

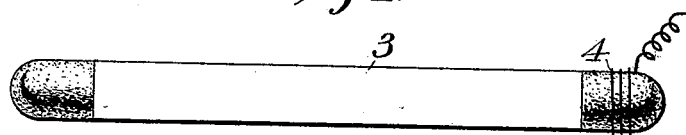
No. 646,858.

D. McF. MOORE.  
VACUUM TUBE LIGHT.  
(Application filed Apr. 21, 1899.)

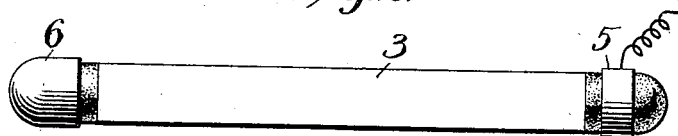
Patented Apr. 3, 1900.

(No Model.)

*Fig. 1.*



*Fig. 2.*



*Witnesses:*

*C. L. Belcher*  
*A. H. Capel*

*Inventor*

*Daniel McFarlan Moore*

*By*

*A. L. Townsend*  
*Attorney*

# UNITED STATES PATENT OFFICE.

DANIEL MCFARLAN MOORE, OF NEWARK, NEW JERSEY, ASSIGNOR TO THE  
MOORE ELECTRICAL COMPANY, OF NEW YORK, N. Y.

## VACUUM-TUBE LIGHT.

SPECIFICATION forming part of Letters Patent No. 646,858, dated April 3, 1900.

Application filed April 21, 1899. Serial No. 713,870. (No model.)

*To all whom it may concern:*

Be it known that I, DANIEL MCFARLAN MOORE, a citizen of the United States, and a resident of Newark, in the county of Essex and State of New Jersey, have invented a certain new and useful Vacuum-Tube Light, of which the following is a specification.

This invention relates to the construction of vacuum-tubes or other devices to be used as lamps or sources of light when excited by electric vibrations or other disturbances generated, for instance, by the interruption of a circuit of induction, as in the manner broadly disclosed in my Patent No. 548,127, granted October 15, 1895.

In the manufacture of vacuum-light tubes considerable difficulty is experienced in constructing and mounting terminals or electrodes thereon in such a manner as to produce the best luminous effects and to prevent a certain cracking, spitting, or hissing noise while the current is passing through the tube.

The object of this invention is the elimination of these difficulties; and to that end the invention consists in the construction herein-after fully described, and set forth in the claims.

In the accompanying drawings, which form a part of this specification, Figure 1 represents a vacuum-light tube provided with the improved terminals. Fig. 2 represents a variation in the formation of the terminals.

The tube is made from some translucent material, preferably glass, and may be of any desired shape. One form is shown at 3, which is simply a straight cylindrical tube closed at its ends. The terminals or caps 4 are added in the form shown in Fig. 1 by dipping the ends of the tubes into a bath of carbon or graphite paste and then hardening the same by drying or baking. This adheres closely, and when a conductor is connected thereto and current turned on there is no noise whatever at the terminals of the tube.

The conductors may be secured to the terminals in any suitable way, as by wrapping

them around, as seen at 4 in Fig. 1, or by soldering the conductor to a collar, as 5, Fig. 2, which by means of the graphite paste is firmly fixed to the tube. Instead of a band a metal cap, as 6, may be used, which is likewise stuck to the tube by the coating of graphite paste. A conductor may be soldered to the cap 6, or said cap may be laid or set into any suitable socket to which a circuit-terminal is connected.

Other forms of terminal connection for the conductors may be used without departing from the invention, which resides in applying graphite or carbon to the vacuum tube or chamber at the places where the circuit-terminals are to be applied; nor is the invention limited to dipping a portion of the tube or chamber in a bath of carbon or graphite paste, since the carbon or graphite may be applied in any convenient way that will give the proper coating thereof at the appropriate places. The graphite tips or spots may be suitably coated to protect the graphite and to prevent it from soiling things touched by it. This may be done by wrapping tape over it or by coating it with shellac, the circuit-terminal having first been applied.

The invention claimed is—

1. An electric lamp consisting of a vacuum tube coated exteriorly at its ends with graphite paste to which the circuit-terminals may be suitably attached.

2. An electric lamp consisting of a vacuum tube coated exteriorly at its ends with a graphite paste, circuit-terminals secured to the graphite paste, and a protecting-covering added to the graphite paste for the purpose specified.

Signed at New York, in the county of New York and State of New York, this 7th day of April, A. D. 1899.

DANIEL MCFARLAN MOORE.

Witnesses:

WM. H. CAPEL,  
C. L. BELCHER.