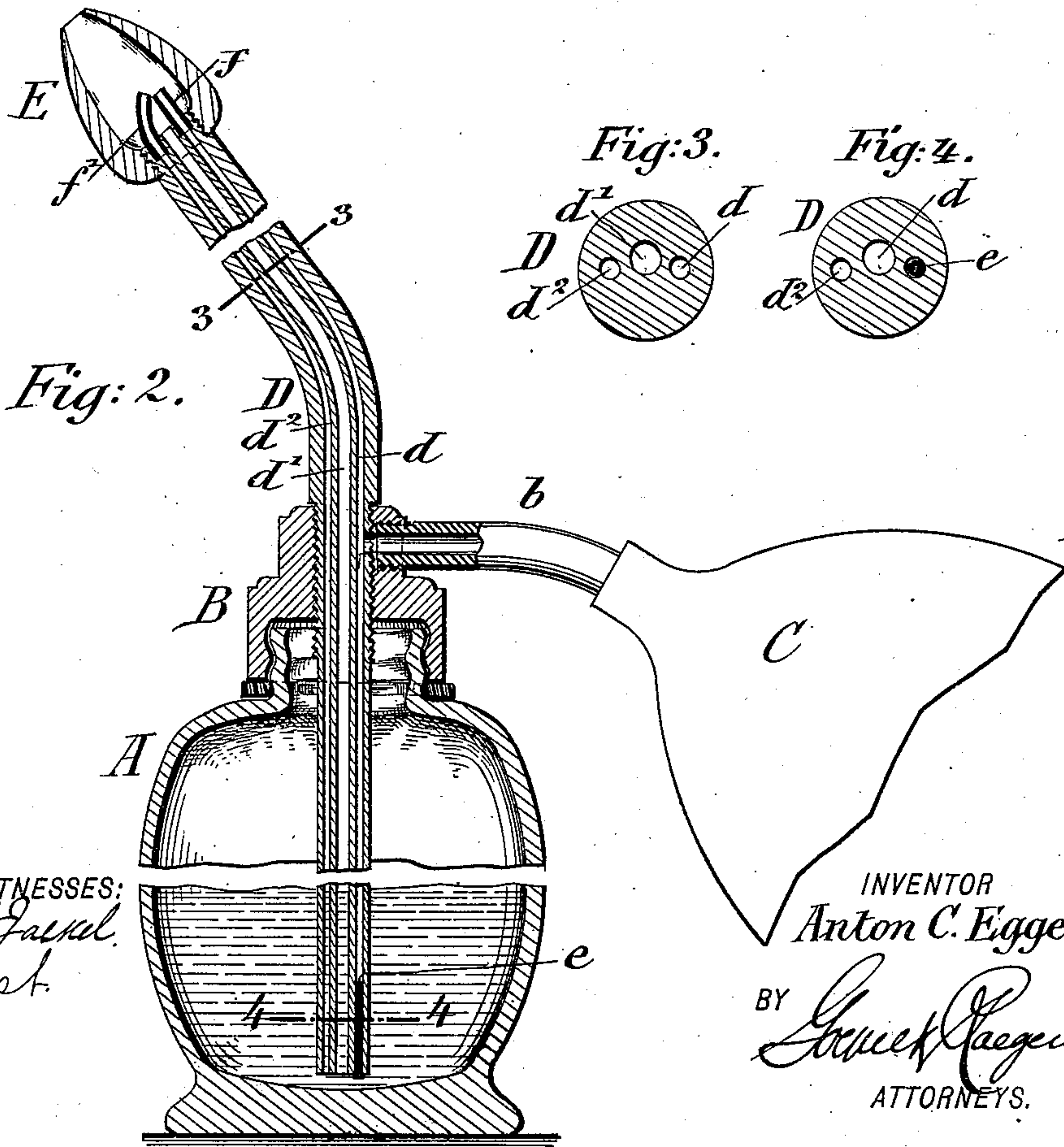
