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2,361,287

REFLECTOR AND MOUNTING THEREFOR

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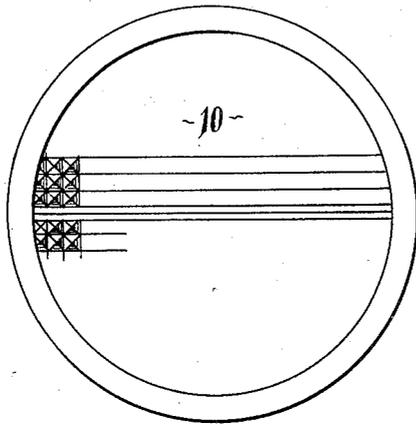


FIG. 1.

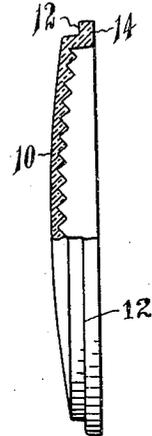


FIG. 2.

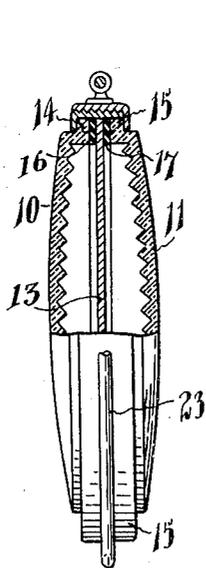


FIG. 3.

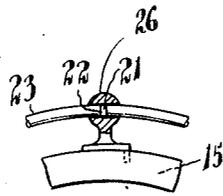


FIG. 4.

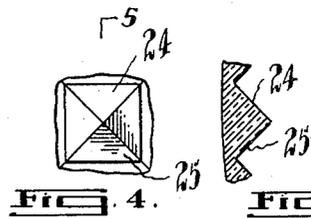


FIG. 5.

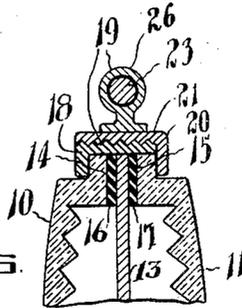


FIG. 6.

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REFLECTOR AND MOUNTING THEREFOR

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2 Claims. (Cl. 88—80)

The invention is relative to improvements in reflectors and mounting therefor, as described in the present specification and illustrated in the accompanying drawing that forms a part of the same.

The invention consists essentially of the novel features of construction as pointed out broadly and specifically in the claims for novelty following a description containing an explanation in detail of acceptable forms of the invention.

The objects of the invention are to provide improvements in a reflector and mounting therefor, which unit is suitable for use under widely diversified conditions; to furnish a reflector and mounting which are particularly applicable for use by pedestrians obliged to use unlighted roads at night or when visibility is poor; to provide a reflector and mounting which shall be reversible; to furnish a reversible reflector which shall reflect two different colours of light; to provide a reflector and mounting which may be easily held in the hand with either coloured surface turned towards the lights of traffic approaching from the front or from the rear; to provide a reflector of the character described in which beams incident through a wide cone of incidence and, striking the aperture, are reflected with the minimum amount of loss; to furnish a reflector and mounting therefor adapted for use as signals or signs on roads, railroads, airports, ships, harbours and the like; to provide a reflector and mounting therefor which may be made of glass, plastics or any other suitable materials; and generally to provide a reflector and mounting therefor which is light in weight, simple in design, inexpensive to manufacture, and has a maximum amount of efficiency for its purpose.

Further objects will appear from the detailed description taken in connection with the accompanying drawing, in which:

Figure 1 is a front elevational view of the reflector lens.

Figure 2 is a part cross-sectional and part side elevational view of Figure 1.

Figure 3 illustrates the mounting of the lenses with the reflector.

Figure 4 is a detail of one of the rear facets of the lenses.

Figure 5 is a sectional view of Figure 4.

Figure 6 is an enlarged detailed cross-sectional view of the upper part of Figure 3.

Figure 7 is an enlarged partial sectional view of the stud member and ring therethrough.

Like numerals of references indicate corresponding parts in the various figures.

