No. 705,074. Patented July 22, 1902.

J. G. HALAPLEUS.

ATOMIZER.

(Application filed Dec. 31, 1901.)

(No Model.)

Fig. 1.

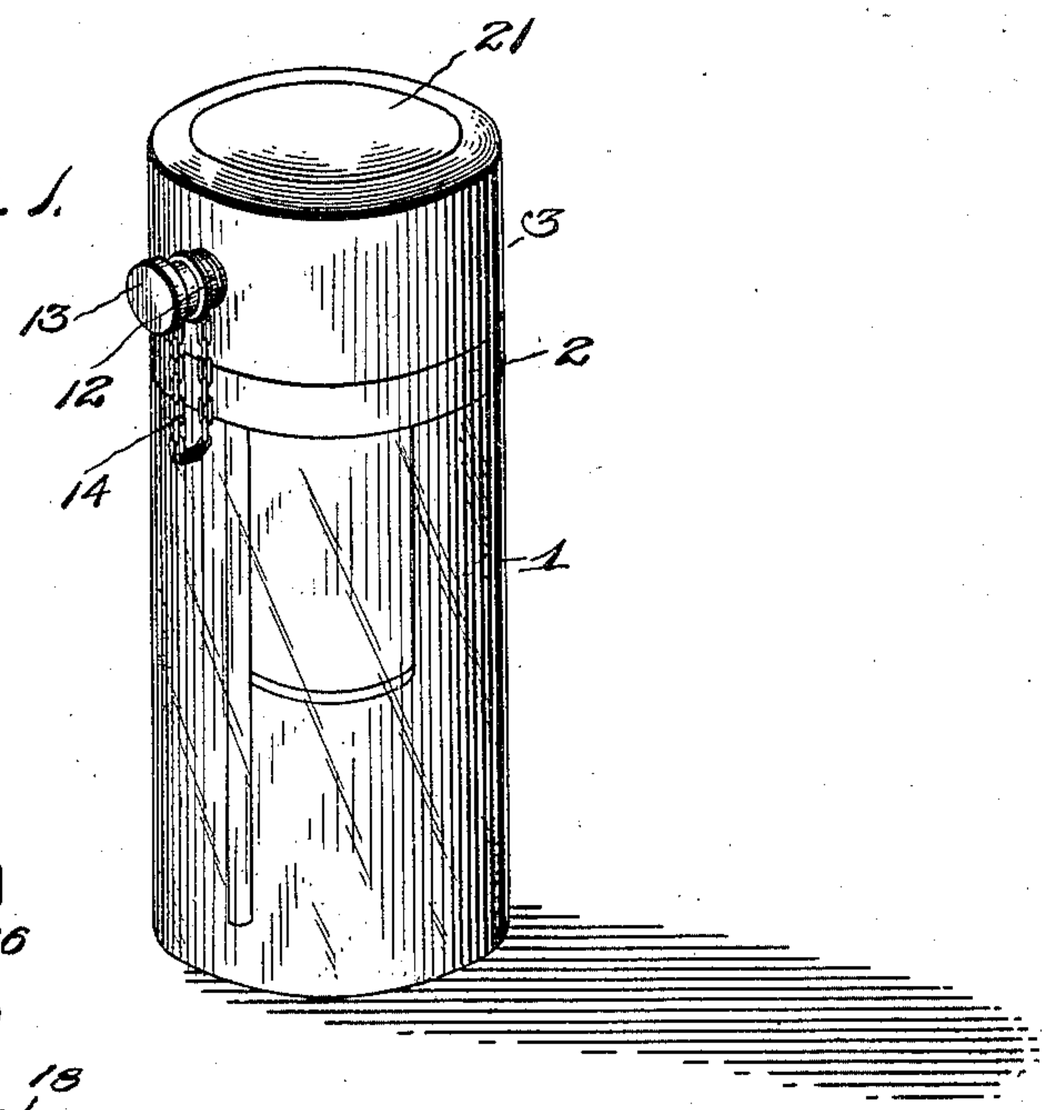


Fig. 2.

