

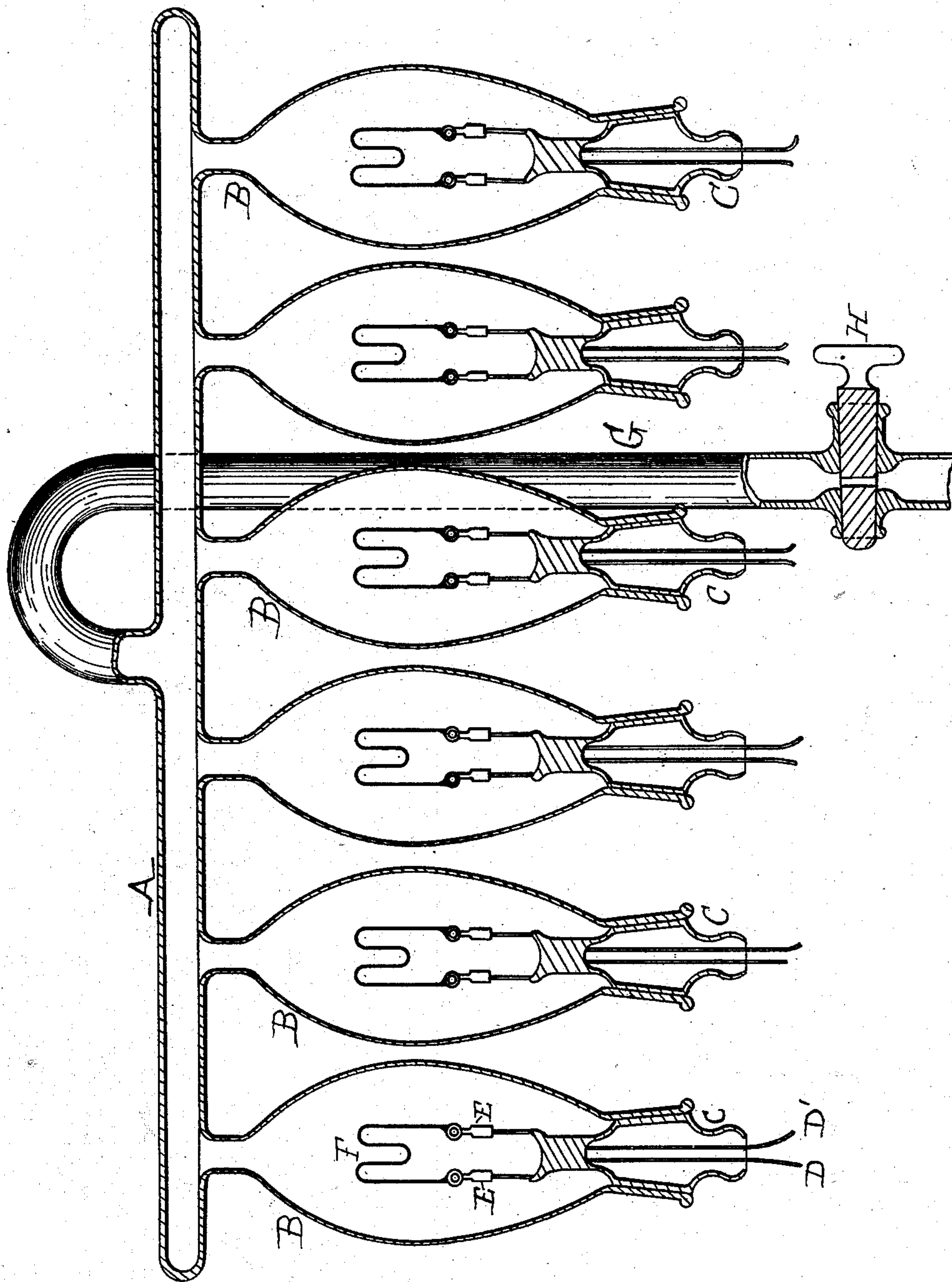
(No Model.)

L. K. BÖHM.

APPARATUS FOR THE PREPARATION OF CARBON CONDUCTORS.

No. 252,351.

Patented Jan. 17, 1882.



ATTEST,
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UNITED STATES PATENT OFFICE

LUDWIG K. BÖHM, OF NEW YORK, N. Y., ASSIGNOR TO THE UNITED STATES
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APPARATUS FOR THE PREPARATION OF CARBON CONDUCTORS.

