

UNITED STATES PATENT OFFICE.

ISADOR LADOFF, OF CLEVELAND, OHIO, ASSIGNOR OF THIRTY ONE-HUNDREDTHS TO
PHILIP C. PECK, OF NEW YORK, N. Y.

ELECTRODE OR PENCIL FOR THE ARC-LIGHT.

1,017,005.

Specification of Letters Patent.

Patented Feb. 13, 1912.

No Drawing.

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To all whom it may concern:

Be it known that I, ISADOR LADOFF, a citizen of the United States, and a resident of the city of Cleveland, county of Cuyahoga, and State of Ohio, have invented certain new and useful Improvements in Electrodes or Pencils for the Arc-Light, of which the following is a specification.

The object of my present invention is to diminish the flickering of the arc light from a metallic pencil, and, more particularly, to render it possible to use in the production of such light from such pencil by an alternating current, and by such means as not to interfere with the selective radiation peculiar to such pencil, my said invention being particularly applicable to that class of metallic pencils which contain titanium.

I have discovered that undesirable flickering of the arc light from such pencils may be controlled, by supplying the arc with vapors having a lower heat conductivity than those vapors resulting from the vaporization of the metal and particularly of titanium and some of its compounds. To this end, I incorporate, with the pencil, any substance, or compound, capable of supplying the arc with vapors having a lower heat conductivity than the vapors arising from the metal constituent of the pencil, and of such nature and in such quantity as not to interfere with the selective radiation of such metal, as, for instance, titanium.

My said invention may be applied as follows: Taking, for instance, a pencil composed of an alloy of titanium with another metal, such as iron, copper, etc., I add to the mixture of constituent ingredients of such pencil, while in their powdered state, prior to molding, pressing and baking, a certain proportion, say about ten per centum of a substance or compound, volatile in the arc, preferably a salt of titanium, such as potassium-fluotitanate (K_2TiF_6) or sodium

fluotitanate (Na_2TiF_6), or any other suitable substance or compound possessing the qualities aforesaid. The resulting pencils will give a steady arc, in an alternating current, such arc possessing the characteristic selective radiation of titanium.

If preferred, the aforesaid added substance or compound may be supplied to the metallic pencil as a core composed in whole or in part of such substance or compound or in the form of an enveloping jacket surrounding the pencil or in any other convenient manner, the essential being to supply to the arc itself in sufficient quantities vapors possessing such low heat conductivity as to maintain the arc during the intervals between the opposite currents.

By means of my invention not only may metallic pencils be commercially operated with an alternating current but also the steadiness of their arc increased when used with a direct current.

My invention may be also realized, though less perfectly, by combining in the lamp with one metallic pencil another pencil adapted to produce in the arc said vapors the heat conductivity of which is lower than that resulting from the metallic constituents of the pencils, as, for instance, by combining in the lamp a ferro-titanium pencil with a carbon pencil.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is the following, viz:—

1. An arc light pencil composed of an alloy of titanium with other metal and potassium fluotitanate.
2. An arc light pencil composed of an alloy of titanium with other metal, and fluotitanate of an alkaline metal.

ISADOR LADOFF.

Witnesses:

WALTER D. EDMONDS,
PHILIP C. PECK.