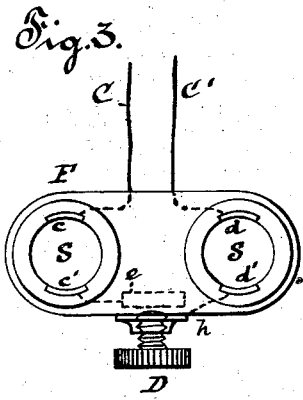
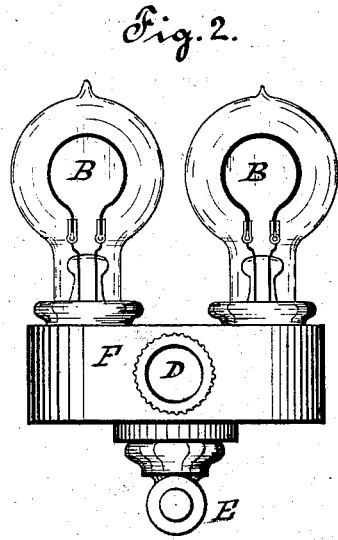
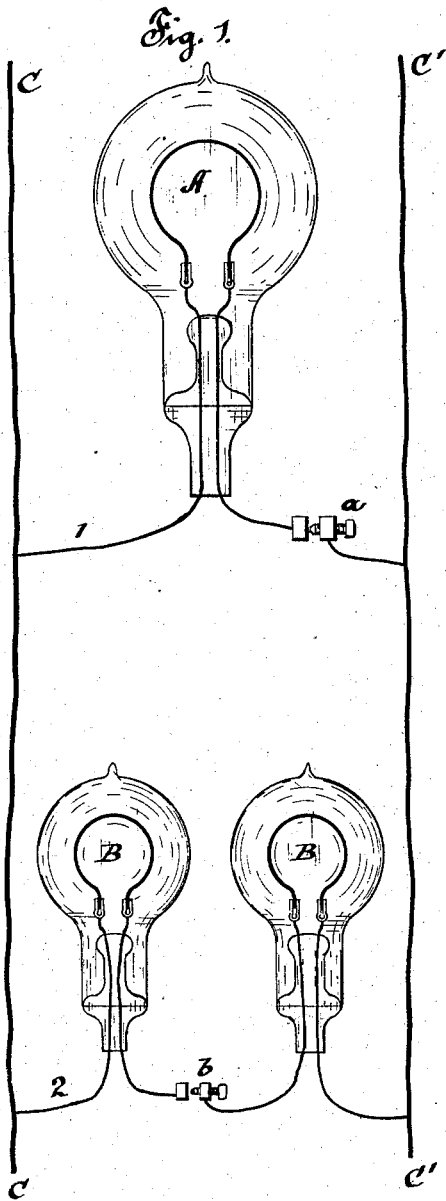


(Model.)

T. A. EDISON.
Electric Lamp.

No. 239,150.

Patented March 22, 1881.



Attest:
D. D. Mott
D. H. Hall

Inventor:
Thos. A. Edison
per Dyer & Wilber
Atty.

UNITED STATES PATENT OFFICE.

THOMAS A. EDISON, OF MENLO PARK, NEW JERSEY.

ELECTRIC LAMP.

SPECIFICATION forming part of Letters Patent No. 239,150, dated March 22, 1881.

Application filed August 6, 1880. (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 Lamps; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

In a system of electric lighting such as proposed by me, in which separate electric lamps devoid of regulating devices are used at the places of consumption, the entire regulation for all the lamps being performed at the central station, as with water or gas supply, it is essential that a constant electro-motive force or pressure be maintained; and as in such a system the lamps are arranged upon the multiple-arc or derived-circuit system, it is essential that there should be a certain standard resistance in each derived circuit. This has been attained by placing one lamp of such standard resistance in each derived circuit.

It is desirable that all lamps used should be of equal lighting value, each giving a certain standard amount of light. This has been attained by giving each a certain definite or standard amount of radiating-surface. Ordinarily this radiating-surface has been that which, with the standard pressure or electro-motive force and the standard resistance, should give a light equal to sixteen candles. Sometimes, however, it is desirable in some part of the system to use lamps which each give a much less amount of light—for instance, in chandeliers, where it is desired to divide the total amount of light produced among a larger number of lamps than ordinary—that is, that the light of one (say standard sixteen-candle) lamp be divided between two, three, or four lamps, each of eight, five and one-third, or four candle power, respectively. To attain this is the object of this invention, which is carried into effect in the following way, taking for example the substitution of two lamps for one in a derived circuit.

In a derived circuit are placed two lamps, each being carefully provided with an incandescing conductor of one-half the resistance and one-half the radiating-surface of the re-

sistance and radiating-surface of the incandescing conductor of the standard lamp of the system. A single circuit-breaker is provided for both lamps, in order that both shall be turned off or on simultaneously. When desirable, the two lamps may be arranged in one holder, which may form a bracket, or may form a section of a group of lamps or of a chandelier.

In the drawings, Figure 1 is a diagram showing one standard lamp and two half-lamps in derived circuits from the same main conductor. Fig. 2 is a view of two half-lamps arranged in one holder, and Fig. 3 is a diagram showing the connections in such holder.

C C' are the main conductors leading to and from any suitable source of electric energy at the central station. In the multiple arc 1 thereto is a lamp, A, of standard resistance and radiating-surface. In the multiple arc 2 are the two lamps B B, each of which has just one-half the radiating-surface and one-half the resistance of A. One circuit-breaker, *b*, is provided, controlling the circuit through both lamps. As a consequence, with a uniform standard electro-motive force or pressure, each of these lamps will give one-half the light which A would give.

If it is desired to increase the number, there should be the same proportion between the number used and the standard resistance and radiating-surface.

For two, three, or more lamps, a suitable holder, F, of insulating material, is made, sockets S being made therein for each lamp. In each socket metallic conducting-plates are placed on opposite sides, as *c c' d d'*, for forming contact with metal slips or pieces on the necks of the lamps. The socket may be provided with a plain or screw-threaded aperture, E, by which it may be attached to the wall as a bracket, or to a framing, so that it may constitute a portion of a group of lamps or of a chandelier. Upon the socket is a circuit-breaker consisting of a metallic screw, D, secured in a seat, *h*, and which may be turned to impinge upon or be cleared from contact with a metal block, *e*.

The conductor C passes through *c c'* to *e*, and the conductor C' through *d d'* to the metal

seat *h* of the screw **D**. If more than two are used, the block *e* and screw **D** are placed somewhere in the circuit leading through all the lamps, in order that all may be turned on or off simultaneously, all the divided lamps
5 being used as one standard lamp.

What I claim is—

1. The combination, with one derived circuit, of a multiple-arc system of two or more lamps,
10 each of a fractional resistance and radiating-surface of the resistance and radiating-surface of the standard lamp of the system, the fraction being the number used, substantially as set forth.

2. The combination, with one socket or holder, and one derived circuit, of one circuit-controller and two or more lamps, each of a fractional resistance and radiating-surface of a standard lamp, substantially as set forth.

This specification signed and witnessed this 20
27th day of July, 1880.

THOS. A. EDISON.

Witnesses:

S. D. MOTT,
WM. CARMAN.