

I. LADOFF.
ELECTRIC LAMP.
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913,016.

Patented Feb. 23, 1909.

Fig 1

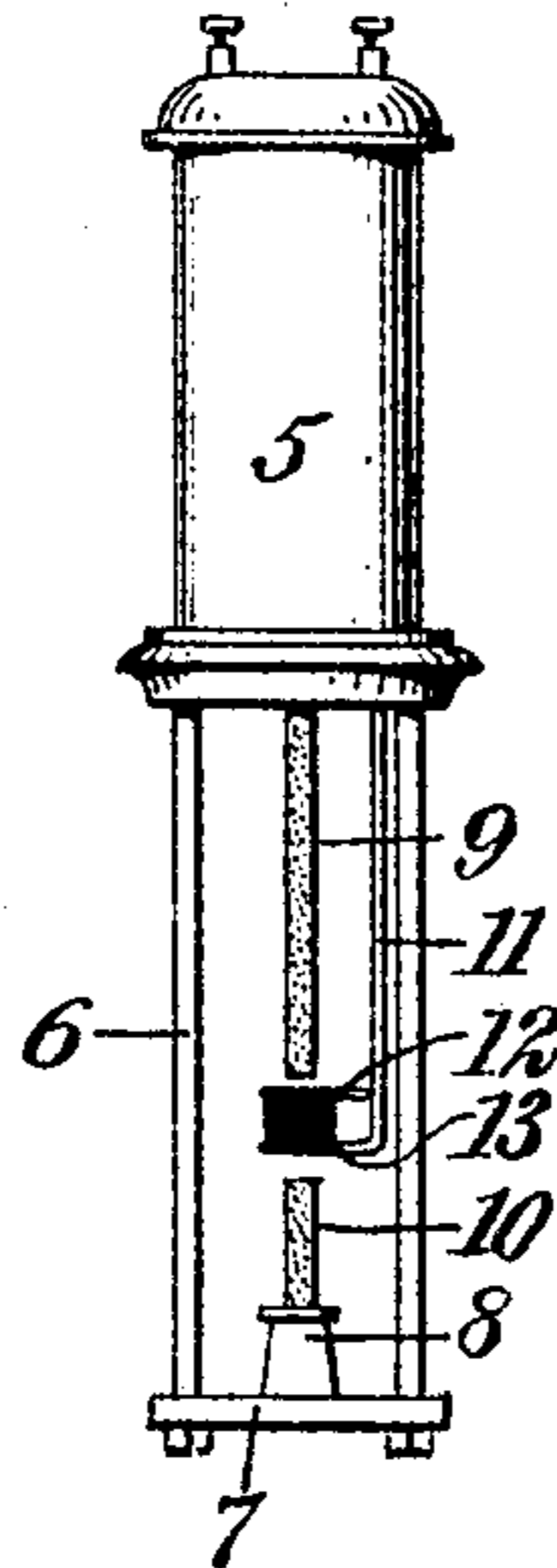


Fig 2

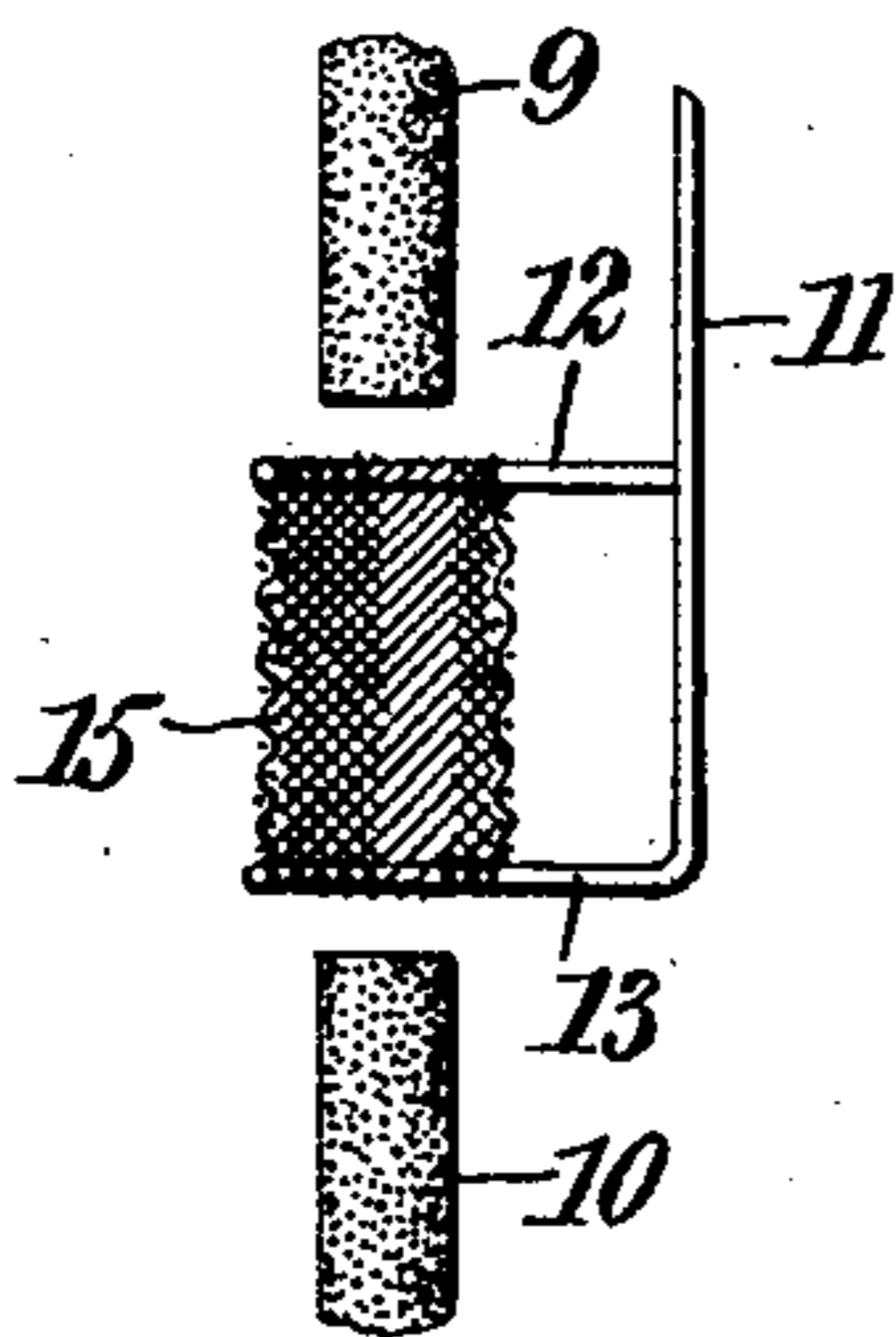
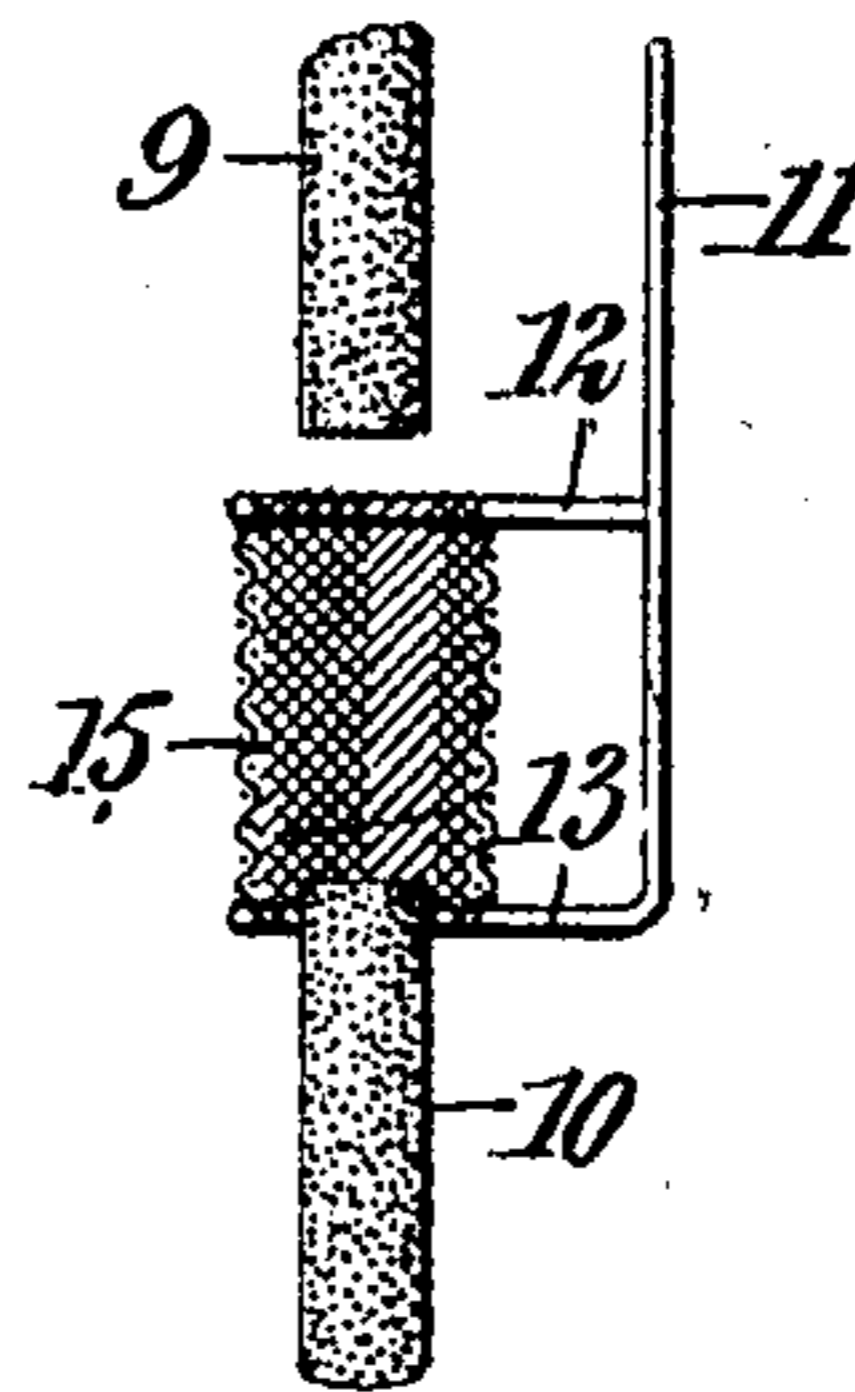


