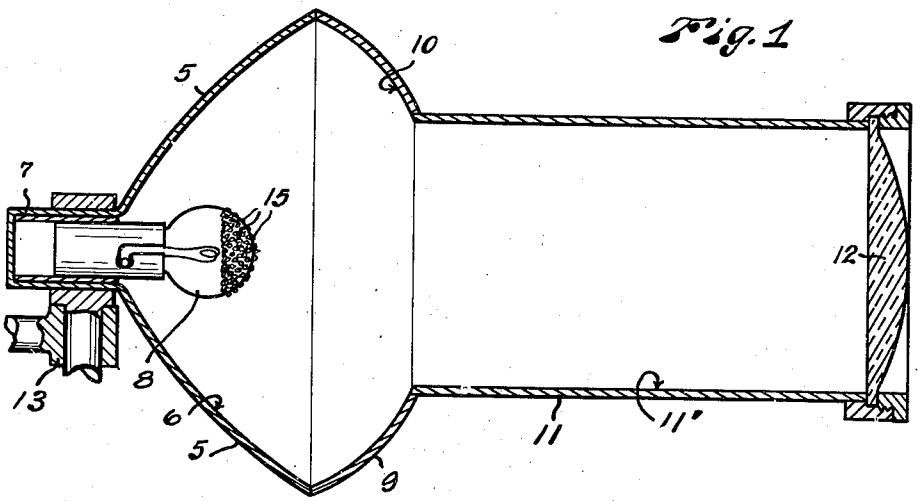
Dec. 17, 1935. M. BERCH 2,024,562

LAMP

Filed Aug. 19, 1932

Fig. 1



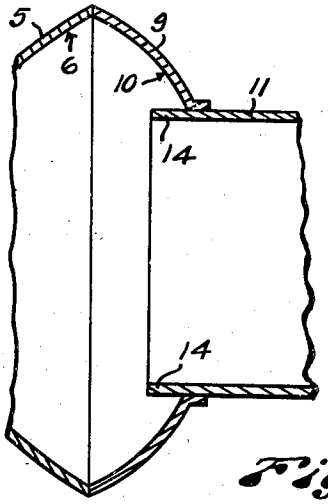


Fig. 2

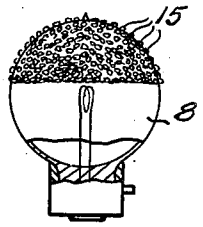


Fig. 3.

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LAMP

Michael Berch, Seattle, Wash.

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3 Claims. (Cl. 91—68)

My invention relates to lamps for use in projecting light and the primary object of my invention is to provide a lamp which will produce a penetrating and efficient beam of light.

Another object is to provide a lamp which will produce a strong and efficient light that is free from glare and not blinding to persons looking toward said lamp.

A more specific object is to provide a lamp in which the reflectors embody a combination of silver and gold plated reflector surfaces which combine to produce a very penetrating light.

Another specific object of my invention is to provide a lamp which is shaped and constructed so that it will produce a beam of light which may be projected for a long distance without spreading.

A further object is to provide a lamp globe by which glare will be eliminated and an even distribution of the light in the light beam secured so that when the beam strikes a flat surface there will be no dark spots or rings in the spot of light.

Other and more specific objects of the invention will be apparent from the following description taken in connection with the accompanying drawing.

In the drawing Fig. 1 is a view in longitudinal mid-section of a lamp constructed in accordance with my invention.

Fig. 2 is a fragmentary sectional view of a modified form of the same.

Fig. 3 is a detached view of an electric lamp globe embodied in the invention.

