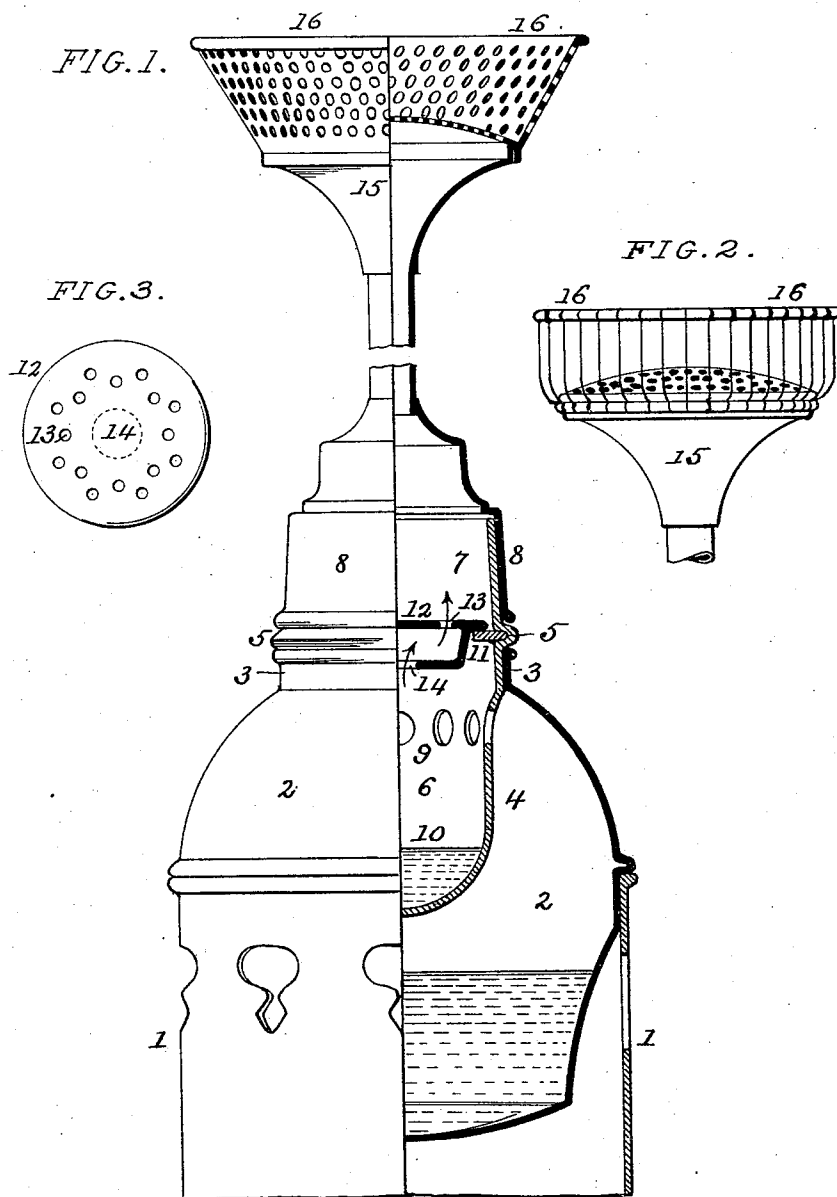


(No Model.)

G. B. UNDERWOOD.
VOLATILIZER.

No. 478,896.

Patented July 12, 1892.



ATTEST:

Geo H. Arthur

M. H. Holmes

INVENTOR:

George B. Underwood,

by *Robert T. Ruess*
Attorney.

UNITED STATES PATENT OFFICE.

GEORGE B. UNDERWOOD, OF CHICAGO, ILLINOIS.

VOLATILIZER.

SPECIFICATION forming part of Letters Patent No. 478,896, dated July 12, 1892.

Application filed December 17, 1891. Serial No. 415,439. (No model.)

