(No Model.)

J. ROSETT.

ATOMIZER.

No. 532,911. Patented Jan. 22, 1895.

Fig: 1.

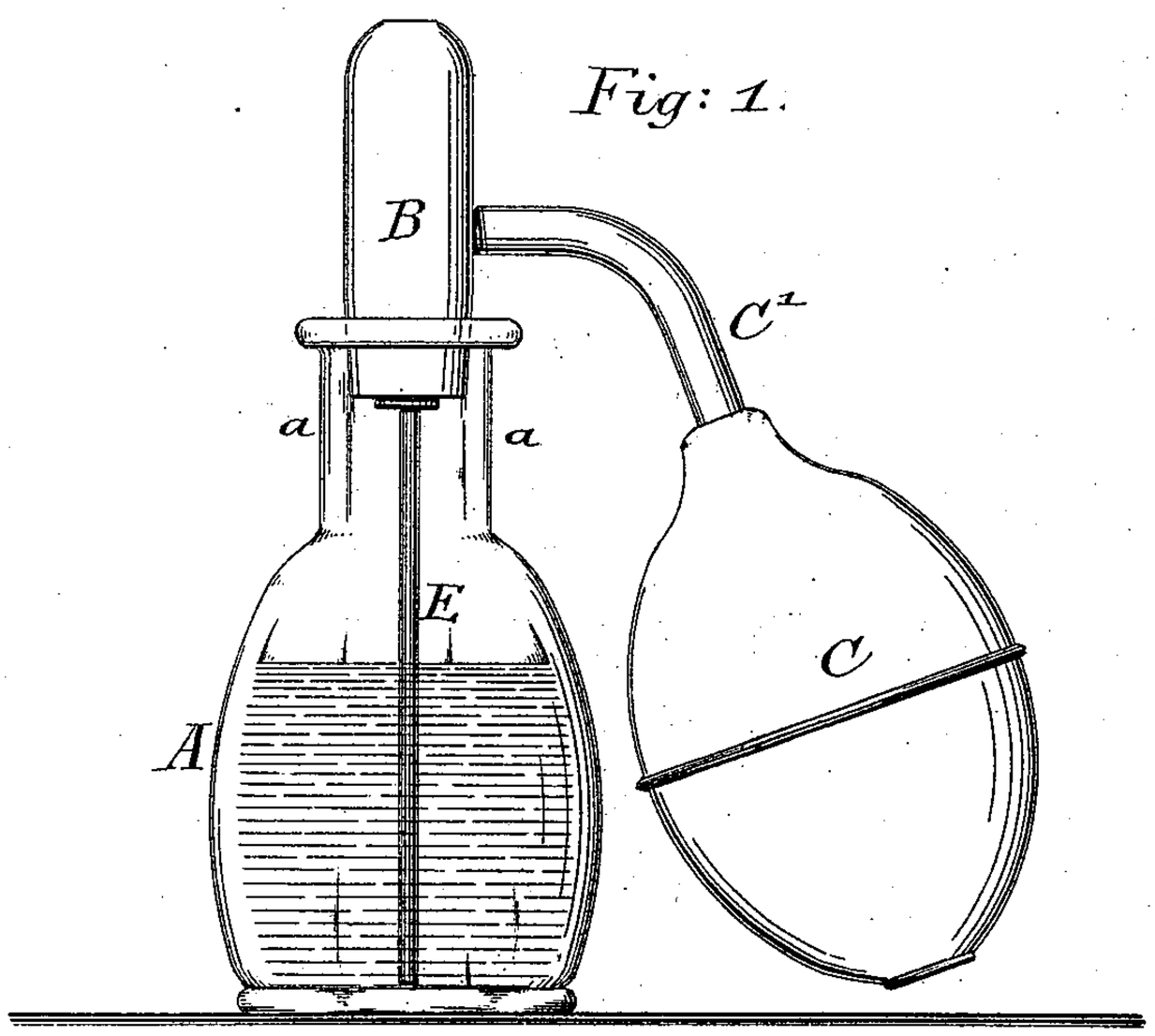


Fig: 2.

