

Oct. 6, 1925.

1,556,510

B. W. KING

MAGNIFIER

Filed Dec. 26, 1922

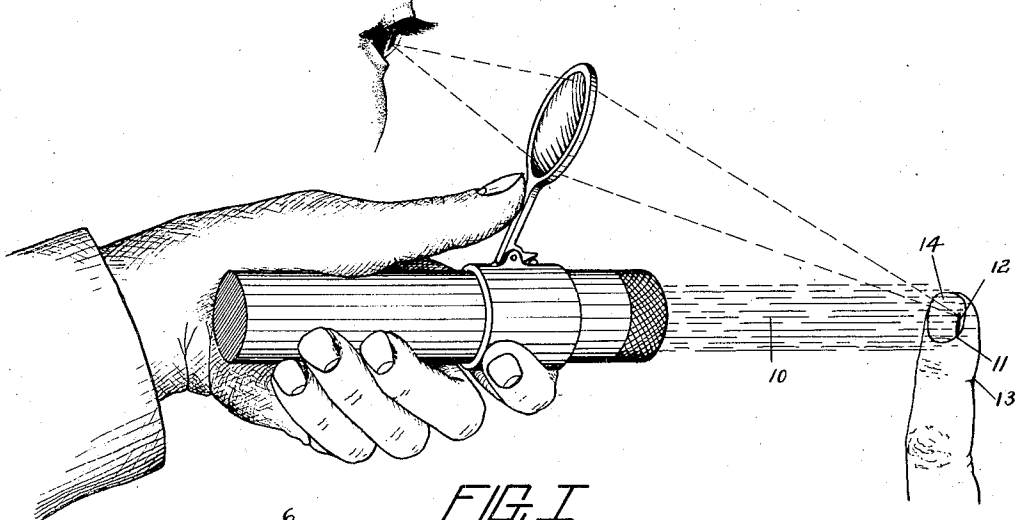


FIG. I

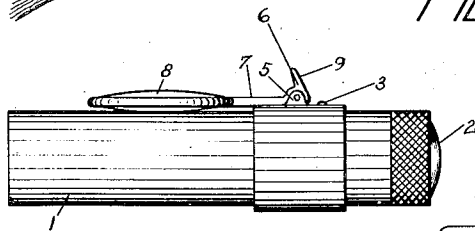


FIG. II

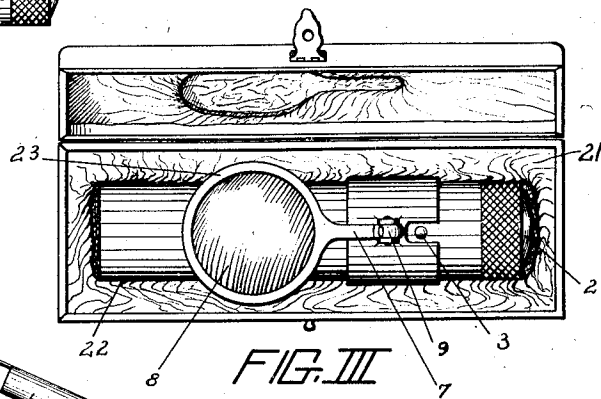


FIG. III

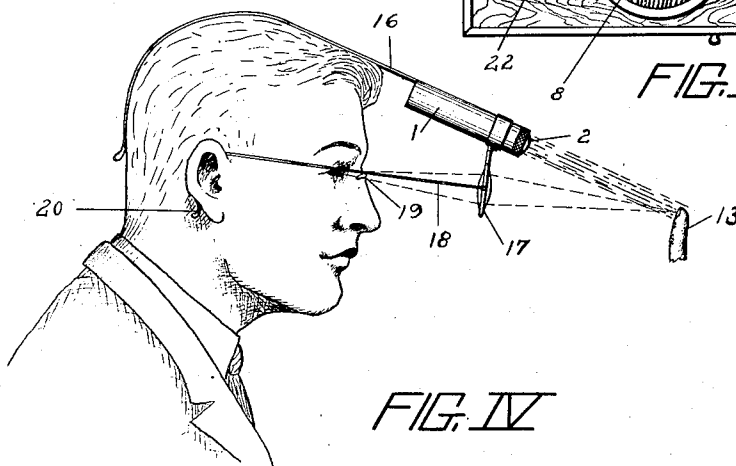


FIG. IV

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Patented Oct. 6, 1925.

1,556,510

UNITED STATES PATENT OFFICE.

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MAGNIFIER.

Application filed December 26, 1922. Serial No. 608,934.

To all whom it may concern:

Be it known that I, BURNHAM W. KING, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Magnifiers, of which the following is a specification.

This invention relates to improvements in magnifiers and has particular reference to a combined illuminating device and magnifier which shall facilitate use of the magnifier under adverse light conditions.

One of the principal objects of the present invention is the provision in connection with a magnifier of means for illuminating the focal point or area of the magnifier so that the object may be most clearly seen.

A further object of the invention is the provision of a device which will accomplish the desired result without undue direct light reflections tending to interfere with the vision.