To all whom it may concern:

Be it known that I, GEORGE B. UNDERWOOD, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Volatilizers; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

The present invention relates to portable apparatus for volatilizing drugs, essential oils, and other medicaments for use in inhalation, fumigation, and like uses, the object of the present improvements being to provide a simple and effective construction of parts in which are embodied a convenient and effective means for catching the condensation or drip from the outlet-passages of the apparatus and the prevention of the dropping back of the same into the boiler of the apparatus and an improved formation of the discharge-head or mouth-piece of the eduction-tube, whereby the danger of scalding the mouth of the patient, as well as the inhalation of a too acrid or concentrated vapor, is avoided in a very perfect manner. I attain such objects by the construction and arrangement of parts illustrated in the accompanying drawings, in which—

Figure 1 is a detail view, one-half in section and one-half in elevation, illustrating a portable volatilizer to which my present improvements are applied; Fig. 2, a detail elevation of the head of an eduction-tube provided with a modified form of the safety-hood or guard, and Fig. 3 a plan view of the perforated diaphragm for the sponge or herb holder of the volatilizer.

Similar numerals of reference indicate like parts in the different views.

Referring to the drawings, 1 represents the main housing of the apparatus of any usual construction and adapted to house or inclose a suitable lamp and made open at top to receive the water-boiler 2 in a manner similar to that described in my former application for Letters Patent, Serial No. 398,583, filed July 6, 1891. The water-boiler 2 is provided with a neck or orifice 3, of a suitable diameter to receive the cup-shaped holder 4, having a

marginal rim 5 on its outer periphery to support it in proper position, so that its lower portion 6 will depend into the water-boiler, while its upper portion will extend up above the water-boiler to form a neck 7 to receive a counterpart sleeve 8 on the lower end of the eduction-tube or other attachment. The pendent portion 6 will be formed with a series of perforations 9 in its cylindrical wall a distance above its bottom, which form an outlet for the vapor from the water-boiler some distance above said bottom, and will leave the portion below said perforations in the form of a receiving-chamber 10 to receive the returning condensation and drip of the apparatus and prevent the same from falling back into the boiler to contaminate the contents of the same for a subsequent and different use.

11 is an annular ledge on the interior of the holder 4, adapted to support the duplex partition or diaphragm 12, arranged about mid-height of the holder 4 and adapted to form a support for a sponge or other porous body when the same is used in connection with the volatilizer. This partition consists of an upper disk having perforations 13 near its margin and a lower disk having centrally-arranged perforations 14, the perforations being out of line with each other, so that the disks will act as "baffle-plates" to check any ascending particles of water and prevent the further upward passage of the same.

In the varied uses of the volatilizer a sponge charged with essential oil or other medicament may be inserted in the holder 4 above the partition 12, or the partition may be removed and the holder filled with herbs for use in inhalation, &c.

The eduction-tubes may be of any usual form, either straight or bent, as desired or found most convenient for use, and the inhaling-head or mouthpiece 15 may be of any usual form, either perforate or open, the novelty of the present invention in this connection being the provision of a skeleton or perforate hood or guard 16, of wire or perforate metal, attached to the head or mouthpiece 15 and arranged to project above and around the eduction-tube outlet, so as to prevent the mouth of the patient being brought too close

to the outlet-orifice, and thus prevent the lips being scalded, as well as to enable the vapor escaping from the inhaler-tube to become diluted with a proper amount of air before being inhaled, and thus avoid the disagreeable and dangerous choking sensations produced when acrid medicaments are used with the ordinary form of eduction-heads or mouth-pieces.

10 Having thus fully described my said invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, in a volatilizer, of the water-boiler 2, the holder 4, and an eduction-tube provided with an enlarged head 15 and a marginal perforate guard or hood 16, extending beyond the head 15 and adapted to surround and inclose its outlet-orifice, substantially as set forth.

20 2. The combination, in a volatilizer, of the water-boiler 2, the holder 4, and an eduction-tube provided with an enlarged head 15 and a marginal perforate guard or hood 16, of perforate sheet metal, extending beyond the head

15 and adapted to surround and inclose its outlet-orifice, substantially as set forth.

3. The combination, in a volatilizer, of the water-boiler 2 and the cup-shaped holder 4, having a marginal outer rim 5, a pendent portion 6, and an upwardly-projecting portion or neck 7 to receive an inhaler-tube or other attachment, the walls of the pendent portion being perforated for the passage of vapor, substantially as set forth.

4. The combination, in a volatilizer, of the water-boiler 2 and the cup-shaped holder 4, having an inturned annular ledge 11, and the duplex partition 12, formed of two perforated disks, the perforations of which are out of line with each other, substantially as described.

In testimony whereof witness my hand this 14th day of December, 1891.

GEORGE B. UNDERWOOD.

In presence of—

ROBERT BURNS,

GEO. H. ARTHUR.