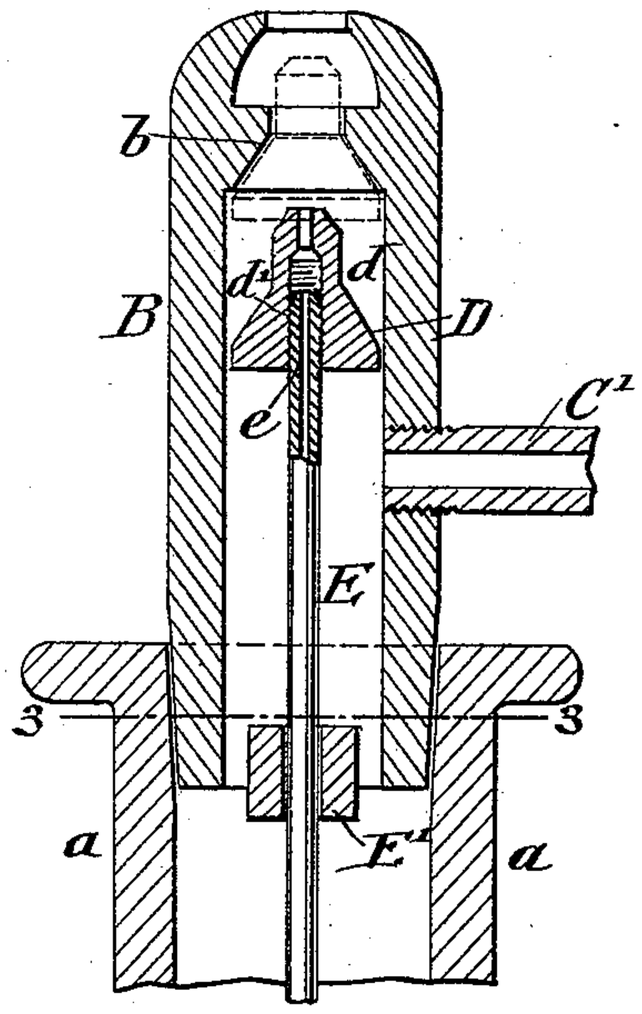


Fig: 3.

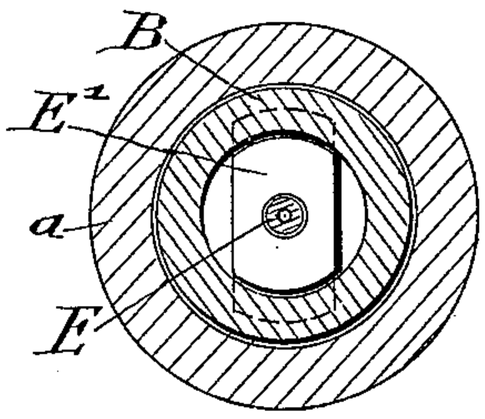
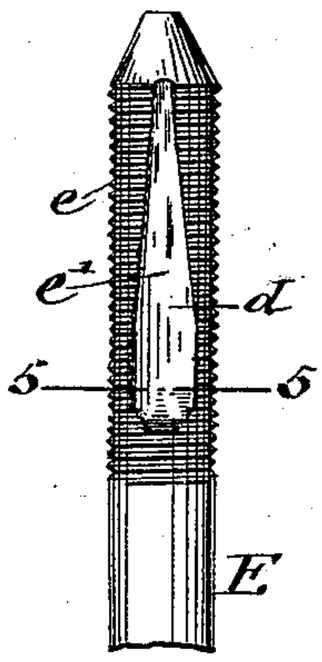


Fig: 4



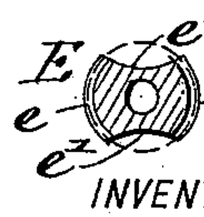


Fig: 5

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ATOMIZER.

SPECIFICATION forming part of Letters Patent No. 532,911, dated January 22, 1895.

Application filed October 29, 1894. Serial No. 527,400. (No model.)

To all whom it may concern:

Be it known that I, JOSHUA ROSETT, a subject of the Czar of Russia, residing in the city, county, and 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, by which the thickly-flowing medicinal liquids or oils can be readily sprayed or atomized in a very effective manner, and in which the parts by which the atomizing action is produced can be readily separated from each other for cleaning; and the invention consists of an atomizer, comprising a tubular head which is inserted into the neck of the liquid-containing vessel, an air-supply tube connected with an air-forcing bulb, a valve guided at the interior of the tubular head and provided with an atomizing nozzle, said valve being forced by the pressure of air against the interior seat at the upper end of the tubular head, a supply-tube screwed into the body of the valve and provided with channels for the passage of the air to the nozzle of the same, and a diametrical guide-block inserted into the lower end of the tubular head and serving for guiding the supply-tube.

