

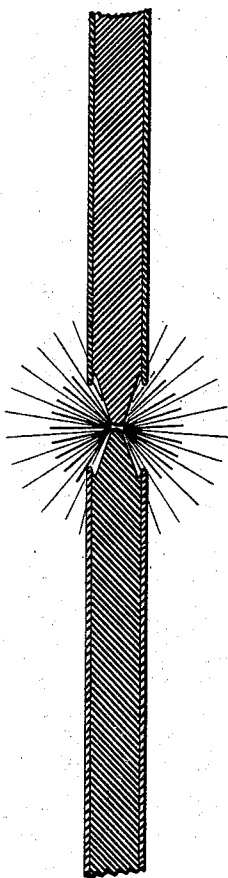
(No Model.)

J. E. ATWOOD.

CARBON ELECTRODE FOR ELECTRIC LAMPS.

No. 272,017.

Patented Feb. 13, 1883.



Witnesses

Harold Ferrell
Chas. H. Smith

Inventor

James E. Atwood

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att.

UNITED STATES PATENT OFFICE.

JAMES E. ATWOOD, OF TROY, NEW YORK, ASSIGNOR TO THEODORE MACE,
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CARBON ELECTRODE FOR ELECTRIC LAMPS.

SPECIFICATION forming part of Letters Patent No. 272,017, dated February 13, 1883.

Application filed June 19, 1882. (No model.)

To all whom it may concern:

Be it known that I, JAMES E. ATWOOD, of Troy, in the county of Rensselaer and State of New York, have invented an Improvement in Carbon Electrodes for Electric Lamps, of which the following is a specification.

Electrodes of carbon in lamps are consumed with rapidity and require to be replaced. The rapidity of consumption arises considerably from the particles of carbon that break off under the action of the electric arc and fall away. These are a loss and also form a deposit in the lower part of the globe or shade around the lamp.

The object of my invention is to render the carbon electrodes more durable by surrounding them with a refractory compound that is not consumed as rapidly as the carbon itself. Hence the coating will form a cup around the lower electrode to confine the particles of carbon and render said electrodes more durable.

In the drawing I have represented by a sectional view the two carbon-electrodes as they appear in use.

I take the ordinary gas-carbon electrode for a lamp and dip it into a compound of the following material to form a coating around the whole or almost all of the length of the said carbon.

The coating material is made by grinding together old plumbago crucibles or pots, about eighty parts, with about fifteen parts of clay and five parts of glass. These are thoroughly pulverized and mixed and rendered semi-liquid and of about the ordinary consistency of paint by the addition of water or other liquid. After the carbon has been dipped or otherwise coated with this compound it is allowed to dry and is ready for use. It may be covered with a deposit of copper, if desired.

When placed in the electric circuit the carbon of the interior is consumed more rapidly than the coating, and the latter forms a cup or cylinder that partially surrounds the points of the electrodes, and hence any particles of carbon falling off under the operation of the electric arc are retained and the carbon rendered more durable, and the deposit of carbon on the globe or shade is lessened.

I am aware that metals have been used as a coating for electric-lamp carbons; but the same are not of a refractory nature and do not form a cup around the lower carbon to render the carbon more durable.

By the use of refractory material containing plumbago, clay, and glass, or materials having equivalent properties, the plumbago becomes the conducting material. The clay and glass act together—the clay to prevent the glass running down the electrode, and the glass to form a vitreous covering over the clay to prevent the action of atmosphere on the clay and carbon, causing the former to boil and the carbon to be liberated and consumed, thereby rendering the carbon very durable and forming a slight cup shape, for the purposes set forth.

I claim as my invention—

The electric-lamp carbons coated with plumbago, clay, and glass, substantially as and for the purposes set forth.

Signed by me this 3d day of June, A. D. 1882.

JAMES E. ATWOOD.

Witnesses:

GEO. T. PINCKNEY,
WILLIAM G. MOTT.