

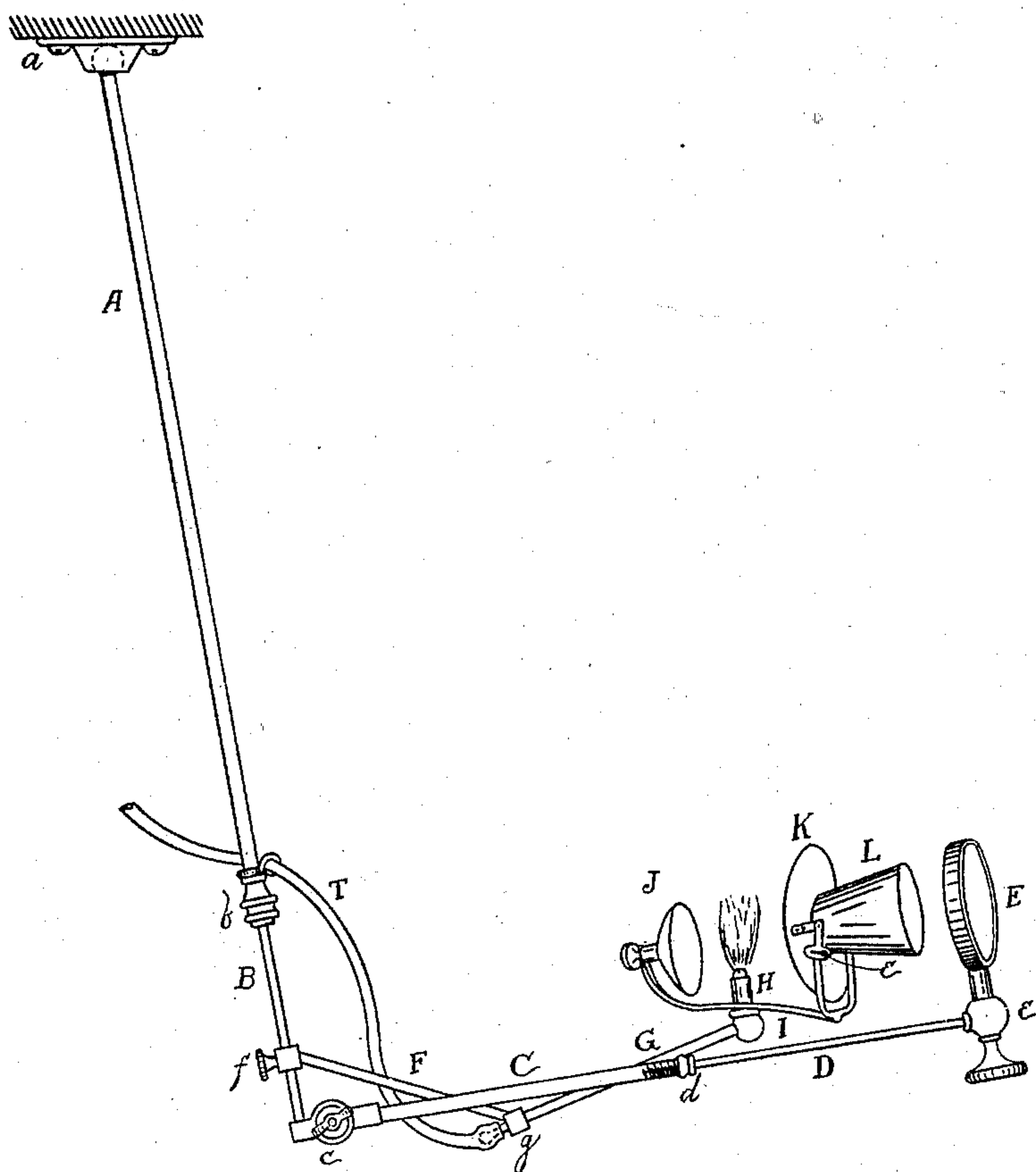
(No Model.)

T. G. LEWIS.

DENTAL ILLUMINATING APPARATUS.

No. 370,547.

Patented Sept. 27, 1887



Witnesses:

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DENTAL ILLUMINATING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 370,547, dated September 27, 1887.

Application filed January 26, 1887. Serial No. 225,616. (No model.)

To all whom it may concern:

Be it known that I, THEODORE G. LEWIS, of the city of Buffalo, in the county of Erie and State of New York, have invented a new Combined Illuminating and Magnifying Apparatus for Dentists, of which the following is a specification, reference being had to the accompanying drawing.

This invention relates to an adjustable support for a magnifying-glass which will relieve the dentist from the necessity of holding the glass, while he easily obtains all the benefit to be derived from its use.

