Jan. 9, 1940. C. POSNER 2,186,206

MINIATURE DARKROOM DEVICE FOR OPHTHALMOSCOPES

Filed Aug. 21, 1936

FIG. 1

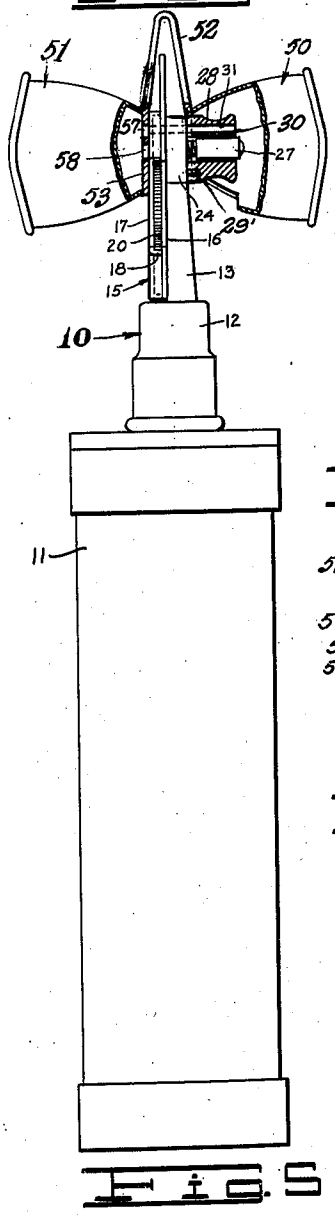


FIG. 2

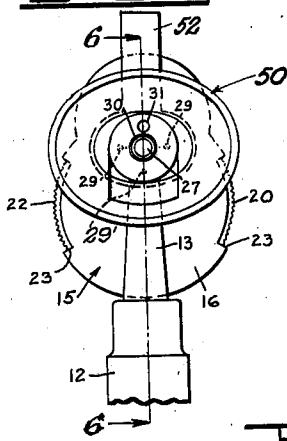


FIG. 3

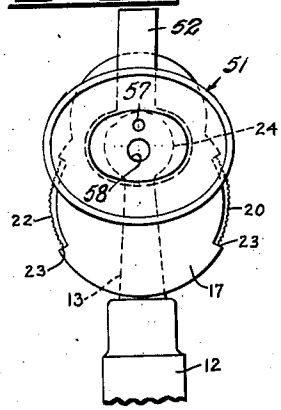


FIG. 4

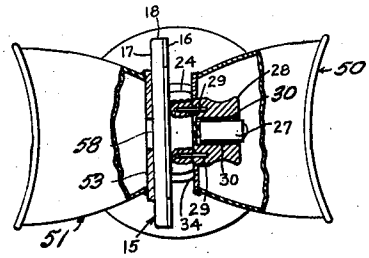


FIG. 6

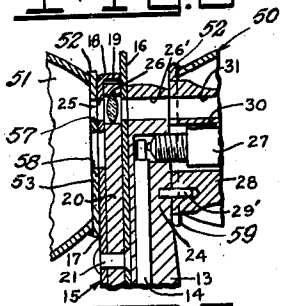


FIG. 7

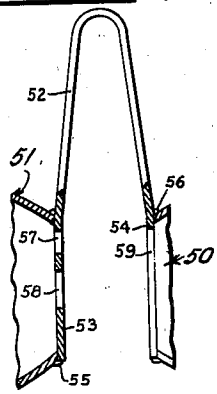
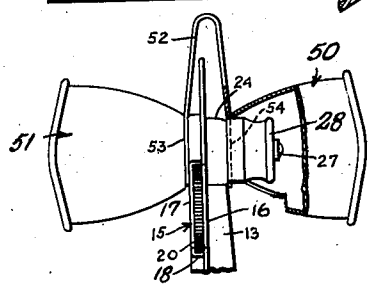


FIG. 5



INVENTOR.
CHARLES POSNER.

