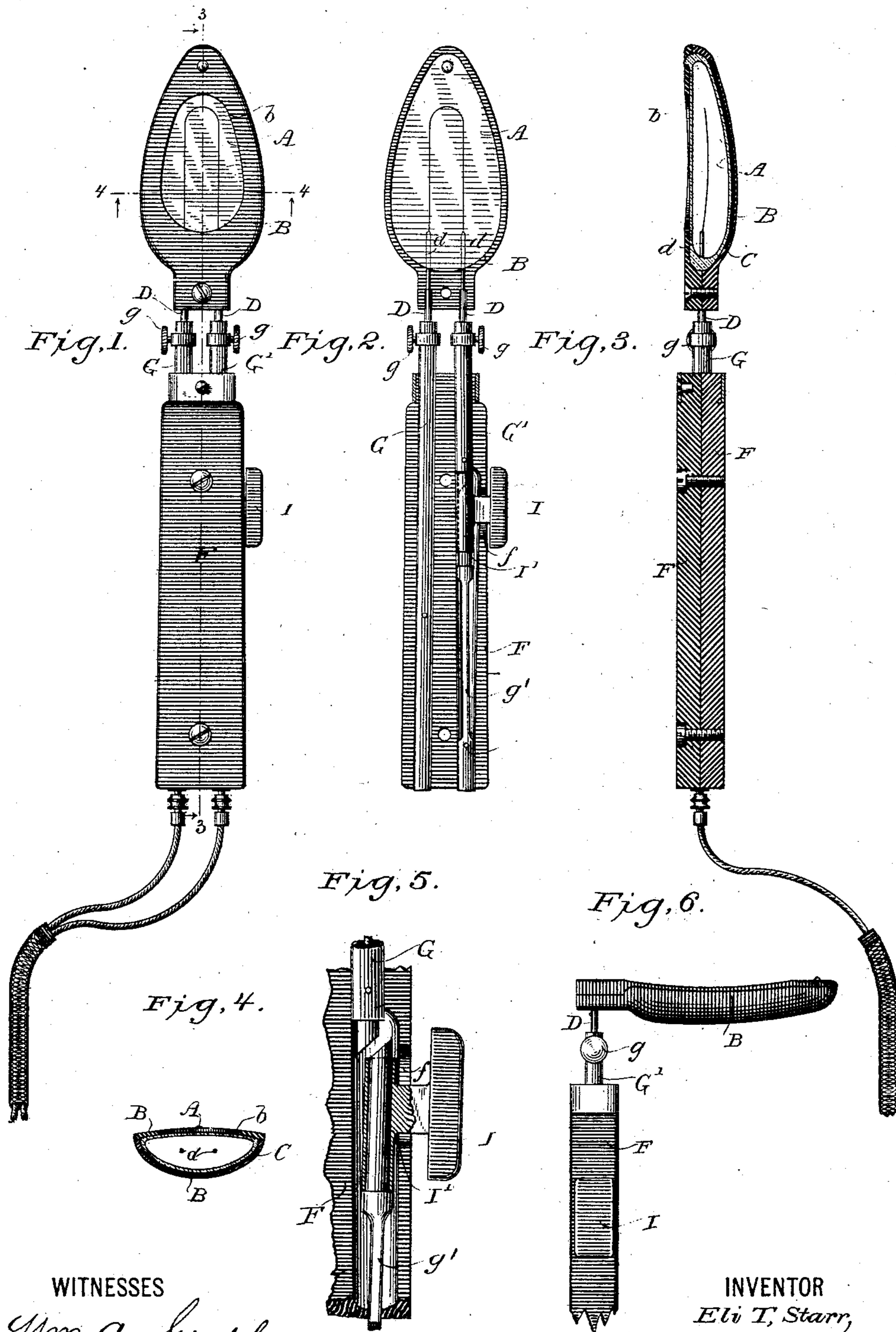


(No Model.)

E. T. STARR.  
ELECTRIC MOUTH LAMP.

No. 300,523.

Patented June 17, 1884.



WITNESSES  
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# UNITED STATES PATENT OFFICE

ELI T. STARR, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE S. S. WHITE DENTAL MANUFACTURING COMPANY, OF SAME PLACE.

## ELECTRIC MOUTH-LAMP.

SPECIFICATION forming part of Letters Patent No. 300,523, dated June 17, 1884.

Application filed November 17, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, ELI T. STARR, of the city and county of Philadelphia, in the State of Pennsylvania, have invented certain new and useful Improvements in Electric Mouth-Lamps, of which the following is a specification.

My invention relates to a mouth-lamp for the use of dentists, by which the teeth and gums may be illuminated, so as to facilitate dental operations.

The object of my invention is to provide a lamp so as to illuminate and thoroughly expose the teeth and gums of the patient without inconveniencing or injuring the patient by the heat of the illuminator, and to provide such an illuminator to act as a cheek-distender without danger of fracture or injury by the closing of the mouth.

To these ends I have devised the improvements which are particularly claimed by me at the close of the specification.

