

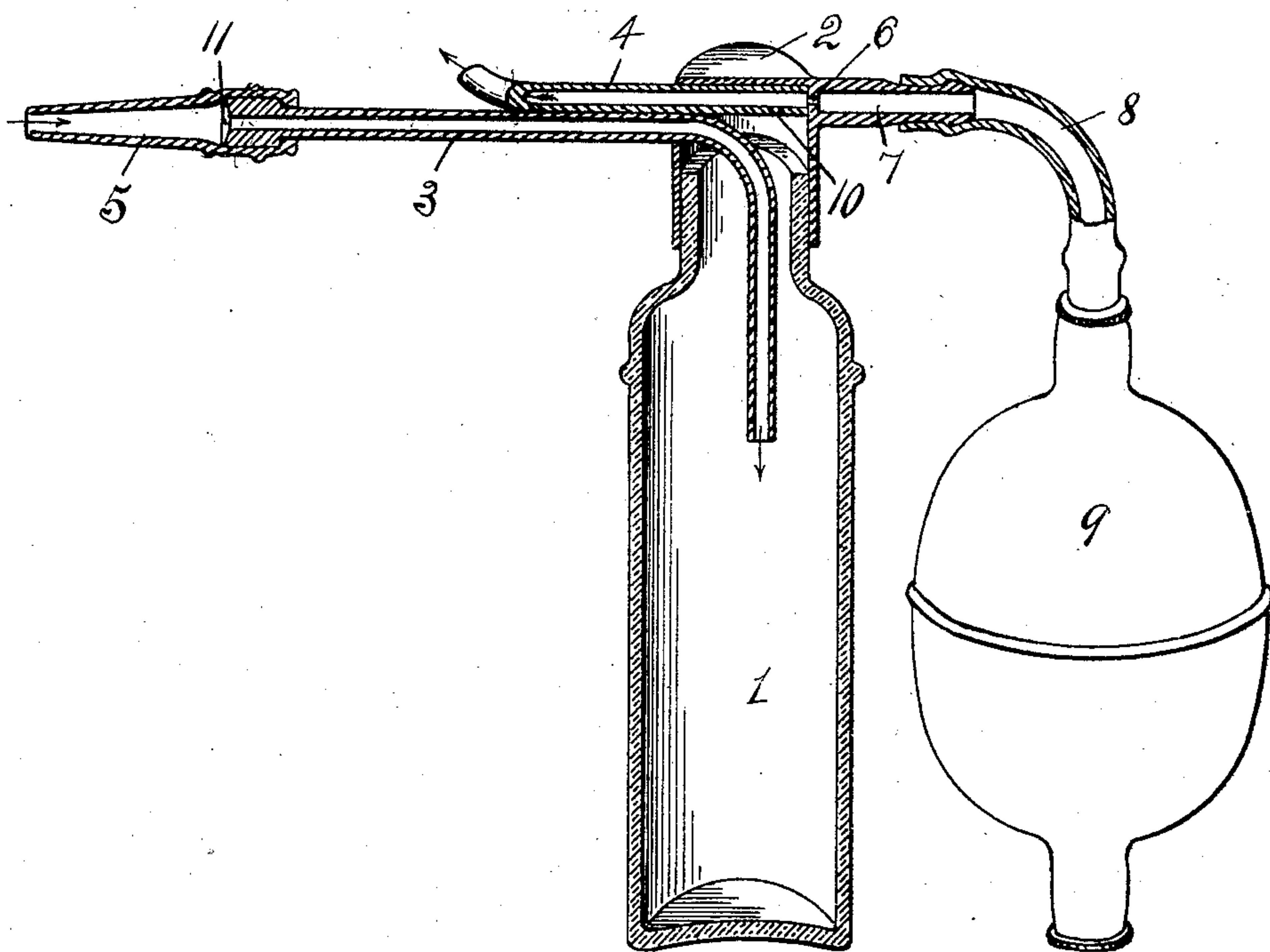
No. 869,262.

PATENTED OCT. 29, 1907.

E. PYNCHON.

ASPIRATOR.

APPLICATION FILED DEC. 10, 1906.



WITNESSES:

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UNITED STATES PATENT OFFICE.

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ASPIRATOR.

No. 869,262.

Specification of Letters Patent.

Patented Oct. 29, 1907.

Application filed December 10, 1906. Serial No. 347,150.

To all whom it may concern:

Be it known that I, EDWIN PYNCHON, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Aspirator; 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, reference being had to the accompanying drawing, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to apparatus for use by physicians, surgeons or others to effect a removal of fluids from cavities of the body; and it has for its object to provide a simple, cheap and efficient apparatus of this class which can be easily operated to siphon a fluid into an associated receiving vessel, or serve as an artificial leech, or as a suction device for dry cupping or the production of Bier's passive congestion.

A further object of my invention is the provision of an apparatus of this nature which, in addition to serving as a sucking agent or leech, can also be operated to cause air to be forcefully ejected therefrom through the suction tube for the purpose of cleaning or freeing it of particles of matter or liquid which may become lodged therein while in use.

The operation, arrangement and construction of the parts of the invention are fully described in the following specification and illustrated in the accompanying drawing in which is shown in perspective a central vertical section of an apparatus embodying the same.

