

Improvements in ophthalmoscopic and laryngoscopic lamps / [William Avery].

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A. D. 1900

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COMPLETE SPECIFICATION.

Improvements in Ophthalmoscopic and Laryngoscopic Lamps.

We, WILLIAM AVERY and ABRIHAM BURRELL, both of 404, E., Superior Street, Chicago, Illinois, United States of America, Manufacturers, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

5 The object of our invention is to provide a lamp, preferably of the electric class, which will produce a soft, even, yet intense light, unobtrusive to the eye, without much heat, such as will be suitable for doctors' use in examining the eye, or ear or throat.

Heretofore lights for this purpose have been produced which have had objection-
10 able bright spots or shadows in them. It is found difficult with the electric light, to completely diffuse the brilliancy of the filament.

Our invention aims at overcoming these objections.

It consists of details hereinafter described and particularly pointed out in the claims.

15 Figure 1 is a side elevation of our lamp.

Figure 2 is a longitudinal section, the standard being removed.

Figure 3 is cross section on line 3—3 Fig 2.

A represents the cylindrical casing, B the lamp, C the reflector, D the con-
centrating lenses, E the ground glass, F the object lens G and H the ventilators,
20 I the bracket or carrier and J the base.

The operation of our invention is as follows: The lamp B is placed at focal
distance from the reflector C, and focal distance from the lens D. The light
is reflected from C in parallel rays upon the lens D. The lens D is preferably
made of two plano-convex lenses and the light is refracted by it upon the object
25 lens F. This object lens is a double convex lens of smaller diameter, and placed
at about double the distance of the lamp from D, in order that the light may be
concentrated upon it.

The light then passes through F and is focussed at a short distance beyond.

30 The ground glass diaphragm E is interposed preferably between D and F, in
order to soften or diffuse the light.

Ventilators, G, H, are placed in the top in order to keep the lamp cool and
prevent the breaking of the lenses.

The lamp is set up by means of a carrier or support I, which sets into a
base J.

35 The electric lamp is made preferably with the filament wound in a circle or
circles substantially at right angles to the line of projection of the light, in order
that the light from it may be more perfectly dispersed.

Having now particularly described and ascertained the nature of our said
invention, and in what manner the same is to be performed, we declare that what
40 we claim is:—

1. The herein described lamp, consisting of the combination of the casing A,
the light B therein, the concentrating lens D, the objective lens F, and the
ground glass diaphragm E, all substantially as shown and described.

[Price 8d.]

Avery and Burrell's Improvements in Ophthalmoscopic and Laryngoscopic Lamps.

2. The herein described lamp consisting of the combination of the casing A, the light B therein, the reflector C, at focal distance from said light, the concentrating lens D, at focal distance from said light, the objective lens F at about double the distance from said lens D, and the ground glass diaphragm interposed between said lenses, all substantially as shown and described. 5

3. The herein described lamp consisting of the combination of the casing A, the light B, therein, the reflector C on one side of said light, the compound plano-convex lens D on the other side of said light, the object lens F on the further side of said lens D, and the ground glass diaphragm E located between said lenses, all substantially as shown and described. 10

4. The herein described lamp, consisting of the combination of the casing A, the electric light B located therein, having its filament disposed in circles at right angles to the line of projected light, the concentrating lens D, the object lens F, and the ground glass E between said lenses, all substantially as shown and described. 15

5. The herein described lamp, consisting of the combination of the casing A, the light B, therein, the double convex lenses D, having an air space between them, ventilating holes H, leading from said space, the object lens F, and the ground glass E, between said lenses, all substantially as shown and described. 20

Dated 15th day of November 1900.

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25, Cross Street, Manchester,
Agents. 25

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Fig. 1.

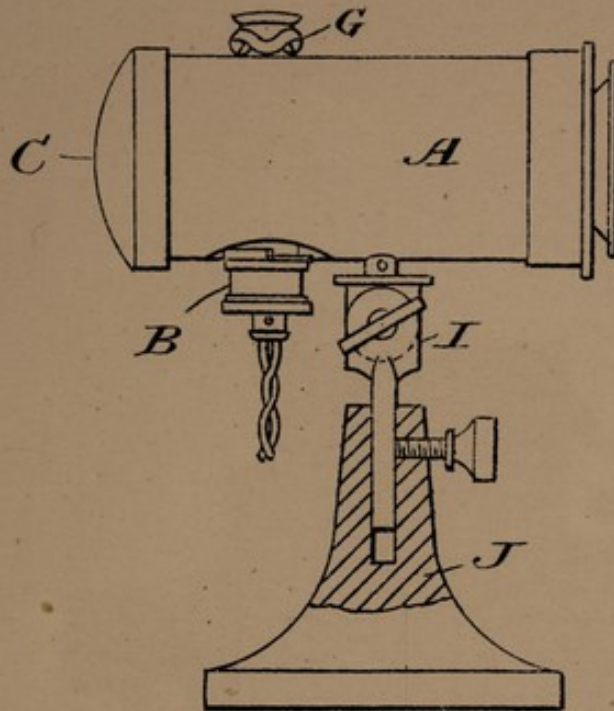


Fig. 2.

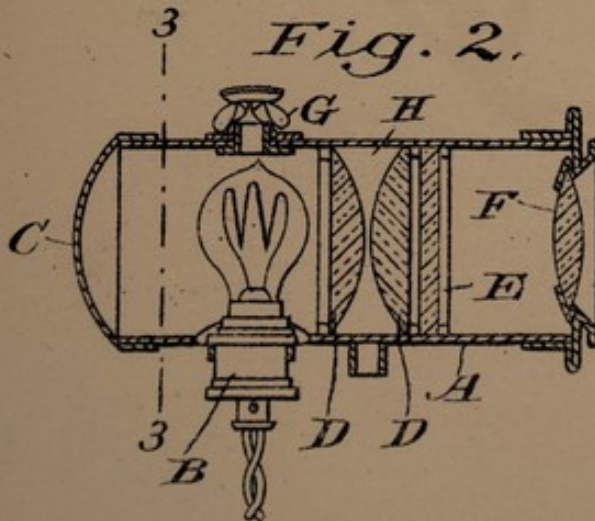
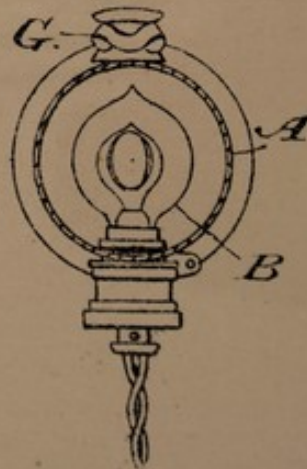


Fig. 3.



[This Drawing is a reproduction of the Original on a reduced scale]

