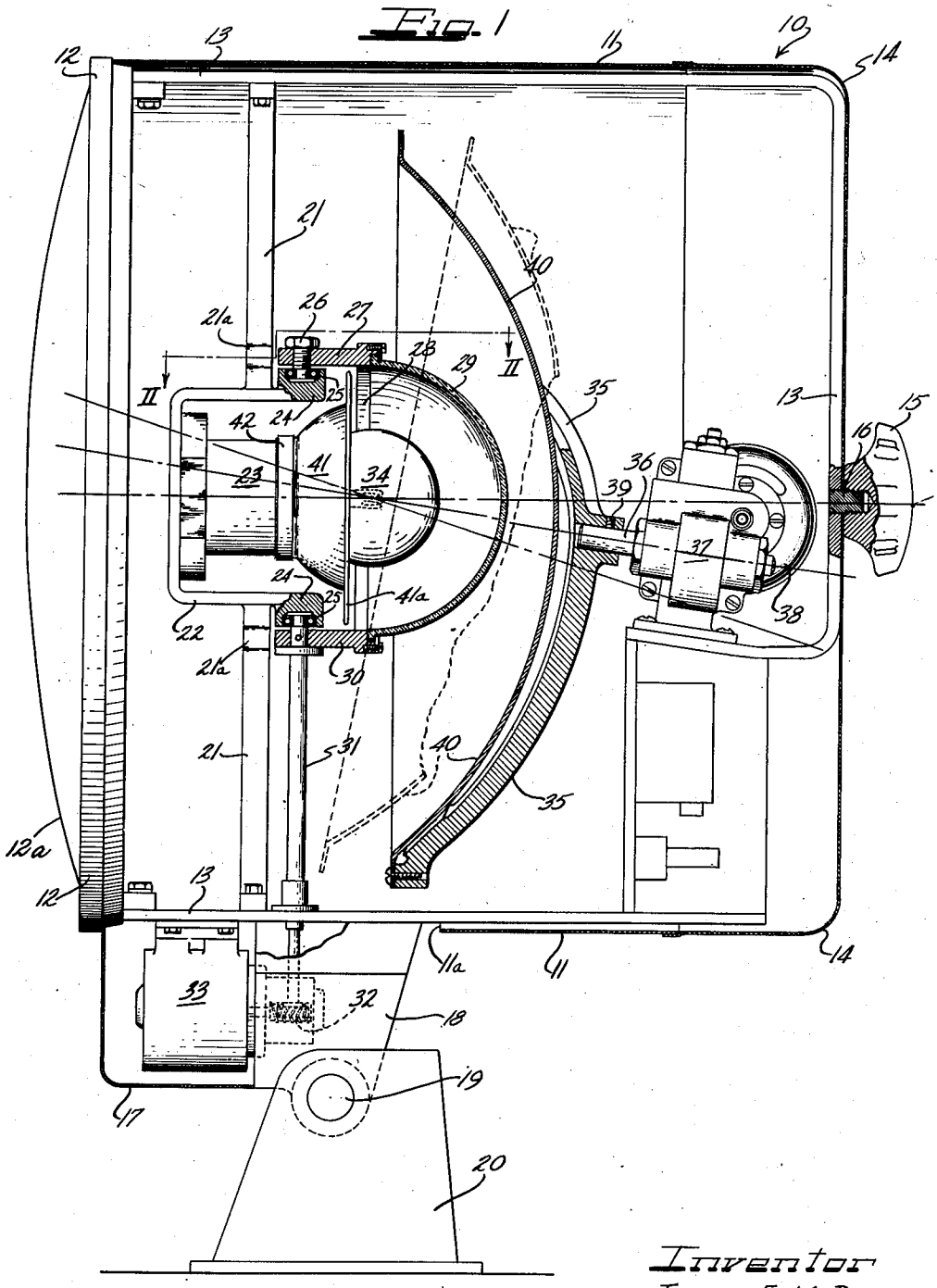
Aug. 19, 1952 T. E. McDOWELL 2,607,838

WARNING LIGHT

Filed March 3, 1949 2 SHEETS—SHEET 1

Fig. 1



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Filed March 3, 1949 2 SHEETS—SHEET 2