BY

ATTORNEY.

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MINIATURE DARKROOM DEVICE FOR OPHTHALMOSCOPES

Charles Posner, Pasadena, Calif., assignor to Walter A. Arnesen, Flushing, N. Y.

Application August 21, 1936, Serial No. 97,153

6 Claims. (Cl. 88—20)

This invention relates to miniature darkroom devices for ophthalmoscopes.

The general object of the invention is to provide an improved construction whereby an ophthalmoscope of either the direct or indirect illuminating type is provided with darkroom devices thus eliminating the necessity for darkening the room in which an examiner is studying a patient's eye.

A more specific object of the invention is to provide an attachment for ophthalmoscopes which provides a darkroom.

Another object of the invention is to provide an ophthalmoscope including a pair of eye cups which are secured in place to provide a darkroom.

An additional object of my invention is to provide a removable darkroom forming device for ophthalmoscopes.

Other objects and the advantages of my invention will be apparent from the following description taken in connection with the accompanying drawing, wherein:

Fig. 1 is a side elevation, with parts broken away, showing my improved darkroom in connection with a direct illuminating ophthalmoscope;

Fig. 2 is a front view of the device;

Fig. 3 is a rear view of the device;

Fig. 4 is a top plan view of the device with parts broken away;

Fig. 5 is a fragmentary side elevation, with parts broken away, showing my invention;

Fig. 6 is a sectional view taken on line 6—6 of Fig. 2; and

Fig. 7 is a fragmentary side elevation, partly in section, showing details.

Prior to the present invention physicians who make a practice of including a retinal study of patients have been troubled by the necessity of converting the patient's room into a darkroom for a satisfactory study of the eye grounds. In order to overcome this difficulty I convert the usual ophthalmoscope, whether it is of the direct or the indirect illuminating type, into a miniature darkroom.

My invention is shown in Fig. 1 wherein the ophthalmoscope is indicated generally at 10. The ophthalmoscope herein described is of the direct illuminating type but it will be understood that my invention may also be applied to indirect illuminating ophthalmoscopes.

The ophthalmoscope, as shown, includes a battery support 11 from which a post 12 projects. Extending upwardly from the post is a hollow standard 13 through which a lead 14 for the lamp extends. Mounted on the post 12 is a housing 15 which includes a front wall 16 and a rear wall 17, the latter having a flange 18 engaging the front wall to provide a recess 19. In the recess 19 a rotatable lens carrying member, or disk, 20 is mounted to rotate about a pivot 21. This lens carrying member 20 includes a serrated edge 22 which projects through side apertures 23 in the housing as shown in Figs. 2 and 3, to allow the lens member to be rotated.

The upper end of the post 12 includes a boss 24 which projects from one side of the post. In the type of ophthalmoscope shown the housing 15, the disk 20, and boss 24 are provided with aligned apertures 25, 26, and 26'. On the boss 24 adjacent the upper end of the post a wheat grain electric lamp bulb 27 is mounted and is suitably connected to the lead 14. The support 11 includes a suitable switch (not shown) in circuit with the lead 14 to control the flow of current to the bulb 27.

To protect the bulb I provide a guard member 28 which has a plurality of pins 29 thereon. The pins 29 have a tight sliding fit in holes in the upper end of the post 13 so that the guard member is removably held in place. Furthermore, the standard 13 has a locating dowel pin 29' extending therefrom which is positioned in an aperture provided in the guard 28. This guard member includes an aperture 30 in which the bulb 27 is arranged and an aperture 31 which is in alignment with the apertures 25 and 26 previously described. In operation, the switch is turned on to illuminate the bulb 27 and then the lens disk is rotated until the proper lens appears in alignment with the apertures 25, 26, and 26'.

