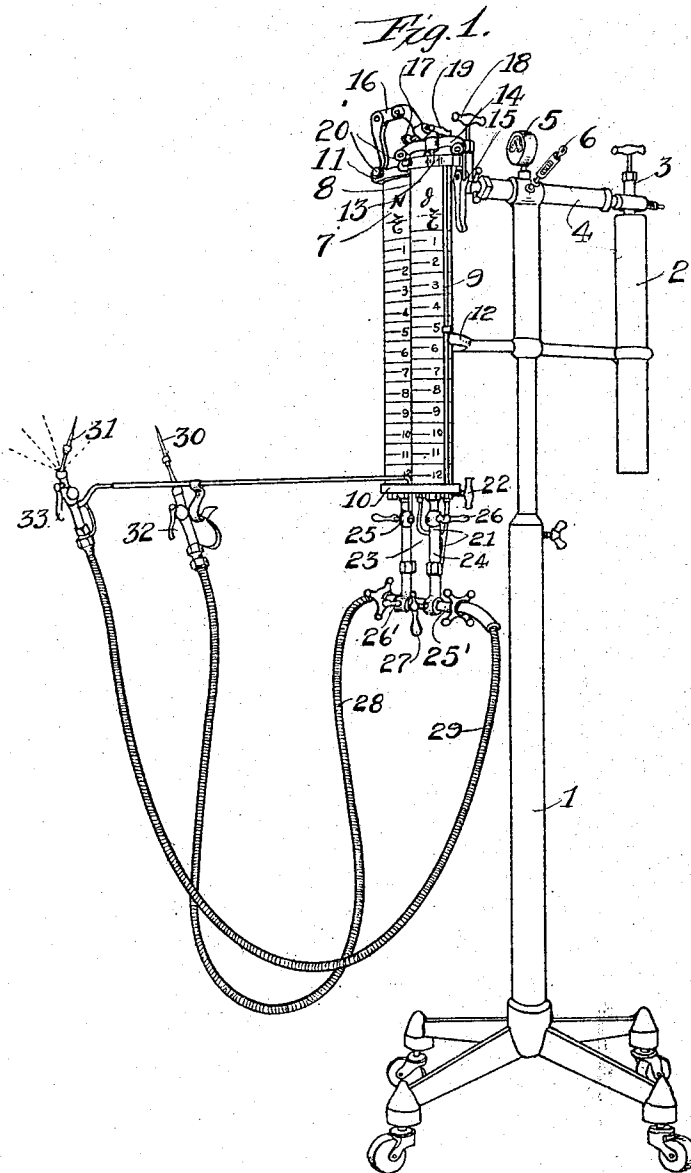


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APPLICATION FILED OCT. 15, 1915.

1,211,304.

Patented Jan. 2, 1917.
2 SHEETS—SHEET 1.

