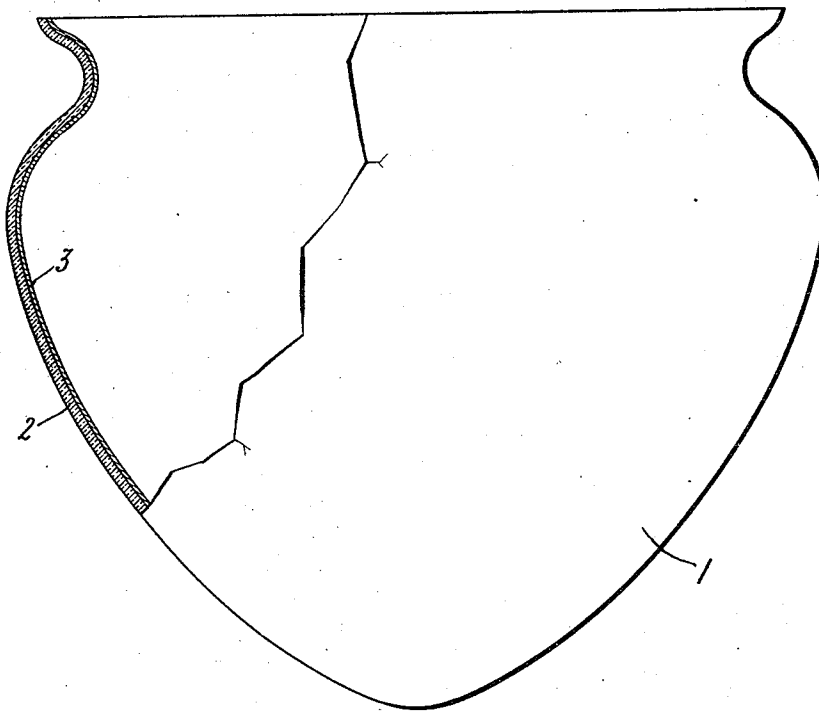


J. T. H. DEMPSTER.
ARC LAMP GLOBE.
APPLICATION FILED DEC. 1, 1908.

1,046,152.

Patented Dec. 3, 1912.



Witnesses:

George W. Fildes
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Inventor:

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by *Alfred H. Davis*
Att'y.

UNITED STATES PATENT OFFICE.

JOHN T. H. DEMPSTER, OF SCHENECTADY, NEW YORK, ASSIGNOR TO GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

ARC-LAMP GLOBE.

1,046,152.

Specification of Letters Patent.

Patented Dec. 3, 1912.

Application filed December 1, 1908. Serial No. 465,485.

To all whom it may concern:

Be it known that I, JOHN T. H. DEMPSTER, a citizen of the United States, residing at Schenectady, county of Schenectady, State of New York, have invented certain new and useful Improvements in Arc-Lamp Globes, of which the following is a specification.

My invention has reference to improvements in arc-lamp globes used for protecting the arcs of lamps in which an electrode or electrodes are used which contain, or which in the arc produce iron oxid or oxids. Among the electrodes of this character are those formed of or containing magnetite, red oxid of iron, titanium, titanium carbide or other materials, which are usually packed in iron tubes. In the operation of such lamps the iron oxids, or the iron converted in the arc to oxids, are continuously thrown off in the form of fused globules which are projected in that molten condition against the inner walls of the inclosing glass globes. Silicates readily combine with iron oxids at high temperatures, and in consequence of this, the globules of iron oxid thrown off by the arc become fused to the inner walls of the inclosing globe and cannot be readily removed from the same. The inclosing glass or other silicious globe, therefore, becomes gradually spotted with dark iron oxid globules, and after a comparatively short time the transparency of the globe is destroyed, and cannot be restored.

It is the object of my invention to prevent the adherence of the iron oxid globules to the walls of the inclosing globe of silicious material, and I secure this object by coating the inner wall of the globe with a thin layer of transparent or translucent, and preferably water-proof, varnish of any resin or gum. The molten iron oxid particles thrown off by the arc coming in contact with the varnish, fuse the latter at the points of contact and then roll off and down to the bottom of the globe, where they collect when the lower end is closed and from where they may be readily removed by the lamp trimmer, or from where they drop out if the globe is open at the bottom.

In the accompanying drawing, which forms a part of this specification, my invention is illustrated, showing an elevation, partly in section, of an arc protecting globe made in accordance with my invention.

The general outline of the globe 1 may be of any convenient configuration. It is here shown as closed at the bottom, and glass or other silicious material 2, of which the globe is made, may be either transparent or translucent, either smooth or grained by a sand blast, or otherwise. The inner surface of this globe has applied to it either by a brush or by flooding, or in any other convenient manner, a thin coat 3 of resin or gum, which in the drawing is necessarily shown greatly exaggerated in thickness. The varnish should preferably be of the water-proof variety, so that it may not be affected by moisture, and I have found shellac varnish to serve the purpose of my invention well, but I am not confined to the use of this particular varnish, since any resin or gum varnish that will adhere to glass or other silicious material may be used. The varnish used may be either transparent or translucent; it may be colorless or slightly tinted, but by preference a colorless transparent varnish is ordinarily used.

What I claim as new, and desire to secure by Letters Patent of the United States, is,—

1. An arc lamp globe of silicious material, having on its inner surface a solidified layer of light transmitting resinous varnish which protects the globe from direct contact with particles which have chemical affinity therewith.

2. An arc lamp globe of silicious material having on its inner surface a solidified layer of light transmitting water-proof varnish.

3. An arc lamp globe of silicious material having on its inner surface a solidified layer of light transmitting shellac varnish.

In witness whereof, I have hereunto set my hand this 30th day of November, 1908.

JOHN T. H. DEMPSTER.

Witnesses:

BENJAMIN B. HULL,
HELEN ORFORD.