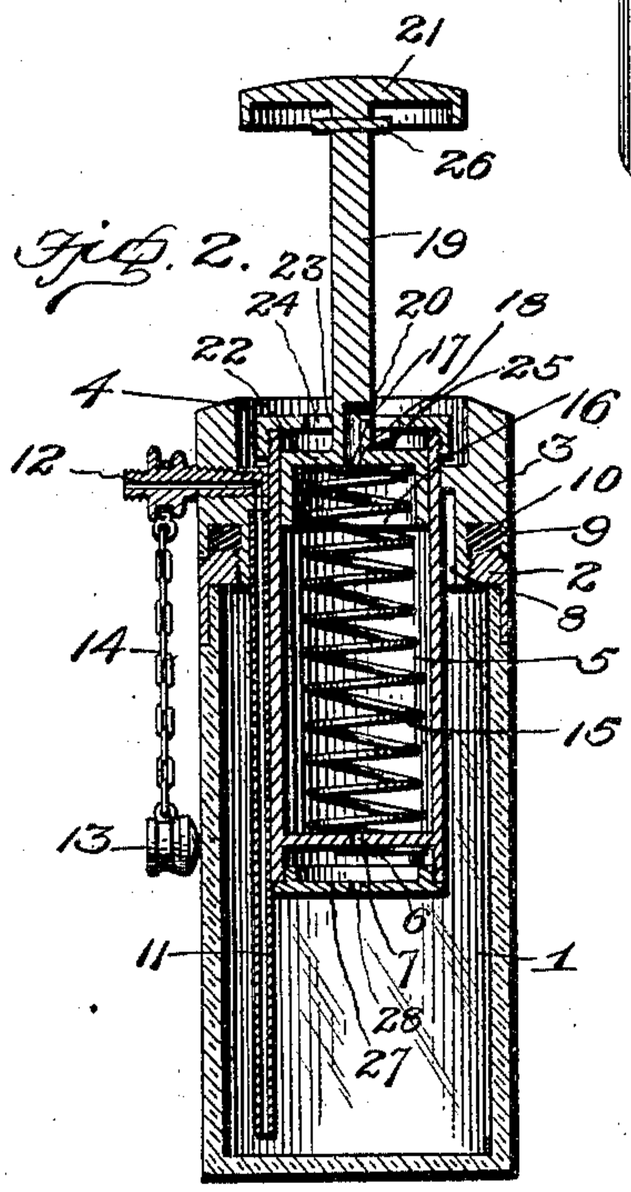


Fig. 3.

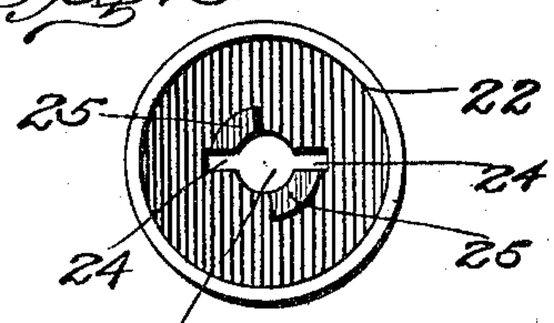
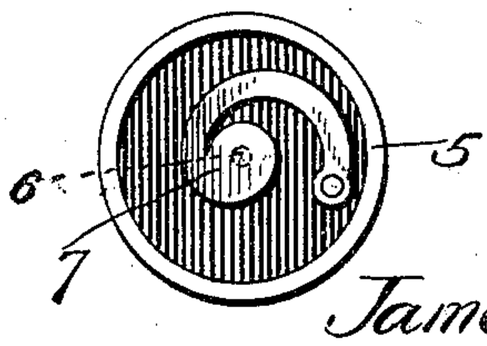


Fig. 4.



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ATOMIZER.

SPECIFICATION forming part of Letters Patent No. 705,074, dated July 22, 1902.

Application filed December 31, 1901. Serial No. 87,921. (No model.)

To all whom it may concern:

Be it known that I, JAMES G. HALAPLEUS, a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented certain new and useful Improvements in Atomizers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The invention relates to atomizers, and more particularly to a pocket-atomizer.

The object of the invention is to provide an atomizer of this character which shall be simple and compact of construction, durable in use, and comparatively inexpensive, and also one which may be conveniently carried in the pocket.

With this and other objects in view the invention consists of certain novel features of construction, combination, and arrangement of parts, which will be hereinafter more fully described, and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a perspective view of my improved atomizer, showing the position of the parts when the atomizer is not in use. Fig. 2 is a longitudinal vertical sectional view showing the construction of the parts when in position for use. Fig. 3 is a bottom view of the upper cap for closing the plunger-chamber, and Fig. 4 is a bottom plan view of the lower part of the plunger-chamber with cap removed.

Referring to the drawings, 1 denotes the liquid container or vial, which is preferably made of glass and is provided at its upper end with a fixed interiorly-screw-threaded collar 2.

3 denotes a cap for closing the liquid-container. This cap is provided with a chamber 4 in its upper end, through the bottom of which projects the exteriorly-screw-threaded end of the plunger-barrel 5. The lower end of the said barrel is provided with an aperture 6, closed by a spring-valve 7, opening downward and protected by the lower part of the cap 27, with orifices 28 therein, said cap being adapted to screw into or onto the lower end of the barrel.

