No. 762,926. PATENTED JUNE 21, 1904.

O. A. MYGATT.

SHADE REFLECTOR FOR ARTIFICIAL LIGHTS.

APPLICATION FILED NOV. 17, 1903.

NO MODEL.

FIG. 1.

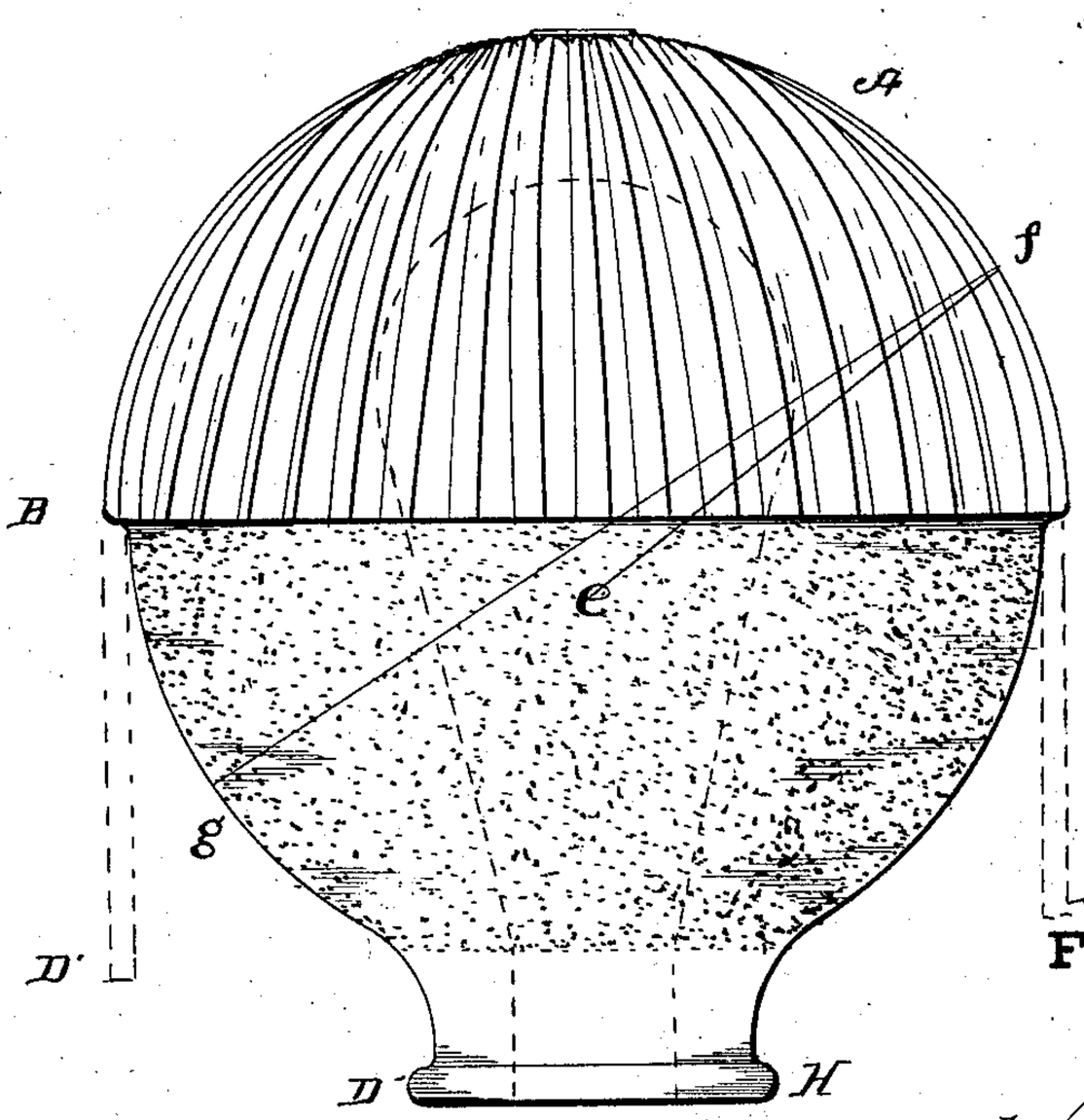

FIG. 3.

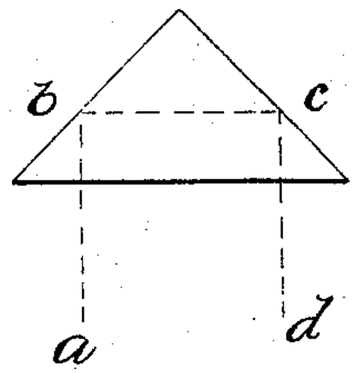

FIG. 2.

