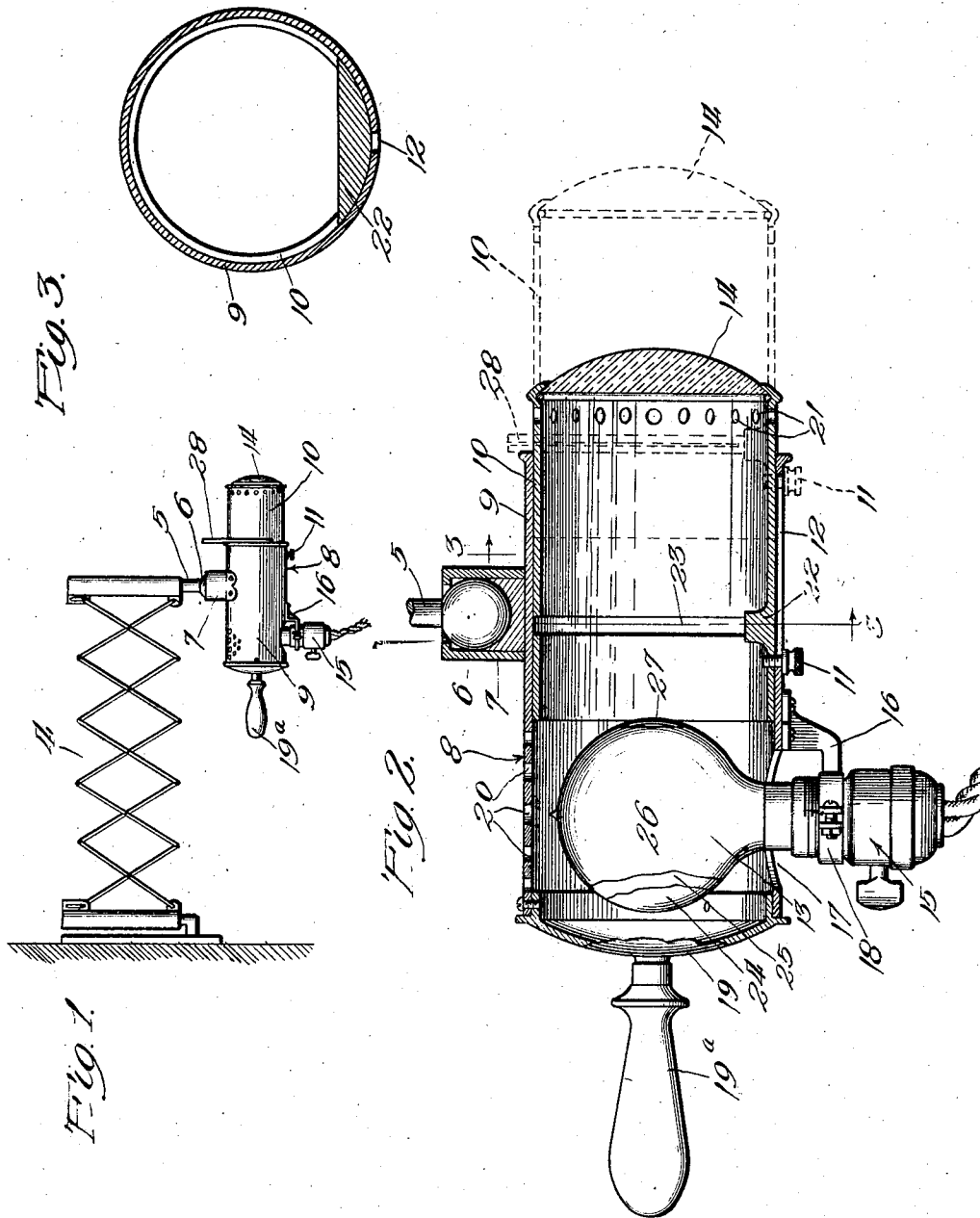


N. M. STONE.
DENTAL LAMP.
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1,352,995.

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UNITED STATES PATENT OFFICE.

NATHAN M. STONE, OF CHICAGO, ILLINOIS.

DENTAL LAMP.

1,352,995.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, NATHAN M. STONE, a citizen of the United States, and a resident of Chicago, Cook county, and State of Illinois, have invented certain new and useful Improvements in Dental Lamps, of which the following is declared to be a full, clear, and exact description.

This invention relates to lamps, and it has been designed especially for use by dentists, surgeons and physicians in examining teeth or other parts of the interior of the mouth, or other cavities, and its principal object is to provide an extremely simple, substantial and highly efficient lamp of this character. Another object is to provide a lamp of this type in which may be used an ordinary high candled power incandescent electric light bulb and having adjustment means whereby the beam of light may be concentrated on a small area. Another object is to provide a lamp in which transparent slides, containing X-ray pictures, or other pictures or impressions, may be examined. The invention consists in the several novel features of construction, arrangement and combination of parts, hereinafter fully set forth and claimed.

The invention is clearly illustrated in the accompanying drawing, in which:

Figure 1 is a side elevation of a lamp embodying a simple form of the present invention and showing the same carried by the suitable bracket; Fig. 2 is a central, vertical, longitudinal section through the lamp and Fig. 3 is a vertical cross section taken on the broken line 3—3 of Fig. 2.