In order that darkroom facilities may be provided for using the ophthalmoscope I provide a pair of cup members 50 and 51. These cup members may be made of suitable material such as aluminum, rubber, fiber, etc. and the interior of the cup members may be a dull black to absorb the side radiations from the light bulb.

Each of the cup members is connected by a resilient member 52 which has cup base portions 53 and 54 on its ends which are soldered or welded as at 55 and 56 to the eye cups. The bases 53 and 54 are provided with apertures 57, 58, and 59 which serve to provide light passageways and to receive the boss 24. In use the cup members 50 and 51 are secured in place by flexing the member 52 and spreading the eye cups apart then placing the cups with the cup base 53 engaging the rear of the housing 15 and with the cup base 54 engaging the top of the post 13. The members

will be held in place due to the resiliency of the spring 52.

From the foregoing description it will be apparent that I have invented a novel darkroom for ophthalmoscopes which can be economically manufactured and which is highly efficient in use.

Having thus described my invention I claim:

1. In an ophthalmoscope, a body including a standard and a housing on said standard, said housing having a recess therein, a lens carrying member in said recess, said standard, said housing, and said lens carrying member each having a viewing aperture therein, said viewing apertures being in alignment and forming a passage through the body, a lens in said lens carrying member aperture, an incandescent lamp bulb mounted on said body adjacent to the apertures therin, a darkroom forming device comprising a resilient substantially U-shaped member engaging the upper portion of the body having a pair of ends and having an eye cup on each end, each of said eye cups including a hollow member having an open end, one of said eye cups engaging one side of said body and the other eye cup engaging the other side of said body, each of said eye cups having an aperture therein, said eye cup apertures being in alignment with said first mentioned apertures, one of said eye cups being adapted to engage about the eye of a patient and the other eye cup being adapted to engage about the eye of an examiner.

2. An attachment for an ophthalmoscope body having light directing means and an inspection opening adjacent said light directing means, said attachment comprising a pair of eyecups each having a sight aperture through the bottom thereof, forked resilient strip member means securing said eyecups together with one eyecup secured to each end of said resilient strip member, the ends of the resilient strip member being formed to engage the upper portion of the body of the ophthalmoscope for detachably securing said eyecups, one on each side of said body with the apertures in the eyecups in substantial alignment with said inspection opening.

3. As an attachment for an optical diagnostic instrument having an inspection opening and having a light directing member on one side thereof, a pair of eyecups having openings through the bottoms thereof, and means for securing said eyecups together and for detachably securing the cups to said instrument with the openings in the cups in substantial alignment with said inspection opening, one of said cups having the wall thereof cut away to permit said light directing member to extend into the interior thereof.

4. As an attachment for an optical diagnostic instrument having an inspection opening and having a light directing member on one side thereof, a pair of eyecups having openings through the bottoms thereof, and a resilient member for securing said eyecups together and for detachably securing the cups to said instrument with the openings in the cups in substantial alignment with said inspection opening, one of said cups having the wall thereof cut away to permit said light directing member to extend into the interior thereof.

5. As an attachment for an optical diagnostic instrument having an inspection opening and having a light directing member on one side thereof, a pair of eyecups having openings through the bottoms thereof, and a resilient strip member for connecting said eyecups together and for detachably securing the cups to said instrument with the openings in the cups in substantial alignment with said inspection opening, one of said cups having the wall thereof cut away to permit said light directing member to extend into the interior thereof, said strip member having openings therein corresponding to the openings in the cups.

6. As an attachment for an optical diagnostic instrument having an inspection opening and having a light directing member on one side thereof, a pair of eyecups having openings through the bottoms thereof, and a resilient strip member having openings in the ends thereof corresponding to the openings in said cups, said cups being secured to the respective ends of said strip, said strip being bent to extend longitudinally on each side of said instrument for attaching the cups thereto with the openings in the cups in substantial alignment with said inspection opening, one of said cups having the wall thereof cut away to permit said light directing member to extend into the interior thereof.

CHARLES POSNER.