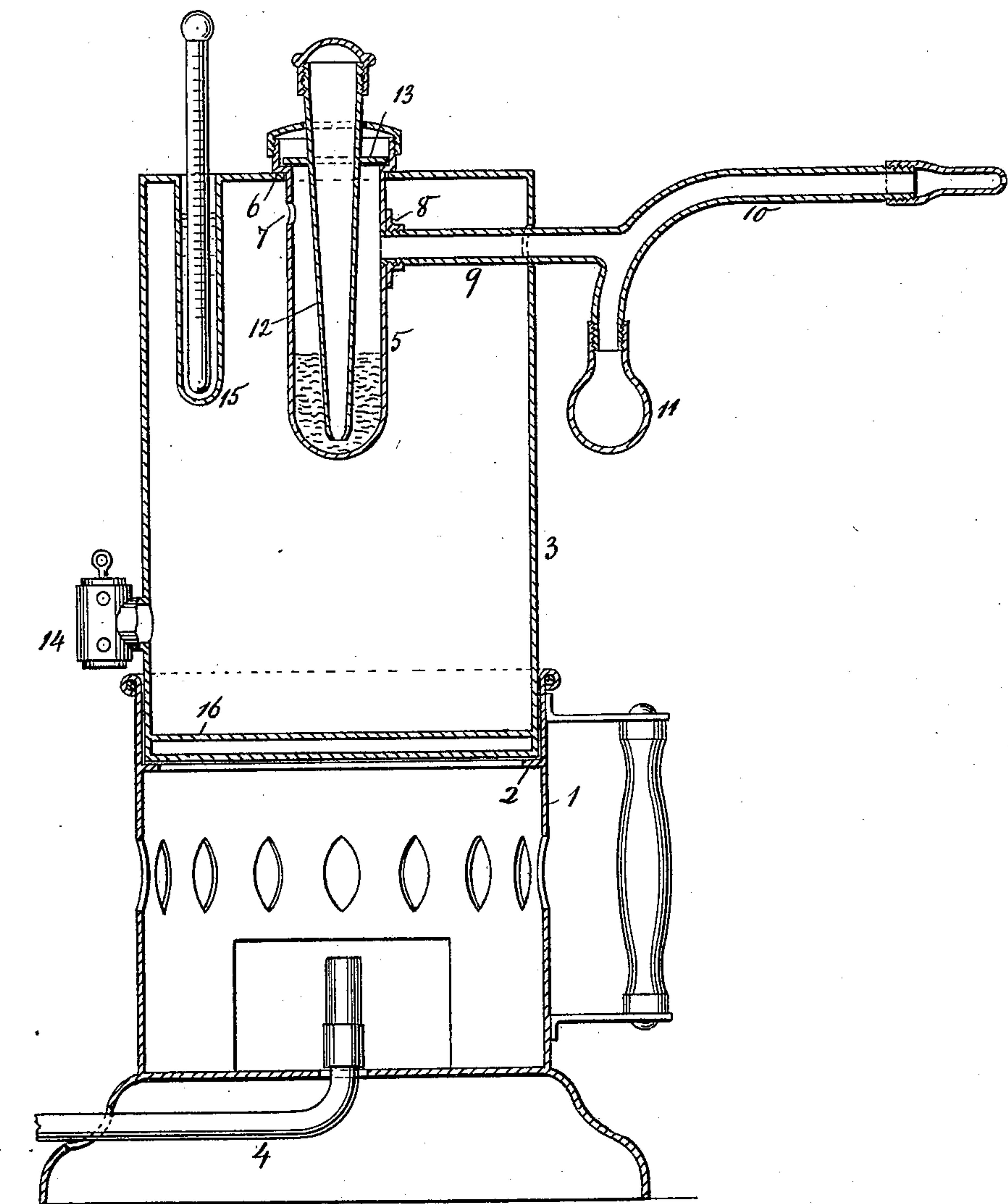


(No Model.)

G. B. UNDERWOOD.
INHALER.

No. 594,302.