In the accompanying drawings,—Figure 1 represents a side-elevation of my improved atomizer. Fig. 2 is a vertical central section of the same, drawn on a larger scale, and with a portion of the liquid-containing vessel broken off. Fig. 3 is a horizontal section on line 3, 3, Fig. 2. Fig. 4 is a detail side view of the upper threaded end of the liquid supply-tube, drawn on a still larger scale, and Fig. 5 is a horizontal section, on line 5, 5, Fig. 4.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents a vessel, into which the medicine or other heavy liquid that is to be vaporized is placed. Into the neck *a* of the vessel A is inserted the lower slightly-tapered end of a tubular head B, that is made of hard rubber or other suitable material, and which is connected by an air-supply tube *b* with an air-forcing bulb C, as is customary in atomizers of this class. The upper end of the tubular head B is provided with a conical contraction or seat *b*, which tapers upwardly and against which a conical valve D is seated, so as to tightly close the discharge end of the tubular head B, as shown in dotted lines in Fig. 2. The valve D is provided with a nozzle *d* at its upper end, said nozzle having a small discharge-aperture, and with a larger and interiorly-threaded bore *d'* in line with the discharge aperture in the nozzle, into which bore is screwed the upper exteriorly-threaded end *e* of a supply-tube E, which extends into the vessel to a point at the bottom of the same. The supply-tube E is provided at its upper threaded end with side-channels *e'*, which permit the passage of the air into the nozzle, so that the liquid flows through the supply-tube by the pressure of the air, on the same, and is vaporized by the atomizing action of the air-jets passing out of the grooves. The supply-tube is guided in a diametrical block E', which is inserted into the lower end of the tubular head B, and which forms, with the lower end of the head B channels for the passage of the air into the liquid-containing vessel A.

When my improved atomizer is desired to be used, the air-forcing bulb C is operated and the necessary quantity of air is supplied through the tubular head B into the liquid containing vessel, until a certain pressure is exerted on the liquid in the same so that the same is compelled to rise through the supply-tube E into the nozzle *d* of the valve D, while simultaneously, by the pressure of the air, the valve D is forced in upward direction so as to close tightly against the seat *b* of the head. The air is also simultaneously forced through the side-channels *e'* into the nozzle *d* thus vaporizing the liquid and forcing it, with the air, in a fine spray through the upper end of the tubular head B, so as to be applied to the parts to be treated. As soon as the working of the bulb C is interrupted, the valve and supply-tube drop down again, so that the vaporizing action is interrupted. After each compression of the bulb the vacuum created causes the outer air to be supplied to the bulb by passing in through the side-channels *e'*.

As it is necessary to clean the parts after each application, this can be readily accomplished by removing the tubular head from the neck of the liquid-containing vessel, after

which the guide-block is removed from the lower end of the tubular head, together with the supply-tube, so that the tube can be separated from the valve screwed into the upper end of the same, whereby all the parts, being detached from each other, can be readily cleaned, and then put together again and returned to their respective positions for use. By properly adjusting the position of the valve in the upper end of the supply-tube, a greater or less degree of atomizing action can be readily obtained and thereby the action of the vaporizing parts be adapted to some extent to the density of the liquid to be vaporized.

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

1. The combination, with a liquid-containing vessel, of a tubular head inserted in the neck of the same, and having an interior valve-seat, an air-supply tube connected with said head, a valve having a sliding movement in the interior of said head, said valve being provided with a nozzle and adapted to seat against the interior valve-seat, a supply-tube secured in said valve and provided with air-channels in its sides, and means for guiding the valve and its supply-tube, substantially as set forth.

2. The combination, with a liquid-containing vessel, of a tubular head inserted into the neck of the same, an air-supply tube connected with said head, an interior valve-seat at the upper end of said head below the discharge aperture of the same, a valve having a sliding movement and guided in said head below the seat, said valve being provided with a nozzle having a discharge orifice and an exteriorly-threaded bore below the same, a supply-tube having an exteriorly-threaded upper end and longitudinal grooves or air-channels in the threaded portion, and a diametrical guide-block inserted into the lower end of the tubular head for guiding the supply-tube in following the motion of the valve during the atomizing action, 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.

JOSHUA ROSETT.

Witnesses:
GEORGE W. JAEKEL,
JUAN C. ABEL.