In accordance with my invention I provide a lamp embodying a main concave rear reflector 5 having a highly polished gold or gold plated reflecting surface 6 and having a centrally positioned socket 7 for the reception of a lamp bulb 8. A secondary reflector 9 of annular bell shape has its peripheral portion joined and in registration with the peripheral portion of the main reflector 5, said two reflectors 5 and 9 being placed with their concave sides toward each other. If desired these two parts may be integrally united. The inner reflecting surface of the secondary reflector 9 has a reflecting surface 10 of highly polished silver or silver plate. The central portion of the secondary reflector 9 is cut away and the open end of a light projector tube 11 is positioned to register with said cut away portion and is secured to said secondary reflector 9. The inside surface 11' of the projector tube 11 is reflecting surface, preferably of highly polished silver plate, but which may be white enamel or the like to produce a whiter light than the silver.

A lens 12 of any desired form is provided in the outer end of the projector tube 11. Any suitable bracket means 13 may be provided for supporting the lamp. The projector tube 11 and the two oppositely dished reflector members are disposed in co-axial relation and the reflector members are preferably of the same external diameter.

In the modified form shown in Fig. 2 the projector tube 11 is extended into the reflector member 9 a short distance as indicated at 14.

The lamp globe 8 used in connection with this lamp is of the form commonly used in headlight and spotlight lamps except that it is treated to minimize glare and promote a more even distribution of the light. This treatment consists in depositing a relatively thick sprinkling of small particles 15 of matter on the outer end of said globe. These particles are preferably grains of white or amber colored sand capable of transmitting some light. The particles may be caused to adhere to the globe by first dipping the globe in a heat resistant transparent or translucent liquid adhesive then touching the end of the globe to the sand before the adhesive dries and allowing the adhesive to pick up a fairly thick sprinkling of the sand. I find that ordinary commercial water glass is satisfactory adhesive to use for this purpose and has the advantage of being transparent when dry. The adhesive causes the grains of sand to permanently adhere to the end of the globe in slightly spaced relation leaving openings between said grains of sand for the light to pass outwardly and the sand breaks up and distributes the light and tends to eliminate glare. To secure an amber color on the end of the lamp globe I find that heat resistant varnish or insulating compound may be used as the adhesive. This lamp globe may also be used to advantage in any ordinary headlight or spotlight lamp for the purpose of reducing the glare. When this globe is used in a headlight then a lens for spreading the beam out into a flat, fan like shape will preferably be used. This lens may be of a well known form having relatively fine V shaped vertical ridges on its inner side.

In the operation of this lamp the electric lamp globe 8 will ordinarily be positioned substantially at the focal point of the main reflector 5 so that rays of light incident on the reflector surface 6 will be reflected forward in lines substantially parallel to the common axis of the two reflectors and the projector tube and thus projected out of the tube. Direct rays from the lamp globe falling on the secondary reflector surface 10 will be reflected back substantially through the source

of light and re-reflected by the reflector surface 6 outwardly through the projector tube 10. The projector tube 10 is of substantial length and prevents spreading of the rays. The result is a very strong and penetrating beam of light which is evenly distributed and is free from objectionable glare.

The blending of the light from the gold and silver reflector tends to produce a very penetrating beam of light which is much less blinding than an ordinary beam of light of equal strength.

The foregoing description and accompanying drawing clearly disclose a preferred embodiment of my invention but it will be understood that this disclosure is merely illustrative and that such changes in the invention may be made as are fairly within the scope and spirit of the following claims.

I claim:—

1. The method of treating an electric lamp globe to reduce glare and promote an even distribution of light, which consists in providing a coating of spaced apart particles of granulated matter permanently adhered to said globe in spaced apart relation leaving openings between said particles for light to pass outwardly through.

2. The method of treating an electric lamp globe to reduce glare and promote an even distribution of light, which consists in cementing a coating of particles of sand on the end of said lamp globe in slightly spaced apart relation leaving openings between said grains of sand for light to pass outwardly through.

3. The method of treating an electric lamp globe to reduce glare and promote an even distribution of light, which consists in moistening the end of said globe with liquid water glass, then dipping said moistened end of said globe in light conductive sand whereby a coating formed of a single layer of spaced apart particles of said sand will be caused to adhere to the end of said globe in slightly spaced apart relation leaving openings between said grains of sand for light to pass outwardly through and then drying said dipped globe.

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