

No. 657,710.

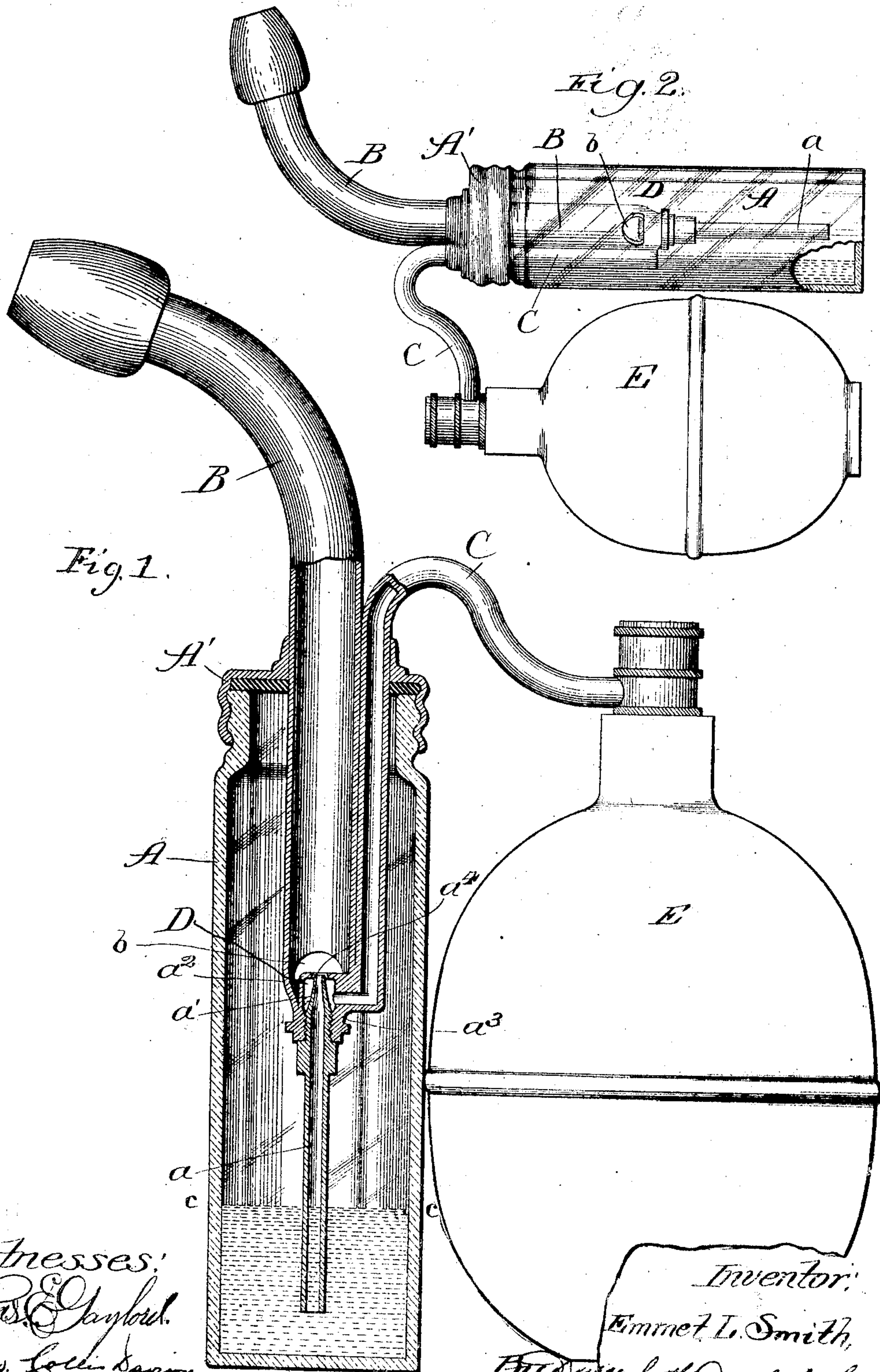
Patented Sept. 11, 1900.

E. L. SMITH.

ATOMIZER.

(Application filed May 17, 1900.)

(No Model.)



Witnesses:
Geo. E. Gaylord.
Geo. L. L. L. L. L.

