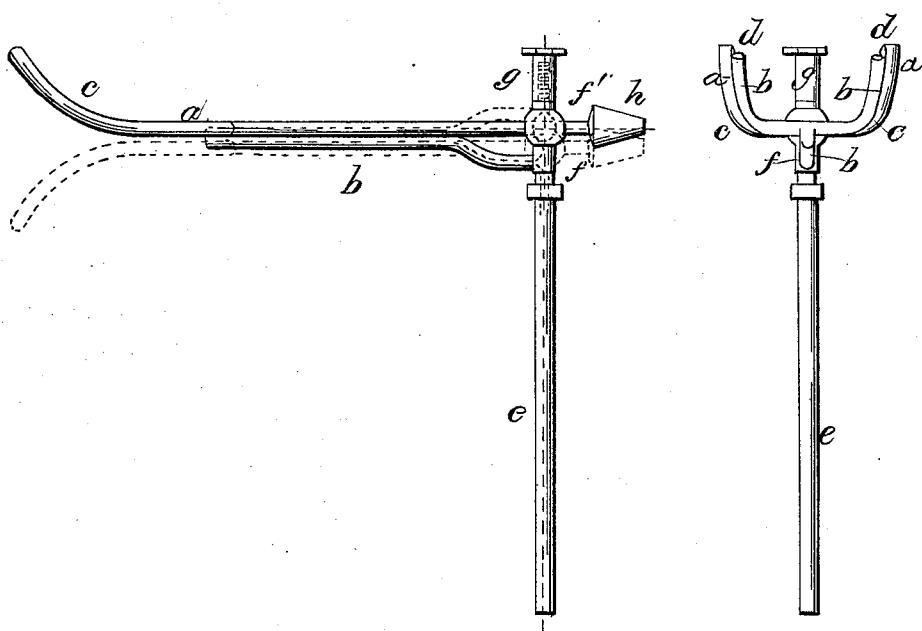


C. H. Eccleston,

Atomizer.

No 68,614. Patented Sep. 10, 1867.



Inventor:

C. H. Eccleston by
Crosby Hall and Goule.

Witnesses:

J. B. Kidder
W. W. Frothingham

United States Patent Office.

C. H. ECCLESTON, OF OXFORD, NEW YORK.

Letters Patent No. 68,614, dated September 10, 1867.

IMPROVED ATOMIZING TUBE.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, C. H. ECCLESTON, of Oxford in the county of Chenango, and State of New York, have invented an improvement in Atomizing Tubes; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of my invention sufficient to enable those skilled in the art to practise it.

In the use of atomizing tubes, (the general construction and mode of operation of which for producing local anaesthesia is now well known,) and particularly where the instruments are employed in dentistry, it is desirable to have an instrument in which the direction of the impinging atomized current may be changed, as, for instance, from such disposition of the tubes as will direct the current against one jaw, to a disposition of the same tubes which will cause the spray to be properly thrown against the opposite jaw, and the manner of constructing an instrument to produce such change forms the subject of my present invention.

My invention consists in so applying the combined air and fluid-tubes to the vertical fluid-tube or leg that is placed in the liquid-containing cup, that the position of said air and fluid-tubes, and the consequent angle and direction of the atomizing points, may be reversed with reference to such fluid-leg.

The drawing represents an instrument embodying the invention, said instrument being one having a bifurcation at its atomizing points to adapt it to the simultaneous freezing of the opposite sides of a jaw or other member of the body thin enough to require or to render it sometimes desirable to freeze both surfaces, the invention being, however, equally applicable to instruments not having such bifurcation, but having the atomizing end of the tube bent or set at an angle to the main part of the tubes, for the purpose of giving to the current an upward or downward or a lateral direction.

α denotes the air-tube, β the fluid-tube, c the fork, d the atomizing points or jets, shown as curved in an upward direction. e is the fluid-leg, or the vertical continuation of the fluid-tube β , which is placed in the cup or vessel containing the volatile liquid to be atomized. Instead of making this leg integral with the main tube β , I attach it thereto by a joint, so that the tubes α and β may be connected to and disconnected therefrom, or may be reversed in position relatively thereto, to bring the atomizing end of the tubes into the reversed position shown by the red lines at A. This connection is shown as made by a screw-joint, the upper end of the tube e having a screw-thread formed in it, which screws upon a corresponding thread cut on the outer surface of an arm or shank, f , extending from the tube β . On the upper side of the tubes α β is a similar tubular screw-shank or extension, f' , (the tube in which connects with the tube α , as shown by the dotted line in blue,) and this shank is covered by a fluid-tight and air-tight screw-cap, g , the two screw-shanks f f' interchangeably fitting the screw-thread in the top of the leg e and that in the cap g , so that (as will be readily understood) by unscrewing the cap and the leg the pipes α β may be reversed in position, as shown by the red lines, the screw-shank f' being then connected to the leg e and the shank f covered by the cap g . The air pipe α extends straight out to the nozzle h , by which it is connected to the air-supplying apparatus, air passing through the same, as denoted by the dotted line in red, and to make a connection between the fluid-leg and the shank f' the pipe β extends through from one shank to the other, being made of bulb-form where it passes the pipe α , and chambered out between the pipes α and β , the fluid passing from the leg to each shank, as shown by the dotted lines in blue.

Instead of this specific construction, the contiguous tubes α and β may be attached to the tube e by a ground or a rubber or elastic joint, so that the tubes by rotation upon such joint may be brought to the desired change of position; but for general use I prefer the construction shown, and consider it the most reliable and practical.

I claim an atomizing instrument, in which the contiguous air and fluid tubes are connected to the vertical or cup tube, so as to be reversible with relation thereto, substantially as set forth.

C. H. ECCLESTON.

Witnesses:

HORATIO H. COOKE,
BRADFORD GREENE.