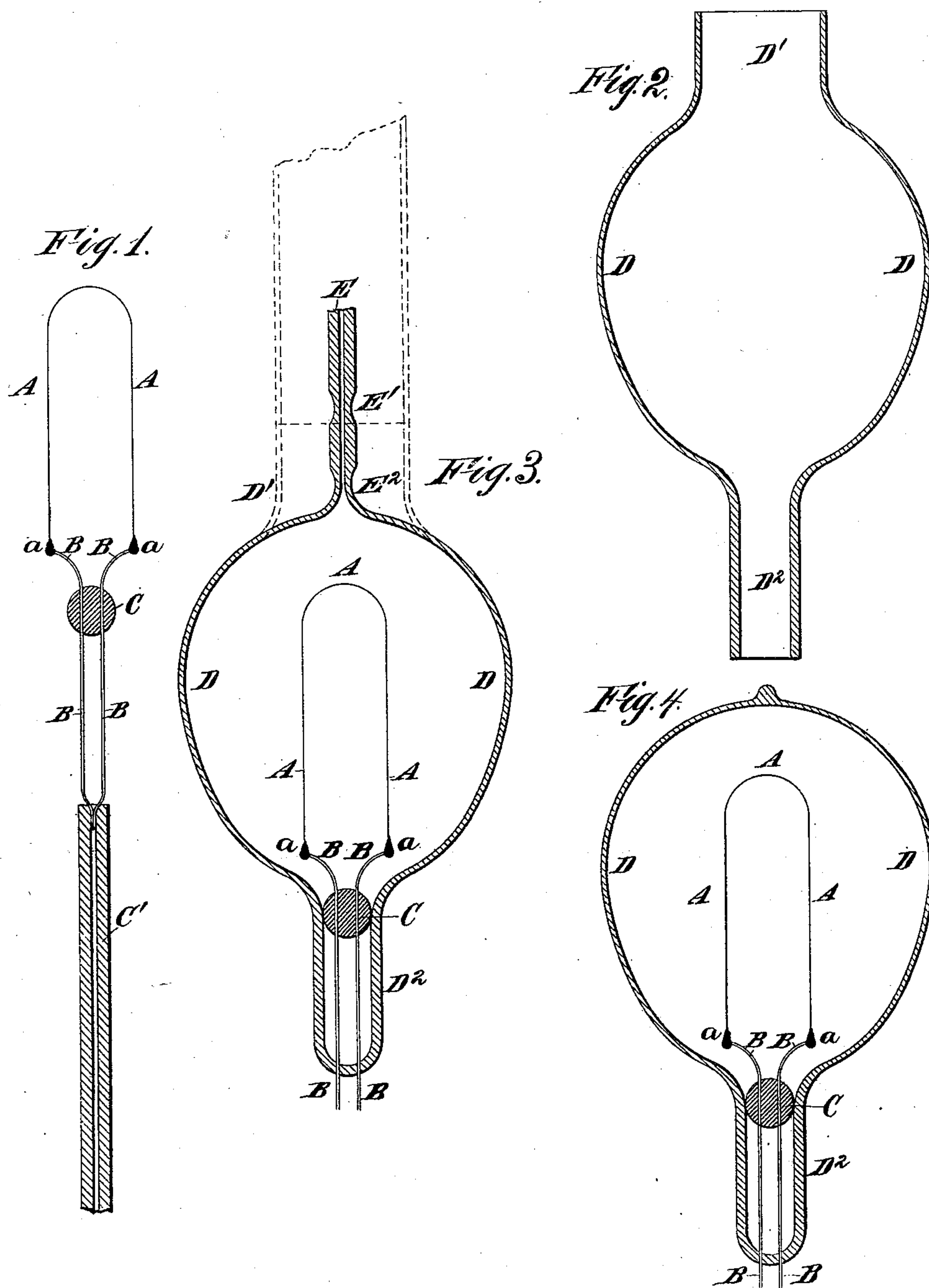


(No Model.)

W. L. VOELKER.
INCANDESCENT ELECTRIC LAMP.

No. 253,647.