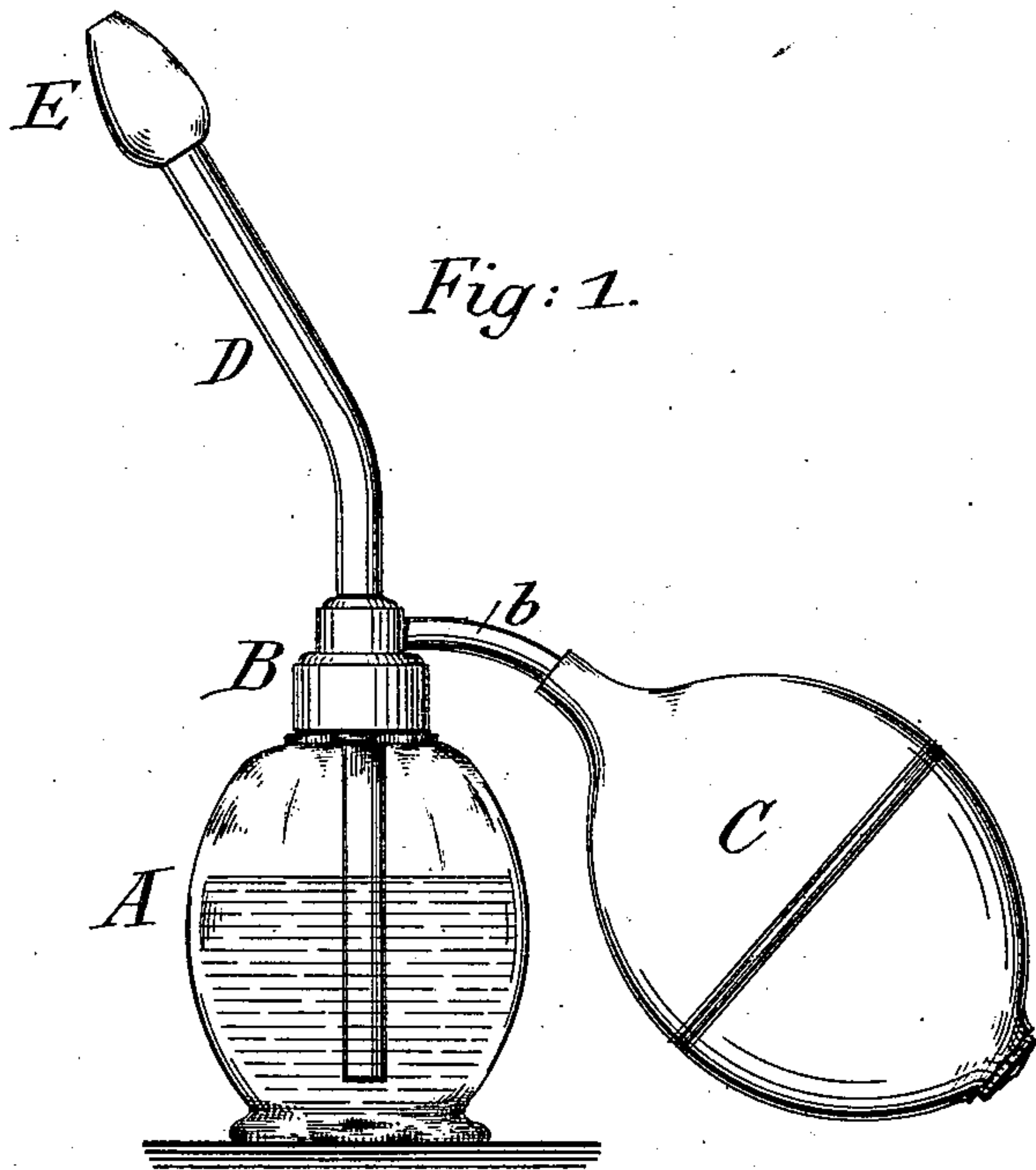


