

(No Model.)

R. McMANUS.
CARBON FOR ELECTRIC ARC LAMPS.

No. 504,845.

Patented Sept. 12, 1893.

Fig. 1.

*Composition of coke,
mineral oil and iron*

Coating of iron.



Fig. 2.



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UNITED STATES PATENT OFFICE.

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CARBON FOR ELECTRIC-ARC LAMPS.

SPECIFICATION forming part of Letters Patent No. 504,845, dated September 12, 1893.

Application filed July 8, 1892. Serial No. 439,438. (No model.)

To all whom it may concern:

Be it known that I, ROBERT McMANUS, of the city of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in the Manufacture of Carbons for Electrical Lighting and Heating Purposes; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same.

This invention relates to carbons to be used in electric lighting and heating.

The object of my invention is to supply a carbon pencil or electrode to be used in any electric arc lamp or similar vessel.

In the accompanying drawings Figure 1 is an elevation, partly broken away and partly in section, of a pencil or electrode made in accordance with my invention; and Fig. 2 is a transverse section of Fig. 1.

My carbon pencil or electrode is made by combining a volatile carbon made from mineral oils, their products or equivalents, with finely pulverized coke and a proportion of iron. The proportions of these ingredients which I have found most beneficial are ninety-two (92) parts of coke, seven (7) parts of mineral oil, one (1) part of iron, but I do not confine myself to these proportions.

In preparing my composition I first take a quantity of selected coke made from coal or petroleum previously pulverized and carefully washed to remove foreign substances, and then mix the ingredients to a paste of about the consistency of ordinary painters' putty. The mixture is then put into a press

and forced under the necessary pressure through a die or mold of the size to be given to the pencil or electrode. The carbons thus formed are cut off at the desired length, and placed in molds. These molds are then placed in an oven for several hours to dry, and are then kept at the desired heat for ten or twelve hours to recarbonize. These carbons are then treated in a bath with a solution of perchloride of iron, and then electroplated with iron. The pencil or electrode is then ready for use.

A carbon pencil or electrode made in accordance with my invention will burn from four to eight hours longer than any other heretofore employed, and the iron coating used by me is much less expensive than the copper coating heretofore used in such manufactures, and is more durable. The result of my carbon pencil is a pure white light instead of a blue light given out by other carbons.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of coke, mineral oil and iron to form pencils or electrodes.

2. A carbon pencil or electrode consisting of a composition of coke and mineral oil coated with iron.

3. A carbon pencil or electrode consisting of a composition of coke, mineral oil and iron coated with iron.

ROBERT McMANUS.

Witnesses:

JAMES C. CLOYD,
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