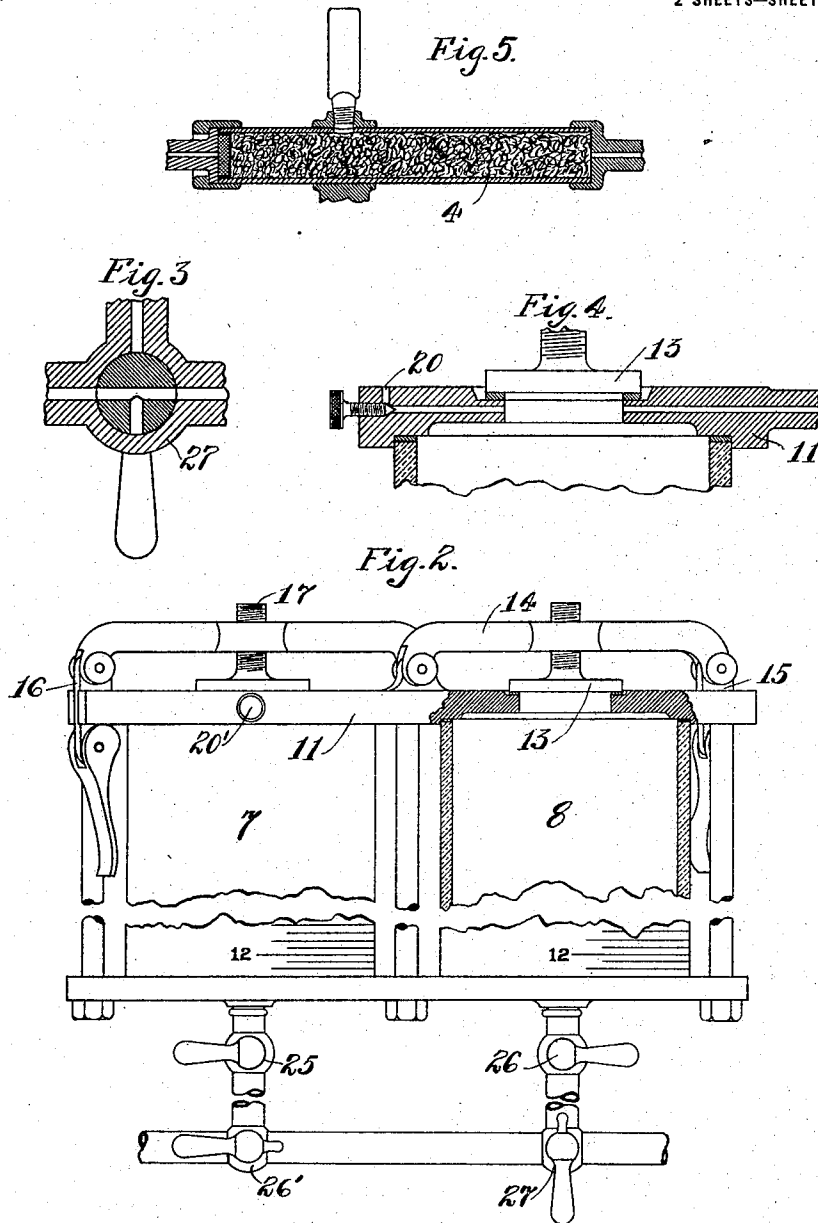


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LOCAL-ANESTHESIA MACHINE.

1,211,304.

Specification of Letters Patent.

Patented Jan. 2, 1917.

Application filed October 15, 1915. Serial No. 56,001.

To all whom it may concern:

Be it known that I, ROBERT E. FARR, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented new and useful Improvements in Local-Anesthesia Machines, of which the following is a specification.

This invention relates to local anesthesia machines and has as one object to provide a machine that can be used quickly, promptly and safely in producing local anesthesia.

Another object of my invention is to provide in the machine means for hypodermically injecting under pressure a certain drug or drugs that will cause local anesthesia, having as a part of the machine a source of compressed air or gas to drive the drug through the hypodermic needle into the part of the patient where the anesthesia is to be produced.

Another object of my invention is to provide a supply of the drug to be used in convenient form where it may be observed and the supply maintained under pressure at the will of the operator.

Another object of my invention is to provide multiple reservoirs to contain the drugs to be used and means for selecting one of the drugs or combining any number of drugs at the will of the operator.

Another object of my invention is to provide means whereby two operators may use the same machine at the same time independently of each other.

Another object of my invention is to provide a gage that will show at all times the pressure in the machine, and also a safety valve that will prevent the pressure from exceeding a certain predetermined amount.

Another object of my invention is to provide a filter so that moisture or impurities cannot be introduced with the drugs to be used.

With these and incidental objects in view, the invention consists in certain novel features of construction and combination of parts, the essential elements of which are set forth in appended claim and a preferred form of embodiment of which is hereinafter described with reference to the drawings, which accompany and form a part of this specification.

In the drawings Figure 1 is a perspective

view of the machine embodying my invention. Fig. 2 is an enlarged view of the top portion of the reservoir, with clamping rods, stoppers and vents, while Fig. 3 is an enlarged view of one of the three way valves 26' and 27. Fig. 4 is an enlarged sectional view of the top portions of the reservoirs, and Fig. 5 is an enlarged sectional view of the filter pipe 4 passing through the T of the standard.

