

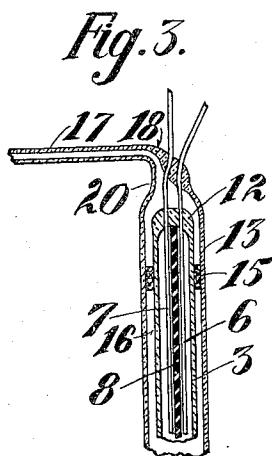
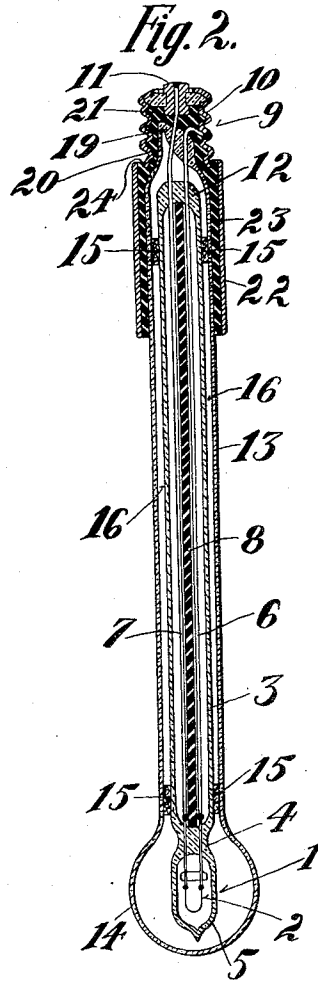
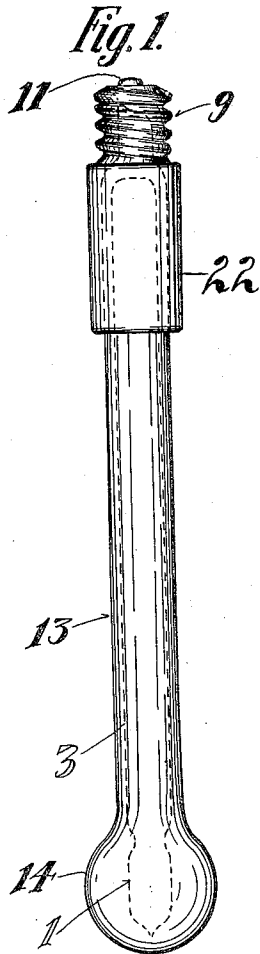
D. STERN.

ASEPTIC LAMP FOR DENTAL, MEDICAL, OR SURGICAL PURPOSES.

APPLICATION FILED JUNE 1, 1909.

Patented Nov. 23, 1909.

940,831.



Witnesses

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UNITED STATES PATENT OFFICE.

DAVID STERN, OF CINCINNATI, OHIO.

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Specification of Letters Patent.

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Application filed June 1, 1909. Serial No. 499,406.

To all whom it may concern:

Be it known that I, DAVID STERN, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Aseptic Lamps for Dental, Medical, or Surgical Purposes, of which the following is a specification.

Dental, medical and surgical examinations or operations in the mouth or other cavities in the body are frequently difficult on account of the absence of light at the point of examination or operation.

It is the object of my invention to provide an aseptic lamp which may be inserted in the mouth or other cavities of the body and be permitted to remain in position for long intervals of time without discomfort on account of transmitting heat to the patient.

The invention will be readily understood from the following description and claims, and from the drawing, in which latter:—

Figure 1 is a side elevation of my improved device. Fig. 2 is an axial longitudinal section of the same; and, Fig. 3 is a similar section, partly broken away, showing the inner within the outer tube, the latter arranged for being sealed.

I have shown my improved device on an enlarged scale in the drawing for better illustration of the parts.

1 represents an incandescent electric lamp having the incandescent lamp-filament 2 therein, the lamp connecting with an inner tube 3, there being preferably a seal 4 between the tube and the bulb 5 of the lamp. Electric conductors 6 7 connect with the lamp-filament and are insulated from each other by a non-conducting separator 8 in the tube 3.

9 is a plug, with the metal thread 10 of which the conductor 6 is connected for forming a terminal for the plug, the other conductor 7 being connected with the central terminal 11 of said plug. The inner tube is preferably sealed at 12.

13 is an outer tube which surrounds the inner tube 3 and has a bulb 14 at one end which surrounds the incandescent lamp 1. The lamp with its tube forms an inner member, and the outer bulb 14 with its tube forms an outer member, these members being preferably of glass. I prefer to provide separators 15 for relatively supporting the tubes, these separators being preferably of

porous material which is a poor conductor of heat, for instance cork. The separators are located in the space 16 between the inner and outer members.