Referring to said drawing which illustrates a simple embodiment of the present invention, the reference character 4 designates a longitudinally extensible bracket, hingedly supported on a vertical axis, whereby it may be swung in a horizontal direction. In the free end of the bracket 4 is secured a pin or stem 5 which supports the lamp by a ball and socket connection here shown as comprising a ball 6 upon the lower end of the stem 5 a socket member 7 riveted or otherwise fixedly secured to the lamp casing 8. The ball and socket connected provides means whereby the lamp may be turned upon its support in any desired direction so as to direct the beam of light upon the object which it is desired to illuminate.

The lamp casing is telescopic and comprises two sections 9, 10, the section 10 tele-

scoping into section 9, and being secured thereto at any position of adjustment by a thumb screw 11 threaded in the wall of the section 10 and extending through a lengthwise extending slot 12 formed in the wall of the section 9. By loosening the thumb screw, the section 10 may be moved outward or inward in the section 9 to focus the light upon an object and the thumb screw may be tightened up to hold the two sections in said adjusted position. In the rear of the section 9 is a high candled power electric incandescent light bulb 13, and in the outer end of the section 10 is secured a condensing lens 14. The bulb 13 is secured in a key socket 15 in the usual manner, which is supported from the casing by a bracket 16 screwed or otherwise secured to the section 9, and having a clamp member 18 clamped around the socket 15. The bulb extends out through an opening 17 in the section 9 and screws into the socket 15. A removable cover 19 is secured on the rear end of the section 9 by screws or otherwise, which cover may be removed to disconnect the bulb 13 from the socket 15 when it is desired to remove or replace the bulb. A handle 19^a is secured to and projects from the cover 19 and furnishes means whereby the lamp may be manipulated in adjusting its position.

Perforations 20 are provided in the section 9 of the lamp casing adjacent the bulb 13 to permit heated air to freely escape and other perforations 21 are provided in the section 10 adjacent the lens to permit of the escape of heated air to thus keep the lamp in cool condition during use.

The adjustable section 10 is provided with a transverse vertical slot 23 at the bottom of which is a transverse strut 22 which rigidly connects the two members of the section 10 and said slot is adapted to receive a transparent slide 28 when the section 10 is drawn out to the position shown in dotted lines in Fig. 2. The transparent slide may contain X-ray or other pictures or impressions, which may be observed through the lens 14 as will be more fully set forth later on in the course of this specification.

The outer surface 24 of the incandescent electric light bulb 13 is coated with mercury or quick silver shown on 24, and over said mercury or quick silver is an opaque coating of black paint or enamel, 26, and the side of the bulb facing the lens has a clear spot 27 free from quick silver and the opaque coat-

ing, through which the rays of light may issue from the interior of the bulb whereby practically all of the light may be reflected and directed to substantially the area occupied by the lens 14. The interior walls of the sections 9, 10 of the lamp casing are also covered with an opaque or black coating to prevent reflection of light inside of the lamp casing.

10 In use the current is turned on and the lamp is ready for use. To examine the interior of a patient's mouth, the lamp casing is adjusted so as to direct the rays of light into the mouth and the section 10 adjusted back and forth in the section 9 to properly focus and concentrate the light upon the object which it is desired to examine or which it is desired to illuminate.

To use the lamp for the purpose of examining transparent slides, the section 10 is drawn out to expose the vertical slot 23 and the transparent slide 28 is inserted into said slot and placed upon the strut or wall 22. Said transparent slide may be readily examined by viewing it through the condensing lens 14, the image being enlarged by the lens and illuminated by the incandescent electric light bulb.

The advantages of this lamp are readily apparent. It is comparatively cheap to construct, is economical in the use of electric current, is easily manipulated and is highly efficient. Ordinary commercial incandescent electric light bulbs may be used, which are not readily injured from the ordinary handling of the lamp.

More or less variation of the exact details of construction is possible without departing from the spirit of this invention; I de-

sire, therefore, not to limit myself to the exact form of the construction shown and described, but intend, in the following claims, to point out all of the invention disclosed herein.

I claim as new, and desire to secure by Letters Patent:

1. In a lamp of the character described, a telescopic casing having a condensing lens at one end and an opening in its side wall at the other end, an incandescent electric light bulb in said open end of the casing and projecting through the opening thereof, an electric light socket and a bracket secured to said casing and having a clamp member clamped around said socket.

2. In a lamp of the character described, a telescopic casing having a condensing lens at one end and a cover closing the other end and provided with a handle whereby the lamp may be manipulated, an incandescent electric light bulb in said closed end of the casing, an electric light socket supporting said bulb, and a bracket secured to said casing and having a clamp member supporting said socket.

3. In a lamp of the character described, a telescopic casing having a condensing lens at one end, and closed at the other end, an incandescent electric light bulb in said closed end of the casing having a coating of mercury on its surface and an outside coating of opaque material; there being a clear spot on the bulb facing the lens, an electric light socket supporting said bulb and a bracket secured to the casing and supporting the socket.

NATHAN M. STONE.