Fig 3



WITNESSES:
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UNITED STATES PATENT OFFICE.

ISADOR LADOFF, OF SCHENECTADY, NEW YORK

ELECTRIC LAMP.

No. 913,016.

Specification of Letters Patent.

Patented Feb. 23, 1909.

Application filed November 28, 1904. Serial No. 234,560.

To all whom it may concern:

Be it known that I, ISADOR LADOFF, a citizen of the United States, and a resident of Schenectady, in the county of Schenectady and State of New York, have invented a new and Improved Electric Lamp, of which the following is a full, clear, and exact description.

My invention relates to electric lamps, and more particularly to a type of lamp employing a mantle to be raised to incandescence by the effects of an arc.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a front elevation of an arc lamp equipped with my invention and adapted to be used in connection with alternating currents; Fig. 2 is an enlarged fragmentary elevation of the carbons and mantle; Fig. 3 is an elevation somewhat similar to Fig. 2, but showing the mantle adjusted for use with a direct current.

The body 5 of the lamp, the rods 6 depending therefrom, the base 7 and the carbon holder 8 may all be of any desired construction. The carbons are shown at 9, 10. The mantle holder is shown at 11 and consists preferably of metallic wire. This mantle holder is provided with portions 12, 13 projecting laterally therefrom and bent into annular form as shown. The mantle 15 is supported upon these annular portions. Where alternating currents are employed it is preferable that the mantle be so disposed relatively to the carbons 9, 10 that the ends of the latter are slightly exposed, as indicated in Fig. 2. When, however, a direct current is employed, it is preferable that the mantle be so adjusted that only one of the carbons is exposed at its tip or crater, as will be understood from Fig. 3.

In the mantle above described the composition is substantially the same as in the ordinary Welsbach mantle; that is to say, an oxid of cerium, lanthanum, thorium, germanium, zirconium and didymium is used

for impregnating a fabric, which is afterward burned off so as to leave the oxid in the manner well understood in the art. The various oxids of the rare metals above mentioned may be used singly or admixed together. I find that a good plan is to use ninety-nine per cent. or more of thorium oxid admixed with one per cent. or less of cerium oxid. The cerium oxid may be formed by admixing a small proportion of cerium nitrate with the thorium oxid, and when the mantle is flamed or burned off the cerium nitrate is converted into cerium oxid, nitrogen dioxid (NO_2) escaping. Where alternating currents are employed, and consequently the temperature of both carbons is approximately the same, I find it advisable to adjust the mantle as indicated in Fig. 2. When, however, direct current is used (in which the positive carbon is of a higher temperature than the negative carbon), I make use of the high luminosity of the positive carbon, and I adjust the mantle as shown in Fig. 3.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:—

1. In an illuminating device, the combination of a pair of electrodes, between which an arc may be formed, with an open mesh mantle of rare earth oxids disposed in a position to surround the arc and be heated thereby.

2. In an illuminating device, the combination of a pair of electrodes, between which an arc may be formed, with an open mesh mantle of rare earth oxids disposed in a position to surround the arc and be heated thereby, and means independent of the electrodes for supporting the mantle out of electrical communication with the electrodes.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ISADOR LADOFF.

Witnesses:

G. ISAAC GABRILOWITZ.

GAM JACOBSON.