It also relates to an adjustable illuminating apparatus by which either natural or artificial light may be thrown and concentrated upon the tooth to be operated upon.

It consists in a system of jointed tubes and rods suspended from the ceiling, which will be easily adjustable in any desired position, and can be as readily folded up and put out of the way when not in use.

The figure is a perspective view of the entire device ready for use.

In the accompanying drawing, A represents a tube, which is attached to the ceiling by a ball-and-socket joint, *a*, which is so constructed that its ball may be clamped and friction enough thereby produced to retain the tube A in any desired position.

Sliding telescopically in the tube A is the rod B, a stuffing-box, *b*, being provided at the lower end of the tube A and tightly packed, so as to retain the rod B at any desired height. A tube, C, is fastened to the lower end of the rod B by a closely-fitting knuckle-joint, *c*, by which the tube C is retained at any angle at which it may be placed.

In the tube C slides the rod D. The end of the tube C is split and externally taper-threaded to fit a taper-threaded nut, *d*, by means of which the mouth of the tube C is compressed upon the rod D, so as to hold it with considerable firmness. A convex lens, E, is borne upon the outer end of the rod D, being connected thereto by means of a swivel-joint, *e*. It will be observed that by the rotation of the lens E on its swivel *e*, and of the rod D in the tube C, the lens E may be turned either horizontally or vertically and at any angle, and by the movements of the ball-and-socket joint *a*, the knuckle-

joint *c*, and the rotation of the rod B in the tube A, it may be carried to any position within a considerable space.

Attached to the rod B by the swivel-joint *f* is a double-jointed gas-fixture, F G, the two parts F and G being connected by a swivel, *g*.

Upon the gas-burner H is mounted a frame, I, which carries a reflector, J, and the shield and tube K L. The shield K protects the eyes of the dentist from the light, and by means of the tube L he is enabled to direct the light upon his work. The shield and tube are jointed to the frame I and are secured by the segmental arm and set-screw *l*, being thus made ver-

tically adjustable. A rubber-tube, T, is attached to a nipple on the swivel *g*, and leads to any convenient gas-supply, from which gas may be obtained for use at the burner H.

The apparatus is intended to be attached to the ceiling in a convenient position near the dentist's operating-chair, or it may be swung from a bracket attached to the wall if the ceiling is unusually high. When not in use, it is folded up, the arms C and F G being parallel with the tube A, and the rod B pushed up, so that the whole apparatus is out of the way. When it is desirable to use it, the rod B is drawn downward and the arms C and F G put substantially in the positions shown in the drawing. If the dentist wishes to inspect his work closely, he brings the lens E into the proper position, as has been hereinbefore described, so that a clear and magnified view of the tooth upon which he is operating is obtained. If the light is insufficient, he places the lens between the patient and the window and throws a concentrated beam of light into the patient's mouth. If enough light cannot be thus obtained, he lights the burner H and brings the tube L into such position as to throw the light upon his work. He can then use the lens E either for inspection of his work or to still further concentrate the light upon it.

I am aware that a magnifying-lens has been attached to a dentist's chair by means of a flexible arm. This fixture is sometimes in the way unless wholly removed from the chair, and being attached thereto when in use it has a certain amount of tremor and unsteadiness from the force applied by the dentist in the

progress of the operation. My device, being wholly separate from the chair, cannot be affected by any force applied to it, and will always remain steady and afford a clear view of the operation.

Appliances have also been devised for throwing artificial light into the mouth of the patient, being generally placed upon a standard resting upon the floor. I am not aware that any such apparatus has heretofore been known or used combining a magnifying apparatus with one for illumination by either natural or artificial light, nor am I aware of such an apparatus being suspended from the ceiling in the manner hereinbefore described.

I therefore claim as my invention—

1. A magnifying or illuminating lens and support for dentists' use, consisting of a ball-and-socket ceiling-fastening, a telescopically-sliding rod and tube, a telescopic jointed arm,

a swivel, and a lens, substantially as hereinbefore described.

2. An illuminating apparatus for dentists' use, suspended from the ceiling by a ball-and-socket joint, consisting of a telescopic rod and tube, a jointed gas fixture and burner, a reflector, and adjustable directing-tube, substantially as hereinbefore set forth.

3. A combined illuminating and magnifying apparatus for dentists' use, consisting of a magnifying or condensing lens, a gas-fixture, reflector, and directing-tube, the whole being suspended from the ceiling by a universal joint and supported by a system of telescopic and jointed rods and tubes, substantially as hereinbefore set forth.

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