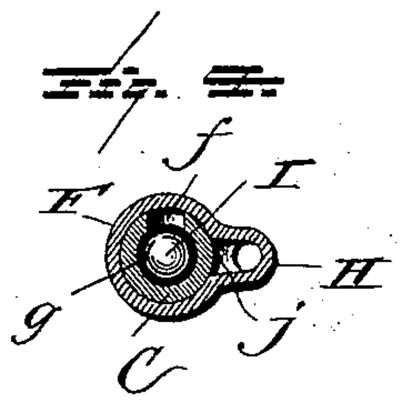


Fig. 4.



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UNITED STATES PATENT OFFICE.

HENRY ROBINSON, OF WACO, TEXAS.

ATOMIZER.

SPECIFICATION forming part of Letters Patent No. 456,205, dated July 21, 1891.

Application filed May 4, 1891. Serial No. 391,496. (No model.)

To all whom it may concern:

Be it known that I, HENRY ROBINSON, a citizen of the United States, residing at Waco, in the county of McLennan and State of Texas, have invented certain new and useful Improvements in Atomizers; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

This invention relates to certain new and useful improvements in atomizers or instruments for distributing powders or liquids; and it has for its objects, among others, to provide an improved device of this character having provision for closing the exit-passage and preserve the strength of the medicated powders or fluid and permit of the carrying of the same within the body of the device without danger of spilling. By detaching the bulb it is used as a powder-box or a bottle for fluid.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be specifically defined by the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a longitudinal central section through my improved atomizer, with a portion of the bulb broken away. Fig. 2 is a longitudinal section of the outer tube removed, with the upper portion of the box or body of the device shown in position thereon by dotted lines. Fig. 3 is a similar section through the inner tube and its plug, with the other half of the box or body of the device shown in position thereon in dotted lines. Fig. 4 is a cross-section on the line *z z* of Fig. 1.

Like letters of reference indicate like parts throughout the several views.

Referring now to the details of the drawings by letter, A designates the lower portion of the body or box, which may be of any suitable material and size, and provided at one end with an interiorly-threaded neck *a*, and at the other end tapered from the inside outward, as shown at *b*, to form a tight joint with the correspondingly-formed end of the other portion of the body or box, as shown, the other portion B being formed with an interiorly-threaded neck *c*, as shown.

C is a tube having one end screw-threaded, as shown at *d*, and engaged with the threads of the neck of the lower portion of the body, the tube being extended beyond the said portion and designed to be detachably engaged with a rubber bulb D, as shown in Fig. 1. This tube is provided with a plug E, which is fitted therein near its upper end, and above this plug the tube is provided with an opening *e* upon one side, as shown in Figs. 1 and 3, and below the plug with a side opening *f*, and adjacent to the latter opening a valve-seat *g* is formed in the said tube, as seen in Figs. 1 and 3. The lower end of the plug is at such a distance above the valve-seat as to permit the upward movement of the valve and disclose the side opening in the tube.

F is a tube secured in the neck *c* of the portion B, and G is the discharge tube or nipple detachably held in the said neck *c*, as shown in Figs. 1 and 2, and it is provided with a suitable discharge-opening *h*, as seen in Fig. 1. The tube F is provided at a point opposite the opening *e* in the tube C with a like opening *i* and at a point opposite the opening *f* with a like opening *j*, which communicates with a downwardly-extending short tube H open at its lower end, as shown in Figs. 1 and 3.

I is a ball arranged in the tube C and normally seated on the valve-seat *g*, and closes the passage upward through the tube C, as shown.

The operation will be readily understood. The box is filled with the powder or liquid and the upper portion with its tube turned round so that the openings in the two tubes will be coincident, as shown in Fig. 1, the ball being seated on its seat. By pressing the rubber bulb the air will be forced in through the inner tube and the ball forced from its seat and the air forced down the short tube and into the powder, forcing the same out through the openings *e* and *i* into the discharge-tube and out. As soon as the pressure on the bulb is relaxed the ball seats itself and closes the passage through the tube. By turning the upper portion with its tube a quarter-way round, or more, the openings in

the two tubes will be brought otherwise than coincident, and the communication between the body of the device and the discharge-pipe closed.

Suitable marks or a stop inside the instrument should be provided upon the two portions of the body to designate the relative positions of the two tubes, so that one can readily tell how far to turn the upper portion to have the holes register.

In Fig. 4 I have shown the position the parts assume when the device is closed.

It will be readily seen how the powder or fluid is kept in the box or body of the device and prevented from losing its strength when not in use. The parts are readily detachable for the purpose of cleaning or filling the box.

J is a flexible tube placed through the top of the box and of sufficient length to reach to the bottom thereof, and when in use with the rubber bulb the air forces the fluid from the bottom of the box through the tube. When the instrument is used for a powder-blower the flexible tube is removed. The tube is provided with a hard-rubber tip J′, and within the inner tube at the bottom of the box is a plug *j′* for the attachment of the rubber bulb.

What I claim as new is—

1. The combination, with the two-part body, of the tube carried by one part and provided with side openings, the tube carried by the other part and provided with corresponding openings, one of the tubes being rotatable on the other, and a valve arranged in the inner tube, substantially as specified.

2. The atomizer described, consisting of the two-part body, each part provided with a screw-threaded neck, the inner tube held in one neck and provided with side openings and plug between them, a ball-valve in the said tube, a rubber bulb connected therewith, and the outer tube carried by the neck of the other part of the body and rotatable and provided with side openings and sleeved on the inner tube, substantially as and for the purpose specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

HENRY ROBINSON.

Witnesses:
C. B. HARMAN,
C. ROBINSON.