O. A. MYGATT.

PRISMATIC GLASS REFLECTOR.

APPLICATION FILED FEB. 27, 1911.

1,092,114. Patented Mar. 31, 1914.

Fig. 1.

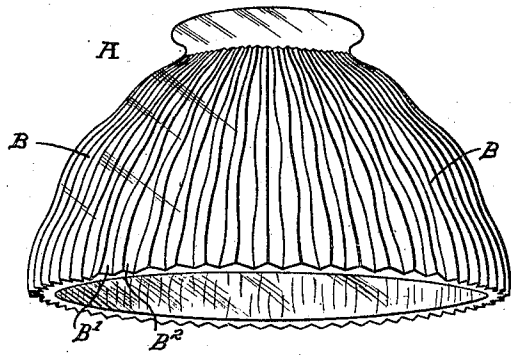


Fig. 2.

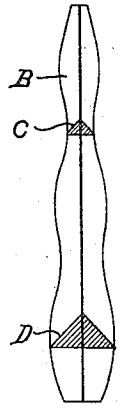
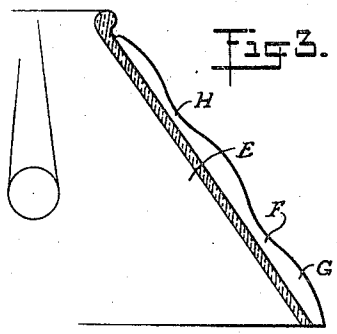


Fig. 3.



WITNESSES

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PRISMATIC GLASS REFLECTOR.

1,092,114. Specification of Letters Patent. Patented Mar. 31, 1914.

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To all whom it may concern:

Be it known that I, OTIS ANGELO MYGATT, a citizen of the United States, residing at Paris, France, have invented a new and useful Improvement in Prismatic Glass Reflectors, of which the following is a specification.

The object of my invention is to produce a new and improved prismatic glass reflector combining efficient reflecting power with a mechanical action upon light rays which gives to its surface a varied and sparkling appearance, as well as having the advantage that the prisms in themselves are more attractive in appearance.

A transparent glass reflector having exterior radial reflecting prisms is well known in the art. Such articles, however, have had the disadvantage of too uniform and monotonous an appearance, both in themselves and in the effect of their illuminated surface. My new construction lends itself more readily to decorative treatment and also acts upon light rays so as to produce alternating areas of differently illuminated surfaces, while at the same time furnishing a highly efficient reflector.

The prisms on my reflector are substantially radial in direction. The novelty consists in making them with bases of constantly varying width so that the bounding lines of each individual prism alternately converge and diverge. The height of the prism varies proportionately, keeping the apex angle at the desired angle to produce total double reflection. Numerous experiments with transparent glass reflectors provided with exterior radial prisms of various types and photometric tests of their relative reflecting efficiency show that this construction does not detract from the efficiency of the reflector.

Figure 1 is a perspective of a preferred form of my invention; Fig. 2 is a top plan view of a prism; Fig. 3 is a vertical section of a prism.

In Fig. 1, A is a reflector of transparent glass formed by pressing in a mold with the integral radial reflecting prisms B, B^1, B^2, etc., on its outer surface. The bases of these prisms alternately narrow and widen while their height increases and decreases proportionately so that the apex angle remains that most favorable for producing total double reflection. The angle of total or double reflection is in the neighborhood of 90°. In the reflector here exemplified, the adjacent prisms B and B^1 are so constructed that at the point where one is narrowest the other is widest, the advantage of this construction being that the reflecting prisms thus cover the entire outer surface of the article.

Fig. 2 is a top plan view of prism B in Fig. 1, indicating by cross-hatching at points C and D the smallest and largest cross-sections. The variations in the width of the glass body through which light rays pass to the reflecting surface operate to cause the amount of light transmitted per unit of area to vary disproportionately and give to the outer surface a shimmering appearance. Similarly the varying area of the reflecting surface and their disproportionately varying efficiencies give to the inner surface when the reflector is in use over an artificial light source, a waved and variegated appearance and marked contrast to the dead uniformity of such articles as heretofore manufactured.

Fig. 3 is a vertical section through the apex line of the prism shown in Fig. 2. E is a glass body of the reflector; F the reflecting prism. The apex line rises and falls, reaching its greatest height at points G where the base of the prism is widest and being lowest at points H where the base is narrowest.

The waved construction shown in Fig. 1 provides a reflector whose entire outer surface is covered with reflecting prisms. With the curved boundary lines the more gradual blendings of the different illuminated areas gives the glass a changing and animated appearance. An incidental advantage of the new form of prism employed in my invention is that the prisms themselves may be made in highly decorative forms and can be arranged with respect to each other so as to produce a great variety of decorative patterns.

I claim:

1. A reflector for artificial lights having upon the surface thereof a number of integral double reflecting prisms, the base and altitude of each of which changes a plurality of times throughout the length of the prism without substantially affecting its double reflecting property.

2. A reflector for artificial lights having

its surface substantially covered with integral radially extending prisms, the base and altitude of each of said prisms varying repeatedly throughout the length of the prism but preserving such a ratio to each other as to remain double reflecting throughout the length of the said prism.

In testimony whereof, I affix my signature in the presence of two witnesses.

OTIS ANGELO MYGATT.

Witnesses:
E. LEAVENWORTH ELLIOTT,
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