(No Model.)

T. A. EDISON.

MOLD FOR CARBONIZING.

No. 274,291. Patented Mar. 20, 1883.

Fig. 1.

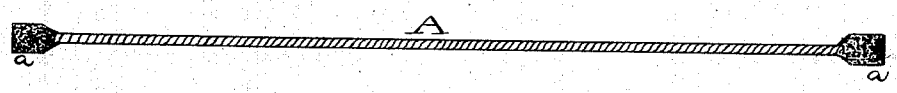


Fig. 2.

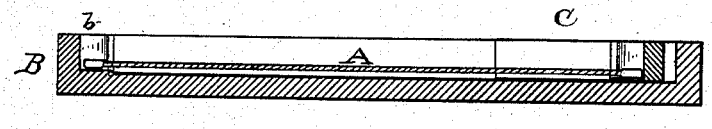
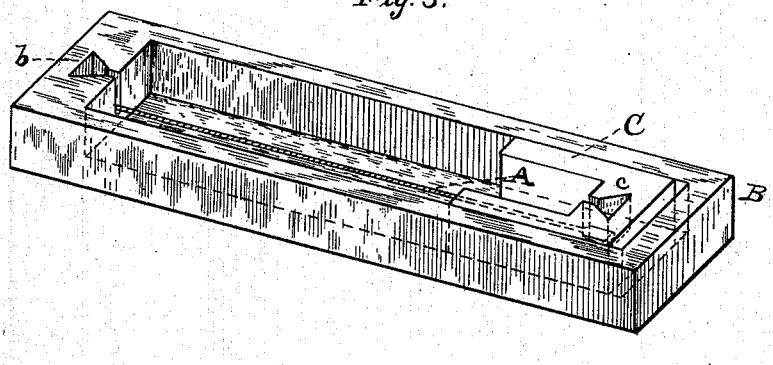


Fig. 3.



ATTEST:

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UNITED STATES PATENT OFFICE.

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

MOLD FOR CARBONIZING.

SPECIFICATION forming part of Letters Patent No. 274,291, dated March 20, 1883.

Application filed December 8, 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 Molds for Carbonizing, (Case No. 528,) of which the following is a specification.

In my application No. 515 (Serial No. 77,525) is described an incandescing conductor for electric lamps, formed of a number of fine filaments twisted or otherwise massed together, and having their ends secured by a carbonizable substance.

My present invention relates to the manufacture of such conductors, my object being to provide a mold for holding them during carbonization, which will keep them straight, allow contraction, and prevent the filaments, from untwisting.

While my invention is adapted for use with the twisted filaments described, it may also be employed in carbonizing any straight filaments for the purpose mentioned.

My invention is illustrated in the annexed drawings, in which Figure 1 is an enlarged view of a twisted conductor; Fig. 2, a sectional view of the carbonizing-mold, and Fig. 3 a perspective view of the same.

The conductor A is formed of a number of fine continuous filaments massed together. Such filaments are preferably natural vegetable fibers; but they may be formed of cellulose, paper, parchment, or of fibrous material treated with hydrofluoric acid, or of any desirable carbonizable substance. The ends are secured and enlarged by the addition of a plastic carbonizable material, *a a*.

The carbonizing-mold consists of a box, B, formed of carbon, nickel, or other material capable of withstanding high temperatures. In one end is formed a slot, *b*, of such size and shape as to receive the enlarged end of the filament. At the other end of the mold is set a movable block, C, provided with a slot, *c*, similar to slot *b*. The block C may be of carbon or of nickel, or of nickel covered with carbon. It must, however, have sufficient weight to keep the filament stretched. The slots *b c* do not extend quite to the bottom of the mold, and the filament for carbonization is placed in the mold from above, with the ends resting in the bottoms of the slots and its body kept out of contact with the mold. The filament is kept taut in the mold, which is placed in the carbonizing-furnace, a suitable cover being provided. As the filament contracts the movable block C slides toward the center of the mold, keeping the filament still slightly stretched and preventing the fibers from untwisting.

It is evident that two movable blocks, instead of one, might be employed, which would slide toward each other as the carbon contracts.

It is evident that the mold described can be used for any straight filaments to allow contraction during the carbonization. Filaments formed in this manner are preferably bent into a loop before being placed in the lamp.

Any desired number of filaments may of course be placed one above another in the carbonizing-mold.

In my Patents Nos. 263,139 and 263,144 I have shown and described means for holding a filament in a doubled or looped form, under strain, during carbonization and permitting contraction, the invention herein being limited to the carbonization of straight filaments.

What I claim is—

1. The combination, with a mold for carbonizing filaments, of means for keeping such filaments straight and under strain, and at the same time allowing contraction during carbonization, substantially as set forth.

2. The combination, with a mold for carbonizing straight filaments, of means for holding both ends of a filament fixed, but allowing contraction of the filament, substantially as set forth.

3. The combination, with a mold for carbonizing straight filaments, of one or two movable blocks for holding one or both ends of the filament movably to allow contraction, substantially as set forth.

4. A mold for carbonizing straight filaments, provided with a slot for holding an end of the filament, and a movable block having a similar slot for the other end of the filament, substantially as set forth.

5. The method of manufacturing incandescing conductors for electric lamps, consisting in twisting together a number of fine filaments of carbonizable material, securing their ends, and then carbonizing the whole while under tensile strain, substantially as set forth.

This specification signed and witnessed this 28th day of November, 1882.

THOS. A. EDISON.

Witnesses:
H. W. SEELY,
E. H. PYATT.