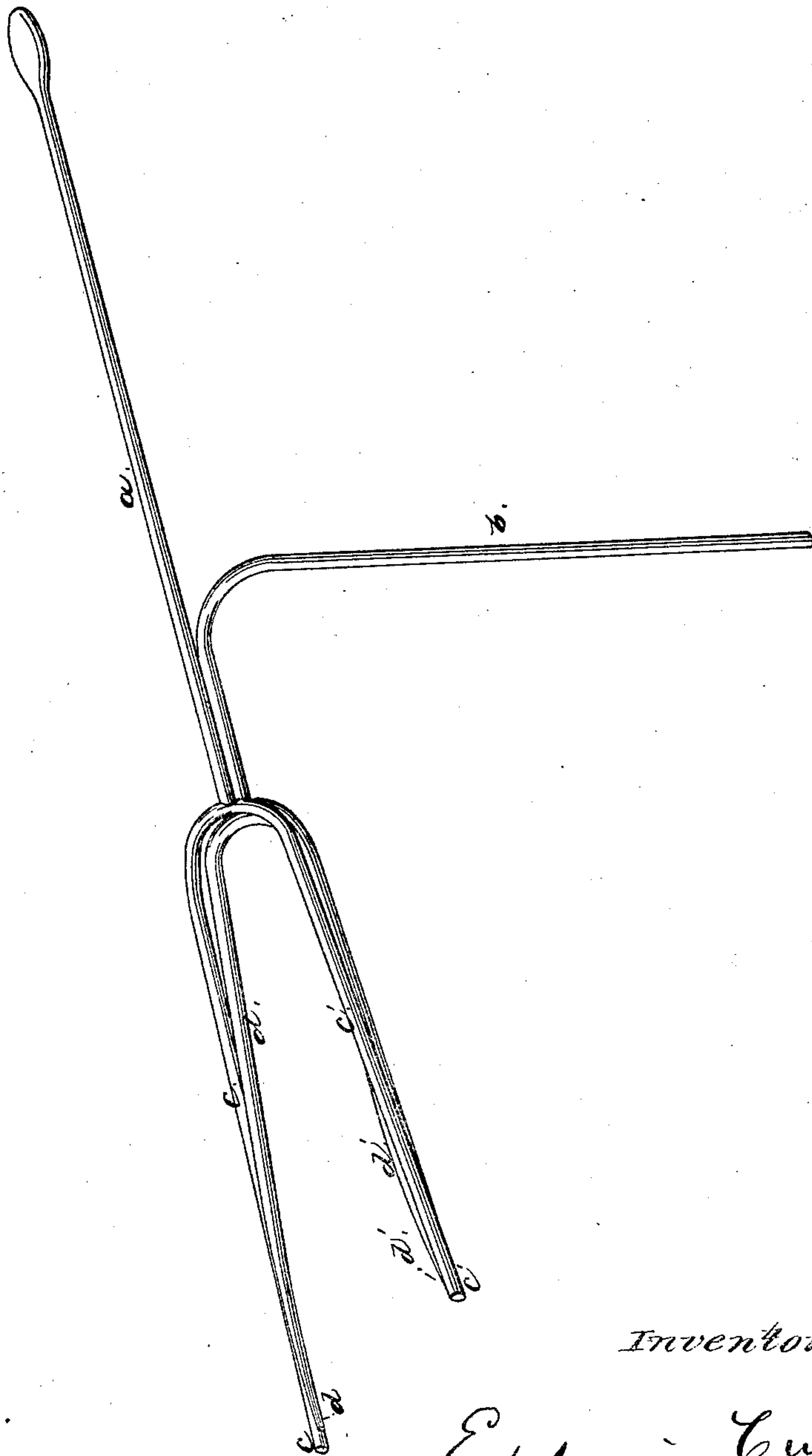


*E. Cutter,*

*Producing Dental Anæsthesia.*

*N<sup>o</sup> 59,562.*

*Patented Nov 13, 1866.*



*Witnesses:*

*W. Crosby.  
W. Gould.*

*Inventor:*

*Ephraim Cutter.*

# UNITED STATES PATENT OFFICE.

EPHRAIM CUTTER, OF WOBURN, MASSACHUSETTS.

## IMPROVEMENT IN DENTAL ANÆSTHETIC INSTRUMENTS.

Specification forming part of Letters Patent No. 59,562, dated November 13, 1866.

*To all whom it may concern:*

Be it known that I, EPHRAIM CUTTER, of Woburn, in the county of Middlesex and State of Massachusetts, have invented an Improved Instrument for Producing Dental Anæsthesia; 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 practice it.

The invention relates to the manner of producing local anæsthesia by application of cold for dental surgery, and particularly to the peculiar form or construction of the instrument, or "spray-producer," by which ether or other fluid in the form of spray is thrown against the part to be operated upon, the rapid evaporation of which freezes the part and produces the anæsthesia.

The drawing represents a perspective view of my instrument.

*a b* denote the nebulizing or spray-producing tubes, *a* being the air-tube, and *b* the fluid-tube, the former, when being used, having air forced through it by a bulb or bellows, or by a mouth-piece, and the latter dipping into the fluid-containing jar or cup, the fluid being drawn through the tube *b* by the action of the air-blast, and driven in the form of spray against the surface of the tooth or gum upon which the nebulizing-points may be directed.

The operating ends of the air and fluid tubes run side by side, and the extreme end of the tube *b* is open at its end, or has a fine orifice leading directly from its end in the line of the tube. The end of each air-tube *a* is closed, and its

orifice is made in the inner side thereof, directly adjacent to the fluid-orifice, as seen in the drawing.

Adjacent to or at any suitable distance from the point where the two tubes come together each is bifurcated or branched into two arms, *c c' d d'*, each two arms on either side being joined and running side by side, and so that at the salient or nebulizing-points each fluid-tube lies just inside of the air-tube, as seen in the drawing, and with the air-tube projecting slightly beyond the point of the fluid-tube.

In freezing the jaw for operations in surgery, it is desirable to apply the cold to each side thereof; and to accomplish this I make the instrument with the fork as shown, inserting the ends in the mouth, with one prong upon each side, and so as to cause the nebulized fluid or spray to impinge directly against the two surfaces, thereby producing the anæsthesia in the speediest and most efficacious manner.

I claim—

1. In combination with the tube *a*, having its orifice directly in the end thereof, the tube *b*, having its orifice opening laterally directly from the tube, substantially as described.

2. The bifurcated construction or arrangement of the nebulizing-tubes *a b*, substantially as described, when the orifices are arranged in the manner set forth.

EPHRAIM CUTTER.

Witnesses:

J. B. CROSBY,  
F. GOULD.