Fig. 2

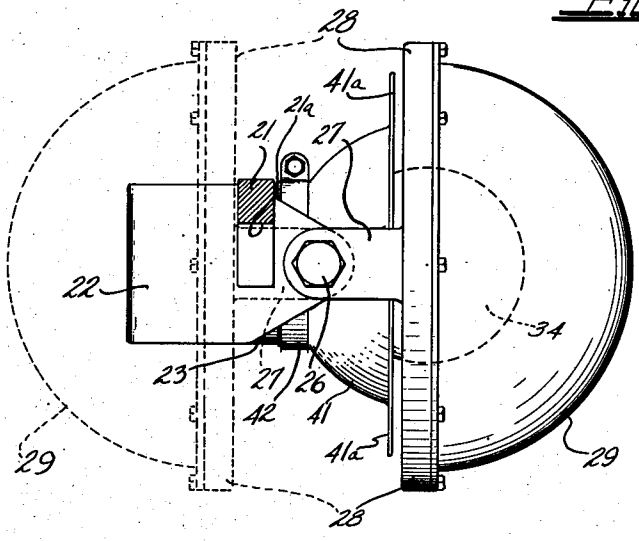
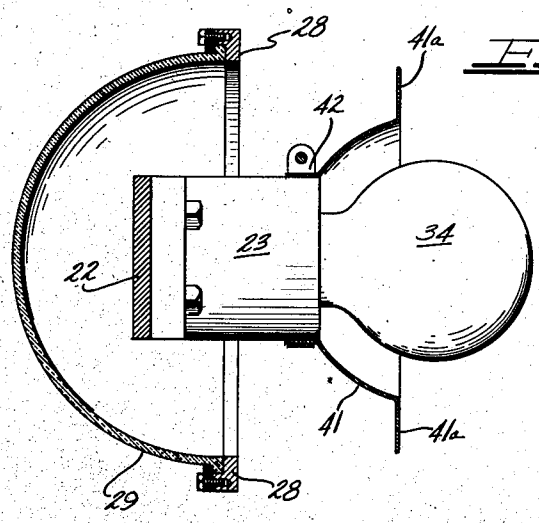


Fig. 3



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Patented Aug. 19, 1952 2,607,838

UNITED STATES PATENT OFFICE

2,607,838

WARNING LIGHT

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Application March 3, 1949, Serial No. 79,443

6 Claims. (Cl. 177—327)

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This invention relates generally to illumination apparatus, and more particularly to a novel and improved lighting fixture which is uniquely adapted to be carried upon vehicles such as railroad trains or the like for use as an auxiliary headlight or warning light or which may be mounted in a strategic location for signalling or warning purposes.

A lighting fixture constructed in accordance with the present invention includes a drum-type enclosure having a clear lens affixed in one end thereof which is adapted to enclose and support a gyrating light structure which may be selectively operated to produce gyrating beams of light of different hue. The gyrating light structure includes a light source which is mounted in firm assembly within the enclosure and a motor-driven reflector unit having an angularly displaced reflector positioned so as to have a reflected beam of light define an oscillatory path whenever the reflector unit is gyrated relative to the source of light.

In order to accomplish selective color screening of the instant lighting apparatus, the present invention contemplates the use of a movable color screen unit which may have pivotally mounted elements within the enclosure arranged for selective positioning from a non-interceptive position forward of the light source to an interceptive position in the region between the light source and the reflector unit. Thus, when the color screen unit is moved into the region between the light source and the reflector unit, light rays emanating from the source of light pass through a color screen thereby assuming the hue thereof and may be subsequently reflected by the gyrating reflector in the form of a gyrating beam of colored light.

The provision of a lighting fixture of the type described which features the movement of a color screen unit into and out of a region between the light source and the reflector unit permits the construction of a lighting fixture of highly simplified design having a greatly reduced number of elements.

It is an object of this invention to provide a lighting fixture having a source of light and a gyrating reflector unit with a color screen mechanism operable to move a color screen into and out of a region between the light source and the reflector unit.

A further object of this invention is to provide a lighting fixture of the type operable to produce a selectively colored gyrating beam of light which

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is of compact assembly and which is completely efficient for its intended purpose.

Many other objects and advantages of this invention will become manifest to those versed in the art upon making reference to the following detailed description and the accompanying drawings in which:

Figure 1 is a side elevational view, partly broken away and partly in section, showing a lighting fixture constructed in accordance with the teachings of my invention;

Figure 2 is a fragmentary cross-sectional view taken on line II—II of Figure 1; and

Figure 3 is a fragmentary plan view of some of the elements shown in Figure 2, partly in section and with parts removed, to show the relative positioning of the color screen unit incorporated in the instant invention.

