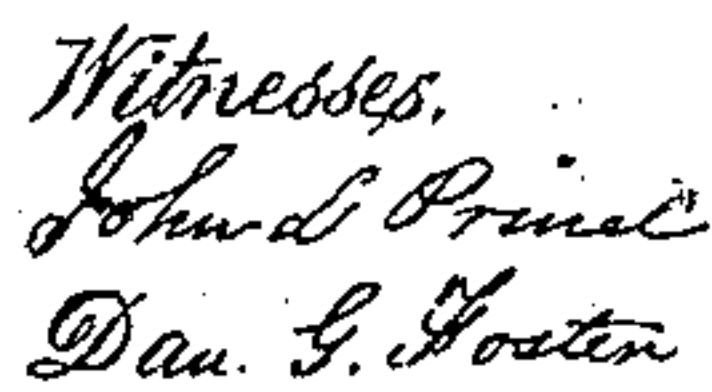


W. G. OLIVER.
PRODUCING LOCAL ANESTHESIA.

No. 23,697.

Patented Apr. 19, 1859.



UNITED STATES PATENT OFFICE.

WILLIAM G. OLIVER, OF BUFFALO, NEW YORK.

IMPROVEMENT IN APPLYING ELECTRICITY IN DENTAL OPERATIONS.

Specification forming part of Letters Patent No. 23,697, dated April 19, 1859.

To all whom it may concern:

Be it known that I, WM. G. OLIVER, of Buffalo, county of Erie, in the State of New York, have invented a new and Improved Method of Producing Local Anæsthesia by Electricity; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention has for its object a novel method of applying an electrical current as an anæsthetic agent in dental and surgical operations; and to that end it consists in producing local anæsthesia in dental operations by the introduction to the nerves of sensation of an electrical current without bringing the parts to be affected in direct contact with any metallic conductor, as will be hereinafter described.

It has been customary, in dental operations, to apply a current of electricity by means of a metallic conductor held in the hand of the patient and attached to one of the poles of a battery, the other pole being connected to the forceps or other instrument used by the operator; but I am not aware of the current being so applied as not to require the insulation of the operator, nor have any metallic conductor in direct connection with the parts in which anæsthesia is to be produced, nor am I aware that any such method as that which I shall presently describe has been used for applying the electrical current in surgical operations.

In the accompanying drawings, forming part of this specification, Figure 6 represents the extensor used in dental operations. Fig. 7 represents the conductor used in dental operation, and Fig. 8 represents a view of the regulating-rod of the electrical machine.

At Fig. 1, A represents an electrical machine.

At Fig. 6 is represented the extensor used in dental operations, which consists of a small wire (represented by the red line *a*) wound with thread or silk, and connected at one end to a coupling-hook, *b*, to which is attached, when the extensor is used, one of the wires of the battery, and at the other end to a thread, *c*, which is intended to pass or be wound several times around the tooth to be operated upon.

At Fig. 7 is represented the conductor, to be used in dental operations where the extensor cannot be applied.

a represents a conducting-wire, which has

formed at one end an eye, *b*, whereby it may be connected to one of the wires of the battery, and which is at the other end fastened to a small piece of sponge, *c*. The wire *a* is completely encircled during its whole length by an india-rubber or insulating tube, *d*.

In all dental operations except extraction the extensor seen at Fig. 6 is hooked into one of the wires from the battery, and its loop or thread hooked or wound around the tooth of the patient, while he holds in both hands a metallic rod connected to the other wire of the battery. In dental operations, as in surgical, the proper force of current is first determined by the operator by the insertion of the scale-rod, as already explained. The thread or loop of the extensor is thoroughly wetted before being applied to the tooth.

In cases of extraction, or where the extensor cannot be put on, the conductor (seen at Fig. 7) is attached to one of the wires of the battery, (the other wire being coupled to the rod in the patient's hand,) its sponge having been thoroughly wetted, and is held by the operator against the gum of the tooth to be extracted.

The general principle of operation and effect of the current in dental operations is already understood, and need not here be explained.

It will be observed that by my method of applying electricity as an anæsthetic agent in dental operations no metallic conductors come into contact with the part to be operated upon, which I have found by long practice and series of experiments to be of the greatest importance.

I am aware that electricity has been applied as an anæsthetic agent in dental operations, and do not broadly claim the application of such an agent; but

What I do claim as of my invention, and desire to secure by Letters Patent, is—

The employment, in producing local anæsthesia in dental operations, of an apparatus in which only non-metallic conductors are brought into contact with the parts being operated upon, as hereinbefore set forth.

In testimony whereof I have hereunto set my hand this 22d day of February, 1859.

WM. G. OLIVER.

Witnesses:

JOHN L. PRIME,
DAN. G. FOSTER,
HARRY SMITH.