A standard 1 supporting the machine is preferably mounted on rollers and is adjustable in height.

A pressure tank 2 for carbon dioxide or any suitable pressure means communicates through a valve 3 with a filter pipe 4, which is filled preferably with cotton filter, so as to cleanse and dry the air or gas used to produce the pressure required for the machine. A pressure gage 5 shows at all times the pressure on the machine in use, and a safety valve 6, which may be set at any desired pressure will prevent the pressure on the machine from exceeding the desired amount.

Reservoirs 7 and 8, preferably of glass and graduated to show the volumetric contents, are supported by clamping rod 9 between the header 10 and the header 11 in a substantially air-tight manner, and a support 12 is provided to brace the clamping rod 9 so an undue strain cannot be thrown upon the reservoirs. The header 11 has a central opening for each reservoir, which is adapted to be closed in an air-tight manner by the stopper 13 pivotally mounted on the clamping member 14, which may be clamped down air-tight over the opening by the toggle locking member 15, a similar arrangement for the reservoir 7 being shown at 16, with the stopper 17 open ready for filling the reservoir 7. The filter pipe 4 communicates through valves 18 and 19, respectively, with the reservoirs 7 and 8, so that a pressure may be supplied to the contents of these reservoirs, and vents 20 controlled by needle valves 20' are provided in the header 11, so the pressure in the reservoirs may be relieved gradually when it is necessary to open the stopper 17 for filling the reservoirs. The contents of the reservoirs may be drained at any time through the drain pipes 21 under the control of the shut-off valves 22. Through the header 10 the reservoirs 7 and 8 open, respectively, to pipes 23 and 24 under

the control of the shut-off valves 25 and 26. The pipes 23 and 24 being joined to the distributing pipe 25' and three way valves 26' and 27 controlling these connections, the contents of the reservoir 7 may be lead over to the flexible pipe 28 when the valve is turned in that direction, or to the flexible pipe 29 when the valve is turned in that direction, or communication may be closed entirely by turning the valve at right angles to the distributing pipe 25'. Similarly the contents of reservoir 8 may be distributed by valve 27, and hence the contents of either reservoir may be led to either of flexible pipes 28 or 29, or to both, or the contents of the two reservoirs may be mixed and lead to either of the flexible pipes 28 or 29, or both. Hypodermic needles 30 and 31 controlled by the thumb valves 32 and 33 are provided at the other end of the flexible pipes 28 and 29, which are preferably of metallic tubing lined with rubber, so that anesthetics, such as novocain in one reservoir, and quinin, urea and hydrochlorid in the other of the reservoirs may be hypodermically injected, either singly or in combination, by one or more operators at the same time for producing local anesthesia.

While I have described my invention and illustrated it in one particular design of machine, I do not wish it understood that I limit myself to this construction, as it is evident that the application of my invention may be varied in various ways within the scope of the following claim.

Claim:

In a machine for producing local anesthesia, the combination of a pressure tank, a pair of anesthetic reservoirs, a filter chamber communicating between said pressure tank and said reservoirs, a filter in said filter chamber, a pressure gage for showing the pressure within said filter chamber, an adjustable safety valve in said filter chamber, a pair of valves for opening and closing communication between said filter chamber and said anesthetic reservoirs, a header at the top of said anesthetic reservoirs having a pair of openings therein through which said anesthetic reservoirs may be filled, a stopper to close each of said openings, means for clamping each of said stoppers, whereby said stoppers may be locked in a closed position, distributing pipes at the other end of said anesthetic reservoirs and communicating therewith, a pair of flexible connections from said distributing pipes, a pair of hypodermic needles, one at the other end of each of said flexible connections, a pair of three-way valves in said distributing pipes by which communication may be opened from either or both of said anesthetic reservoirs to either or both of said hypodermic needles, a drain at the bottom of each of said reservoirs, a valve controlling each of said drains, and an adjustable vent at the top of each of said anesthetic reservoirs, whereby pressure in said reservoirs may be gradually reduced.

ROBERT E. FARR.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D C."