

No. 689,355.

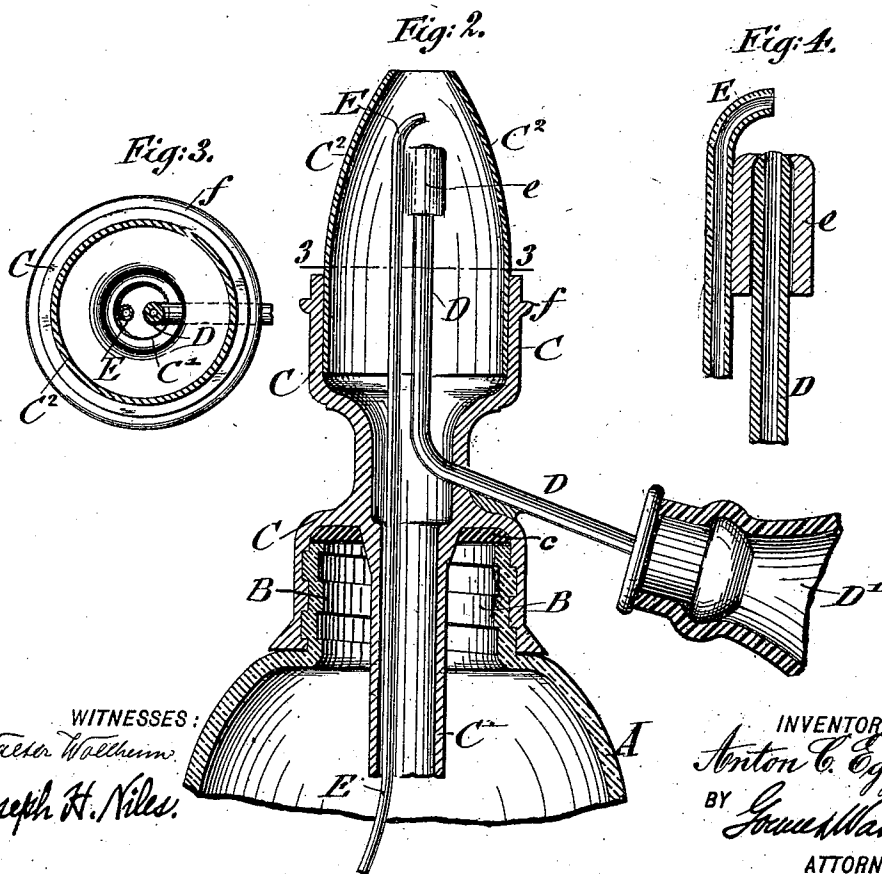
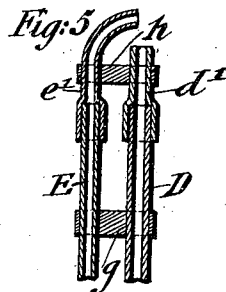
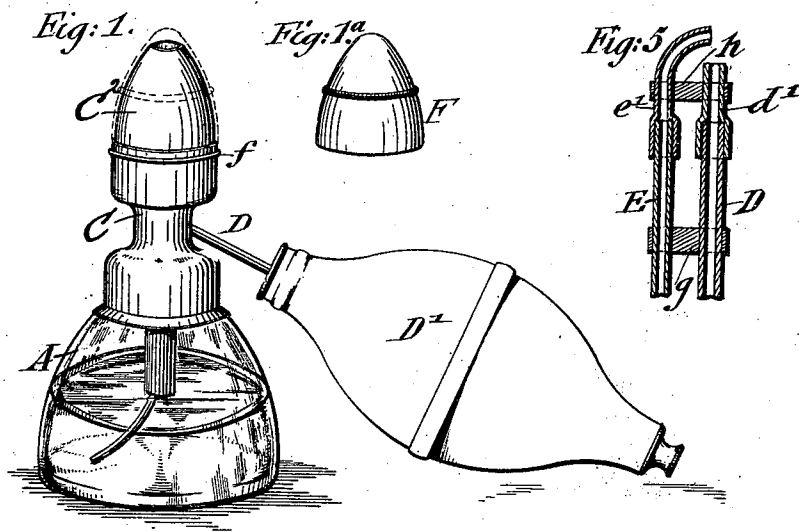
Patented Dec. 17, 1901.

A. C. EGGERS.

ATOMIZER.

(Application filed June 20, 1901.)

(No Model.)



WITNESSES:
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UNITED STATES PATENT OFFICE.

ANTON C. EGGERS, OF BROOKLYN, NEW YORK, ASSIGNOR TO GOODYEAR INDIA RUBBER GLOVE MFG. CO., OF NEW YORK, N. Y., A CORPORATION OF CONNECTICUT.

ATOMIZER.

SPECIFICATION forming part of Letters Patent No. 689,355, dated December 17, 1901.

Application filed June 20, 1901. Serial No. 65,257. (No model.)

To all whom it may concern:

Be it known that I, ANTON C. EGGERS, a citizen of the United States, residing in New York, borough of Brooklyn, in the State of New York, have invented certain new and useful Improvements in Atomizers, of which the following is a specification.