Inventor:
Emmet L. Smith,
By *James L. Smith* & Co.,
Attys.

UNITED STATES PATENT OFFICE.

EMMET L. SMITH, OF CHICAGO, ILLINOIS.

ATOMIZER.

SPECIFICATION forming part of Letters Patent No. 657,710, dated September 11, 1900.

Application filed May 17, 1900. Serial No. 17,059. (No model.)

To all whom it may concern:

Be it known that I, EMMET L. SMITH, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Atomizers, of which the following is a specification.

My invention relates particularly to atomizers for spraying medicinal preparations, though it may be advantageously employed in atomizers for other purposes.

My object is to provide a cheaply-constructed, simple, compact, durable, and readily-cleansed atomizer which shall be both proof against spilling and possess great spraying power.

In the accompanying drawings, Figure 1 is a broken vertical section showing my improved atomizer, and Fig. 2 an elevational view showing the atomizer placed on its side.

In the construction shown the atomizer comprises a liquid-receptacle A, provided with a cap A', atomizing and compressed-air tubes B and C, respectively, passing through the cap A' and having liquid-tight joints therewith, a spraying-head D in communication with tubes B and C, and a bulb E, connected with the tube C. The cap A' screws onto the neck of the bottle or receptacle A, and the tubes and spraying device are removable with said cap for cleansing purposes. The bulb E is equipped with the usual air-inlet valve. (Not shown.)

The spraying-head D may be of any suitable form. Preferably it is of the form shown, being supplied with a removable supply-tube a , having a conical nozzle a' , projecting into a chamber a^2 in a connecting part a^3 . The tube C is joined to one side of the part a^3 and is in communication with the chamber a^2 . The tube B is directly above and preferably joined to the part a^3 , the discharge-orifice a^4 of the part a^3 being located centrally at the lower end of said tube. Lateral openings b are supplied at the lower end of the tube B, and these should be large enough to permit free escape of liquid draining back upon the top of the part a^3 . The axes of the bottle and the lower portion of the tube B are coincident, and the device D is located at or near the longitudinal center of the bottle. The

result is to produce a device which is proof against spilling, which is compact in form, (the projecting portion of tube B being shortened,) and which has great spraying power, owing to the fact that the tube B forms a close funnel for the blast from the spraying device, preventing dissipation of energy. The line $c c$ indicates the level to which the bottle is filled in practice, and it will be obvious that in no position of the bottle can the liquid flow out except as forced through the spraying-tube.

Changes in minor details of construction within the spirit of my invention may be made, and it is obvious that the projecting portion of the spraying-tube may be straight or curved, as desired. It is essential that both tubes B and C project into the bottle such distance as to enable a reasonable amount of liquid to be contained within the bottle whatever its position without reaching the openings b .

What I claim as new, and desire to secure by Letters Patent, is—

1. In an atomizer, the combination of a liquid-receptacle having a closed top, spraying and compressed-air tubes passing through and having liquid-tight joints with said top and extending some distance beneath the same, said top being without other aperture, a spraying-head located at the lower ends of and in close communication with said tubes, said spraying-tubes serving to receive the blast directly from the spraying-head, and means for supplying air-pressure, substantially as and for the purpose set forth.

2. In an atomizer, the combination of a bottle having a removable top, spraying and compressed-air tubes extending from near the center of the bottle through said top and removable therewith, a spraying-head joined to and in communication with both said tubes, and a bulb for the air-tube, substantially as and for the purpose set forth.

3. In an atomizer, the combination of a bottle having a removable top, spraying and compressed-air tubes extending from near the center of the bottle through said top and removable therewith, and a spraying-head located centrally beneath the lower end of said spraying-tube and attached to both the spraying-

tube and the compressed-air tube, said spray-
ing-head comprising a connecting part a^1 pro-
vided with a chamber a^2 in communication
with said compressed-air tube and provided
5 further with a discharge-port a^4 , and a depend-
ing supply-tube a connected with the part a^3
and having a conical nozzle projecting into the

chamber a^2 , substantially as and for the pur-
pose set forth.

EMMET L. SMITH.

In presence of—

D. W. LEE,

A. D. BACCI.