(No Model.)

M. W. HOBBS.

INHALER.

No. 346,477. Patented Aug. 3, 1886.

Fig. 1.

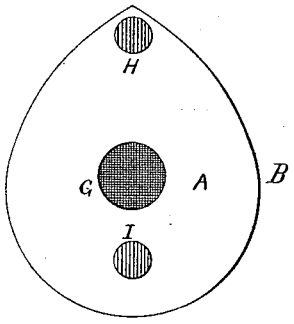


Fig. 2.

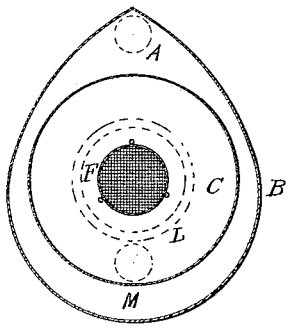
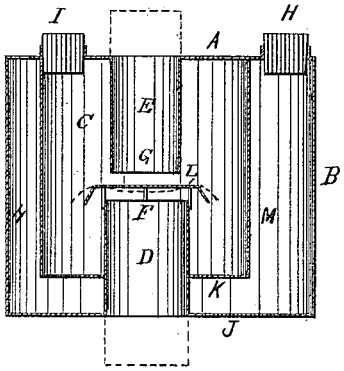


Fig. 3.



Witnesses.
Ben. J. Godeman
Joseph Modlin

Inventor.
Marmaduke W. Hobbs

UNITED STATES PATENT OFFICE.

MARMADUKE W. HOBBS, OF RICHMOND, INDIANA.

INHALER.

SPECIFICATION forming part of Letters Patent No. 346,477, dated August 3, 1886.

Application filed December 26, 1885. Serial No. 186,679. (No model.)

To all whom it may concern:

Be it known that I, MARMADUKE W. HOBBS, of Richmond, in the county of Wayne and State of Indiana, have invented certain Improvements in Inhalers, of which the following is a specification.

My invention relates to an improvement in inhalers constructed with an inner can or receptacle for the ether or other substances, inclosed within an outer can or casing for holding warm or hot water, as hereinafter fully described, and set forth in the specification and claims.

Figure 1 is a top plan. Fig. 2 is a horizontal cross-section. Fig. 3 is a vertical longitudinal section.

A is the top of the cans or casings.

B is the outer casing of the instrument.

C is the inner can, that contains the ether or other substance to be evaporated for inhalation.

D is a tube inserted through the bottoms J K, and extending upward and terminating near the middle of the inner can.

E is a tube inserted through the top A, and terminating also near the middle of the inner can.

The tube D has a wire-gauze cap, F, on its upper end, and the tube E has a similar cap, G, on its lower end. The disk or plate L is interposed between the ends of the tubes D and E. When the ether is poured into the tube E, it passes through the wire-gauze G onto the disk or plate L, and flows over its outer edge into the bottom of the receptacle C. This disk or plate may be made cup-shaped and its edges turned downward, as shown in Fig. 3 by dotted line; or it may be made straight, with its edges turned down, as shown in the figure. This plate L is for the purpose of preventing the ether from falling through the wire-gauze F and escaping before evaporated. The receptacle C is placed within the outer space, M, which space is for the purpose of holding warm or hot water, as may be required. The tubes D E may be allowed to project, as shown in dotted lines.

Corks H and I stop the openings into the outer space, M, and receptacle C. The opening at H is for the purpose of filling and emptying the outer space, M. The opening at I is principally for the purpose of emptying the receptacle C, but may also be used for filling the same, if desired.

The receptacle C is attached to the upper end or plate, A, and suspended within the space M, in order to be entirely surrounded by water except at top. The tube D passes up through the water-chamber M into the receptacle or can C. The ether is warmed by means of the water in the chamber M, and the evaporated ether, in passing out through the tube D, which tube is surrounded by warm or hot water at its lower end, enhances the warmth of the evaporated ether as it passes out through the tube.

By the use of this instrument warm evaporated ether will be received into the lungs, consequently less liable to produce irritation, bronchitis, or inflammation of the lungs. Persons inhaling cold ether sometimes suffer from bronchitis caused thereby.

This instrument is principally for administering ether in surgical operations, but may also be used with facility for administering chloroform or medicated vapors.

This instrument is both cleanly and economical, as it prevents a large portion of the ether from being lost, and any portion remaining in the receptacle after use can be readily discharged and the instrument washed and cleansed. Any suitable tube or mouthpiece may be attached for inhaling; or a sleeve covering the whole instrument may be used. The plate L is a distinctive feature in conjunction with the tubes, and an important part of the invention, from the fact that it facilitates evaporation, and also prevents unevaporated ether from escaping through the tube D onto the face of the patient. An important feature of the tube E is to admit air to be inhaled with the ether, whereby greater safety is secured.

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

1. In an inhaling-instrument, the tubes D E, in combination with the evaporating-plate L, interposed between the inner ends of said tubes, said plate being concave in form and

inserted in an inverted position, with its beveled edge projecting downwardly, whereby the liquid, in dripping from the edge, is prevented from traversing the under side of the plate.

2. The receptacle C and chamber M, provided with openings at H and I, respectively, in combination with the tubes D and E and disk or plate L, substantially as set forth.

MARMADUKE W. HOBBS.

Witnesses:
JOSEPH MODLIN,
WILLIAM T. RUBY.