Patented Nov. 23, 1897.



WITNESSES:

E. Wolff.
Chas. E. Doeringer.

INVENTOR:

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BY

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UNITED STATES PATENT OFFICE.

GEORGE B. UNDERWOOD, OF NEW YORK, N. Y.

INHALER.

SPECIFICATION forming part of Letters Patent No. 594,302, dated November 23, 1897.

Application filed July 9, 1896. Serial No. 598,599. (No model.)

To all whom it may concern:

Be it known that I, GEORGE B. UNDERWOOD, a citizen of the United States, residing at New York, in the county and State of New York, have invented new and useful Improvements in Inhalers, of which the following is a specification.

The object of this invention is to provide an inhaler which is simple in construction and which can be produced cheaply and which is adapted for a variety of inhalations; and the invention resides in the novel features of construction set forth in the following specification and claim and illustrated in the annexed drawing, in which is shown a sectional elevation of an inhaler.

The casing or foot-section 1 is provided with a flange 2, on which sits a heating-chamber 3. The foot 1 is provided with a suitable source of heat 4, such as a burner-tube. A shell 5 is suspended in the heater 3 by means of a suitable flange 6. This shell has an inlet or perforation 7 or several inlet-perforations, if seen fit, and a thread or nipple 8, to which is connected outlet 9, passing from the shell through the heater 3. An inhaling-tube 10 connects with outlet 9, and said tube extends below the outlet and has a sputum-trap 11 screwed or removably secured to its lower end below the outlet.

In the shell 5 is suspended a tube 12 by flange 13. The heater 3 has a valve or inlet 14. Medicament being dropped into tube 12 will be volatilized or nebulized by the heat, and the vapors passing through outlet 9 can be inhaled from tube 10. The outer or free end of tube 12 is adapted for connection to a tube or supply of oxygen or the like.

When medicament is contained in tube 12, its outer or open end is preferably closed by a cap or cover. When an oxygen-supply tube is connected to the outer end of tube 12, such outer end is left open. If seen fit, medicament volatilized in the shell can be inhaled together with oxygen or the oxygen or medicinal vapor can be inhaled independently of one another.

By suspending the shell or holder 5 in the top portion of the heater 3 and providing the shell or holder with an inlet 7, having communication with the interior of the top portion of the heater, I am enabled to utilize one source of heat for the purpose of uniformly heating both the shell or holder and the air

which enters the shell or holder through the inlet 7. This is an important feature, which makes my invention advantageous.

The shell 5 may have asbestos or absorbent lining to absorb medicament or prevent heat striking directly through shell 5 onto the medicament. The medicament being inhaled directly from the shell is readily obtained at a suitably-elevated temperature. The oxygen can be forced through tube 12 under any desired suitable pressure.

Instead of being suspended by plain flanges 6 and 13 the shell 5 and tube 12 can have these flanges suitably threaded to securely hold the parts 5 and 12 in place even when under pressure.

In some cases a false bottom or double bottom 16 may be found useful in heater 3, as if bottom 2 should be excessively heated and oxygen should enter the heater 3 such oxygen might cause oxidation of the bottom 2, while false bottom 16 not being so hot is not so susceptible to attack by the oxygen.

A thermometer-holder 15 in air-heater 3 can serve to keep note of the temperature.

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

The combination in an apparatus for preparing medicated vapors, of a closed heating vessel provided with a valved inlet near the bottom of said vessel; means for heating the vessel, a vessel for containing the medicament suspended within the heating vessel at the top of the latter and having an inlet-aperture establishing communication between said medicament vessel and the interior of the heating vessel, and an outlet or inhaling tube passing through the wall of the heating vessel and terminating at its inner end flush with the interior wall of the medicament vessel at a point above the level of the medicament whereby the entering air is led or directed over and above the medicament, the said outlet being led transversely from the medicament vessel above the level of the medicament, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

G. B. UNDERWOOD.

Witnesses:

WM. C. HAUFF,
E. F. KASTENHUBER.