Witnesses
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No. 762,926. Patented June 21, 1904.

UNITED STATES PATENT OFFICE.

OTIS A. MYGATT, OF NEW YORK, N. Y.

SHADE-REFLECTOR FOR ARTIFICIAL LIGHTS.

SPECIFICATION forming part of Letters Patent No. 762,926, dated June 21, 1904.

Application filed November 17, 1903. Serial No. 181,494. (No model.)

To all whom it may concern:

Be it known that I, OTIS A. MYGATT, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Shade-Reflectors for Artificial Lights, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to reflecting and diffusing shades for artificial lights.

The object of the invention is to produce an integral shade and reflector of glass which shall reflect the light-rays which would otherwise go upward or in an undesirable direction and afterward diffuse such rays, as well as the direct rays.

The invention consists in the construction and combination of mechanical elements hereinafter stated.

Figure 1 is an elevation of a shade-reflector involving the present invention, an incandescent electric-lamp bulb being situated in the shade. Fig. 2 is an elevation of a shade-reflector involving the same principles, but differing in form. Fig. 3 is a diagram showing lines of reflection of a light-ray by a double-reflecting prism.

It has been common to construct reflectors for artificial lights entirely of glass, the reflection being accomplished by means of prisms usually arranged on the outside of the glass—as, for instance, in my Patent No. 687,848 of December 3, 1901.

In the present invention I construct the principal reflecting portion of the shade-reflector of glass, preferably transparent, the prisms being of the character described in my Patent No. 736,535. In Fig. 1 the portion A B C of the reflector is shown as covered externally by prisms, which are double-reflecting prisms.

The lower portion of the shade-reflector B C D H is covered externally or internally by an etched, ground, or other diffusing surface, the effect of which is to diffuse and soften the light-rays which pass through the same.

In constructing an entirely prismatic globe of the form shown in Fig. 1 the body would necessarily be pressed in a mold with an opening large enough to withdraw the plunger. This would necessitate that a body be made as wide as the dotted lines D′ H′, which portion must be drawn in by hand, involving a thickening and distortion of the glass.

In the present invention the portion B D′ C H′ of the shade is pressed plain and as thin as possible, which is not difficult when the prisms are omitted. Then the portion indicated in dotted lines is drawn in in the usual manner and may be finished with a ground or etched surface on either face or otherwise furnished with a diffusion-face.

In Fig. 2 the portion I K L M is pressed with external prisms, and the portion L O M is made smooth and then ground or etched.

In Figs. 1 or 2 a ray of light emanating at *e* would pass to *f*, thence by double reflection from the prismatic portion of the shade-reflector would be directed to *g*, and thence in passing through the ground glass would be softened and diffused in a manner well understood. This ground-glass surface softens and diffuses the light-rays, but does not necessarily or appreciably refract or change the direction of the light-rays as results of the use of the prisms at the lower part of the shade described in my patent above referred to.

The form of the reflecting portion of the shade-reflector will to some extent control the direction to which the reflected rays are diverted. The form of the ground or diffusion portion will have little influence in directing the light-rays. I do not limit my invention to special forms, except that the shade-reflector shall substantially inclose the source of light.

I have referred to the reflecting portion of the shade-reflector or that part provided with external prisms as the "upper" portion for convenience of description. Of course the article may be adjusted in any position.

I am not aware that prior to my invention a shade or reflector has been constructed of glass in a single piece with a portion only of its body covered by reflecting-prisms, leaving a plain portion to be completed by etching or in other manner to give a diffusing-surface.

I claim—

1. A shade-reflector consisting of a piece of

glass having its upper end closed and externally covered with prisms adapted to reflect light emanating within the body of the shade-reflector back into said body, and having its lower surface free from prisms and much thinner than the prismatic portion.

2. A shade-reflector composed of a single piece of glass having its upper portion substantially covered externally with prisms extending in the directions of ribs or lunes from the central upper portion, and having its lower turned in position free from prisms and with a ground surface.

3. A shade-reflector composed of a single piece of glass, having a portion of its outer surface externally covered with prisms radiating from a common center and constructed to reflect light from within back into the shade-reflector, and having another portion to which the light so reflected is generally directed constructed with a ground surface, to diffuse the light in its outward passage.

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

OTIS A. MYGATT.

Witnesses:
H. E. NASON,
W. A. DOREY.