

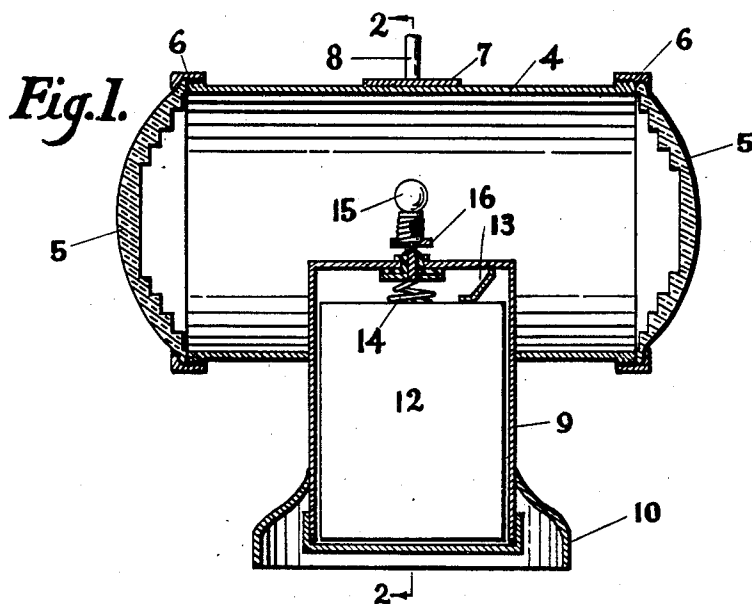
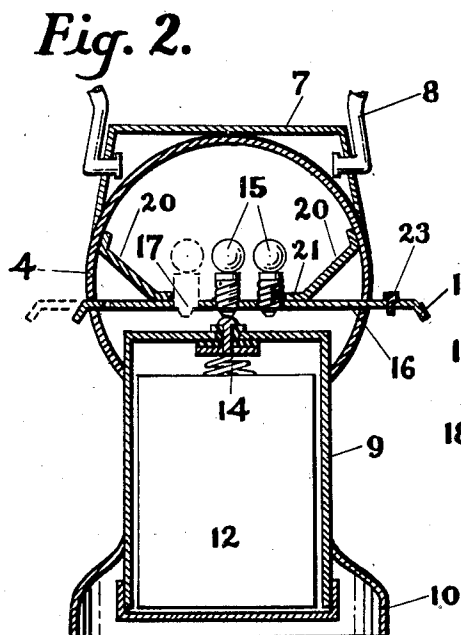
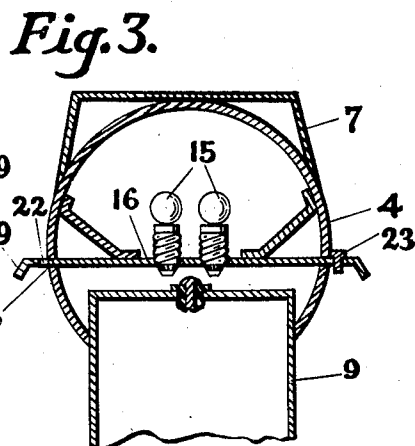
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SIGNAL LANTERN

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SIGNAL LANTERN

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5 Claims. (Cl. 240—10.63)

This invention relates to portable electric signal lights of the type used for railway signalling, and more particularly relates to what is known as the blue light signal lantern.

It is an object of the present invention to provide a two-way blue light lantern that is visible at long distances in night-time operation, and which is capable of continuous operation over relatively long periods.

Another object of the invention is to provide extra lamps in such a lantern and to control the selective use of such lamps so that at least one will always be in condition for use when the lantern is in service.

A further object of the invention is the provision of means to insure a positive focusing action in each operation of the lantern, particularly when a substitute lamp is brought into operation in place of one which has gone dead.

Still another object of the invention is the provision of a simple, durable and efficient blue light lantern which is capable of sustained operation over relatively long periods of time.

Other objects reside in novel details of construction and novel combinations and arrangements of parts, all of which will be fully set forth in the course of the following description.

To afford a better understanding of the invention, reference is made to the accompanying drawing illustrating a typical embodiment of the features of the present invention in a blue light lantern.

In the drawing in the several views of which like parts have been designated similarly,

Figure 1 is a vertical, central section through a lantern embodying the novel features of the present invention;

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

Figure 3 is a fragmentary section corresponding to the section of Figure 2 and illustrating the inactive position of the lamps.

As illustrated in the drawing, the lantern comprises a tubular casing 4, the ends of which are closed by blue ground glass lenses 5 held thereon in any suitable manner such as by threaded clamping rings 6. A strap 7 is fastened on casing 4 and a handle 8 (partially broken away in the drawing) is pivotally attached to said strap to permit the lantern to be swung in the hands of a user. A battery compartment 9 projects downwardly from the central bottom portion of casing 4 and preferably terminates in a flaring bottom 10 providing a suitable base or pedestal for support of the lantern.

Housed within compartment 9 is a suitable battery 12, preferably a single dry cell although multiple cell batteries may be used if desired. A strip terminal 13 and a spring terminal 14 of conventional design are provided to connect the battery 12 in circuit with one of a series of lamps 15.

The lamps 15 are supported on a plate member 16 provided with a series of apertures 17 in which the lamps 15 are screwed. The plate 16 is mounted for lengthwise movement through slots 18 in opposite walls of casing 4, and flanges 19 at the ends of plate 16 limit the degree of its lengthwise movement.

Two plates 20 fixed on the interior wall of casing 4 by welding or in any other suitable manner, terminate in flanges 21 which bear against plate 16 to insure positive contact between the bases of lamp 15 and the terminal 14. Additionally, these flanges 21 are so positioned intermediate the walls of casing 4 that they act as stops to assist the proper positioning of lamps 15 relative to terminal 14.