In the accompanying drawings, Figure 1 is a face view of the improved instrument; Fig. 2, a similar view with portions of the device removed. Fig. 3 is a longitudinal section on the line 3 3 of Fig. 1. Fig. 4 is a cross-section through the lamp and its casing on the line 4 4 of Fig. 1. Fig. 5 is a view, partially sectional, of the circuit making and breaking portions of the instrument on an enlarged scale; and Fig. 6 is a view in elevation of a portion of a modified form of the illuminator, showing the illuminating portions of the device as arranged at a right angle, or substantially so, to the handle portion thereof.

A preferably flat or spoon-shaped vacuum lamp-globe, A, is surrounded by a non-conducting casing, B, fitted to receive said lamp-globe A. The non-conducting casing B is preferably sectional, with the sections detachably united together and around the lamp-globe, so as to retain it in place by means of detachable fastenings—screws, for instance. The front section of the casing B is cut away, as at b, to expose the front and preferably flat side of the lamp-globe A, and permit the light-rays to escape therethrough, so as to be directed upon the portion of the teeth and gums to be inspected.

Between the back convex side of the lamp-globe A and the casing B a reflecting-surface, C, is provided, which may be made of tinsel; or the glass globe itself may be covered by mercury and metal; or a reflector at the back of the globe may be produced in any of the well-known ways.

The lamp is an electric lamp, and the vacuum-globe contains a filament, D—for instance, of carbon—which may be rendered incandescent by the passage through it of an electric current, in order to produce the light which is reflected through the face of the globe, as before fully indicated. The ends of the carbon filament D are connected with metal conducting-pieces *d d*, sealed in the lower end of the glass globe, as usual in the construction of electric incandescent-lamps.

In order to provide a convenient handle for manipulating my improved mouth-illuminator, and for readily making and breaking the circuit, I provide such a handle preferably made in two sections, between which tubular conductors G G' are fitted and secured by uniting the two sections F F of the handle together—for instance, by means of screws. The upper ends of the tubular conductors G G' receive the lower or external ends of the lamp-conductors *d d*, and they are secured therein by suitable clamp or binding screws, *g g*, as clearly shown in the drawings. The lower ends of said tubular conductors G G' are also fitted to receive the conducting-tips connected with flexible circuit-wire connections of the usual or any preferred construction. Instead of uniting the flexible circuit wires or connections with the tubular conductors extending through the handle by means of inserting conducting-tips at the ends of said circuit-connections into the ends of said tubular conductors, the circuit-connections may be made in any other desired manner. One of the conductors, G', is a sectional conductor, one section, *g'*, of which has a flattened portion, by which a tendency to spring is given to it, the tendency of the spring being to throw the upper end of said section *g'* outward toward the outer edge of the recess in the handle in which it moves. The circuit to the lamp is therefore normally broken. When it is desired to

close the circuit, a projecting knob or button, I, extending from a tube or sleeve, I', is pressed upon, so as to depress or carry the upper end of the section *g'* inward and in contact with the opposing end of the other section of the tubular conductor G', said sleeve being then moved forward or upward, so as to fit over said opposing end of the upper section of the conductor G' and unite the two sections thereof firmly together, the tube or sleeve I' being fitted upon the upper end of the spring-section of said conductor G', with the capability of sliding backward and forward, a slot, *f*, in the handle permitting this endwise movement of the sleeve. It will therefore be obvious that the circuit may be readily made and broken, and when made and the sleeve I' shoved forward will remain completed without attention on the part of the operator until the sleeve be retracted, when the spring of the section *g'* immediately breaks the circuit.

In Fig. 6 I have shown the lamp and its casing arranged at an angle to the handle portion of the instrument, and this is desirable in some instances in order to facilitate directing the light of the lamp upon parts which cannot be as thoroughly reached by the lamp portion, when arranged in the same longitudinal line, as the handle portion of the instrument.

Before stating my claim herein I wish it to be distinctly and unequivocally understood that nothing herein contained is to be held to cover or include my improvements in electric-light speculums for exploring the various cavities and openings of the body other than the mouth.

I do not claim in this application anything shown or described in my application for Letters Patent filed February 11, 1884, No. 120,384, for electric-light speculums. In that case the electric lamp is provided with a non-conducting casing, and there is also a reflecting or

mirror surface to reflect the light of the lamp. These and other features common to my said application and the present one will be claimed in said first-mentioned application, No. 120,384. The subject-matter of this present application is confined to that specifically set forth in the claims.

Having thus described my improvements, what I claim herein is—

1. An electric mouth-illuminator composed of a handle carrying a circuit make and break device, an incandescent electric lamp, and a non-conducting guard or casing partially surrounding the lamp-globe, substantially as described.

2. In an electric mouth-illuminator, a casing surrounding a lamp-globe, the front side of which is substantially flat, and the outer side convex or curved, so as to form a cheek-distender, substantially as described.

3. The combination, in an electric mouth-illuminator, of the lamp-globe, the incandescent filament thereof, and the sectional non-conducting casing of said globe.

4. The handle of the mouth-lamp, containing the divided or sectional conducting-connection, the normal condition of which is separated or broken, in combination with a sliding sleeve or thimble fitted to unite the section of said conducting-connection to complete the circuit, substantially as described.

5. The combination of a mouth-lamp with a handle arranged at an angle thereto, substantially as described, whereby the back of the lamp faces said handle.

In testimony whereof I have hereunto subscribed my name this 14th day of November, A. D. 1883.

ELI T. STARR.

Witnesses:

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