A further object of the invention is the provision of a device of this character which may be readily folded when not in use and in which the illumination and the position of the magnifier may be simultaneously controlled.

Other objects and advantages of the present invention should be readily apparent by reference to the following specification taken in connection with the accompanying drawings, and it will be understood that I may make any modifications in the specific details of construction shown and described within the scope of the appended claims without departing from or exceeding the spirit of the invention.

Figure I is a perspective view of my improved device in use.

Figure II is a side elevation thereof.

Figure III is a view of the device packed in a suitable case and adapted for the use of physicians and surgeons, and the like.

Figure IV is a semi-diagrammatic side elevation of a different form or embodiment of my invention.

In the drawings, the numeral 1 designates the handle of a suitable electric flash-light or source of illumination, preferably provided with the light projecting lens 2 and with a control button or switch as at 3. This device, which is illustrated as tubular in form, though capable of being made of any desired shape, has mounted thereon the

sleeve or holder 4 provided with the projecting ears 5 between which is pivoted the head 6 of the folding shank 7. This shank 7 is provided at its opposite end with a magnifier or lens 8.

I would call particular attention to the fact that the head 6 is provided with an inclined foot 9 so disposed as when in open position to rest upon and depress the button or switch 3 closing the switch or circuit so that the bulb in the flash-light will be energized and a beam of light projected as at 10. It is further to be noted, as will be best understood by reference to Figure I, that the angle of the portion 9 with respect to the shank 7 is such that the magnifier lens 8 will be supported with its focal point 11 substantially in the axis of the projected beam 10 so that the area viewed through the magnifier will have a substantially uniform illumination. At the same time the lens is supported at such an angle that the light from the flash-light or source of illumination will tend to be reflected off to one side rather than back through the magnifier, so that the glare which might otherwise result and interfere with vision, may be avoided.

A device of this character is capable of many uses, one of which is illustrated, in that it is shown as employed in looking at a splinter 12 forced into the finger 13 adjacent the finger-nail 14. Another special use is the examination of jewelry and precious stones, inside of watches or clocks, texture of cloths or silks, quality of material, examination of seeds, chemicals and minerals, bearings of machinery to see if worn, castings, etc. This is particularly valuable in this connection to physicians desiring to closely and carefully examine minor injuries, cuts, etc., where it is necessary that the area to be examined be brightly illuminated.

The device is also capable of satisfactory use in eye examination.

The holder for the lens can also be made with the universal joint so the lens can be turned in any direction so as to accommodate its focus to any irregularly shaped object to be examined.

A particularly advantage will be seen in the present construction in that the handle or light 1 may be grasped in the usual manner when the thumb of the user will naturally rest upon and hold down the shank

7, thus closing the switch and turning on the light, while when the device is laid down the spring of the switch will throw back the magnifier sufficiently to throw off the light.

5 In Figure IV of the drawings I have illustrated a modified form of my invention in which the handle of the light 1 is secured to a head band member 16 adapted to be secured to the head of the user, while
10 depending from the member 1 is the lens 17 carried by the frame 18 having a nose rest portion 19 and temples 20 for retaining it in position on the face. In this form, as in the others, the magnifier has its focal point
15 lying substantially in the axis of the pencil of light rays from the magnifier so that the area in focus of the magnifier is properly illuminated.

20 In Figure III, I have shown my magnifier as disposed within a suitable box or container 21 having the recess 22 into which the battery case or handle and lens fit, and having a supplemental top recess portion 23 to receive the magnifier lens.

25 I claim:

1. A device of the character described, the combination with a source of luminosity, of a controlling switch therefor and a foldable magnifier having a portion actuating the
30 switch as the magnifier is shifted into operative relation.

2. A device of the character described, including a tubular flash-light, a carrier sleeve embracing the light, and means for supporting
35 a magnifier fitted to the carrier sleeve, said means having an angularly disposed portion for limiting swinging movement of

the magnifier, substantially as and for the purpose described.

3. In a device of the character described, 40 the combination with a flash-light, of a carrier sleeve mounted thereon, a magnifier operatively mounted on the sleeve and foldable against the flash-light when not in use, and projecting therefrom in angular re- 45 lation thereto when in open position, and means carried by the magnifier for controlling the actuation of the flash-light.

4. In a device of the character described, the combination with a flash-light having a 50 projecting control switch, of a carrier mounted thereon adjacent the switch, and a magnifier on the carrier having a portion for engagement with the switch to hold the lat- 55 ter in closed position.

5. The combination with a handle of a flash-light which is adapted to flash a longitudinal beam of light, of a magnifier including a frame with a supporting shank, a band telescopically fitting said flash-light 60 and on which the supporting shank is carried, the shank being pivotally connected to the band, through which the flash-light slidably passes, so that together with the pivotal action of the frame, the focal point 65 from the magnifier lens may be adjusted relatively to an object which is free and unattached with regards to the flash-light and is substantially on the axis of the projected beam of light, and means carried by the 70 pivotal end of the shank to abut with the wall of the flash-light to limit the magnifier in an operative position.

BURNHAM W. KING.