(No Model.)

A. C. EGGER.
ATOMIZER.

No. 549,288.

Patented Nov. 5, 1895.



WITNESSES:
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ANTON C. EGGERS, OF BROOKLYN, NEW YORK.

ATOMIZER.

SPECIFICATION forming part of Letters Patent No. 549,288, dated November 5, 1895.

Application filed January 14, 1895. Serial No. 534,828. (No model.)

To all whom it may concern:

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

This invention has reference to certain improvements in atomizers of that class in which liquids of great consistency, such as oils or similar medicinal preparations, are applied in a spray to the nose, throat, or other parts to be treated, and in which the condensation or waste is collected and returned to the liquid-vessel; and the invention consists of an atomizer comprising a liquid-vessel, a cap applied to the neck of the vessel, an air-supply pipe connected with said cap, and a combined air, suction, and waste-return tube extending into the vessel, terminating near the bottom of the vessel and provided with separate air, liquid, and waste-return channels in the same integral structure, atomizing-nipples applied to the outer ends of the air and suction channels, and an enlarged nozzle attached to said tube and surrounding the atomizing-nipples, as will be fully described hereinafter, and finally pointed out in the claims.

In the accompanying drawings, Figure 1 represents a side elevation of my improved atomizer. Fig. 2 is a vertical longitudinal section of the same drawn on a larger scale; and Figs. 3 and 4 are horizontal sections, respectively, on lines 3 3 and 4 4, Fig. 2.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents the liquid-vessel of my improved atomizer, to the exteriorly-threaded neck of which is attached the interiorly-threaded cap B, which is preferably made of hard rubber and provided with a short laterally-extending air-supply pipe *b*, that is connected with a valved bulb C, which acts in the nature of an air-forcing device for supplying the required air under pressure to the atomizing devices. Through the cap B extends a tube D, which is tightly screwed into the cap B and extended downward from the same to near the bottom of the liquid-vessel A, the outer part of the tube D being preferably bent sidewise from the

lower part and provided with a detachable nozzle or hood E, that is screwed onto the upper end of the same. The nozzle or hood E is made tapering, so as to be readily introduced into the nose, throat, or other part to be treated. The tube D is provided with three channels *d d' d²*, that extend longitudinally through the same. Air-channel *d* communicates with the air-pipe *b* and the lower end thereof is plugged at *e*, so as to prevent the air from passing from the lower end of the channel into the liquid-vessel. The second channel *d'* extends centrally through the tube D and is preferably of larger size, said channel *d'* serving as a return-channel for the condensation or waste that is collected in the nozzle or hood E. The third channel *d²* is arranged diametrically opposite to the air-channel *d*, and extends, like the other channels, longitudinally through the entire length of the tube D, said channel *d²* serving as the suction-channel. The air-channel *d* and suction-channel *d²* are provided at the upper end of the tube D with atomizing-nipples *f f'*, which are so set relatively to each other that the small suction-nipple extends slightly over the air-nipple and produces a suction on the liquid in the vessel A when the air is forced by the bulb through the air-channel *d*. The nozzle or hood E surrounds the atomizing devices and conducts the spray formed by the atomizing action of the current of air on the liquid drawn by suction from the vessel A, so that the same is applied to the parts to be treated.

When the air is forced in by the bulb C, the same passes through the air-channel *d* and its nipple *f* and exerts a suction on the suction-nipple *f'*, so that the liquid is drawn up through the suction-channel *d²* from the liquid-vessel, whereby the liquid is changed into spray by the action of the air thereon in the usual well-known manner. The tube D is formed with the air, suction, and return-waste channels while being molded in course of manufacture, a tube being made of suitable length and cut into pieces of the length required for each atomizer, so as to form one combined air, suction, and return-waste tube for one atomizer.

By arranging the three channels in one integral structure atomizers of this class can be

manufactured at less expense than other atomizers, as all that is required for the proper working of the atomizer is that the lower end of the air-channel is plugged up, so as to prevent the air from passing into the liquid-vessel and compel it to pass out through the atomizing-nozzle.

Another advantage of my improved atomizer is that the enlarged nozzle or hood E at the outer end of the combined air, suction, and return-waste tube is at some distance from the cap B of the liquid-vessel, and thereby more convenient for being applied to the parts to be treated.

A third advantage of my improved atomizer is that whatever the position of the liquid-vessel no liquid can escape through the channels in the combined tube, even if the liquid-vessel is inverted, which is of considerable advantage, especially as the liquids used are oils or liquids of considerable consistency, which are apt to soil clothing, &c., when spilled in drops.

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

1. The combination of a vessel for containing a liquid, a cap applied to the neck of the vessel, an air-supply pipe leading into one side of said cap, and a combined air, suction and waste-return tube extending through the cap into the vessel, terminating near the bot-

tom of the vessel and provided with separate air, suction and return-channels, atomizing devices at the outer ends of the air and suction-channels, and a large nozzle or hood extending around said atomizing devices and applied to the outer end of the combined tube at some distance above the cap, substantially as set forth.

2. The combination of a vessel for containing a liquid, a cap attached to the neck of the vessel, an air-supply pipe connected with said cap, and a combined air, suction and waste-return tube of one integral piece of material extending through the cap into the vessel, terminating near the bottom of the vessel and provided with separate air, suction and return-channels, the air-channel being closed below the air-supply pipe, atomizing devices at the outer ends of the air and suction-channels, and a large nozzle or hood extending around said atomizing devices and applied to the outer end of the combined tube at some distance above the cap, substantially 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:

PAUL GOEPEL,
GEORGE W. JAEKEL.