SPECIFICATION forming part of Letters Patent No. 252,351, dated January 17, 1882.

Application filed June 23, 1881. (No model.)

To all whom it may concern:

Be it known that I, LUDWIG K. BÖHM, of the city, county, and State of New York, have invented certain new and useful Improvements in Apparatus for the Preparation of the Carbon Conductors for Incandescent Electric Lamps, of which the following is a specification, reference being had to the drawings accompanying and forming a part thereof.

When blanks of paper, wood, or fibrous material are carbonized in a muffle strips of tough and flexible carbon are obtained which are peculiarly well adapted for purposes of incandescent lighting; but as the resistances of the individual strips vary considerably it is necessary to subject them to a process for equalizing their resistances, so that all may give approximately the same intensity of light. For this purpose a number of temporary clamping devices have been arranged under a receiver from which the air is exhausted, and into which a carbonaceous gas has been admitted. In these clamps carbonized slips are inserted and electrically heated until, by the deposition of carbon from the surrounding gas, their resistance is reduced to a standard limit.

From a large receiver—such as would be required for any considerable number of carbons—it is a matter of the greatest difficulty to withdraw all the air. It therefore happens that the carbons heated to incandescence in the presence of a quantity of oxygen, however small, will require a much longer time to acquire the desired degree of resistance than if no oxygen were present.

The object of my present invention is to provide an improved device for testing and building up the carbons preparatory to their insertion in the lamps, and which differs from the forms preceding it in the following essential particulars: first, it is capable of being as thoroughly exhausted of air as the lamps themselves; second, the interior space is greatly reduced, so that the air can be more rapidly withdrawn, besides permitting the employment of a Sprengel or Geisler pump; and, third, the element of cost is so greatly reduced as to be of comparatively little importance.

In the accompanying drawings my improved apparatus is illustrated on a reduced scale. It

consists, in general, of a horizontal tube, A, with which are connected a number of testing-globes, B B, of about the same shape and size as the ordinary lamp-globe. The lower end of each of these globes is closed by a glass stopper, C, ground to fit air-tight into the open neck, and containing the conducting-wires D D, sealed into the material of which the stopper is composed. The wires D D carry temporary clamps E E, with which the ends of carbons F are caused to engage. From the horizontal tube A leads a main tube, G, provided at any suitable point with a two-way cock, H.

The operation of the device is as follows: The receptacles B B are closed by the plugs or stoppers C, to which have been attached the carbons F. The tube G is then by the cock H connected with a Sprengel or Geisler pump and the air withdrawn as perfectly as possible. The cock is then turned to admit from a suitable receiver a carbonaceous gas, which in its turn is pumped out, and this process repeated as many times as desired, until an attenuated atmosphere of the carbon vapor is distributed throughout the whole interior of the apparatus. The carbons are then heated, either successively or simultaneously, by a current passed through the wires D D, until each is brought to the predetermined standard of resistance and luminosity. Air now being admitted the stoppers are readily removed and the carbons taken off and permanently attached to the supporting conductors of the lamps.

By this apparatus the carbons are treated and tested under the same conditions of atmospheric pressure that obtain in the finished lamps. All blackening of the lamp-globes is avoided and the carbons prepared in large numbers rapidly and economically.

I do not claim, broadly, in this application a ground-glass stopper containing the conducting-wires, to which an incandescent carbon inclosed in an air-tight globe is attached; nor do I claim the method of preparing carbons by electrically heating them in an attenuated gas containing carbon; but

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of two or more separate carbon depositing or testing receivers, each closed by a plug or stopper containing the metallic conductors to which the carbons are attached, the several receivers being connected
5 by a pipe or tube common to them all, and adapted to be combined with devices for exhausting the air and for introducing a gas into the said receivers, as and for the purpose set
10 forth.

2. In an apparatus for electrically heating and testing carbon conductors for incandes-

cent lamps, the combination, with main tube G and horizontal tube A, of the several bulbs, B B, closed by plugs or stoppers containing
15 the conducting-wires D D, carrying clamps for retaining the ends of carbon conductors, as and for the purposes described.

In testimony whereof I have hereunto set my hand this 17th day of May, 1881.

LUDWIG K. BÖHM.

Witnesses:

ERNST NEUPERT,
GUSTAV MILLER.