(No Model.)

C. G. PERKINS.

APPARATUS FOR TREATING CARBON FILAMENTS.

No. 287,318. Patented Oct. 23, 1883.

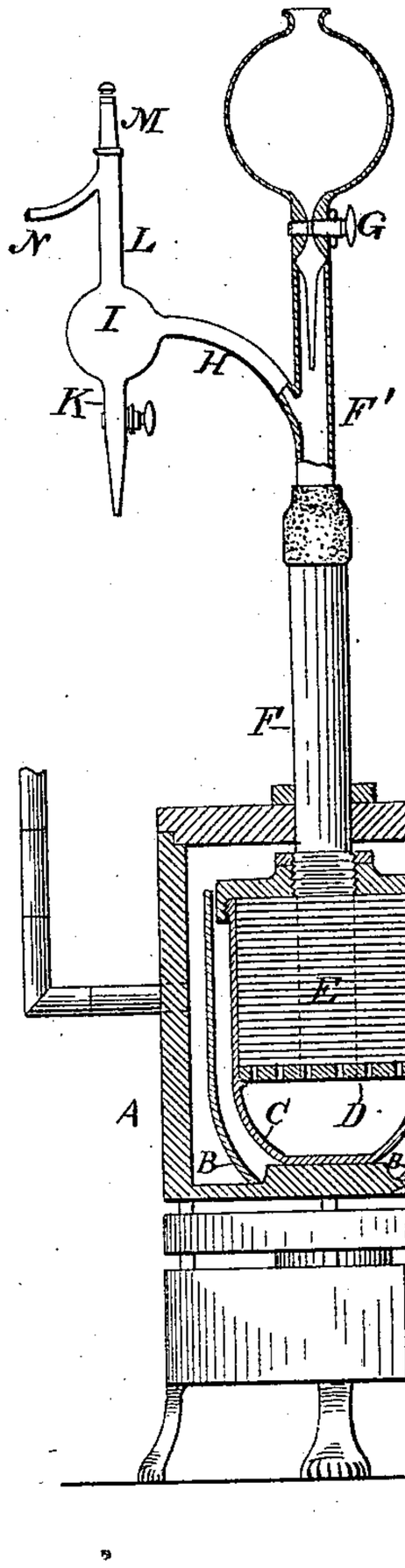


Fig. 1.

Fig. 4.

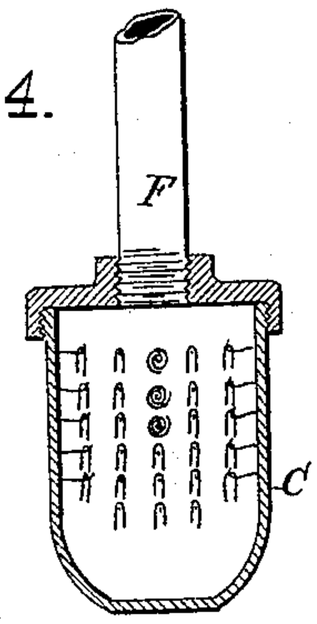


Fig. 3

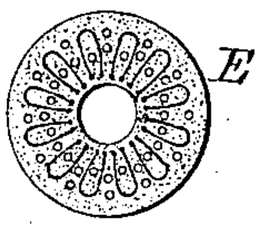
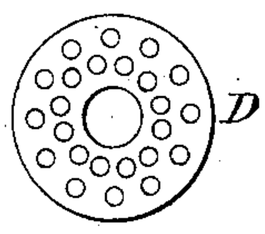


Fig. 2.



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UNITED STATES PATENT OFFICE.

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APPARATUS FOR TREATING CARBON FILAMENTS.

SPECIFICATION forming part of Letters Patent No. 287,318, dated October 23, 1883.

Application filed April 21, 1883. (No model.)

To all whom it may concern:

Be it known that I, CHARLES G. PERKINS, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in an Apparatus for Treating Carbon Filaments, of which the following is a specification.

My invention relates to an apparatus for manufacturing the product of the decomposition of hydrocarbons, and for depositing the same on the surfaces of carbon filaments placed within a heated chamber for final treatment.

