

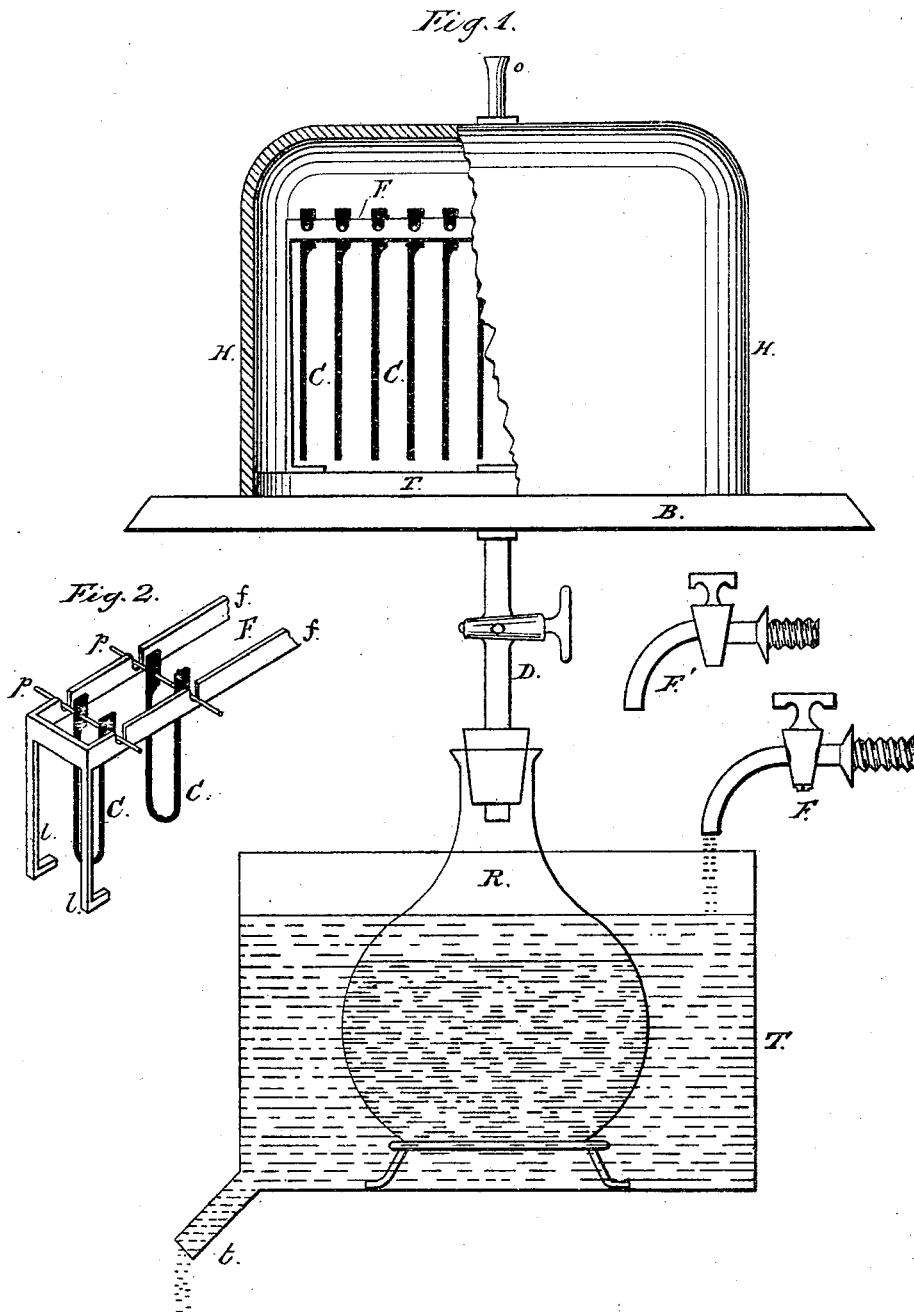
(No Model.)

T. A. EDISON.

APPARATUS FOR TREATING CARBONS FOR ELECTRIC LAMPS.

No. 248,426.

Patented Oct. 18, 1881.



Attest:

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UNITED STATES PATENT OFFICE.

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APPARATUS FOR TREATING CARBONS FOR ELECTRIC LAMPS.

SPECIFICATION forming part of Letters Patent No. 248,426, dated October 18, 1881.

Application filed November 24, 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 Treating 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.

It has been heretofore fully explained by me that exceedingly-desirable carbons for the incandescent conductors of electric lamps may be made of fibrous vegetable materials, especially those like the bamboo and other members of the family of "Gigantic grasses," in which the body is composed of a large number of exceedingly-fine fibers lying parallel to each other, and having a minimum of foreign or extraneous matters. In treating such fibrous substances to effect their conversion into carbons it often happens that one or more of the fibrillae, composing what is known as the "fiber," becomes ruptured, destroyed, or injured. This rupture is usually invisible to the eye; but when the finished carbon is put to use an arc is apt to form thereat, which, increasing, finally destroys the carbon.

The object of the present invention is to furnish a method of and means for treatment of the carbons so as to greatly reduce or practically eliminate such danger. The carbons used are preferably constructed with enlarged ends for clamping, small holes being formed in the enlarged ends for the reception of the clamping-screws. The fibers so constructed and carbonized are taken and hung in a suitable frame by means of pins passing through the screw-holes referred to. The frame is placed in a flask capable of sustaining a high degree of heat, for which purpose nickel is the best adapted, and a stream of vapor from a carbon compound passed therethrough, while the flask and its contents are subjected to an intense heat. The carbon vapor is one which will be decomposed by high heat, the result being that there is a deposition of carbon upon the carbonized fibers, filling any breaks and uniting the disjointed ends of any of the ultimate or

unitary fibers which have been ruptured or injured.

For practicing the invention an apparatus like that shown in the drawings may be used, in which Figure 1 represents the apparatus, partly in plan and partly in section, while Fig. 2 is a view of the frame or rack detached from Fig. 1.

CCC are carbons, made with enlarged ends, in which are screw-holes, through which are passed the pins *pp*, by which the carbons are suspended in a rack or frame, *F*, made of suitable side pieces, *ff*, supported on legs *ll*.

On any suitable base, *B*, is placed the piece *I*, which forms the bottom of a flask, whose other portion is the cover or case *H*, within which is placed the frame *F*, loaded with carbons, as seen in Fig. 1.

In a water-tank, *T*, is a reservoir, *R*, filled with a carbon compound capable of vaporization. From *R* a pipe, *D*, provided with a stop-cock, leads to the interior of the flask *H*. The tank *T* may be heated in any suitable manner. A faucet, *F*, admits hot water therein, which causes the vaporization of the liquid in *R*, while *F'* may be used to admit cold water for lessening or entirely checking the production of vapor. Vapor is caused to pass through *D* into *H*, the surplus burning at *o*. At the same time the flask and its contents are heated in any suitable furnace, the heat causing a decomposition of the carbon vapor and a consequent deposition of carbon upon the carbonized fibers. By this arrangement the vapor has free access to all parts of the carbonized fibers, so that the carbon may be deposited upon the entire surface.

What I claim is—

The combination of a flask adapted to be heated in any suitable manner, a frame therein for supporting separately and freely from each other carbon filaments, and means for passing through the flask a stream of hydrocarbon vapor, substantially as set forth.

This specification signed and witnessed this 5th day of November, 1880.

Witnesses: THOS. A. EDISON.
JOHN F. RANDOLPH,
WM. CARMAN.