

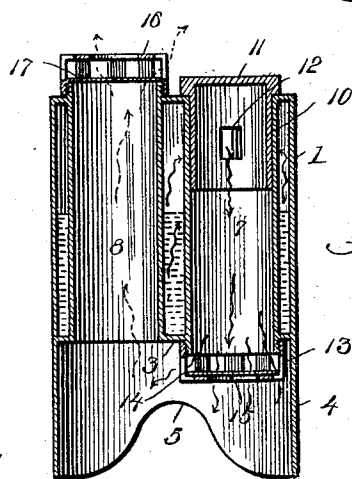
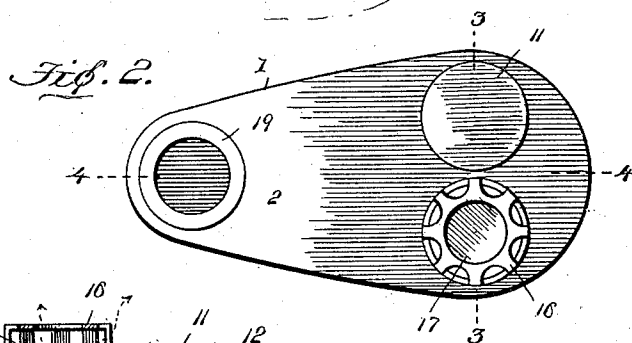
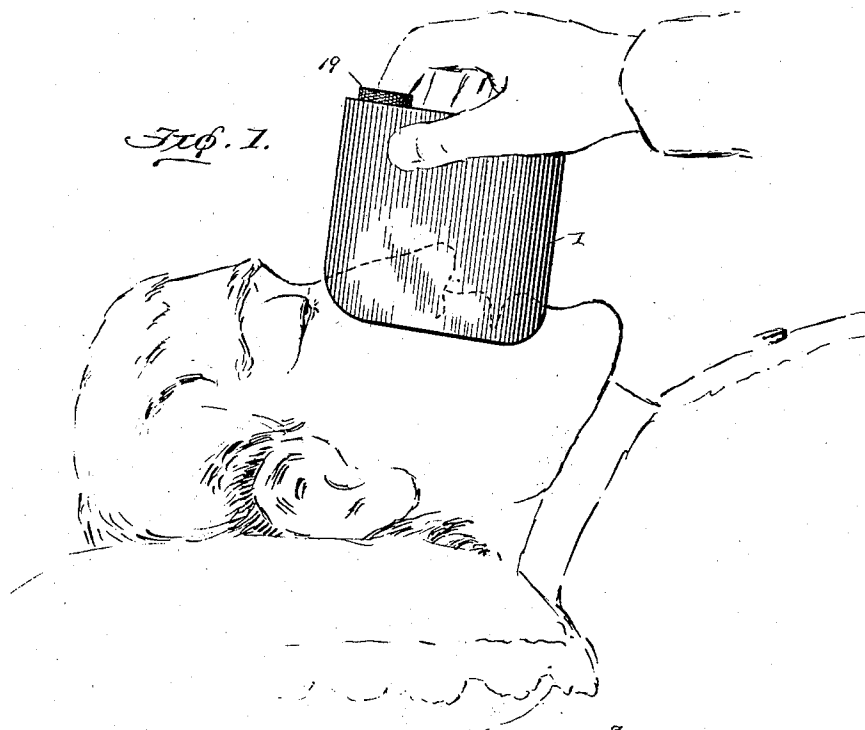
W. B. DEWEES.

INHALER.

(Application filed Sept. 13, 1900.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses
Thos. M. Daley,
J. M. Cleary

Inventor
Wm. B. Dewees,

By *Victor J. Evans.* Attorney

No. 686,270.

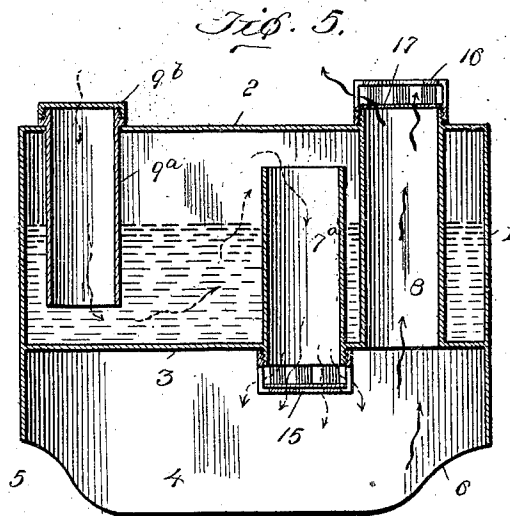
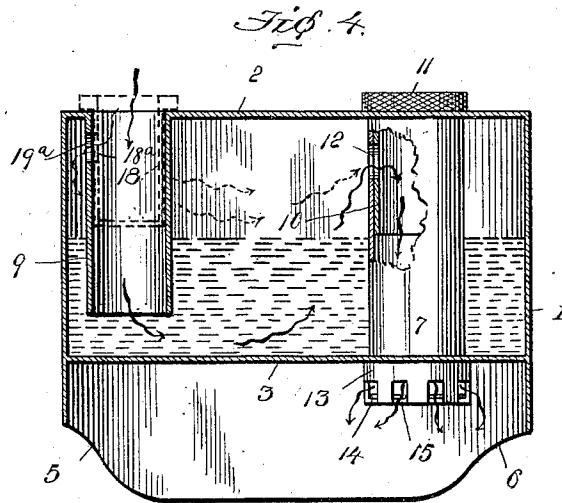
Patented Nov. 12, 1901.

W. B. DEWEES.
INHALER.

(Application filed Sept. 13, 1900.)

(No Model.)