8 denotes a screw-threaded nipple, made integral with the upper cap and of less diameter than the cap to form therebetween a packing-chamber 9, in which is placed a packing 10 to make an air-tight joint with the collar of the liquid-container. This nipple is adapted to be engaged with the screw-threaded collar of the liquid-container to hold the parts together and force the packing tightly against the upper edge of the collar.

11 denotes a liquid-tube which is attached to the nipple and projects below the lower end of the plunger-barrel and communicates at its upper end with a discharge or spray nozzle 12, which when the atomizer is not in use is adapted to be closed by a screw-cap 13, connected to said nozzle by a chain 14.

15 denotes a coiled spring placed within the barrel, and 16 denotes a plunger adapted to work in the barrel and provided with an aperture 17, covered by a downwardly-opening spring-valve 18 of similar form to spring-valve 7 and is also provided with a plunger-rod 19, having a hole 20, with which the aperture in the plunger communicates, and provided at its upper end with a head 21, which snugly fits within and closes the chamber of the liquid-container cap.

22 denotes an internally-screw-threaded cap adapted to be screwed upon the upper end of the barrel, as shown in Fig. 2. This cap is provided with a central aperture 23, intersected at diametrically opposite points by slots 24, and the under side of this cap is provided with stop-lugs 25.

26 denotes a pin projecting laterally through the plunger-rod and of a length to permit of its withdrawal through the diametrically opposite slots, but when turned and engaged with the stops will be prevented from being withdrawn or forced through the said slots.

The operation of the device is as follows: Assuming the parts to be in the position shown in Fig. 1, in which position the plunger-rod is depressed and the head thereof is held in the chamber of the liquid-container cap by the pin on the plunger-rod engaging the under face of the cap at the upper end of the barrel, the nozzle-cap is unscrewed and by placing the finger upon the plunger-rod head and turning said head slightly the pin on the plunger-rod will aline with the slots, thus permitting the spring contained within the barrel to force the plunger and its rod upwardly. Now by causing the reciprocation

of the plunger-rod air will be forced through the barrel and the liquid forced out through the spraying-nozzle, the finger of the operator forcing the plunger downwardly, while the spring elevates it. The spring, in addition to effecting the upward stroke of the plunger, also serves when the head is depressed into the chamber of the container-cap and the pin engaged with the under side of the cap of the barrel to force the pin against said cap, thereby serving to prevent the accidental rotation of the plunger-rod to aline its pin with the slots, thus preventing the accidental projection of the plunger-rod when carried in the pocket.

From the foregoing description, taken in connection with the accompanying drawings, the construction, mode of operation, and advantages of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion, and details of construction may be made within the scope of the invention without departing from the spirit or sacrificing any of the advantages thereof.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In an atomizer, the combination with a liquid-container provided with a spray-nozzle and with a liquid-tube communicating therewith, of a chambered cap for said liquid-container, a barrel connected to said liquid-container, a plunger arranged within said barrel, a spring located in the barrel for elevating said plunger, a plunger-rod connected to the plunger and provided with a head to close the chamber of said cap, and means for locking the plunger and head in depressed position against the action of the spring, substantially as set forth.

2. In an atomizer, the combination with a liquid-container provided with a spray-nozzle and with a liquid-tube communicating therewith, of a chambered cap for said liquid-container, a barrel connected to said liquid-container and provided with a cap having a central aperture and diametrically opposite slots, a plunger arranged within said barrel, a spring located within the barrel between said plunger and the bottom of the cap, a plunger-rod connected to the plunger, a head connected to the plunger-rod and of a diameter corresponding with the internal diameter of the container-cap, and a cross-pin carried by said rod and adapted to lock the rod in depressed position against the action of the spring, substantially as set forth.

3. In an atomizer, the combination of a liquid-container, of a spray-nozzle and tube connected therewith, a barrel, with an opening and a spirally-hung spring-valve at the lower end thereof opening outwardly therefrom, located within said liquid-container and protected by a cap with an orifice therein, and a plunger working in said barrel, and at the lower end of said plunger, an opening and a spirally-hung spring-valve, opening downward, substantially as set forth.

4. In an atomizer, the combination with a liquid-container provided with a spray-nozzle and with a liquid-tube communicating therewith, of a chambered cap for said liquid-container, a barrel connected to said liquid-container and provided with a cap having a central aperture and diametrically opposite slots, and a lower cap with opening, an outwardly-opening valve, a plunger arranged within said barrel, with opening therein, and a valve opening inwardly, a spring located in the barrel between said plunger and the bottom of the cap, a plunger-rod connected to the plunger, a head connected to the plunger-rod and of a diameter corresponding with the internal diameter of the container-cap, and a cross-pin carried by said rod and adapted to lock the rod in depressed position, substantially as set forth.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JAMES G. HALAPLEUS.

Witnesses:
G. G. HENNEBERY,
C. W. NEILSON.