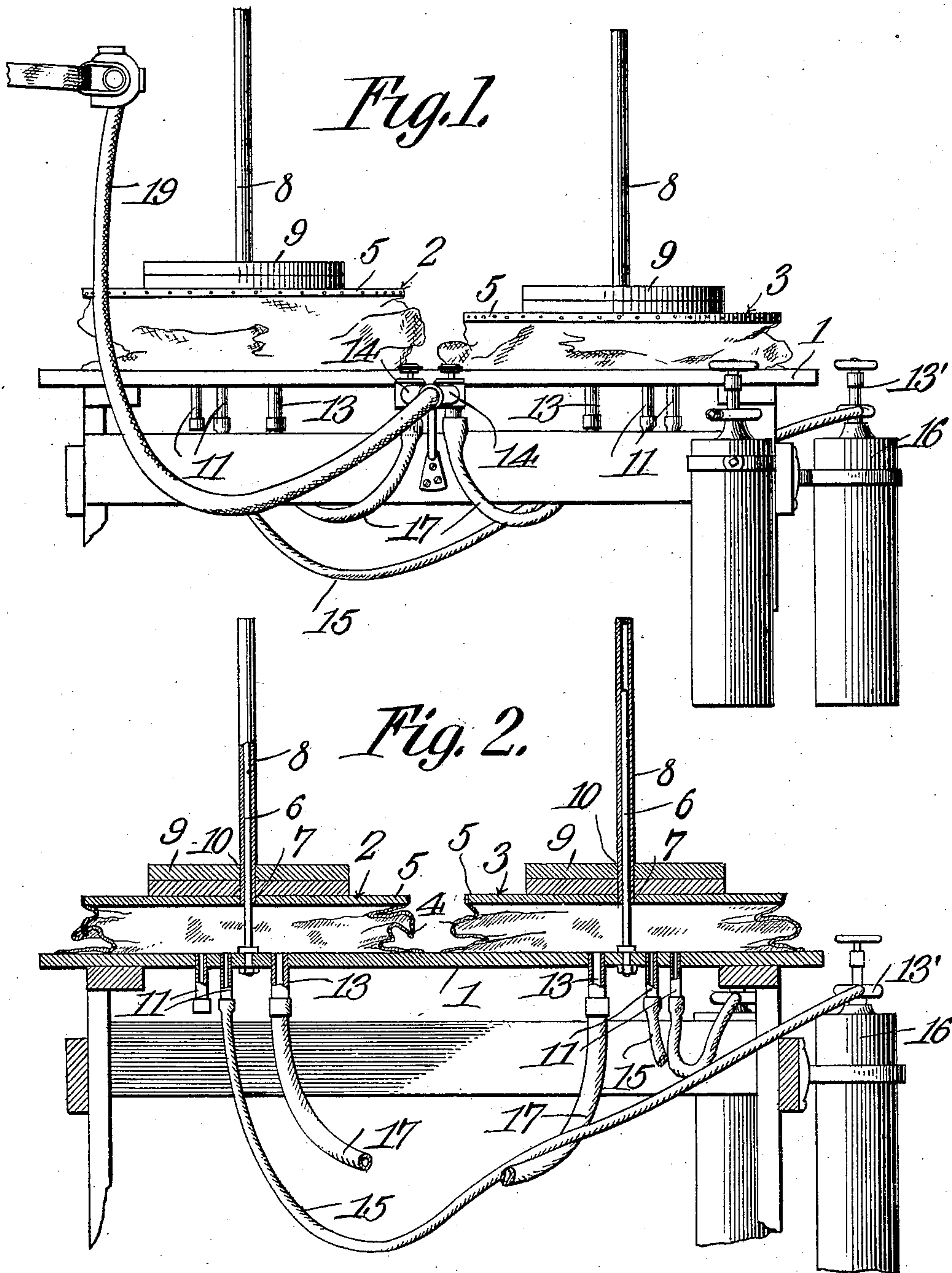


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F. V. BROOKING.
APPARATUS FOR ADMINISTERING ANESTHETICS.
APPLICATION FILED AUG. 29, 1906.



WITNESSES:

E. J. Clark

W. H. Crichton-Clarke

Frederick V. Brooking, INVENTOR.

By

C. A. Snow & Co.

ATTORNEYS

UNITED STATES PATENT OFFICE.

FREDERICK VIVIAN BROOKING, OF MACOMB, ILLINOIS.

APPARATUS FOR ADMINISTERING ANESTHETICS.

No. 855,931.

Specification of Letters Patent.

Patented June 4, 1907.

Application filed August 29, 1906. Serial No. 332,500.

To all whom it may concern:

Be it known that I, FREDERICK VIVIAN BROOKING, a citizen of the United States, residing at Macomb, in the county of McDonough and State of Illinois, have invented a new and useful Apparatus for Administering Anesthetics, of which the following is a specification.

This invention relates to apparatus for administering anesthetics.

In using anesthetics for different surgical and dental purposes, it is necessary, in order to secure the best results, and also to change the character of the anesthetic for different purposes, to employ several kinds of gases or anesthetics which it is necessary to mix together in a suitable mixing chamber before supplying the same to the patient. In practice, it is frequently necessary or desirable to feed a relatively large proportion of one gas and a relatively small proportion of another gas into the mixing chamber. The proper accomplishment of this result has been heretofore attended with certain difficulties on account of the necessity of maintaining constantly an equal pressure in the apparatus, which pressure would be almost certain to vary if a quantity of one kind of gas were first fed to the mixing chamber and a larger quantity of another kind of gas were afterward fed thereto.