An incandescent lamp of the character mentioned will heat and become uncomfortable to the patient if inserted directly in the mouth or other cavity in the body. In my improved device I inclose the lamp within a bulb which is spaced from the lamp and I prefer to provide the lamp and bulb with tubes, the lamp-tube being within the tube for the outer bulb, the lamp and its tube being separated from the outer bulb and its tube by the space 16 for the purpose of removing the lamp from direct contact with the tissues or walls of the patient's mouth or other cavity in which the device may be inserted, whereby I am enabled to permit the lamp to remain in the patient's mouth or other cavity for a considerable time without discomfort to the patient.

In order to increase the length of time which the lamp may remain in the patient's mouth or cavity without discomfort, I prefer to rarefy the space 16, as by creating a vacuum therein, and for enabling this to be done, the outer tube may be provided with a hollow stem 17 (see Fig. 3), through which the air in the space 16 may be withdrawn, whereupon the junction between the stem and the outer tube, for instance at 18, is heated which will cause the tube to close, as by a seal 19, whereupon the stem may be removed. The separators 15 are sufficiently porous to permit the air to be withdrawn through the same and exhausted from the outer bulb and tube.

The upper end of the outer tube is provided with a reduced extension 20 about which the plug 9 is secured with a body 21 of suitable cement.

22 is a ferrule which may be of metal, and is received about the outer end of the outer tube 13 and is held in place and is secured to said outer tube by a body 23 of cement or other sealing compound which is preferably non-conducting, and forms a ring 24 of non-conducting material between the outer end of the ferrule and the plug 9.

In using my improved device, the plug 9 is screwed into an electric socket for forming connection with a suitable source of electric energy, which may be a storage battery. The bulb-end of the instrument is in-

serted into the patient's mouth or other cavity which it is desired to examine or treat, the tubes being of sufficient length to enable the operator to reach any portion thereof at which it may be desired to apply the light.

My improved device enables the examination or operation to be performed without discomfort to the patient occasioned by transmission of heat.

The device may be rendered aseptic in convenient manner by inserting the same into an aseptic or sterilizing agency and may be employed without danger of transmitting disease.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent is:

1. An aseptic lamp for dental, medical or surgical purposes, comprising an inner member embracing an incandescent lamp provided with a tube, and an outer member comprising a bulb surrounding said lamp and a tube surrounding said first-named tube, said members being spaced apart, a releasable electric connection for a source of electric supply at the end of said tubes distanced from said lamp and bulb, and electric conductors passing through said inner tube connecting said releasable electric connection and the filament of said lamp, substantially as described.

2. An aseptic lamp for dental, medical or surgical purposes, comprising an inner member embracing an incandescent lamp and a tube connected therewith, an outer member embracing a bulb received about said lamp and a tube received about said first-named tube, said lamp and bulb being at one end of said tubes, a releasable electric connection for a source of electric energy at the other end of said tubes, electric conductors insulated from each other connecting said releasable connection and the filament of said lamp, and a supporting separator in said

space between said tubes, substantially as described.

3. An aseptic lamp for dental, medical or surgical purposes, comprising an inner member embracing an incandescent lamp and a tube connected therewith, an outer member embracing a bulb received about said lamp and a tube received about said first-named tube, said lamp and bulb being at one end of said tubes, a releasable electric connection for a source of electric energy at the other end of said tubes, electric conductors insulated from each other connecting said releasable connection and the filaments of said lamp, there being a rarefied space between said inner member and said outer member, substantially as described.

4. An aseptic lamp for dental, medical or surgical purposes, comprising an inner incandescent lamp bulb and an outer member comprising a bulb within which said incandescent lamp bulb is received and a tube, said bulbs being spaced apart, a releasable electric connection for a source of electric supply at the outer end of said tube for distancing said releasable electrical connection substantially from said bulbs, and electric conductors within said tube connecting said releasable electric connection with the filament of said lamp, and the space between said bulbs and in said tube being rarefied for providing a heat-retarding agency between the wall of the cavity of the body into which said lamp is introduced and said inner incandescent lamp bulb, substantially as described.

In testimony whereof, I have signed my name hereto in the presence of two subscribing witnesses.

DAVID STERN.

Witnesses:

JACOB A. J. COLLANDER,
LOUIS DOMHOFF.