Aug. 18, 1925. 1,549,754

E. A. EVERETT

FOCUSING SIGHT FOR SIGNAL LAMPS

Filed Aug. 11. 1924 2 Sheets-Sheet 1

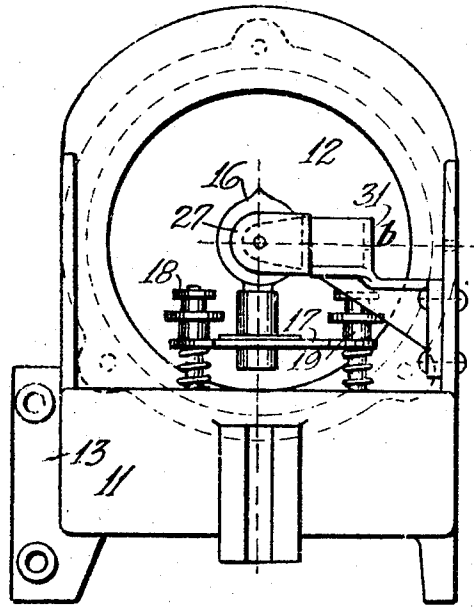


Fig. 2

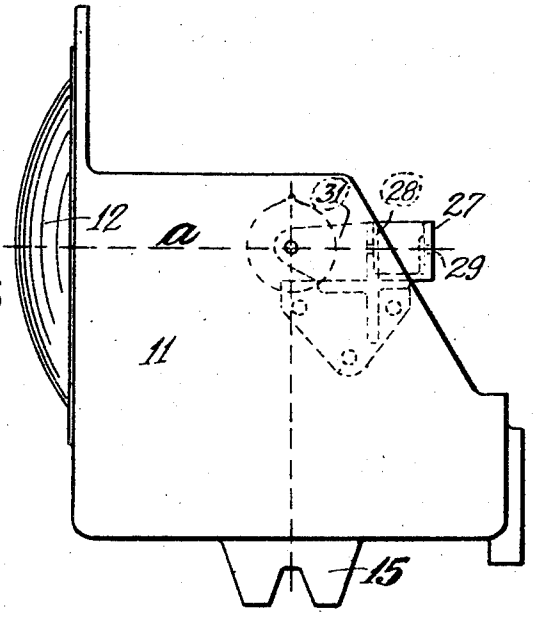


Fig. 1

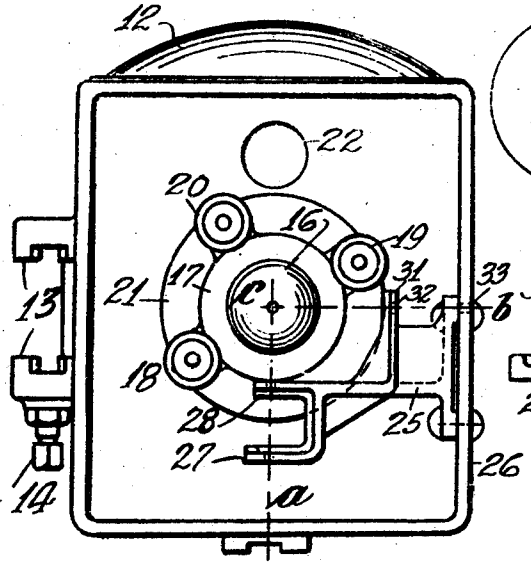


Fig. 3

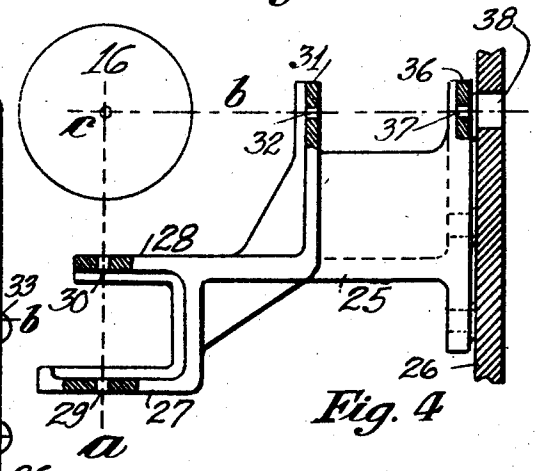


Fig. 4

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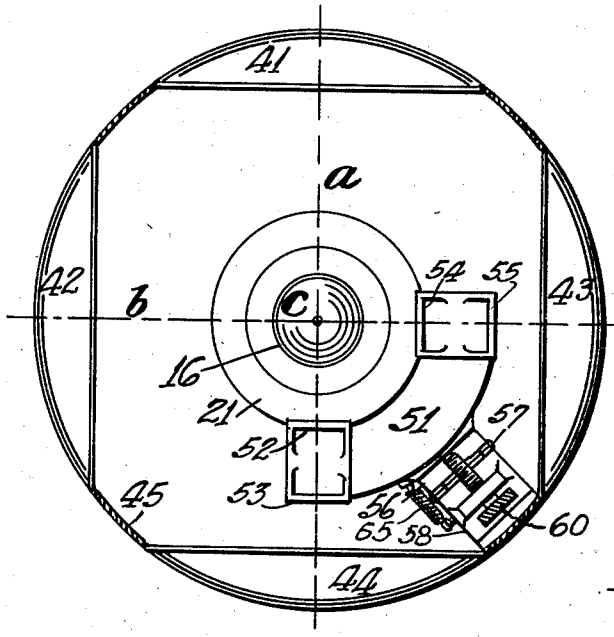


Fig. 5

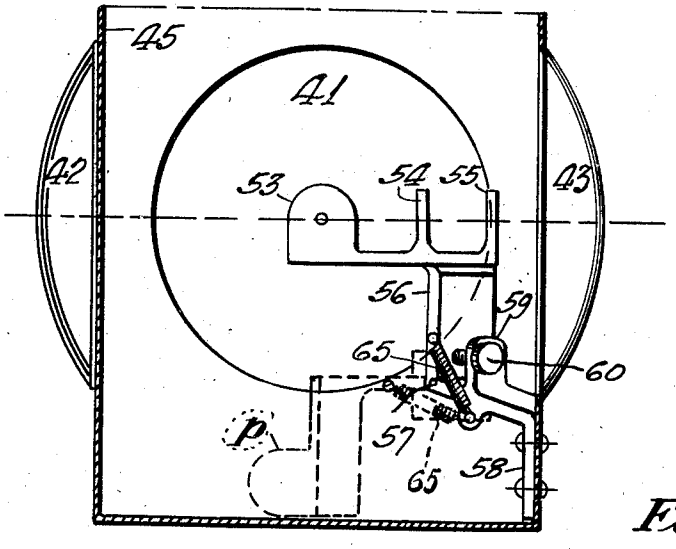


Fig. 6

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Patented Aug. 18, 1925. 1,549,754

UNITED STATES PATENT OFFICE.

EDWARD A. EVERETT, OF LONG ISLAND CITY, NEW YORK.

FOCUSING SIGHT FOR SIGNAL LAMPS.

Application filed August 11, 1924. Serial No. 731,328.

To all whom it may concern:

Be it known that I, EDWARD A. EVERETT, a citizen of the United States, and a resident of Long Island City, New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Focusing Sights for Signal Lamps, of which the following is a specification.

This invention relates to signaling lamps and particularly to a focusing sight which is embodied in the lamp for the purpose of bringing the source of light into the focus of the lens and it has for an object to provide a sight of this kind which is an integral part of the lamp housing and which enables the source of light to be positioned in three planes at right angles to each other. These and other objects of the invention will be more fully understood from the following specification and the accompanying drawings, in which, Fig. 1, is a side elevation of a lamp housing with the cover removed having my invention in place, Fig. 2 is an elevation from the rear looking towards the lens, Fig. 3 is a plan view corresponding to Fig. 2, Fig. 4 is an enlarged view of the sighting device, a modification of Fig. 3 showing its relation to an electric lamp bulb, Fig. 5 is a plan view and Fig. 6 is an elevation showing my invention used with multiple-lens lamps.

