No. 679,770. Patented Aug. 6, 1901.

O. A. MYGATT.

LAMP SHADE.

(Application filed Mar. 30, 1900.)

(No Model.)

Fig. 1.

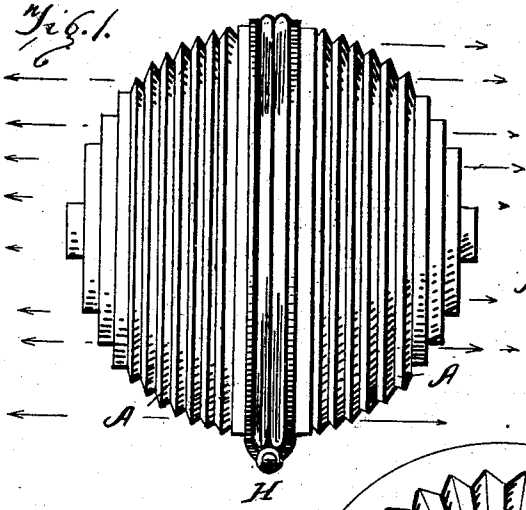


Fig. 2.

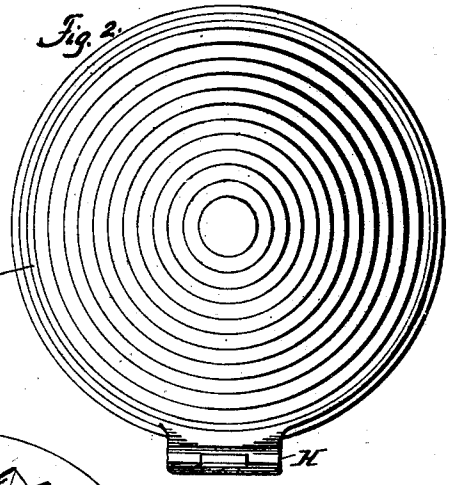


Fig. 3.

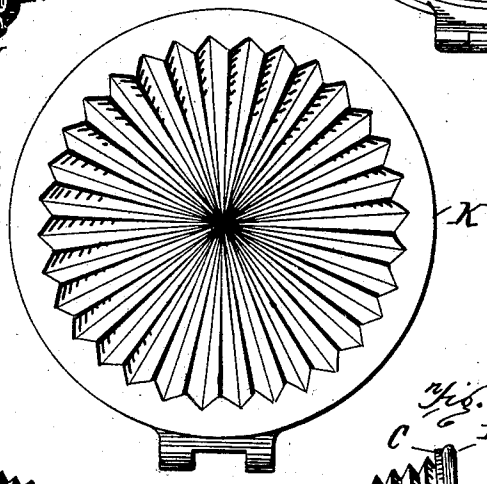


Fig. 4.

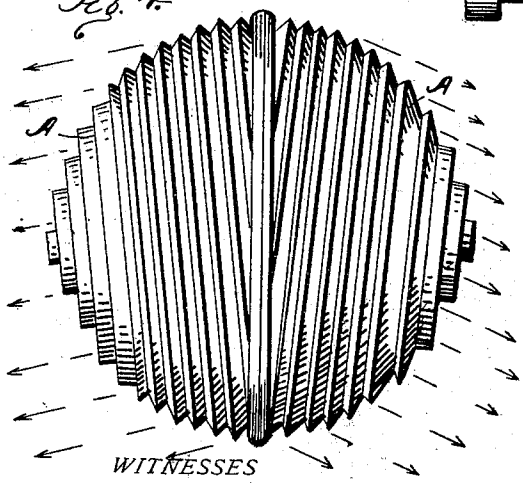
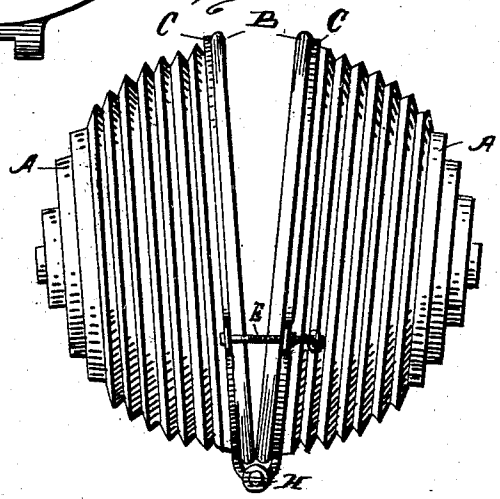


Fig. 5.