Patented Feb. 14, 1882.



Witnesses=
Charles R. Searle.
F. W. Hanafor.

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William L. Voelker.
By A. M. Pierce.
Atty

UNITED STATES PATENT OFFICE.

WILLIAM L. VOELKER, OF MORTON, PENNSYLVANIA.

INCANDESCENT ELECTRIC LAMP.

SPECIFICATION forming part of Letters Patent No. 253,647, dated February 14, 1882.

Application filed December 12, 1881. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM L. VOELKER, of Morton, in the county of Delaware and State of Pennsylvania, have invented certain new and useful Improvements in the Manufacture of Incandescent Electric Lamps, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings and the letters marked thereon.

My present invention has for its object the production of a device, simple and easy to construct, wherein the parts are few in number and are of such form and character as to be easily handled and placed in position in order to complete the lamp.

Heretofore, in manufacturing lamps of this description, great difficulty has been experienced by the artisan in constructing the parts in such a manner as to prevent fracture of the delicate filament of carbon employed, or other parts of the lamp while manipulating them, thereby causing the cost of the completed lamp to be greatly above a practical point. By my method of construction these difficulties are overcome and the lamp furnished to the user at a greatly-reduced price.

In the drawings, Figure 1 is a view of the incandescing filament of carbon and its connections. Fig. 2 is a view of the glass bulb forming the walls of the lamp as first shaped. Fig. 3 shows the position of the various parts and the mode of manipulation, and Fig. 4 shows the completed lamp.

Like letters of reference, wherever they occur, indicate corresponding parts in all the figures.

A is a filament of carbon, formed in the usual manner, and B are the platinum connections between the carbon and the exterior of the lamp, the method of uniting the carbon and platinum being fully described by me in an application for Letters Patent for an improvement in electric lamps filed by me June 24, 1881.

C is a small ball or mass of non-conducting material compressed around the conductors B. In preparing the platinum connections I make them considerably longer than will be required in the completed lamp, and secure to

their lower extremities a rod, C', of glass or other suitable material. By use of the rod C' the carbon and its connections may be easily handled while adjusting within the bulb.

Fig. 2 shows a bulb of glass, D, as prepared for the reception of the interior parts of the lamp and the connections with the exterior. Bulb D is surmounted by a short section of large tubing, D', of such size as to permit the free passage therethrough of the filament of carbon when formed in the desired shape.

D² is a small glass tube forming the base of the lamp, said tube being large enough to permit the passage of the rod C' and the platinum connections. In placing the parts in position rod C' is passed down through the bulb from the top and through tube D². By grasping said rod below tube D² the carbon and supporting-ball may be easily drawn down to position in the bulb. Tube D² is now sealed around the connections with the carbon and rod C' removed. When thus secured in place, as above described, to tube D' is united a short section of corresponding size, as indicated in Fig. 3 by the dotted lines, and the bulb is drawn together at the top in the usual manner, and a short piece of capillary tube, E, affixed thereto. The air is then exhausted from the bulb and tube E closed at E'. Upon removing from the air-pump said tube is again closed at E² and the superfluous tubing removed.

I have heretofore made application for a patent for a lamp constructed in accordance with the foregoing description, and to the completed lamp I make no claim in the present application, the same relating solely to the method of construction.

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

The herein-described improvement in manufacturing incandescent electric lamps, consisting in forming the glass bulb with an enlarged opening at the top and a contracted opening at the bottom, securing the platinum wires connected with the filament of carbon in a ball or mass of non-conducting material larger in diameter than the mouth of the opening from the small tube into the bulb, attach-

ing the ends of the conductors to a rod or holder, and then passing the filament and the platinum wires thus prepared into the bulb at its enlarged opening and bringing the ball of refractory material against the neck of the bulb,
5 and sealing the conductors in the extremity of the small tube and closing the lamp in the usual manner.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of 10 two witnesses.

WILLIAM L. VOELKER.

Witnesses:

SAMUEL BELL,
J. M. GAUN, Jr.