Provision is made for keeping one of the lamps 15 in continuous service until it fails, and coincidentally keeping the other lamp 15 out of service until such time as its use is required as a replacement. In this way, danger of both lamps going out of service at the same time is almost completely eliminated.

To this end, plate 16 is provided with threaded apertures 22 positioned outside of casing 4 when the lamps are in an inactive position. A set screw 23 is inserted in one of the apertures 22 and so long as it remains in place, only one of the lamps 15 can be brought into register with terminal 14 as illustrated in Figures 2 and 3. At any time such lamp ceases to function, the set screw is removed and plate 16 can then be moved to a position in which the other of the lamps 15 is brought in register with terminal 14.

Figure 2 of the drawing illustrates the various operative lamp positions. The dotted line representation is intended to designate the position of a burnt-out lamp after the removal of set screw 23 and movement of plate 16 to bring the second lamp 15 in register with terminal 14. Figure 3 shows each of the lamps 15 in inactive position.

The use of ground glass lens in a desired color, usually blue, permits the use of standard battery lamps in the lantern. One face of each lens 5 is ground or sand blasted to render the surface light diffusing, and the assembly 4, 5, 5 constitutes a Fresnel lens, in effect. The posi-

tion of such lamps 15 determined by location of plate 16 and stops 21 is predetermined to produce a perfect focus in each actuation of the lamp, and greater visibility at long distances is attained by this arrangement for a given capacity battery than can be attained by using a clear unground lens and colored lamps in a similar arrangement.

The switch operation, in addition to being positive in its circuit-closing function, has the added function of producing the desired focusing for maximum efficiency. The arrangement of component parts insures an efficient, all-weather lantern. With this arrangement, a two-way lighting effect is attained, which in all respects is as efficient or more so than the action of conventional lanterns in which separate lamps are employed for each direction of light emission.

While the lantern of the present invention has been designed primarily as a blue light lantern, it will be understood that, if desired, the device can be employed as a clear light lantern or a red light lantern by substituting clear lens or red lens for the blue lens 5 hereinbefore described.

Changes and modifications may be availed of within the spirit and scope of the invention as defined in the hereunto appended claims.

What I claim and desire to secure by Letters Patent is:

1. A signal lantern comprising an open-ended casing, a colored ground glass lens mounted in closing relation to each end of the casing, a battery-containing chamber extending from the casing intermediate said lenses, a lamp-carrier mounted for sliding movement through opposed walls of the casing transversely to its lengthwise axis and having two lamp-receiving sockets, a lamp bulb in each socket, means within the casing cooperating with the carrier to determine a circuit-closing position for each of said lamps, and means, including an abutment, mounted at one end of the carrier in a position to contact the casing during movement of the carrier to limit its movement to one circuit-closing position, said abutment being adapted for interchangeable mounting at opposite ends of the carrier and determining by its location which one of the two lamps may be brought into operative contact with the terminal.

2. An electric signal lantern comprising a lamp casing, inclusive of a battery housing portion, a carrier for a plurality of lamps mounted for manual reciprocating movement in opposed walls of the casing to bring selective lamps into contact with a terminal of the battery, means within the casing limiting the range of reciprocating movement of the carrier and determining the terminal-contacting position of the lamps, and means including an abutment mounted at an end of the carrier outside the casing in a position to contact the casing and limit carrier movement in one direction within said range, thereby permitting only a single lamp to be moved into terminal-contacting position for any given adjustment of said means, said

abutment being adapted for interchangeable mounting at opposite ends of the carrier and determining by its position which one of the lamps may be brought into operative contact with the terminal.

3. An electric signal lantern, including a casing carrying at least one focusing lens, and a plurality of lamp bulbs, only one of which may be lighted at one time and the remainder of which are carried in reserve, comprising a movable metal carrier having threaded sockets for said lamps, a battery housing, a contact extending from said battery housing to be contacted by the extending central contact of a lamp, and a movement-limiting metal member adapted to exert pressure against said carrier and completing the lamp circuit through said battery housing and said casing and arranged to contact a lamp not in operation to determine the operative position of the lamp whose central contact is connected with said battery.

4. An electric signal lantern, including an open-ended casing carrying a colored, ground-glass, focusing lens at each end of the casing, and a plurality of lamp bulbs, only one of which may be lighted at one time and the remainder of which are carried in reserve, comprising a metal carrier having threaded sockets for said lamps and mounted for movement transversely of the lengthwise axis of the casing, a battery housing, a contact extending from said battery housing to be contacted by the extending central contact of a lamp, and a movement-limiting metal member adapted to exert pressure against said carrier and completing the lamp circuit through said battery housing and said casing and arranged to contact a lamp not in operation to determine the operative position of the lamp whose central contact is connected with said battery.

5. An electric signal lantern, including a casing carrying at least one focusing lens, and a plurality of lamp bulbs, only one of which may be lighted at one time and the remainder of which are carried in reserve, comprising a movable metal carrier having threaded sockets for said lamps, a battery housing, a contact extending from said battery housing to be contacted by the extending central contact of a lamp, a movement-limiting metal member adapted to exert pressure against said carrier and completing the lamp circuit through said battery housing and said casing and arranged to contact a lamp not in operation to determine the operative position of the lamp whose central contact is connected with said battery, and means including an abutment mounted at one end of the carrier in a position to contact the casing during movement of the carrier to limit its movement to one circuit-closing position, said abutment being adapted for interchangeable mounting at opposite ends of the carrier and determining by its location which one of the lamps may be brought into engagement with the battery housing contact.

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