The object of the present invention is to provide an apparatus for administering anesthetics comprising a mixing chamber and means for supplying varying proportions of different gases through said mixing chamber to the patient.

With the foregoing and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of invention herein disclosed may be made within the scope of the following claims without departing from the spirit of the invention or sacrificing any of its advantages.

In the accompanying drawings forming part of this specification: Figure 1 is a front elevation of an apparatus constructed in accordance with the invention; and Fig. 2 is a vertical section, partly in elevation.

Like reference numerals indicate corresponding parts in the different figures of the drawings.

The reference numeral 1 indicates a base or support on which is mounted a plurality of pressure regulators, indicated generally by 2 and 3. Each of the pressure regulators 2 and 3 preferably is in the form of a collapsible chamber having a flexible circular wall 4 which is formed of any suitable material impervious to gas, such, for example, as leather. The flexible wall 4 of each pressure regulator is suitably fastened to the base 1, as shown. The upper end of each pressure regulator consists of a head 5, formed of wood, metal, or other stiff material. The base 1, inside each of the pressure regulators 2 and 3, is provided with a guide 6 which preferably is in the nature of a vertically extending rod adapted to pass at its upper end through an opening 7 in the center of the head 5. Mounted upon the head in such a manner as to effectually prevent the escape of gas, is a sleeve or tube 8 which is adapted to receive the guide 6 so as to permit expansion and contraction of the pressure regulators.

In order to provide means for varying the pressure in the different regulators 2 and 3, I employ one or more weights 9 which preferably are annular in shape and are formed with central openings 10 to receive the sleeve or tube 8 of the pressure regulator. It will be obvious that as many of the weights 9 as necessary may be placed upon the head 5 of each pressure regulator, said weights being securely held in position by the tube 8.

Each of the pressure regulators 2 and 3 preferably is provided with one or more inlets 11 and an outlet 13, said inlets and outlets being in the nature of small pipes extending upwardly through the base 1 into the pressure regulators. Connected in any suitable manner with each of the inlets 11 of each pressure regulator, is a tube 15 which is in communication with a cylinder 16 having a valve 13' and adapted to contain some suitable gas or anesthetic, it being understood that one or more of the cylinders 16 are provided for each of the pressure regulators 2 and 3. The outlet 13 of each pressure regulator preferably is adapted to receive a tube 17 which communicates with any suitable form of mixing device or chamber having a valve 14 and a supply pipe 19 leading to any suitable nasal or mouth piece, as shown.

Constructed as described, the manner of using the improved apparatus is as follows: Let it be supposed that the cylinders 16 contain different anesthetics or gases, and that

it is desired to supply a proportionately large amount of gas from the cylinder which is connected with the pressure regulator 2 and a proportionately small amount of gas from the cylinder which is connected with the pressure regulator 3. This result can be accomplished by opening the valves 13' near the proper cylinders 16 containing the two different gases, allowing one cylinder to discharge gas or anesthetic into the pressure regulator 2 and the other cylinder to discharge gas into the pressure regulator 3. The valves 14 of the mixing chamber are then manipulated in such manner as to allow the proper proportions of the different gases to be fed to the supply tube 19 which conducts the mixed gases, or either gas alone, if desired, to the ordinary nasal or mouth inhaler which is applied to the face of the patient. These nasal and mouth inhalers are generally constructed so that the gases flow freely through them when the patient inhales, but valves close in them and allow the exhaled gases to escape in the atmosphere of the room. During the time the patient is inhaling the gas or gases, the valves 14 may be manipulated in such manner as to increase or diminish the proportions of either gas, or stop the flow of either gas and in that manner give either gas alone, either before the patient becomes anesthetized or afterward. If for any reason it becomes necessary to cause the gas from one pressure regulator to flow toward or through the mixing chamber faster than that from the other, one or more weights 9 are placed on the top of the pressure regulator from which the increased pressure is desired. If for any reason, a greater pressure of both gases toward the patient is desired, rings or weights 9 are placed on both pressure regulators equally.

An important advantage attending the use of the collapsible pressure regulators 2 and 3 is that when the apparatus is not in use, said regulators will be in collapsed condition so as not to contain any air, for which reason, when the valves 13' are opened and the gas is fed to the regulators, there will be no air within the same to dilute the gases, or, at least, the smallest possible amount.

It will be understood that if desired the guides 6 of the pressure regulators may be mounted on the heads 5 and the tubular members 8 on the base 1, in order to reverse the construction.

The improved apparatus of this invention is strong, simple, durable and inexpensive in construction as well as thoroughly efficient in operation.

What is claimed is:

1. An anesthetic administering apparatus comprising a base, a plurality of pressure regulators mounted on said base and each consisting of a flexible wall and a head having a perforation, a guide mounted within each of said pressure regulators and extending through the perforation in the head thereof, a tube connected with the head of each regulator and surrounding the guide, and removable weights held upon the head of each regulator by the tube thereof.
2. An anesthetic administering apparatus comprising a base, a plurality of pressure regulators mounted on said base and each having a valve controlled inlet pipe and a valve controlled outlet pipe, each of said regulators comprising a flexible wall, a head, a guide extending through said head, a tube connected with said head and surrounding said guide, and weights adapted to be removably held upon said head by means of said tube.
3. An anesthetic administering apparatus comprising a base, a plurality of pressure regulators mounted on said base and each having a plurality of inlet pipes and an outlet pipe, each of said regulators comprising a flexible wall, a head, a guide extending through said head, a tube connected with said head and surrounding said guide, and weights adapted to be removably held upon said head by means of said tube.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

FREDERICK VIVIAN BROOKING.

Witnesses:

WILL. J. BUSSETT,
EARNEST HYDE.