The introduction of lamp bulbs of the concentrated filament type has made possible the use of such bulbs as a source of illumination for railway signal lights and which may be controlled by the regular signal circuits. The filament in bulbs of this type is confined to a small point and for proper results it is necessary that this point be located in the focal centre of the lens. The bulb, itself, is usually mounted upon an adjustable stand so that by a screw adjustment, the filament can be brought into the exact position desired. The present invention is directed to a means whereby this exact position of focus can readily be determined within the lamp housing itself. This comprises a permanent fixture with a sighting arrangement at right angles which can be brought to bear upon the filament. The filament can be sighted in daylight without being illuminated and it can be sighted at night by its own illumination.

The invention comprises a bracket in the form of a casting which is fixedly riveted to the lamp housing. This bracket has a pair of spaced arms with aligned sights and at right angles thereto another pair of spaced arms with aligned sights. The bracket is so located that the intersection of these sights is the focal point desired and when the filament is sighted through both sets of arms it is in the focal centre of the lens. This bracket is located behind the lamp, does not require a special lens and does not obstruct the light between the bulb and the lens. As the filament is located outside of the sights it can only be seen as a spot through the sights so that, if illuminated, the glare from the light does not prevent accurate findings.

Referring to the drawings, 11 is the lamp housing which, as shown, is constructed according to the Railway Signal Association standards. The cover of this housing is not shown in the drawings. The lens 12 secured in front of the lamp housing, projects the light from bulb 16 and the object is to locate the bulb filament in the focal centre of this lens. The jaws 13 receive the supporting bracket which is centered on 15 and clamped by the screws 14. This supporting bracket is not shown in the drawings.

The lamp bulb 16 is supported by the plate 17 which is adjustably positioned by the screws 18, 19 and 20 relative to the base 21 which is secured to the bottom of the lamp housing. This support is more fully described in my co-pending application, Serial No. 686,574, filed January 16, 1924. The wires for the circuit of the lamp bulb are brought into the housing through the opening 22.

The sighting bracket 25, is preferably made from a casting and riveted to the side 26 of the lamp housing as shown. The arm 27 is provided with a sight hole 29 and the arm 28 is provided with the sight hole 30 on the line *a*. At right angles to the arms 27 and 28 is the arm 31 provided with the sight hole 32 and on line *b* Fig. 3 a sight hole 33 is provided in the wall 26. Lines *a* and *b* are on the same horizontal plane and line *a* is on the axial centre of the lens 12. The bracket is located so that line *b* is spaced the focal distance back from the

lens. It is apparent therefore that the intersection of lines *a* and *b* is the focal point desired.

The lamp bulb is adjusted until the filament is sighted on line *a* and is again adjusted until it is sighted on line *b*, the final adjustment bringing the filament into the point *c*. The sighting bracket being a fixed part of the lamp housing, when bulbs are replaced the means of sighting is always available and its relation to the lens is never changed.

The style of lamp housing shown has the rear section removed exposing the arms 27 and 28 on line *a*. The side of the housing 26 intersects the sight line *b* and it is necessary to drill hole 33 through this side as shown in Fig. 3 for sighting purposes. In the style of bracket shown in Fig. 4 a large hole 38 is drilled in side 26 on the sight line *b* and a lug 36 is provided on the bracket 25 with the sight hole 37 aligning with 32. In this construction the bracket can be drilled on the side lines before it is assembled in the housing and the large hole 38 does not have to be accurately positioned with reference to the sight line.

It is apparent that arms may be formed in the casting itself to perform the functions of bracket 25 which may be provided with sights as shown located with reference to the lens, the latter and the sights having a fixed relation to each other.