WITNESSES

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LAMP-SHADE.

SPECIFICATION forming part of Letters Patent No. 679,770, dated August 6, 1901.

Application filed March 30, 1900. Serial No. 10,766. (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 Lamp-Shades, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to lamp shades or globes.

The object of the invention is to produce a two-piece lamp shade or globe, of glass, of generally spherical form divided vertically with reference to the normal position or plane of use and provided with external, generally vertical, ribs adapted to deflect or direct the light-rays in two approximately opposite directions approximating a horizontal plane.

Figure 1 is a side elevation of a two-piece globe divided vertically into semispheres, broken lines showing the direction of light-rays from the prisms on said semispheres. Fig. 2 is a view at right angles to Fig. 1. Fig. 3 is an inside view of a modification of one of the semispheres. Fig. 4 is a side view of a modified sphere, broken lines indicating direction of light-rays. Fig. 5 is a side elevation of an adjustable globe.

The shade is specially adapted for street-lighting with arc-lights, but may be used for other purposes. It is generally of molded glass.

The globe or spheroid is composed of two semispheres or spheroids of glass. Each section or semisphere has external ribs or prisms extending in a generally vertical direction at the sides of the globe, as indicated at A A. These ribs are so arranged as to deflect or reflect the light-rays in the desired direction. Usually the ribs at the upper portion of the globe deflect the rays which would otherwise pass upward to a nearly horizontal direction, while the prisms at the sides deflect or reflect the rays from a radial to a generally horizontal direction, the rays which would pass out at the sides being directed in general in what may be called a "lengthwise" direction. In arc-lamps used for street-lighting the intense light immediately at the sides of the lamp is too great for the comfort of the adjoining houses. Thus it is an advantage, rather than otherwise, to cut off some of the rays toward the sides of the street, leaving the light in the direction of the length of the street unobstructed. The projecting rims of flanges B from the semispheres, while they obstruct the light to some extent, are not greatly objectionable and afford means for securing the semispheres together, as by a hinge H at the bottom of the globe.

Metallic bands or rings C may be attached to the semispheres. Preferably these rings C are hinged together at the bottom, as indicated at H, so that the semispheres are close together at the bottom, but may, if desired, as will be explained, be spread apart more or less at the top.

Street-lamps are not suspended at a uniform height from the pavement. One arc-light may be suspended at a height of twenty feet and another at fifty or more feet, yet it may be desired to have the focus of concentration of the light-rays in each case at the same horizontal distance from the light. As the focus will depend on the position of the prisms, it is manifest that an adjustment of the hinged semispheres toward or away from each other will change the horizontal distance of this focus of concentration. A great number of devices may be used to attain such adjustment. A simple set-screw E may be used for drawing the upper parts of the rings C toward each other. As these rings are hinged at the bottom the adjustment of the screw would close the top of the globe, and thus change the angle of ribs A and elongate the focus of the globe. The weight of the globe-sections will serve to hold them apart and so shorten the focus when permitted by the clamp. A similar result as to the downward deflection of the rays may be had by constructing the prisms obliquely to the line of union of the semispheres, as indicated in Fig. 4. The sections may be constructed for such purpose, or the edges of the semispheres of Fig. 1 may be ground obliquely.

As it is generally believed that much less than half the light produced by an arc-light or other brilliant illuminator is effectively and usefully employed, I am able to largely increase the effective lighting from such lights in very large degree by shades of the general character indicated.

External prisms are more effective than in-

ternal in directing the light-rays which pass through a shade, the most effective reflecting-face being the inner surface of the face of the prism. By constructing the prisms of the proper form, therefore, a very large proportion of the light which passes through the shade may be directed in any desirable direction. By the present construction, due regard being had to the form and location of prisms, a large proportion of the light may be projected in two directions only, as has been stated.

In Fig. 3 the interior of a hemisphere is shown in which inside fluting is provided. This has a tendency to break up and soften the light passing through the shade.

What I claim is—

1. A spheroidal shade divided vertically and having external prisms extending in generally vertical direction at the sides, a hinge uniting the sections, and means for adjusting the sections so that the ribs have oblique arrangement, to deflect the light in generally lengthwise direction but out of horizontal, substantially as described.

2. A two-part spheroidal shade provided with supporting metallic bands hinged together, and means for adjusting the parts to oblique relation.

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

OTIS A. MYGATT.

Witnesses:

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W. A. BARTLETT.