(No Model.)

E. L. LIEDKE.

CARBON FOR ARC LAMPS.

No. 421,733. Patented Feb. 18, 1890.

Fig. 1.

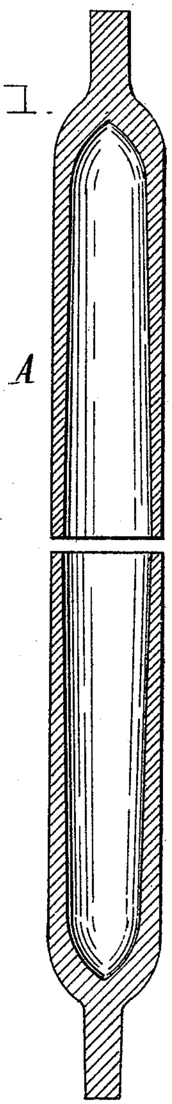


Fig. 2.

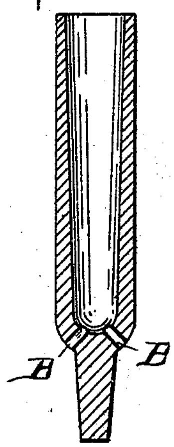
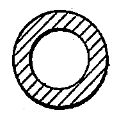


Fig. 3.



Witnesses:
Geo. A. Gregg

Inventor:
Edward L. Leidke
By Thos. S. Sprague & Son
Att'y.

UNITED STATES PATENT OFFICE.

EDWARD L. LIEDKE, OF SANDUSKY, OHIO, ASSIGNOR OF ONE-HALF TO FRANK K. McCORMICK, OF SAME PLACE.

CARBON FOR ARC LAMPS.

SPECIFICATION forming part of Letters Patent No. 421,733, dated February 18, 1890.

Application filed July 22, 1889. Serial No. 318,234. (No model.)

To all whom it may concern:

Be it known that I, EDWARD L. LIEDKE, a citizen of the United States, residing at Sandusky, in the county of Erie and State of Ohio, have invented certain new and useful Improvements in Carbons for Arc Lamps, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to a new and useful improvement in hollow carbons for electric-arc lamps; and it consists in the peculiar construction hereinafter described and then definitely claimed.

In the accompanying drawings, Figure 1 is a section through my improved carbon. Fig. 2 is a section of a slightly-modified form thereof. Fig. 3 is a cross-section of the carbon.

A is an electric-arc lamp of the usual size and composition, preferably, except that it is hollow instead of being solid, as in the usual manner, a hollow tubular form, with the walls made of suitable thickness to impart the necessary strength, being the more preferable form. The end of the carbon on which the arc is formed is left open; but the opposite end, which is intended to be secured in the carbon-holder, is made solid and preferably reduced in thickness, so that it has about the same area as the tubular portion, and the bore or passage of the carbon is made conical or slightly tapering. The advantage claimed for this form of carbon is that the arc formed thereby is not produced in the center of the carbon, where the light becomes obstructed when the lamp is used in an elevated position, but is formed on the outer edges of the carbon; and not only this, but the arc is caused to bulge outwardly by the action of the heat on the confined body of air which seeks to escape between the carbons.

I claim as the peculiar advantage of my carbon that the reduced solid end thereof is adapted to fit in the ordinary holder and be rigidly held therein by means of a set-screw or the like without danger of breaking the carbon, which, as is well known, is very brittle, and besides this, as it is necessary in producing the best effect in arc-lighting that the carbon shall have nearly the same area in cross-section at all points in its length, the small solid end has the advantage of having nearly the same area as the hollow part of the carbon.

In the modified form in Fig. 2 there are one or more perforations B formed in or near the base of the tubular portion of the carbon to admit the air into the interior of the carbon to regulate the air-current to pass in at the bottom and escape at the top of the carbon.

What I claim as my invention is—

As an improved article of manufacture, a hollow carbon having a reduced solid end formed integral therewith, whereby such tubular carbon has nearly the same area in cross-section at all points in its length and is adapted to be held in a small holder of small bore, substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses, this 4th day of June, 1889.

EDWARD L. LIEDKE.

Witnesses:

FRANK K. McCORMICK,

ED McBREARTY.