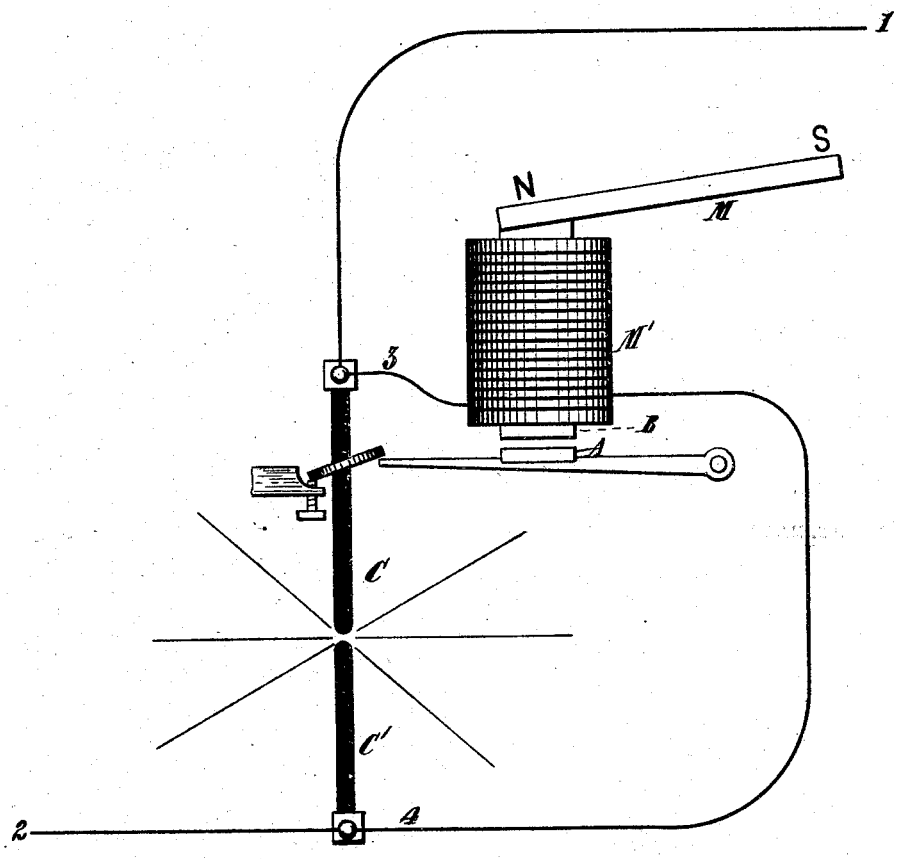
(No Model.)

T. A. EDISON.

ELECTRIC ARC LIGHT.

No. 263,138. Patented Aug. 22, 1882.



WITNESSES:

D. D. Mott
Thomas E. Birch.

INVENTOR:

BY T. A. Edison
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ATTORNEYS.

UNITED STATES PATENT OFFICE.

THOMAS A. EDISON, OF MENLO PARK, NEW JERSEY, ASSIGNOR TO THE EDISON ELECTRIC LIGHT COMPANY, OF NEW YORK, N. Y.

ELECTRIC-ARC LIGHT.

SPECIFICATION forming part of Letters Patent No. 263,138, dated August 22, 1882.

Application filed November 28, 1881. (No model.)

To all whom it may concern:

Be it known that I, THOMAS A. EDISON, of Menlo Park, in the county of Middlesex and State of New Jersey, have invented a new and useful Improvement in Electric-Arc Lights, (Case No. 369;) and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon.

The object I have in view is to produce simple and efficient means for controlling the regulating mechanism of arc-lamps. This I accomplish by means of a permanent magnet, which is opposed by an electro-magnet located in a shunt-circuit around the arc. This permanent magnet may be connected with one end of the soft-iron core of the electro-magnet, its action upon such core being opposed to the action of the current flowing through the surrounding coils. The armature acted upon by the magnet is connected in any suitable manner to control the regulating mechanism.

The foregoing will be better understood from the drawing, which shows diagrammatically an arc-lamp embodying my invention.

1 2 represent the line in which are placed carbons C C′.

3 4 represent a shunt-circuit around the arc, in which is placed the electro-magnet M′.

M is the permanent magnet, connected with one end of the soft-iron core B of the electro-magnet. M acts upon B oppositely to the action of the current flowing in the coils of M′.

A is the armature, connected to control the regulating mechanism.

When the lamp is first put in circuit, the carbon points being together, little current passes in the shunt 3 4, and the electro-magnet M′ is but little energized, so that the permanent magnet M acts on the armature-lever A (which is connected with the upper-carbon holder) to raise the upper carbon, C, and establish the voltaic arc; but as the length of the arc is increased by the wearing away of the carbons the resistance of the main circuit becomes greater and more current passes through the shunt 3 4, so that the electro-magnet M′ is energized, and as this is opposed to the permanent magnet M it moves the armature A down and the carbon C down again to the proper distance. The operation is of course continuous after the arc is once established.

What I claim is—

In regulating mechanism for arc-lamps, the combination of a permanent magnet and an electro-magnet opposed in their action, the latter being located in a shunt around the arc, substantially as set forth.

This specification signed and witnessed this 7th day of November, 1881.

THOS. A. EDISON.

Witnesses:
RICHD. N. DYER,
H. W. SEELY.