

No. 641,958.

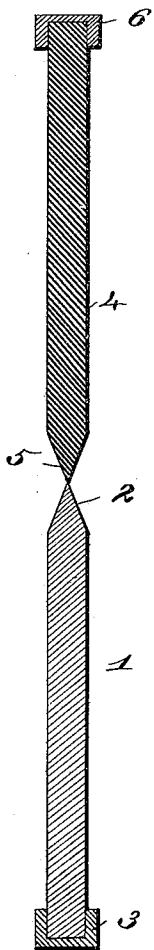
Patented Jan. 23, 1900.

G. HEIDEL.

PENCIL FOR ELECTRIC ARC LAMPS.

(Application filed Mar. 16, 1899.)

(No Model.)



Witnesses

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UNITED STATES PATENT OFFICE.

GUSTAVOS HEIDEL, OF ST. LOUIS, MISSOURI, ASSIGNOR TO THE GLOBE
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PENCIL FOR ELECTRIC-ARC LAMPS.

SPECIFICATION forming part of Letters Patent No. 641,958, dated January 23, 1900.

Application filed March 16, 1899. Serial No. 709,252. (No model.)

To all whom it may concern:

Be it known that I, GUSTAVOS HEIDEL, a citizen of the United States, residing at the city of St. Louis, in the State of Missouri, have
5 invented certain new and useful Improvements in Pencils for Electric-Arc Lamps, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, forming part of this specification.
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My invention relates to pencils used in arc-lamps; and it consists in the use of a negative pencil made of aluminium in lieu of such pencils, as heretofore commonly made, of carbon.
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The drawing illustrates a pair of pencils one of which is of aluminium and the other of which is of carbon or analogous material.

1 designates the aluminium negative pencil, provided with a contact-point 2 and mounted in a suitable holder 3.
20

4 designates a positive pencil of carbon or analogous material having a point 5, adapted to oppose the point 2 of the aluminium negative pencil. The pencil 4 is held in a suitable holder 6.
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I have discovered that by the use of a pencil composed of aluminium used as a negative and arranged to operate in conjunction
30 with an opposing pencil I am enabled to produce a light of increased efficiency and brilliancy, inasmuch as the combustion or decomposition of aluminium when used in this connection is very gradual and the consumption

or decomposition of the opposing pencils is 35 more complete, so that practically the entirety of the pencil opposing the aluminium pencil is consumed in the arcing operation, thereby resulting in a more perfect light than is the case where two carbon pencils are used in 40 conjunction with each other and greater life of the opposing pencil. Another advantage of the use of aluminium as a substance for an arc-light pencil lies in the fact that the consumption of the aluminium being very slow, 45 owing to the arcing therein or therefrom produced by a very gradual wear, the life of such aluminium pencils is many times that of a carbon pencil, so that a number of carbon pencils may be used in connection with a 50 single aluminium pencil before it is necessary to replace such aluminium pencil, thereby effecting a material saving both in the quantity of pencils necessary from day to day in the operation of an arc-lamp and the labor neces- 55 sary in replacing pencils from day to day.

I claim as my invention—

1. As a new article of manufacture, a negative pencil for arc-lamps composed of aluminium.
60
2. A negative pencil for arc-lamps composed of aluminium used in conjunction with a positive pencil composed of carbon.

GUSTAVOS HEIDEL.

In presence of—

E. S. KNIGHT,
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