As shown on the drawings:

Referring to Figure 1, a lighting fixture constructed in accordance with the present invention is indicated generally by the reference numeral 10. The fixture 10 includes a drum-type enclosure 11 which has one end seated on a ring-like casting 12. A rearwardly projecting frame element 13 is affixed to the casting 12 and may be formed of a wide piece of bar stock bent in the form of a substantially U-shape as shown. An end closure 14 may be drawn up in firm assembly with the drum-type enclosure 11 by means of a knob 15 threadedly received upon a stud 16 integral with the frame element 13 and projecting through the end closure 14. The ring-like casting 12 may be adapted to receive a clear lens 12a in firm assembly therewith.

The bottom portion of the drum-type enclosure 11 is cut out as at 11a so as to receive a motor casing 17 and pass a mounting lug 18. The mounting lug 18 may be pivotally connected as at 19 to any suitable form of support such as a pedestal 20 and may be moved in pivotal relation thereto as and for adjustment of the fixture 10 on any desired horizontal axis.

Spaced inwardly from ring-like casting 12 is a strut 21 which lies generally on a diametric axis of the fixture enclosure. The strut 21 may be firmly affixed to the frame element 13. A receptacle member 22 is carried by the strut 21 and, as shown, preferably defines a well-like form for receiving a socket receptacle 23 in firm assembly therewith. The receptacle member 22 further defines a pair of oppositely extending boss portions 24 which may be adapted to receive conventional bearing races as at 25.

As may be most clearly seen on Figures 1 and

2, the bearing race 25 in the upper boss portion 24 carries a pivot pin 26 which extends through the projecting arm 27 of a screen frame 28. The screen frame 28 is suitably adapted to carry a color screen 29 which may be made of clear colored glass or plastic. The color screen 29 shown in this embodiment takes the form of a semi-spherical element, however, it should be noted that the arcuate configuration of the screen 29 could be varied to assume any well known structural shape without departing from the spirit of this invention.

A corresponding arm portion of the screen frame 28 diametrically opposed to the arm portion 27 is indicated at 30 and may be connected by means of a suitable pin to a shaft 31 which extends through the arm 30 for seating within the bearing race 25 carried by the lower boss portion 24 of the receptacle member 22. The shaft 31 extends downwardly through the frame element 13 and is provided with a suitable driven connection to the geared shaft 32 of a two-directional motor 33 which depends downwardly from the frame element 13 and is suitably enclosed by the motor casing 17.

The strut 21 may be suitably offset as at 21*a* so as to permit pivotal rotation of the screen frame 28 about the receptacle member 22.

A bulb 34 may be turned into the socket receptacle 23 for use as a light source. A reflector shield 41 is provided which may be placed in proximity to the lower portion of the bulb 34 to control the emission of light rays therefrom. The shield 41 may have a conventional spring joint cooperable with the socket 23 and may be locked in place by means of a locking band 42.

As will be noted from the drawings, the reflector shield 41 is provided with a flange portion 41*a* which effectively precludes the emission of scattered rays of natural light into the beam of colored light when the screen 29 is positioned between the bulb 34 and the reflector 40.

When the screen 29 is positioned in its forwardmost position, the reflector shield prevents the reflection of light through the inactivated screen 29 and thereby precludes the introduction of colored light into the beam of natural light.

It will also be apparent that the reflector shield 41 may have its inner surface suitably treated so as to be reflective thereby promoting the effective transmission of light rays from the bulb 34 towards the reflector 40.

Referring further to Figure 1, a reflector spider is indicated at 35 which may be locked to a shaft 36 extending from a gear box 37 associated with a motor 38 by means of a set screw 39. A generally parabolic reflector 40 is carried by the reflector spider 35.

As shown on Figure 1, the gear box 37 and the motor 38 are carried by the frame element 13 in such a manner so as to angularly displace the optic axis of the reflector 40 relative to the horizontal axis of the fixture 10. The spider 35 is also angularly displaced so as to maintain the bulb 34 at the focal point of the reflector 40 at all times. Thus, when rotated the reflector 40 defines an angularly eccentric rotative path as is indicated by the dotted line position and the rays of light emanating from the bulb 34 will be projectingly reflected by the reflector 40 past the bulb 34 and through the open end of the fixture 10 in such a manner as to define a beam of light with an oscillatory path.