Referring to the drawing, 1 designates any suitable style of vessel into which the fluid is to be drawn, and 2 a cap removably closing the neck thereof. This cap carries the siphoning or suction tube 3 and the air-tube 4, the former penetrating the side of the cap and having its inner end extending down within the vessel, and the latter penetrating the side of the cap adjacent the point of entrance of the tube 3 and extending thereacross with the inner end terminating against the opposite wall thereof. The tube 3 has its outer end equipped with a nozzle 5 of rubber or other suitable material, which is adapted to be inserted within the cavity to be drained, while the tube 4 has its outer end bent at an angle to the contiguous portion of the tube 3 so as to direct the discharge of air laterally therefrom. Secured to the side wall of the cap 2 in direct opposition to the inner terminal of the tube 4 and communicating therewith through a restricted orifice 6 in said wall is a nipple 7, to which the flexible-tube 8 leading to a bulb 9, compressed air tank or other suitable fluid forcing means, is attached. Provided through the casing of the tube 4 adjacent its inner end or within the cap 2 is a small orifice 10, which opens communication be-

tween the tube 4 and the interior of the vessel 1, thus causing air within the vessel to be drawn within the tube 4 due to suction created in the tube by the rush of air therethrough as the bulb 9 is operated and a consequent vacuum created in the vessel which must be filled by air or fluid being drawn through the tube 3, or in other words causing a positive current of air through the tube 4 to induce a negative current through the tube 3 into the vessel. The opening from the nipple 7 into the tube 4 is made smaller than the channel in said tube to allow for an expansion of the air passing there- through so that the expanding pressure of the air will not force air into the vessel 1 through the orifice 10 instead of drawing air therefrom.

The operation of the apparatus is as follows:—The nozzle 5 being inserted within the cavity to be drained with its nose submerged in the fluid the bulb 9 is operated to create a forced current of air through the tube 4. The discharge of the air through the restricted orifice 6 into the larger channel of the tube 4 creates a suction in said tube which draws the air from the vessel 1 through the orifice 10 and discharges it from the end of said tube. This discharge of air from the vessel causes a vacuum therein which, during the operation of the bulb can only be filled by the entrance of fluid or air through the tube 3, thus creating a suction there- through and causing the fluid in which the nose of the nozzle is submerged to be drawn into the vessel. If it is desired to discharge the liquid contained in the vessel through the tube 3, or to force air through said tube for the purpose of cleaning or removing particles of matter or liquid remaining therein after being used, the same may be accomplished by stoppering the discharge end of the tube 4 by placing a finger thereover, as an operation of the bulb will then force air into the vessel through the orifice 10 in the tube 4, thus effecting a discharge either of liquid, should the end of the tube 3 be submerged therein, or of air through said tube 3.

When the instrument is to be used as an artificial leech, the nozzle 5 is removed and the end of the tube 3, which is concaved as at 11 for the purpose, is placed against the part of the body to be operated on.

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

1. The combination with a closed receptacle, of a tube having one end opening within the receptacle, a tube through which fluid is passed under pressure, said tube having communication intermediate its ends with the interior of the receptacle, whereby the fluid current causes air to be drawn from the receptacle and induces a current through the first mentioned tube into the receptacle.

2. The combination with a closed receptacle, of a tube communicating with the interior of the receptacle and having a nozzle at its outer end, a tube having a small perforation through its casing in communication with the interior of the receptacle, and means for forcing a fluid through

said perforated tube whereby to create a suction through the perforation and induce a current through the first mentioned tube into the receptacle.

- 5 3. The combination with a receptacle having an opening therein, of a stopper for the opening, a tube carried by the stopper and having one end opening without and the other end opening within the receptacle, a second tube carried by the stopper and having both ends opening without the receptacle and a small perforation through its sides in communication with the interior of the receptacle, and means for creating a forced draft through said second tube, whereby to create a suction through said perforation and a consequent vacuum in the receptacle and induce a current through the first mentioned tube into the receptacle.
- 10 4. In combination, a vessel having an opening therein, a cap for closing the opening, a tube carried by the cap and having one end opening without and its other end extending down and opening within the vessel, a tube extending through the cap with both ends opening without the same and having a restricted orifice opening into the vessel and a partition disposed between said orifice and the inlet end of the tube and provided with a restricted orifice, and means attached to the inlet end of said latter tube for forcing a fluid therethrough for creating a vacuum in the
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receptacle and inducing a siphoning action through the first mentioned tube into the receptacle. 25

5. An aspirator comprising in combination with a closed receptacle, a tube having both ends opening without the receptacle and communicating intermediate its ends with the receptacle, and a tube leading into the receptacle, said latter tube having a current induced through it into the receptacle by a current passing through the first mentioned tube. 30

6. An aspirator comprising in combination a closed receptacle, a siphon tube leading into the receptacle, an air-tube associated with the receptacle and having communication with the interior thereof whereby to create a siphoning action through the siphon tube when a current is forced through the air-tube, and means for creating a current through the air-tube. 35 40

In testimony whereof I have hereunto signed my name to this specification in the presence of two subscribing witnesses.

EDWIN PYNCHON.

Witnesses:

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EDWARD T. WRAY.