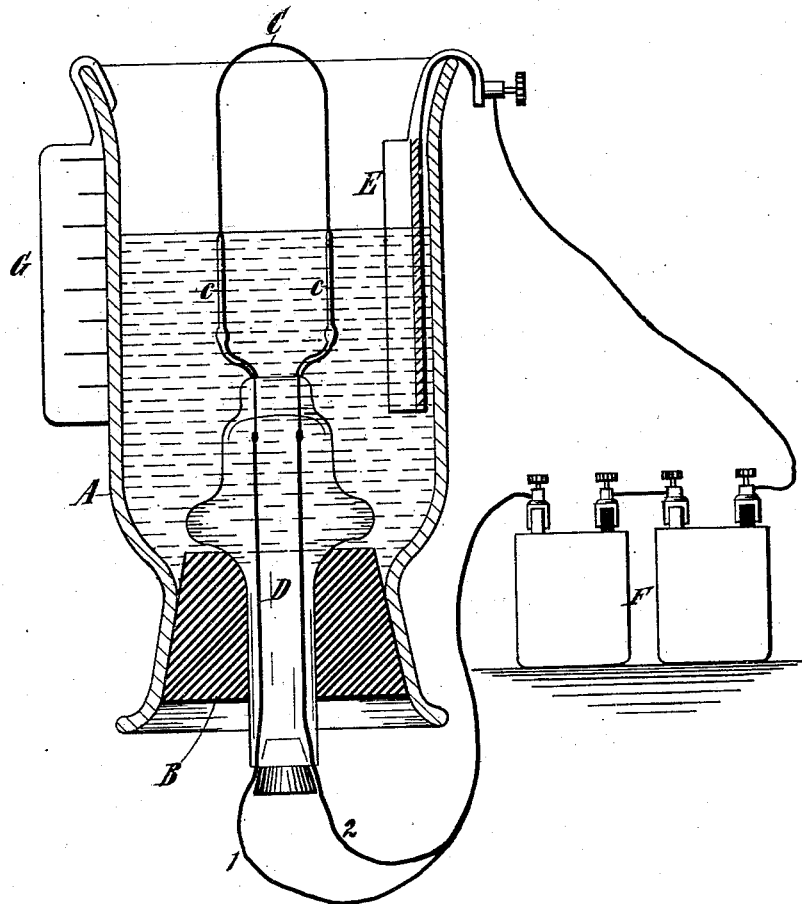


(No Model.)

T. A. EDISON.
INCANDESCENT ELECTRIC LAMP.

No. 264,653.

Patented Sept. 19, 1882.



WITNESSES:

D. W. Mott
Thomas E. Birch

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

INCANDESCENT ELECTRIC LAMP.

SPECIFICATION forming part of Letters Patent No. 264,653, dated September 19, 1882.

Application filed August 7, 1882. (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 Incandescent Electric Lamps, (Case No. 385;) 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, in a simple and efficient way, carbon filaments for my incandescing electric lamps of different candle-power and resistance, and to make such varying filaments from carbon filaments of the same or nearly the same size and resistance, which may be, for example, the filaments used in my standard sixteen or eight candle power lamps. This I accomplish by electroplating the carbon filaments for a portion of their length, preferably of copper, the non-plated portion alone becoming incandescent. Carbon filaments of a loop, arch, or horseshoe shape are plated preferably from their ends, where they are secured to the leading-in wires of the lamps, the center of the incandescing portion of the carbons being at the central point of their length and the candle-power and resistance of the carbons being dependent upon the extent of their non-plated portion.

In carrying out my invention I employ an electroplating or depositing cell provided with one or more perforated elastic stopples in its bottom, which receive the tubular glass support in which the leading-in wires of the lamp are sealed, as set forth in Patent No. 248,436. The cell is filled with a copper-plating solution until it rises upon the carbon filament or filaments to the desired height, which may be regulated and determined by a properly-graduated scale arranged for that purpose. The carbon filament or filaments are connected to form the cathode of the cell, and the copper is deposited upon them, as will be readily under-

stood. The carbon filaments are preferably secured to the leading-in wires by the same operation.

The foregoing will be better understood from the drawing, which represents in vertical section the electroplating cell, with the remaining parts of the apparatus in elevation.

A is the containing-vessel of the cell.

B is its perforated elastic stopple, in which is placed the tubular glass wire support D.

1 2 are the leading-in wires of the lamp, sealed in the flattened and closed upper end of D.

C is the incandescing filament of carbon, being its plated portion.

E is the anode of the cell.

F represents the battery.

G is the scale. This scale may be placed upon the exterior of the cell if A is of glass, or marked directly upon the cell itself; but if A is of opaque material, without any transparent portion, the scale may be marked upon the interior of A or on a separate piece set within A.

What I claim is—

1. The method of marking carbon filaments for incandescing electric lamps of different candle-power and resistance, consisting in electroplating such a portion of their length that the non-plated or incandescing portion will have the desired candle-power and resistance, substantially as set forth.

2. A carbon filament for incandescing electric lamps, secured at its ends to conducting-wires, and having electroplated portions commencing at such ends and extending toward its center for reducing the length of its incandescing portion, substantially as set forth.

This specification signed and witnessed this 13th day of December, 1881.

THOS. A. EDISON.

Witnesses:

RICHD. N. DYER,
S. D. MOTT.