In operation, the instant warning light fixture may be selectively operated to produce gyrating beams of warning light of different hue. Such operation is obtainable through the selective actuation of the color screen mechanism.

As will be evident upon reference to Figures 1, 2 and 3, the screen frame 28 pivotally mounted to the receptacle member 22 may be rotated to an interceptive position whenever the color screen 29 moves into the region between the bulb 34 and the reflector 40. In this position, light rays emanating from the bulb 34 pass through the color screen 29, assume the color thereof, and are projected outwardly by the reflector 40.

If a gyrating beam of white light is desired, the screen frame 28 may be pivoted to carry the color screen 29 to an inactive position shown in dotted lines in Figure 2 and in full lines in Figure 3. In this position, rays of light emanating from the bulb 34 are projected outwardly by the reflector 40 thereby producing a gyrating beam of white light.

It will be understood that the two-directional motor 33 may be controlled by conventional limit type switches and reversing switches (not shown) so as to permit 180° rotation of the color screen mechanism as provided herein or any other lesser degree of rotation as may be desired.

Although I have resorted to detail in the description of my invention for the sake of clarity it will be apparent to those versed in the art that many modifications may be made to the preferred embodiments herein shown without departing from the spirit of my invention.

I claim as my invention:

1. A warning and signaling light comprising a stationary source of light arranged to emit rays of light in one direction, a movable parabolic reflector in spaced alignment with said source of light to collect and focus the emitted rays of light into the form of a beam, means to move said reflector to direct said beam in an opposite direction and in a changing pattern of light, and a color filter selectively interposed in the region between said source and said reflector to color the rays of light emitted towards said reflector, whereby the changing pattern of light will be selectively colored.

2. A warning and signaling light comprising a stationary source of light arranged to emit rays of light in one direction, a movable parabolic reflector in spaced alignment with said source of light to collect and focus the rays of light into the form of a beam, means to rotate said reflector in an angularly eccentric rotative path to project the beam in an opposite direction and forming a changing pattern of light beyond said source of light, and a movable color filter selectively aligned in a first inactive position and in a second position interposed in the region between said stationary source of light and said movable parabolic reflector to color the rays of light emitted towards the movable parabolic reflector, whereby the changing pattern of light will be selectively colored.

3. A warning and signaling light comprising a casing having an open end, a light source adjacent the open end of the casing and arranged to emit rays of light into the casing, a movable parabolic reflector in the casing arranged to collect and focus the emitted rays of light into the form of a beam projecting out of the open end of the casing, means to move said reflector to move said beam in a changing pattern of light, and a

color filter movable from a first inactive position between the open end of said casing and said light source to a second position interposed between said light source and said reflector to color the rays of light emitted towards said reflector, whereby the changing pattern of light will be selectively colored.

4. A warning and signaling light comprising a casing, a lens in one wall of said casing, a light source spaced from said lens and arranged to emit rays of light into said casing, a movable parabolic reflector in said casing spaced from said light source and arranged to collect and focus the emitted rays of light into the form of a beam projecting outwardly of said casing through said lens, means to move said reflector to move said beam in a changing pattern of light, and a color filter unit including a color filter movable from a first inactive position between said lens and said light source to a second position between said light source and said reflector to color the emitted rays of light, thereby to selectively color the changing pattern of light.

5. A warning and signaling light comprising a casing, a lens in one wall of said casing, a light source spaced from said lens and arranged to emit rays of light into said casing, a movable parabolic reflector in said casing spaced from said light source and arranged to collect and focus the emitted rays of light into the form of a beam projecting outwardly of said casing of said lens, means to move said reflector to move said beam in a changing pattern of light, and a color filter unit including a color filter movable from a first inactive position between said lens and said light source to a second position between said light source and said reflector to color the emitted rays of light, thereby to selectively color the changing pattern of light, said color filter unit further including control means to selectively actuate said color filter between said first and second positions.

6. A warning light comprising a stationary light emitting source arranged to direct light rays in one direction, a movable substantially parabolic reflector in spaced alignment with said source to collect and focus the directed light rays from said source into a beam of light projecting in an opposite direction beyond said source, means to selectively move said reflector to project the beam of light in a changing pattern of light, a color filter means selectively interposed between said source and said reflector to color the directed rays of light, whereby the changing pattern of light is selectively colored.

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