2 Sheets—Sheet 2.



Inventor

Wm. B. Dewees,

Witnesses

Thos. W. Wiley,

F. O. McElroy.

By

Victor J. Evans.

Attorney

UNITED STATES PATENT OFFICE.

WILLIAM B. DEWEES, OF SALINA, KANSAS.

INHALER.

SPECIFICATION forming part of Letters Patent No. 686,270, dated November 12, 1901.

Application filed September 13, 1900. Serial No. 29,947. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM B. DEWEES, a citizen of the United States, residing at Salina, in the county of Saline and State of Kansas, have invented new and useful Improvements in Inhalers, of which the following is a specification.

My invention relates to inhalers adapted especially for administering anesthetics.

10 The primary object of the invention is to provide an inhaler so constructed as to cause the inhaled air to either pass through the anesthetic agent or over the same in contact therewith.

15 A further object is to provide means for insuring the discharge of the inhalations from the lungs, and the automatic opening and closing of the valves employed in the inhaler during the exhalation.

20 The construction of the improvement will be fully described hereinafter in connection with the accompanying drawings, which form a part of this specification.

25 In the drawings, Figure 1 is a side elevation of the inhaler in position for use. Fig. 2 is a top plan view of the same. Fig. 3 is a section on the line 3 3 of Fig. 2. Fig. 4 is a section on the line 4 4 of Fig. 2, and Fig. 5 is a vertical sectional view of a modification.

30 The reference-numeral 1 designates a reservoir or casing, preferably of the oval form shown in Fig. 2 and having a top 2 and bottom 3, from which depends a guard 4, cut away at its ends, as shown at 5 and 6, to adapt it to fit over the nose and chin of the patient.

35 The numerals 7, 8, and 9 designate three tubes arranged within or formed integral with the casing 1. The tube 7, which may be termed the "inhaling-tube," is open at its upper end to receive a closure, comprising a tube 10, having an integral cap 11. The closure-tube 10 is formed with an opening 12, adapted to register with a similar opening in the tube 7, the tube 10 serving as a valve to regulate 45 the admission of air to the tube 7.

50 The lower end of the inhaling-tube is externally screw-threaded to receive an internally-threaded cage or cap 13, having openings 14 for the passage of air charged with the anesthetic agent. Within the cap 13 is located a disk valve 15, preferably of mica and of such size as to be freely movable within

the cap 13 by the force of the inhalations and exhalations, as will be referred to again hereinafter.

55 The tube 8, which may be termed the "exhaling-tube," is open at its lower end, as shown in Fig. 3, and projects at its upper end slightly above the top of the casing. The projecting upper end of the tube 8 is externally threaded 60 to receive a cap 16, having air-openings, and inclosing a disk 17 of mica, which serves as a valve for the tube.

65 The tube 9 is the filling-tube and is preferably located at the smaller end of the casing. It is open at both ends and is adapted to be closed at the upper end by a tubular cap 18, (see Figs. 2 and 4,) which fits within the tube 9, and is formed with an annular horizontal flange 19, adapted to rest upon the top 2 of 70 the casing. The tubular cap 18 is formed with an opening 18^a, (shown in dotted lines in Fig. 4,) which registers with a corresponding opening 19^a in the tube 9.

75 In Fig. 5 I have illustrated a modification of the construction in which the tube 9^a is closed by a screw-cap 9^b instead of by the hollow tubular cap 18. In this modified form of the device the air entering the tube 9^a (after the removal of the screw-cap) is caused to 80 pass through the liquid before reaching the inhaling-tube. The inhaling-tube 7^a in this instance has its upper end open and located within the casing.

85 The utility and mode of operation of the improvement may be described as follows: The reservoir 1 is supplied with ether or other anesthetic liquid, and in the construction shown in Figs. 1 to 4, inclusive, inhalation 90 through the tube 7 will draw the air charged with the liquid into the mouth and nose of the patient, the mica valve 15 automatically opening the lower end of the tube 7. At each inhalation the valve 15 closes the tube 7 and 95 opens the valve 17 for the escape of the inhaled air charged with carbonic-acid gas. Thus at each inhalation a supply of fresh air is insured, which in a great measure avoids the depressing effects of the anesthetic. Where the tubular cap 18 is omitted, the air 100 passes down through the tube 9^a and bubbles up through the liquid before passing to the inhaling-tube.

If desired, the tube 9 or 9^a may be entirely

omitted, in which event the air will enter the reservoir through a suitable opening and pass over the liquid to the inhaling-tube.

I would have it understood that I reserve
5 the right to make all such changes or modifications in the details of the device as may fall within the scope of the following claims.

I claim—

1. An inhaler comprising a casing constituting a reservoir, an inhaling-tube in communication with the reservoir extending beneath the latter, and having a cap at its lower end formed with openings and a valve located in the cap, and an exhaling-tube extending
15 from beneath the reservoir, through the casing, and having a cap at its outer end, formed with openings and a valve located in the cap.

2. An inhaler comprising a casing constituting a reservoir, an inhaling-tube in communication with the reservoir, extending beneath the latter, and having a valve at its

lower end, an exhaling-tube extending from beneath the reservoir through the casing and having a valve at its outer end, and a filling-tube extending to a point beneath the inlet
25 to the inhaling-tube.

3. In an inhaler, the combination with a casing or receptacle, of an inhaling-tube and an exhaling-tube; automatic valves at opposite ends of said tubes; screw-caps formed
30 with air-openings for supporting said valves in position; and a filling-tube extending down within the receptacle to a point below the upper end of the inhaling-tube whereby the air
35 is caused to pass through the liquid in the reservoir before entering the inhaling-tube.

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

WILLIAM B. DEWEES.

Witnesses:

R. P. CRAVENS,

J. W. RICE.