

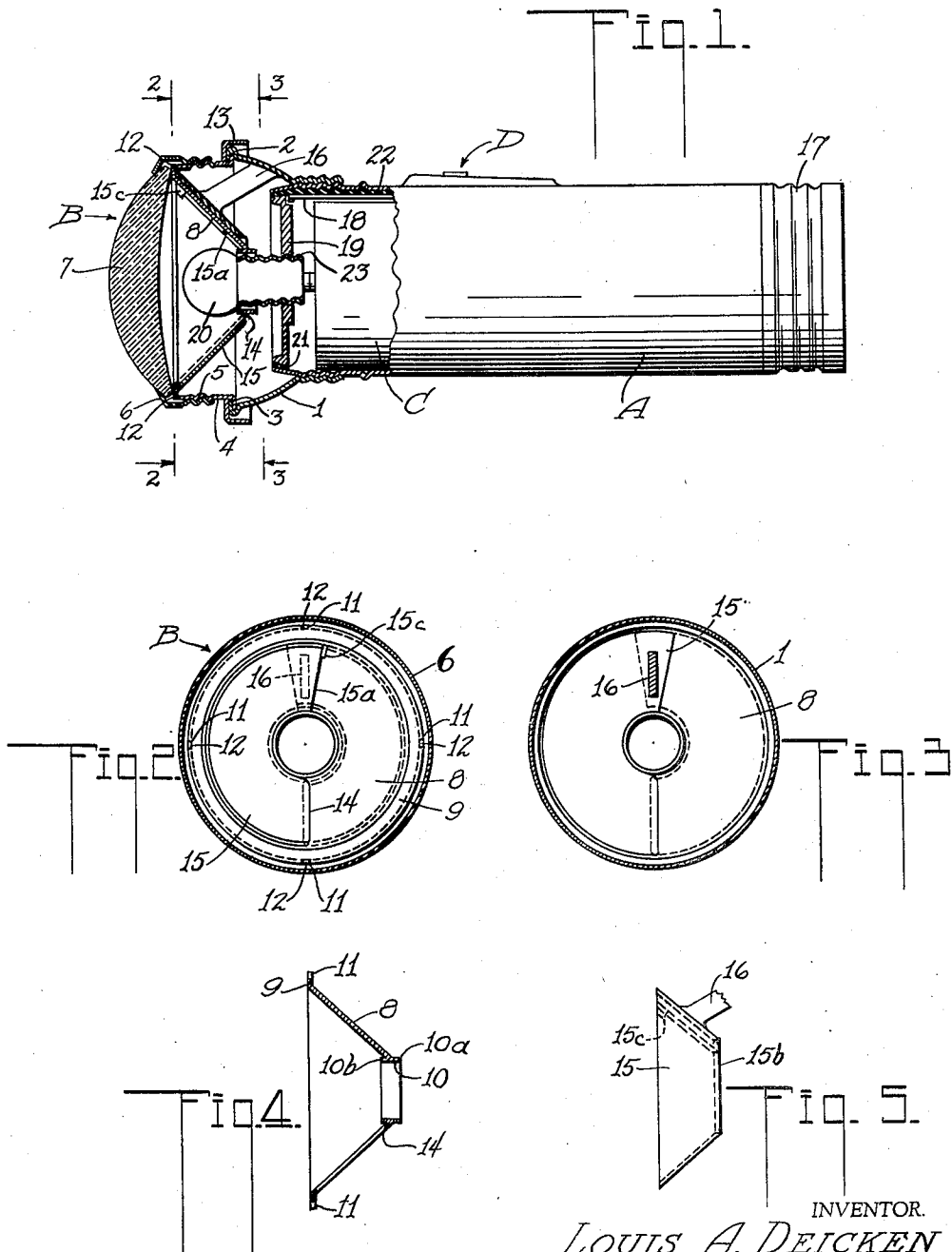
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FLASHLIGHT WITH INTERCHANGEABLE REFLECTORS

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FLASHLIGHT WITH INTERCHANGEABLE REFLECTORS

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3 Claims. (Cl. 240—10.6)

My invention relates to improvements in a flashlight with interchangeable reflector, and it consists of the combinations, constructions and arrangements hereinafter described and claimed.

An object of my invention is to provide a flashlight in which a red reflector can be substituted for the white one when it is desired to give a warning signal. To this end I provide the white reflector of the flashlight with a radial slot and form a red reflector in the shape of a spiral which can be moved through the slot to entirely cover the white reflector when the head of the flashlight is rotated with respect to the casing. A rotation of the parts in the opposite direction will move the red reflector into a position in back of the white one. The casing can be held in one hand and the head of the flashlight in the other and then a relative rotation imparted to both the casing and the head for effecting the change.

The device can be used in a number of places where a red danger signal is needed and also the device may be used in the ordinary manner as a flashlight. The interchangeable reflectors can be placed in the standard flashlight with but slight alterations being necessary. The device is extremely simple in construction.

Other objects and advantages will appear in the following specification, and the novel features of the device will be particularly pointed out in the appended claims.

My invention is illustrated in the accompanying drawing forming a part of this application, in which

Figure 1 is a side elevation of the device, portions being shown in section;

Figure 2 is a section along the line 2—2 of Figure 1;

Figure 3 is a section along the line 3—3 of Figure 1;

Figure 4 is a vertical section through the white reflector; and

Figure 5 is a side elevation of the red reflector.

In carrying out my invention, I make use of a flashlight having a casing indicated generally at A and a head indicated generally at B. The casing A has a portion 1 provided with an annular groove 2 for rotatably receiving the flanged end 3 of a sleeve 4. The sleeve is threaded at 5 for receiving a threaded rim 6 that holds a lens 7 in place.