Referring to the drawing: it will be seen that the structure of the pedestrian manually-held unit illustrated comprises the spherical surfaced lenses 10 and 11, each having an integral peripheral flange 12.

Secured between the lenses is the circular polished reflecting member 13. Secured between the inner edges 14 and 15 of the lenses 10 and 11 respectively and the reflector 13, are the circular washers 16 and 17 made of suitable compressible material.

Fitting over the outer aligned edges of the flanges 12, the washers 16 and 17 and the reflector 13, is the circular mount member 18 threaded on its external surface 19 and, secured over the threaded surface 19, is a second internally threaded securing member 20, to the upper surface 21 of which is secured the projecting stud member having therein an aperture 22 through which is secured the ends of the ring member 23.

Referring more particularly to the lens members illustrated in Figures 3, 4, and 5, it will be seen that the outer surfaces of both lenses are identical, each consisting of a spherical surface of large radius.

The inner surfaces of both lens members are also identical and consist of a plurality of pyramidal members contiguous with each other, and in which the line joining the apexes of the pyramids in section is approximately concentric with the external curvature of their respective lens surfaces.

The form of each rear lens surface will be understood by reference to Figures 4 and 5 and consists of an aggregate of pyramidal members in which each member of the aggregate is an identical pyramid having an angle between any opposite surfaces 24 and 25 of a magnitude greater than twice the critical angle of the material of which the lens is made. The lenses may be made of different coloured materials.

In operation the reflector functions as follows:

Assuming that the reflector is held in the hand by the side of the pedestrian as he walks along a dark road, the front reflecting surface 10 is held towards the oncoming traffic, that is traffic approaching the pedestrian from the front, while the rear reflecting surface 11 is held towards traffic approaching from the rear of the pedestrian.

The light from an oncoming vehicle, incident through a wide cone of incidence on the front surface of the lens, will be reflected as much as

seventy-five percent by the rear surface of the lens, comprised of the pyramidal members.

In the same manner, light incident on the rear coloured surface of the lens will be similarly reflected.

Any light rays which are not reflected by the aggregate of pyramids on the rear surface of the lenses will be reflected by means of the polished metal reflector 11, so that there will be a minimum loss of illumination by either lens.

It will be understood that, when in use, the ring member 23 is extended vertically above the reflector and is secured to the whole unit by means of the stud 22 but, when not in use, the reflector may be carried in the pedestrian's pocket and the ring member is then folded back with the diametrical opposite part of its circumference to the stud 22 close to the corresponding part of the outer surface 21 of the member 20.

It will be obvious that various changes and modifications may be made in the details of construction without departing from the spirit and scope of this invention; it is, therefore, to be understood that the invention is not to be limited to the specific details shown and described.

What I claim is:

1. In a reflector and mounting therefor, in combination, two identical shaped but differently coloured reflecting lenses having a reflector member located between said identical reflecting lenses, said identical lenses each comprising an outer surface generated by a predetermined radius and forming a segmental circular area of spherical curvature, which said surface may be coloured and is adapted to receive and refract incident light rays, and each said identical lens having an inner surface comprised of a plurality of identical four-sided pyramidal projections

having an included angle between opposite faces greater in size than twice the critical angle for the material of which the lens is made, cushioning means adapted to prevent relative movement between the said identical lenses and said reflector member therebetween, said identical lenses and said reflector member and said cushioning means being housed in a container member having a handle thereon, comprising two correspondingly threaded flange members, the outer flange member having an apertured boss member through which is moveably secured a continuous handle member adapted to support the whole structure.

2. In a reflector and mounting therefor, the combination of two identically shaped but differently coloured reflecting lenses with a reflector member located between said identical reflecting lenses in a container, said identical lenses each comprising an outer surface generated by a predetermined radius and forming a segmental circular area of spherical curvature, which said surface is adapted to transmit and reflect incident light rays, and each said identical lens having an inner surface, comprised of a plurality of identical four-sided pyramidal and integral projections, each of the said pyramidal projections having an included angle between opposite faces greater in size than twice the critical angle of the material of which the lens is made, cushioning means between each lens and the said reflector and adapted to prevent relative movement between the said identical lenses and said reflector member therebetween, said identical lenses and said reflector member and said cushioning means being housed in a container member having a handle thereon.

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