The system described relates to a lamp with a single lens. When a plurality of lenses are used in the same housing it is apparent that the sighting device might intercept the light to some of the lenses if constructed of a solid piece as shown in Fig. 4. The sighting device, therefore, is made collapsible on a pivot so that it may be turned out of the plane of the lenses and brought into use as desired by bringing the pivoted member to bear against a stop.

The lantern in Fig. 5 has a plurality of lenses 41, 42, 43 and 44 supported by the housing 45. These lenses are all illuminated from the central source at *c* and the lantern is so constructed that *c* is the focal centre of all of the lenses. If, therefore, the source of light is properly focused at *c* for one lens it will be in the focus of the other lenses.

The sighting device comprises the bracket 51 with the upstanding arms 52 and 53 on the sight line *a* and the upstanding arms 54 and 55 on the sight line *b* which is on the same plane and at right angles to *a*. Formed integral with 51 is the vertical support 56 which is pivoted at 57 to the fixed bracket 58. A lug 59 on 58 carries the stop screw 60 whereby the vertical position of 56 may be adjusted. Spring 65 holds 56 in position against the stop. The bracket 51 moving on the pivot 57 may be turned into the position indicated in dotted outline at *p* where it rests on the bottom of the housing. In this position it will be noted that the sighting device is removed from the plane of the lenses which can be fully illuminated from the central source.

The device is in the sighting position when the sights align with lines *a* and *b*, the stop screw 60 may be used to bring it into this position. It is found in practice that a sight may be taken through a lens to the light when it is illuminated, or of course the lens may be removed for this purpose.

Having thus described my invention, I claim:

1. In combination, a lamp housing having a lens and a bracket secured within said housing having a device with a plurality of sights at right angles to each other arranged to sight directly upon the focal centre of said lens said device pivotally supported and held in position by a spring.

2. In combination, a lamp housing having a lens, a source of illumination for said lens adjustably positioned in said housing and a device with a pair of sight arms within said housing on the side of said source away from said lens arranged on the axial line of said lens, said device pivotally supported and held in position by a spring.

3. In combination, a lamp housing having a lens, a source of illumination for said lens adjustably positioned in said housing, a pair of sight arms arranged on the axial line of said lens and another pair of sight arms arranged to intersect the axial line of said lens at right angles, said sight arms located entirely within said housing and to one side of said source of illumination.

4. In combination, a lamp housing having a lens, a source of illumination for said lens adjustably positioned in said housing, a bracket secured to and entirely within said housing having a pair of arms with a sight and a second pair of arms with a sight at right angles to the first sight, said bracket located so that the direct sights from said arms intersect at the focal point of said lens.

5. In combination, a lamp housing having a plurality of lenses at right angles to each other, a source of illumination for said lenses, and a pivotally supported sighting device wholly within said housing for locating said source in the focal centre of said lenses, said device capable of moving on said pivot out of the plane of said lenses.

6. In combination, a lamp housing having a plurality of lenses at right angles to each other, a source of illumination for said lenses, a sighting device entirely within said housing having a plurality of intersecting sights for locating said source in the focal centre of said lenses and means whereby said sighting device may be removed from the plane of said lenses.

7. In combination, a lamp housing having

a plurality of lenses at right angles to each other, a source of illumination for said lenses, a sighting device having a plurality of intersecting sights for locating said source in the focal centre of said lenses and positioned between said source and one of said lenses, said device pivotally supported by said housing and capable of folding clear of the plane of said lenses.

8. In combination, a lamp housing having a plurality of lenses at right angles to each other, a source of illumination for said lenses, a sighting device having a plurality of intersecting sights for locating said source in the focal centre of said lenses, said device capable of moving out of the sighting plane and adjustably supported by said housing.

Signed at New York in the county of New York and State of New York this 25 day of July A. D. 1924.

EDWARD A. EVERETT.