

(No Model.)

T. A. EDISON.

MANUFACTURING CARBONS FOR ELECTRIC LIGHTS.

No. 248,417.

Patented Oct. 18, 1881.

Fig. 1.

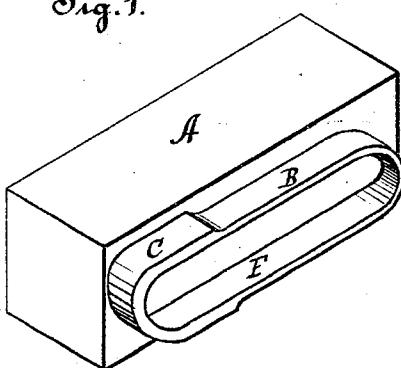


Fig. 2.

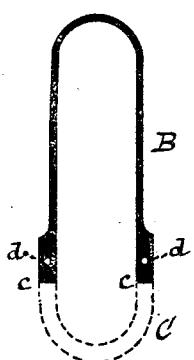


Fig. 3.



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UNITED STATES PATENT OFFICE.

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MANUFACTURING CARBONS FOR ELECTRIC LIGHTS.

SPECIFICATION forming part of Letters Patent No. 248,417, dated October 18, 1881.

Application filed June 30, 1880. (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 Method of Manufacturing Carbons for 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.

This invention relates to the manufacture of carbons from wood for incandescent conductors in electric lamps.

As explained in previous applications by me made for patents for inventions relating to the same subject-matter, an incandescent conductor is needed which shall be exceedingly small—in fact, a mere filament in the light-giving portion—but with ends somewhat enlarged, so as to afford a good connection for the clamps which are to support the carbons and connect them to the conductors. These incandescent conductors are made as part of an oval, and are ordinarily designated "horseshoe carbons." In the present invention a block of wood is taken and cut in a machine or lathe for turning irregular forms until its shape is that of an elongated oval, of which about one-third, including an end, is cut upon somewhat larger axes than the remainder, in order to provide for the clamps. The interior is then reamed out in a suitable machine, so that the block then resembles a series of carbon horseshoes with closed ends piled upon each other. The length of the oval is with the grain of the wood. The block is then split or sawed into very thin layers or slips, each forming ultimately one horseshoe carbon. The slips are then carbonized, preferably in a nickel flask of a description shown in a prior application. After carbonization the greater portion of the broader end of the slip is cut off, leaving the horseshoe in shape for use. This broader end, which connects what are afterward the ends of the horseshoe, may, if desired, be cut off prior to carbonization; but as this broader connecting end

tends to support and keep in shape the portions afterward forming the horseshoe, it is better to leave it on until after carbonization. Either before or after carbonization, (preferably before,) and before the slips are sawed or split from the block, small holes are made in the broad end, through which pass the clamp-screws.

In the drawings, Figure 1 is a perspective view of the block partially turned in proper shape. Fig. 2 is a front view of a carbon after carbonization. Fig. 3 is a side view of a carbon properly secured in clamps.

A is a block of wood, which, in a proper machine, is turned so that its exterior shape is that of an oval, composed of two ovals, B C, of different axes, thereby forming a broadened portion for the clamps, the interior being reamed out to present a uniform smooth surface, F. This block, so shaped, is then split or sawed into very thin layers or slips of a thickness sufficient for one carbon horseshoe, as seen in Figs. 2 and 3. These slips are then carbonized and a portion of C broken or cut off at c, as shown in dotted lines in Fig. 2.

At some stage in the process, preferably while in the shape shown in Fig. 1, holes d d are drilled for the reception of the screws e, which fasten the clamps D to the carbon.

What I claim is—

The method of forming carbons for the incandescent conductors of electric lights, consisting in cutting or turning a block of wood into the shape of an oval having a broadened portion and reaming out the central portion of such oval, then slicing the block into layers, and then carbonizing the layers, a portion of the broadened part being removed before or after carbonization, substantially as set forth.

This specification signed and witnessed this 15th day of June, 1880.

THOS. A. EDISON.

Witnesses:

S. L. GRIFFIN,
WM. CARMAN.