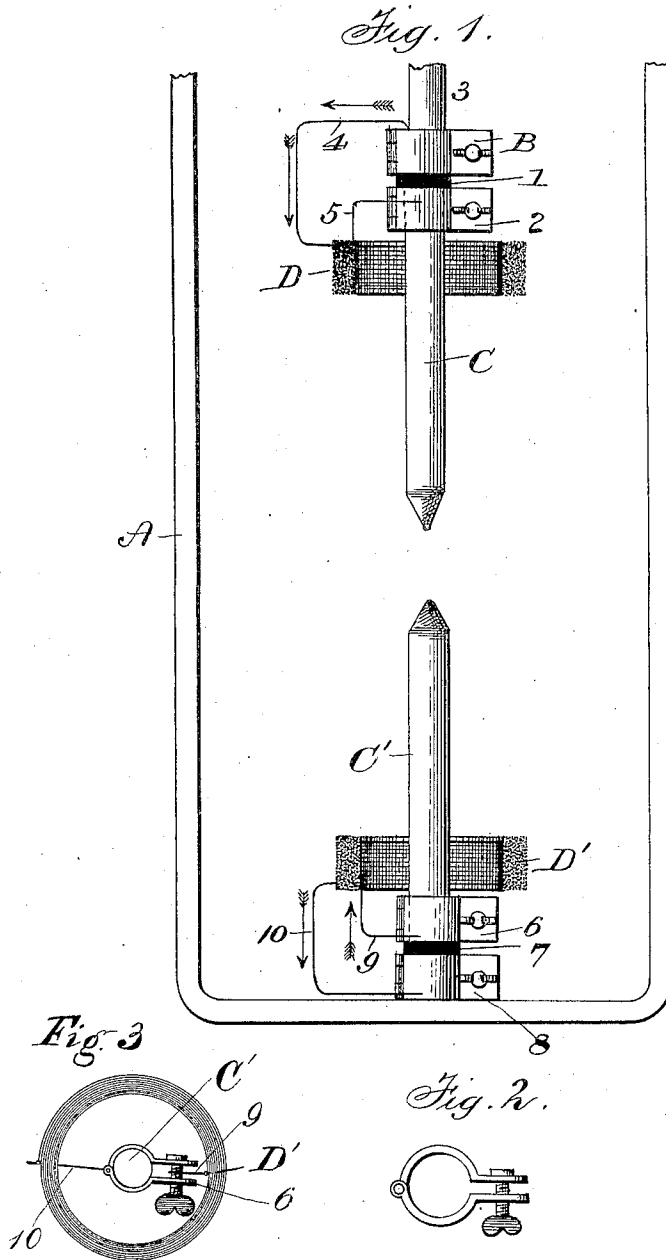


(No Model.)

D. A. SHESLER.
ELECTRIC ARC LAMP.

No. 576,475.

Patented Feb. 2, 1897.



Witnesses:
F. L. Osgood
A. D. Smith

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UNITED STATES PATENT OFFICE.

DANIEL A. SHESLER, OF TOLEDO, OHIO.

ELECTRIC-ARC LAMP.

SPECIFICATION forming part of Letters Patent No. 576,475, dated February 2, 1897.

Application filed February 13, 1896. Serial No. 579,170. (No model.)

To all whom it may concern:

Be it known that I, DANIEL A. SHESLER, a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have
5 invented certain new and useful Improvements in Arc-Lamps; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains
10 to make and use the same.

My invention has relation to improvements in electric-arc lights; and the objects are to provide an electric-arc-light mechanism effecting an extension of the arc between the
15 carbon tips, to create a magnetic field in the light by the interposition of electromagnets in the circuit adjacent to the clamps and between the leading wire and the carbons, and also to provide an arc-light with carbons composed
20 of a particular substance readily energized and deenergized or magnetized and demagnetized and having the desirable characteristics and qualities of durability and intensity.

I accomplish the objects of my invention by the means illustrated in the accompanying drawings, forming a part of this specification, and wherein—

Figure 1 shows the application of my invention to an arc-light arranged in a frame or holder of common construction. Fig. 2 is a plan edge view of one of the clamps. Fig. 3 is a plan view of one of the solenoids, the clamp, and cross-section of the carbon.

A designates the suspension-frame, which may be of any of the well-known and approved makes or construction and adapted to hold and retain the lower carbon on its bottom cross-bar, substantially as shown.

B designates a clamp secured to the lower end of the upper leader or rod 3 by any suitable means.

I have shown the construction of the several clamps employed, in Fig. 2 of the drawings, as consisting of two semicircular limbs hinged together and formed with parallel ears, through which a clamping-screw is projected. Below the clamp B is secured an insulating-disk 1, consisting of any material
50 suited to completely interrupt the progress of the current.

C designates the upper carbon, carried and

held by a clamp 2 at its upper end, the upper face of the clamp being contiguous to the under face of the disk 1.

D designates a solenoid suitably mounted and secured by any proper means. I have shown the solenoids as being sustained in position by the circuit-wires, which are of such size as to perform this service. This solenoid
60 is of enlarged diameter and of diminished length, the object being to utilize an enlarged magnetic influence without multiplication of the coils in the length of the spool. To the leader 3 is connected one of the wires, as 4,
65 of the solenoid D, and the other end of the coil is connected to the carbon-clamp 2, substantially as shown, so that the current reaches the upper carbon through the leader 3, the wire 4, thence through the solenoid, and thence by
70 wire 5 through the clamp to the carbon.

C' designates the lower carbon, held in a suitably-supported clamp 6, resting on an insulating-disk 7, supported by a clamp 8, mounted on the bottom bar of the frame. Adjacent to the foot of the lower carbon is
75 mounted and secured a solenoid D', similar in dimensions and construction to the upper solenoid D, the circuit being completed through the carbon by wire 9, leading from
80 the clamp 6 to solenoid D', thence by wire 10 to clamp 8, and through the bar of the frame.

I have not shown mechanism for feeding the carbons, because any of the well-known mechanisms now employed to feed and regulate the relation of the carbon tips may be
85 used in connection with my invention.

The carbons CC' are of particular material, being composed of graphitoid silicon, asbestos, and carbon. The asbestos, I have found
90 by experiment, gives great durability to the carbon pencils, and, while a poor conductor in itself, it affords an excellent substance for the purposes, because it increases the area of the arc field and the intensity and brilliancy of the light. By the interposition of the solenoids in the circuits the luminous arc is made to revolve rapidly around the carbons, causing the carbons to be consumed regularly and the field to be increased.

I do not desire to limit the invention to the precise arrangement of the elements and circuits shown and described, because there may be changes made to adapt the invention to

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different forms of electric-light mechanism without departing from the spirit of the invention and without materially varying the described mode of operation.

5 Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In an electric-arc light, the combination
10 with the upper carbon, of a lower carbon, an insulated support therefor, a conductor adjacent to the insulator, and a solenoid interposed in the circuit adjacent to the carbon and having connections to the carbon and to
15 the conductor adjacent to the insulated support therefor.

2. In an electric-arc light, the combination

of the upper carbon, a conductor, an insulator between the carbon and the conductor, a solenoid adjacent to the carbon, having connections to the said conductor and the carbon, 20 a lower carbon, a non-conducting support therefor, a conducting-clamp surrounding the non-conducting support, and a solenoid adjacent to the carbon, having connection to the carbon and to the conducting-clamp, substantially as described. 25

In testimony whereof I hereunto affix my signature in presence of two witnesses.

DANIEL A. SHIESLER.

Witnesses:

A. B. SUIT,

FLORENCE THOMAS.