This invention relates to an improved atomizer for medicines of any description, oils, and liquids in general which can be readily carried along without any danger of spilling any of the contents and in which the atomizing device can be readily exchanged; and the invention consists of an atomizer comprising a liquid-containing vessel, a cap attached to the same, and an atomizing device above said cap and consisting of an air-supply tube, an air-forcing device connected with said air-supply tube, and a detachable suction-tube passing through the cap into the liquid-containing vessel.

In the accompanying drawings, Figure 1 represents a perspective view of my improved atomizer with the dust-cap removed. Fig. 1^a is a perspective view of the dust-cap. Fig. 2 is a vertical section through a portion of the liquid vessel and its cap, the nozzle, and atomizing device, drawn on a larger scale than Fig. 1. Fig. 3 is a horizontal section on line 3-3, Fig. 2. Fig. 4 is a detail vertical section through the atomizing device, on a larger scale than Fig. 2; and Fig. 5 is a vertical section through a modified form of atomizing device.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents the liquid vessel in which the vaseline, oil, or other liquid is placed. The vessel A is preferably made of glass and provided about midway of its height with a horizontal graduation-line, up to which the vessel is filled. The vessel is provided with an exteriorly-threaded neck B, on which is screwed a cap C, between which and the rim of the neck is interposed a rubber packing-ring c, so as to produce the tight connection of the cap C with the neck B. From the cap extends in downward direction to a level with the graduation-line a tube C'. The upper end of the cap is provided with an enlarged portion which carries

a nozzle C², by which the atomizer is applied to the part to be treated. At the interior of the nozzle is located an air-supply tube D, which is connected with an air-forcing bulb D', by which the air is supplied, without, however, exerting any pressure on the liquid in the liquid-containing vessel, said liquid being only under atmospheric pressure. The end of the air-supply tube D at the inside of the nozzle C² is preferably arranged axially in line with the nozzle and carries at its upper end a suction-tube E, the upper end of which extends over the upper end of the air-tube, so that the escape of the air from the latter exerts a suction on the air in the suction-tube and upon the liquid in the liquid vessel A. The suction-tube E is extended through the tube C' into the lower part of the liquid vessel A and may be permanently attached to the upper end of the air-supply tube or detachably connected therewith by means of a sleeve e, which is soldered to the upper end of the suction-tube and placed over the upper end of the air-supply tube, the upper end of the sleeve being contracted, as shown in detail in Fig. 4; or the air and suction tubes may be connected at their upper ends by a cross-piece g and the tips of the tubes made detachable and connected by a cross-piece h with each other, as shown in Fig. 5. This construction permits the ready removal of the tips d' e' and replacement by others of different size for changing the character or size of the spray.

The action of the air supplied through the air-supply tube produces a spray, which is passed through the contracted ends of the conical nozzle C² and conducted to the place to be treated. Any of the liquid which condenses before leaving the nozzle is conducted along the inner wall of the nozzle and through the tube C' back into the vessel A. As the vessel A is only filled up to the line marked thereon, so that the contents of the lower part of the liquid vessel below the line of demarcation is smaller than the contents of the liquid vessel and its neck above the line, the liquid cannot escape even in case of tilting of the atomizer when carrying it in a trunk or otherwise.

Over the nozzle C² is placed a dust-cap F, of corresponding shape, which fits against the circumferential shoulder *f* on the upper enlarged portion of the cap, said dust-cap being
 5 provided with an exterior bead or rim, so as to be conveniently taken hold of and placed in position over the nozzle or removed therefrom when the atomizer is to be used. The dust-cap is retained by friction or otherwise
 10 on the upper part of the cap C² and prevents thereby the entrance of dust into the interior of the atomizer.

The advantages of my improved atomizer are that the heavier liquids—such as oils,
 15 &c.—can be sprayed onto the part to be treated by means of the atomizing devices and the nozzle surrounding the same; second, that the suction-tube can be readily removed and replaced in case the same should not atomize
 20 properly or become closed up or injured by use, and, third, that none of the liquid in the vessel is liable to run out in case of the tilting of the atomizer, which is an important point, as thereby the saturating and soiling of other
 25 articles carried with the atomizer and loss of liquid are prevented.

Having thus described my invention, I

claim as new and desire to secure by Letters Patent—

An atomizer, consisting of a liquid vessel, 30 a cap closing the mouth of the same, a tube extending in downward direction from said cap, within the vessel, the upper portion of said cap being enlarged, a tapering nozzle fitted at its larger lower end within said en- 35 larged upper portion of the cap, an air-tube entering said cap below its enlarged portion and passing upwardly therein to the upper, contracted part of the nozzle, a suction-tube extending from the liquid vessel in upward 40 direction through the cap and nozzle into the upper part of the latter, the upper end of said suction-tube terminating over the air-tube, and a sleeve connecting said air and suction tubes at their upper ends, substan- 45 tially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

ANTON C. EGGERS.

Witnesses:

JOSEPH H. NILES,
 GEORGE C. GEIBEL.