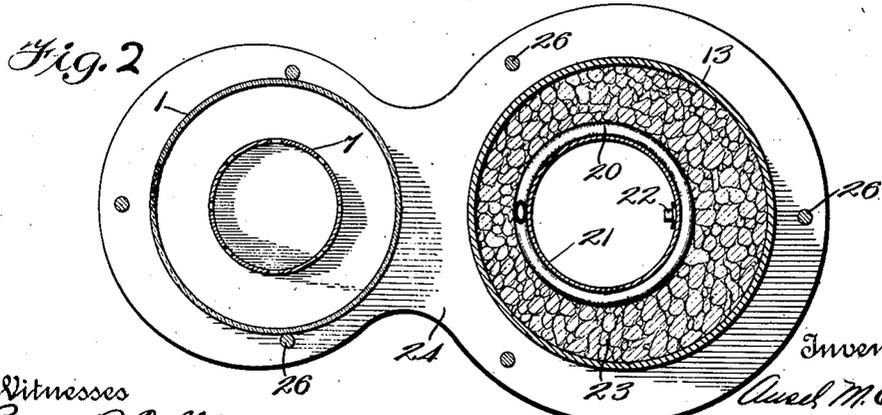
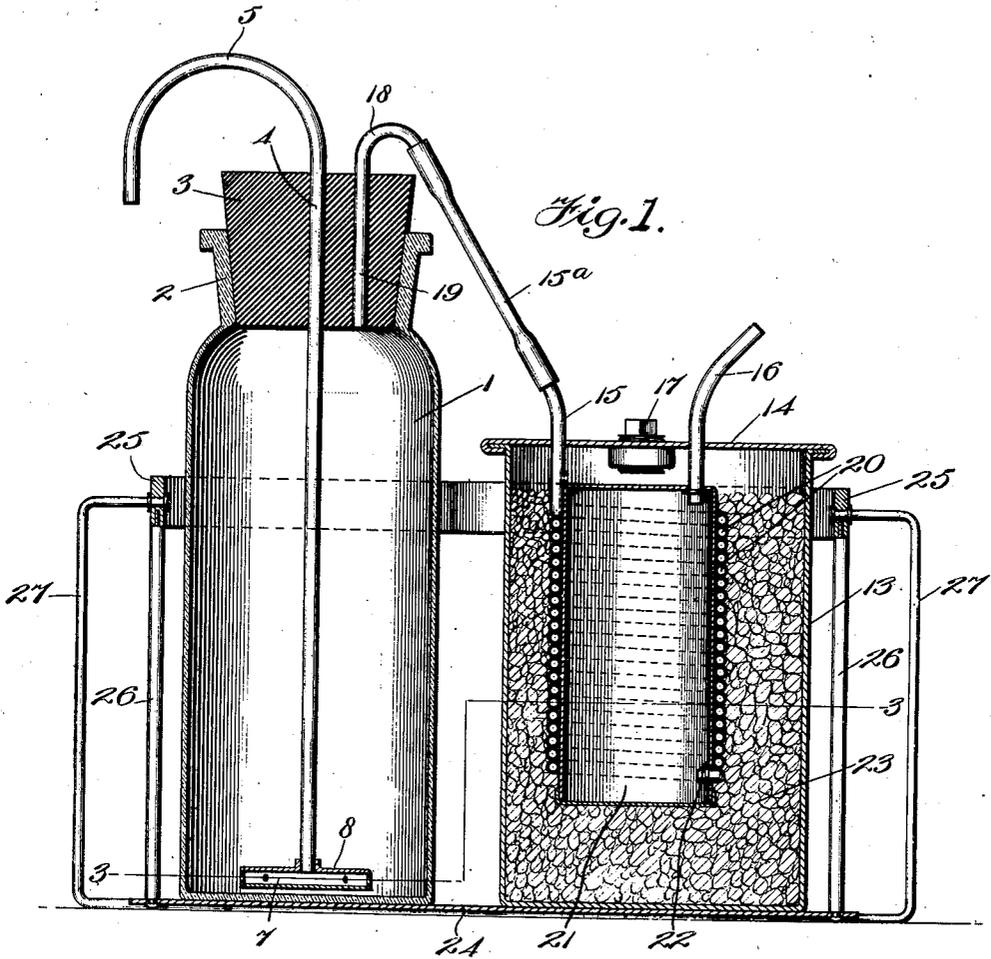


A. M. CAINE.
 APPARATUS FOR ADMINISTERING ANESTHETICS.
 APPLICATION FILED MAY 20, 1912.

1,094,301.

Patented Apr. 21, 1914.



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APPARATUS FOR ADMINISTERING ANESTHETICS.

1,094,301.

Specification of Letters Patent.

Patented Apr. 21, 1914.

