

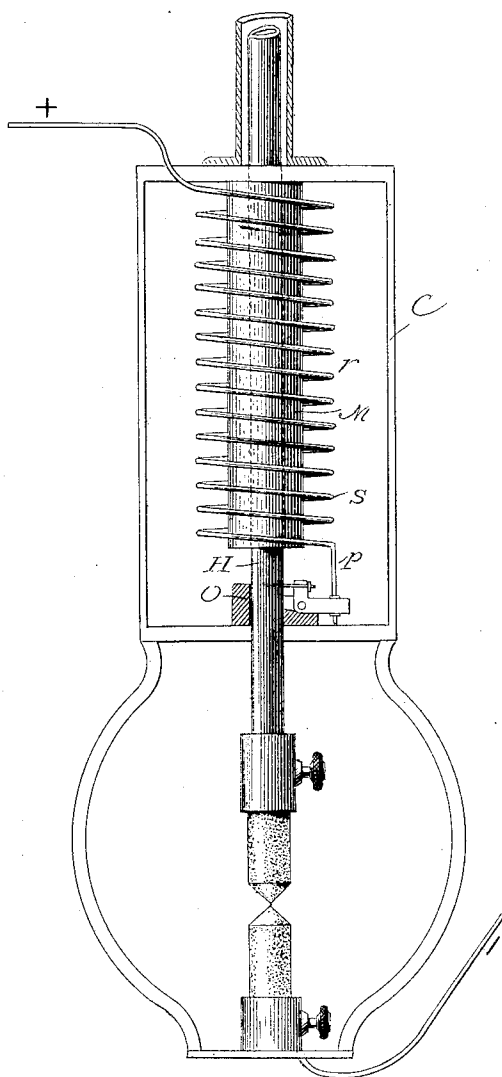
(No Model.)

S. H. SHORT.

FEED REGULATOR FOR ELECTRIC ARC LAMPS.

No. 312,243.

Patented Feb. 10, 1885.



Attest:  
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# UNITED STATES PATENT OFFICE.

SIDNEY HOWE SHORT, OF DENVER, COLORADO.

## FEED-REGULATOR FOR ELECTRIC-ARC LAMPS.

SPECIFICATION forming part of Letters Patent No. 312,243, dated February 10, 1885.

Application filed July 15, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, SIDNEY HOWE SHORT, of Denver, in the State of Colorado, have invented a new and useful Improvement in Feed-Regulators for Arc Lamps; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates to electric-arc lamps; and it consists of an improved mechanism for controlling the position of the carbon, all as hereinafter explained.

In the accompanying drawing, the figure shows in side elevation the apparatus and its connection with the carbon of an electric-arc lamp.

The main features of the apparatus for controlling the position of the carbon are shown in an application filed by me in the United States Patent Office on the 31st day of January, 1884, Serial No. 119,301. The said main features are claimed in the present application only in the connection described, or any connection substantially the same with the electric-arc lamp.

In the drawing, C represents a case, which is mounted in any suitable frame-work adapted to sustain the carbon-holders. To the top of this case, on the inside, is attached a magnet or series of magnets, which form a core for the coil hereinafter described. The magnet may be permanent or polarized, in order that the action of the current in the magnetic field of this magnet may act with the current through the spiral coil; but a soft-iron core may be used instead of the permanent polarized core, but not with such good results. The core (marked M) is made with an axial hole through which the upper-carbon holder, H, moves freely. A spiral spring, S, of conducting material, surrounds the magnet, being free to move and not touching the magnet. The lower end, *p*, of this coil is connected to

a clutch, O, adapted to clamp the carbon-holder whenever the end *p* of the wire is lifted. The lamp is placed in the circuit in the usual manner by means of the wires + and —, (the former being in connection with the coil S and the latter with the lower carbon.) When the current enters the upper end of the spiral through the wire marked +, it passes down through the convolutions of the spring, as represented by the arrows. By the attraction of the parallel currents in these wires, and also by their effect upon the lines-of-force of the permanent magnet, when such magnet is used, the lower end of the coil will be lifted up, causing the clutch O to grasp the carbon-holder H, to lift it, and to separate the carbons, thus establishing the arc. The clutch is lifted from the floor of the case. After the carbons have burned, and the arc becomes long, the resistance will be correspondingly increased, and less current will pass through the coil S. Consequently the coil will be increased in length, releasing the clutch from the holder H, and allowing the carbon points to come together again.

The ordinary dash-pot may be used in connection with the carbon-holder H to make its movement more regular.

I claim as my invention—

In combination with the carbon-holder in an electric-arc lamp, the core M, a coil-spring, S, about the core, having its lower end connected with the clutch O, and the electrical connections, the parts being combined and operated substantially as described.

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

SIDNEY HOWE SHORT.

Witnesses:

J. W. WHITMORE,  
FREDK. P. VOORHEES.