

W. T. CONN.
 FLAMING ARC CARBON.
 APPLICATION FILED MAR. 29, 1909.

1,000,717.

Patented Aug. 15, 1911.

Fig. 1.

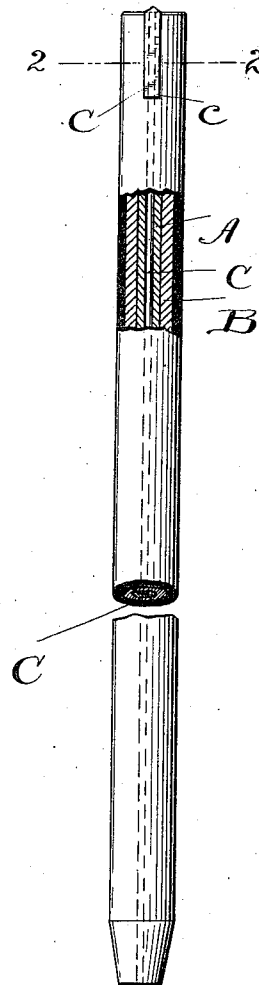


Fig. 2.

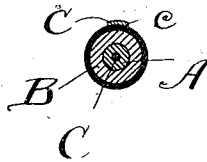
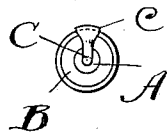


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

WALLACE T. CONN, OF LAKEWOOD, OHIO, ASSIGNOR TO NATIONAL CARBON COMPANY,
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FLAMING-ARC CARBON.

1,000,717.

Specification of Letters Patent. Patented Aug. 15, 1911.

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To all whom it may concern:

Be it known that I, WALLACE T. CONN, a citizen of the United States, residing at Lakewood, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Flaming-Arc Carbons, of which the following is a full, clear, and exact description.

This invention relates to electrodes for flaming arc lamps having a wire extending lengthwise through the electrode for the purpose of increasing its electrical conductivity.

The main object of the present invention is to provide in a flaming arc electrode a current conducting wire having none of the objectionable features of the wires, such as copper, brass and zinc wires which have been used heretofore for this purpose.

One of the more specific objects of the invention is to provide a flaming arc electrode having a conducting wire such that when it is consumed by the heat of the arc, it will not yield an oxid or other product which if deposited on the inclosing globe or economizer, will materially dim the light, such as results from the use of brass or copper wires which yield black copper oxid.

Further, the invention aims to provide a flaming arc electrode having good current conductivity; which is strong and ductile and can be easily manipulated so that a projecting end of the wire can be flattened and bent along the side of the carbon; which will stand up to the heat of the arc and will not be consumed back from the end of the electrode, and in these last respects having a distinct advantage over zinc wire which, while not yielding a black oxid on being consumed, is fragile and so volatile in the heat of the arc that it is consumed for a considerable distance back from the end of the electrode.

Still further, the invention aims to provide for flaming arc electrodes a wire which has all the different advantages above stated and which will not be subject to corrosion.

The present invention consists of a flaming arc electrode or carbon of the usual construction, but in which the wire is made of aluminum; also in such an electrode when the aluminum wire is coated with a corrosion preventing covering; and also to such an electrode having the aluminum wire projected from the upper end of the electrode

and flattened and bent back against the side of the electrode, whereby said end of the electrode may be held in the clamp commonly used for the purpose, and a good electrical contact made between said clamp and the wire and the electrode.

In the drawing, Figure 1 is a side elevation partly in section of a flaming arc electrode embodying the invention, and Fig. 2 is a transverse sectional view thereon in the plane indicated by line 2—2 on Fig. 1; and Fig. 3 is an end view.

The electrode is or may be of any ordinary construction, except for the material out of which the wire C is made; that is to say, it includes a core A containing any usual or well known flaming arc mixture; an outer shell B of carbon; and the wire C, which passes through said electrode lengthwise from end to end either through the core or the shell, as preferred. As before stated, this wire is made of aluminum.

The aluminum wire has particular utility in the flaming arc electrode, for the reason that the wires used heretofore, while satisfactory in electrodes for ordinary arc lamps, are unsatisfactory when used in electrodes for flaming arc lamps, and by the use of an aluminum wire, the resultant flaming arc electrode has none of the objectionable characteristics of the flaming arc electrodes, as they have heretofore been used, employing copper, brass and zinc wires. The oxid formed when the aluminum is consumed is white and if deposited on the economizer and inclosing globe, does not dim the light. The wire holds up to the arc—that is to say, it is not burned out of the carbon back for any considerable distance from the end thereof; and finally it is strong and ductile so that it may be easily manipulated, and particularly so that the projecting end C may be flattened and bent, as described, without breaking it.

There is only one objection to the use of aluminum wire for the purpose stated, namely, the readiness with which it corrodes, or oxidizes; and this objection may be overcome by covering the wire externally with a thin coating of protecting material. Preferably this is an electroplated skin of copper.

Having described my invention, I claim:
1. An electrode for flaming arc lamps

having an aluminum resistance reducing wire extending therethrough and enveloped by the material thereof.

2. An electrode for flaming arc lamps
5 having an aluminum resistance reducing wire extending lengthwise therethrough and enveloped by the material thereof, said wire having a portion projecting from one end of the electrode, the projecting portion being flattened and bent back against the side
10 of the electrode.

3. An electrode for flaming arc lamps having an aluminum resistance reducing wire extending lengthwise therethrough and
15 enveloped by the material thereof, said wire

having its surface coated with protecting material.

4. An electrode for flaming arc lamps comprising a core and an enveloping carbon shell, and having embedded in it and extending from end to end an aluminum wire
20 whose surface is coated with protecting material.

In testimony whereof, I hereunto affix my signature in the presence of two witnesses. 25

WALLACE T. CONN.

Witnesses:

H. R. SULLIVAN,
E. L. THURSTON.