Application filed May 20, 1912. Serial No. 698,558.

To all whom it may concern:

Be it known that I, ANSEL M. CAINE, a citizen of the United States, residing at New Orleans, in the parish of Orleans and State of Louisiana, have invented certain new and useful Improvements in Apparatus for Administering Anesthetics; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to apparatus for use in connection with the administering of ether to patients in surgery, and proposes to provide a means which will in a great measure advance the science of anesthesia.

The apparatus disclosed herein has for its purpose to enable the administering of continuous and uniform anesthesia with less salivary and bronchial secretion, and less irritation to the bronchi than is now possible; allowing ready regulation of the anesthetic vapor whether the surgeon is operating on the nose, throat, or elsewhere; permitting of freedom of the hands of the anesthetist to assist the operator or surgeon to a great extent.

With these and other objects in view the invention consists in the novel details of construction and combination of parts more fully hereinafter disclosed and particularly pointed out in the claim.

Referring to the accompanying drawings forming a part of this specification in which like numerals designate like parts in all the views:—Figure 1 is a central longitudinal view thereof; and Fig. 2 is a top plan view in section taken on the line 3—3 of Fig. 2.

Referring to the construction in detail, the same consists of an ether bottle 1 having an ordinary mouth 2 of ground glass, that is fitted with a rubber cork 3 provided with two perforations or apertures extending therethrough. Through one of the apertures 4 is led a long copper tube 5, which extends nearly to the bottom of the jar 1, and which at its upper or outer end is adapted to be connected with a rubber tube and said rubber tube is adapted to be connected with a suitable air pressure device, preferably an ordinary foot bellows, such as may be obtained from dental supply houses.

The lower or inner end of the tube 5 has

connected thereto a distributing device, consisting of a perforated drum 7 of copper, or other suitable metal, through which the forced air passes and commingles with the ether, as will be understood. The top plate 8 of the perforated drum is centrally perforated to receive the lower end of the tube 5, as clearly illustrated in Fig. 1.

The aerated ether from the vessel 1 next passes through a heater where it is further rarefied, and in which condition is administered to the patient. The heater consists of a suitable metallic vessel 13 having a fixed cover plate 14, that is perforated to receive tubes 15 and 16, and a plug 17. The tube 15 connects, by a rubber tube, 15^a, with the short tube 18 that passes through the aperture 19 of the stopper 3, and provides the outlet for the air and ether. The body of the tube 15 is constructed with a spiral tube 20, that is wound around and in close contact with a cylindrical vessel 21, and with which it communicates at the point 22. The vessel 21 is supported substantially centrally within the vessel 13 through the medium of the tubes 15 and 16, and the space between said vessels 13 and 21 is filled with sodium acetate 23, which constitutes the heat retaining medium for the aerated ether that enters within the vessel 21 at 22, and passes therefrom through the pipe 16 to the mouth piece, mask, or cone to be applied to the patient. The sodium acetate or other material used is placed in the vessel 13 through the opening in the cover plate 14, that is normally closed by the screw plug 17.

For convenience in carrying the apparatus and holding the vessels 1 and 13 thereof in proper relative relation, a tray is provided and the same consists of a supporting plate 24 that is secured to a strap 25 by suitable spacing bars 26; and a handle or bail 27 is pivotally connected with the strap 25 of the frame.

In the use of the apparatus, it is necessary only to put several inches of ether in the bottle 1 and tighten the stopper 3. The heater is then to be placed in boiling water for from ten to fifteen minutes when connection is made between the tubes 15 and 18 of the heater and ether bottle. Air is then forced through the tube 5 and the aerated ether caused to pass through the tubes 18, 15^a, and 15, through the spiral tube 20 into the heating chamber 21, which by

this time has become sufficiently heated through the sodium acetate, and in this condition passes through the pipe 16 to the patient, as will be understood.

5 It is obvious that those skilled in the art may vary the details of construction and arrangement of parts without departing from the spirit of my invention, and therefore I do not wish to be limited to such features except as may be required by the claims.

10 What I claim is:—

A heater for use in apparatus for administering anesthetics, comprising a vessel adapted to be heated from an external source, a closed vessel located within the first-named vessel, a pipe entering the first-named vessel and formed with a spiral surrounding the second-named vessel, the in-

ner end of said spiral pipe entering and communicating with the chamber of said second vessel adjacent the bottom thereof, a second pipe passing through the first and second-named vessels and communicating with the chamber of the latter at the top thereof, and a granular heat retaining substance within the space between said vessels adapted to maintain the temperature within the chamber of the second vessel whereby to vaporize the aerated anesthetic liquids, substantially as described.

In testimony whereof, I affix my signature, in presence of two witnesses.

ANSEL MARION CAINE.

Witnesses:

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HENRY HOFFMANN.