The first part of my invention consists of a carbonizing-box provided with a perforated plate resting against the wall of said box a little above its base, and having a feed-pipe extending therefrom to a suitable distance above, where it is joined with an upright glass tube provided with an oil-feeding contrivance similar to the one for which I have applied for Letters Patent.

The second part of my invention consists of a secondary glass tube connected with the upright tube. Said secondary tube enters the side of a bulb provided with a tubular extension on the bottom thereof, said extension having a stop-cock. The upper part of the bulb is provided with a tubular extension provided with a gas-jet on the end thereof, said extension also having a tube projecting from the side thereof.

The third part of my invention consists of arranging a series of perforated carbonized disks within a carbonizing-box and placing between each disk a number of carbon filaments to receive their final treatment.

In the drawings, Figure 1 represents a part section and elevation of the apparatus, showing the principal features of my invention. Fig. 2 represents a plan of the perforated metallic plate detached. Fig. 3 represents one of the several perforated carbon disks with a number of carbon filaments laid thereon. Fig. 4 represents a modification.

Similar letters refer to similar parts throughout the several views, in which—

A represents the wall of the gas-furnace.

B represents the muffle, into which the carbonizing-box C is placed.

D is the perforated metallic plate, arranged within the carbon-box C.

E are the perforated carbon disks, supported within the carbonizing-box C by the plate D.

F is the upright metallic tube connected with the upright glass tube F′, provided with an oil-feeding contrivance, G.

H is the secondary tube projecting from the side of the glass tube F′. Said tube H enters the side of the bulb I, provided with a tubular extension, K, having a stop-cock thereon.

L is the tubular extension arranged on the upper part of the bulb I. Said tube L is provided with a gas-jet, M, on the upper end thereof, and is also provided with a projecting tube, N.

Mode of operation: The carbon filaments are first placed between the perforated carbon disks within the carbonizing-box, arranged within the muffle inclosed by the gas-furnace. The metallic tube is then connected with the glass tube having the oil-feeding mechanism. When the furnace shall become sufficiently heated, the oil is allowed to drop to the base of the carbon-box, where it is immediately burned, and causes the fumes to arise therefrom and pass through the perforations of the metallic plate, thence through the perforations of the carbonized disks, where the product of hydrocarbon is deposited upon the surfaces of the carbon filament placed therein for final treatment. During this process the gas from the oil passes up the metallic pipe to the secondary tube, through which it passes to the bulb or condenser, thence to the gas-jet, where it is met by the ordinary coal-gas, and is ignited with it, the operation of which prevents the possibility of air entering the carbon-box.

The modification shows how the perforated carbon plates may be dispensed with by having hooks arranged on the wall of the carbonizing-box, upon which the carbon filaments are suspended when receiving their final treatment, as hereinbefore stated.

I am aware that paper strips have been placed between card-board and the whole placed within a chamber, which was afterward heated to a high temperature, thus carbonizing them. The above invention has no bear-

ing on my invention, from the fact that the paper, not being provided with perforations, would not admit of the proper deposit of hydrocarbon product on the carbon filaments. My invention is constructed for treating carbon filaments.

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

1. An apparatus for treating carbon filaments, consisting of the carbonizing-box C, provided with perforated plate D, and metallic tube E, substantially as shown and described.

2. In combination with a carbonizing-box for treating carbon filaments, the tube F′, secondary tube H, bulb I, tubular extensions K and L, gas-jet M, and tube N, substantially as shown and described.

3. Broadly, in combination with an apparatus for treating carbon filaments, a carbonizing-box provided with a metallic tube at its top and a perforated plate on the interior thereof, near its base, and supporting a number of perforated carbonized disks.

4. A carbonizing-box provided with a tube leading to an oil-feeding device, and a secondary tube connected with the aforesaid tube, and extending therefrom to a bulb having a tubular extension and stop-cock on the base thereof, and a tubular extension on its top, with a gas-jet mounted on the end thereof and connected with a gas-pipe leading therefrom.

Signed at New York, in the county of New York and State of New York, this 20th day of April, A. D. 1883.

CHARLES G. PERKINS.

Witnesses:
J. A. HURDLE,
HENRY F. LIPPOLD.