I make use of a white reflector 8 of either a conical or parabolic shape, see Figure 4, and the reflector is provided with a flange 9 and a double

track 10. The flange 9 bears against the lens 7 and is provided with notches 11 for receiving projections 12 carried by the outer end of the sleeve 4. The projections and notches connect the white reflector 8 to the head B so that a rotation of the head with respect to the casing A will rotate the reflector therewith. If desired, a band 13 may be secured to the sleeve 5 and overlie the grooved portion 2 so that a rotation of the band with respect to the casing will rotate the head. Figure 4 shows the white reflector provided with a radially extending slot 14 therein.

A red reflector, spiral in shape, is shown at 15 in Figure 5. The spiral of the conical red reflector extends through slightly more than a complete circle and the free end 15a is passed through the slot 14 so that a rotation of the reflector, in a clockwise direction when looking at Figure 2, will cause the entire red reflector to cover the white reflecting surface. It will be noted from Figure 5 that the width of the red reflector is equal to the length of the slot 14 and since the slot is substantially coextensive with the width of the white reflector, it is possible to cause the red reflector to entirely cover the white one.

The inner edge 15b of the red reflector rides on the portion 10a of the double track 10 when the red reflector is disposed in back of the white one. As the red reflector is rotated to cover the white one, the edge 15b will ride against the track portion 10b. The red reflector is secured to the casing A by a support 16 that extends from the back of the reflector 15 to the part 1. A relative movement between the two reflectors is caused when the head B is rotated with respect to the casing A.

It is possible to use a white reflector with a number of radial slots and provide a red reflector with a number of sectors movable through the slots. This will do away with the necessity of rotating the head through a complete revolution. The difficulty with this arrangement is that lines of light will appear at the joining of adjacent sectors and the red beam is spotted. The single slot in the white reflector and a spiral red reflector extending through more than a complete circle is the best arrangement.

The casing acts as a housing for a battery C and the rear of the casing is closed by means of a cover 17. A switch indicated generally at D moves a switch arm 18 down against a metallic support 19 to close a circuit to a white light bulb 20. The support or disc 19 is insulated

from the casing by an insulating member 21 and the arm 18 is likewise insulated by an insulating strip 22. The disc 19 carries the socket 23 which in turn receives the light bulb. This construction is standard and forms no part of my invention, except insofar as it cooperates with the other parts.

From the foregoing description of the various parts of the device, the operation thereof may be readily understood.

The red reflector 15 has a projection 15c that engages with the edge of the slot 14 when the red reflector is moved entirely in back of the white one and this prevents the red reflector from becoming disconnected from the white one. The red reflector will normally be disposed in back of the white one and the flashlight is usually used in this manner. When the operator wishes to bring the red reflector into operative position, he merely rotates the head B with respect to the casing A as already stated, until the entire red reflector is moved in front of the white one.

While I have shown only the preferred form of my invention, it should be understood that various changes or modifications may be made within the scope of the appended claims without departing from the spirit of the invention.

I claim:

1. A color-changeable hand flashlight, comprising a pair of nested reflectors of contrasting colors, one of the reflectors being dished and having a central opening and otherwise continuous excepting for a single radial slot, the second reflector being contoured to generally match the dish-form of said one reflector and of spiral shape, said second reflector also being continuous from end to end and having a central opening, one of its free ends occupying the slot thus to stand in a position of readiness for the advance of one reflector across the face of the other reflector in response to a relative turning movement, a battery barrel having a support to which one of the reflectors is affixed and having a lamp bulb extended through the central openings in the pair of reflectors, a lens head having the other reflector attached thereto, and a swivel mount for the head upon the battery barrel providing for a relative turning of the barrel and head to accomplish said movement of said one reflector.

2. A color-changeable hand flashlight comprising a pair of nested reflectors of contrasting colors,

one of the reflectors being dished and having a central opening and otherwise continuous excepting for a single radial slot, the second reflector being contoured to generally match the dish-form of said one reflector and of spiral shape, said second reflector also being continuous from end to end and having a central opening, one of its free ends occupying the slot thus to stand in a position of readiness for the advance of one reflector across the face of the other reflector in response to a relative turning movement, a battery barrel having a support to which one of the reflectors is affixed and having a lamp bulb extended through the central openings of the pair of reflectors, a lens head having the other reflector attached thereto, a track affixed to the margin of the central opening of one of the reflectors, said track bounding said margin and extending both to the front and back of the respective reflector, said track having the margin of the central opening of the other reflector riding thereupon, and a swivel mount for the head upon the battery barrel providing for a relative turning of the barrel and head to accomplish said movement of said one reflector.

3. A color-changeable hand flashlight, comprising a lens head including a sleeve, a battery barrel including a terminal portion, a swivel connection between the sleeve and said portion providing for relative plane turning of the head and barrel, a lamp bulb affixed to the barrel centrally of the terminal portion, extending beyond the confines thereof into the confines of the head, a reflector of a chosen color and of dished form applied to the head, having a central opening to accommodate the lamp bulb and being continuous excepting for a single radial slot, a second reflector of a contrasting color, being contoured to generally match the dish-form of the previous reflector, said second reflector also having a central opening to accommodate the lamp bulb, being a continuous spiral from end to end, one free end occupying the slot and thus to stand in a position of readiness for the advance of one reflector across the face of the other reflector, and a support by which the second and spiral reflector is connected with the terminal portion of the barrel, and means on the rim of the central opening of one of the reflectors adapted to be ridden by the rim of the central opening of the other reflector.

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