

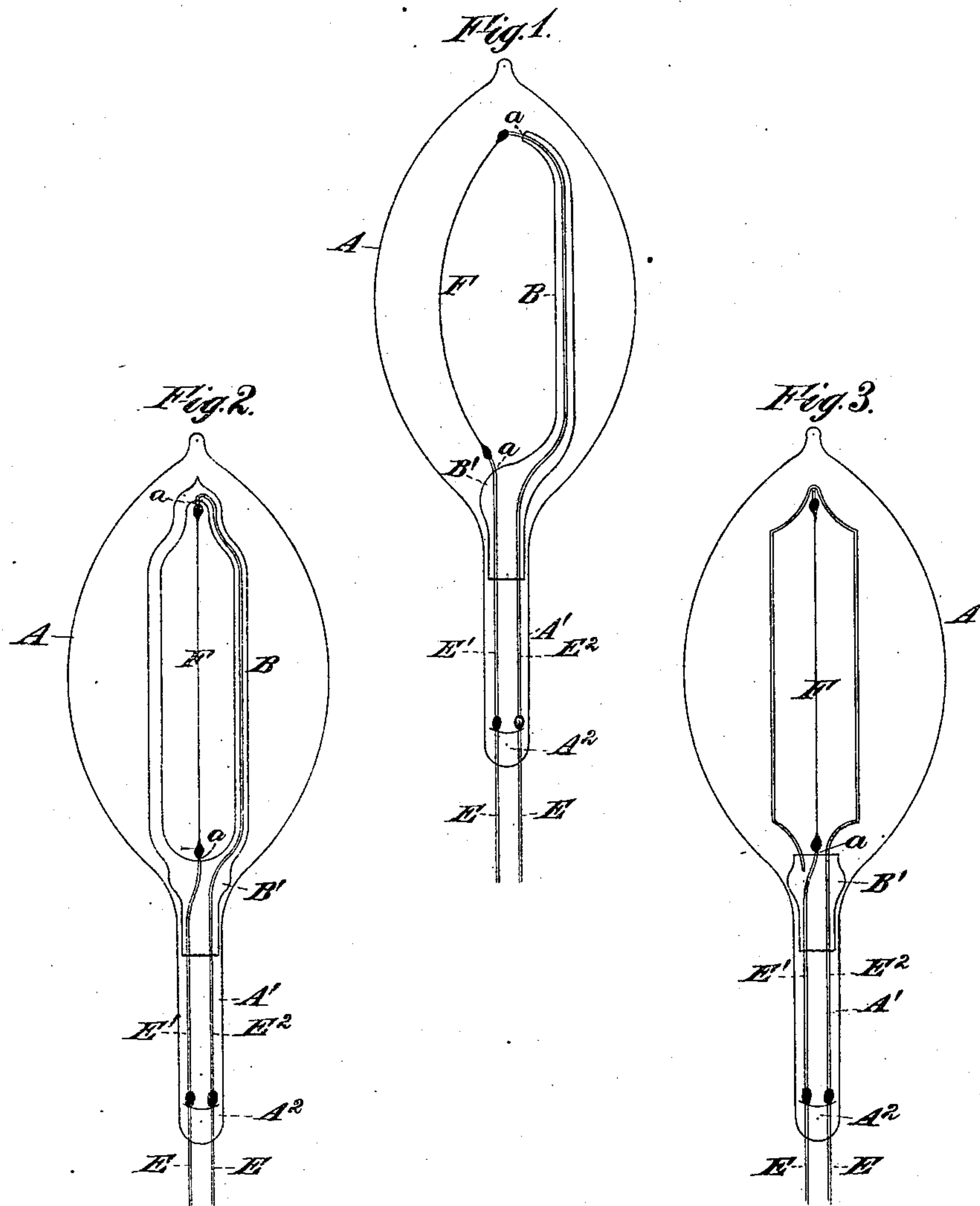
(No Model.)

W. L. VOELKER.

INCANDESCENT ELECTRIC LAMP.

No. 253,646.

Patented Feb. 14, 1882.



Witnesses—  
Charles R. Searle.  
L. F. Pierce.

Inventor—  
William L. Volker,  
By A. M. Pierce  
Attorney.

# UNITED STATES PATENT OFFICE.

WILLIAM L. VOELKER, OF MORTON, PENNSYLVANIA.

## INCANDESCENT ELECTRIC LAMP.

SPECIFICATION forming part of Letters Patent No. 253,646, dated February 14, 1882.

Application filed December 13, 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 Incandescent Electric Lamps, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings and the letters of reference marked thereon.

My invention relates especially to incandescent electric lamps of the vacuum type, and has for its object the production of a lamp wherein the holder for the incandescing filament of carbon is constructed of glass or other rigid non-conducting material of suitable character, said holder or support being made separate from the lamp-bulb, and inserted, together with the filament of carbon and the conductors, into the globe in the manner fully described in an application for Letters Patent for improvement in incandescent electric lamps filed by me December 12, 1881; and my invention involves certain novel and useful combinations or arrangements of parts and peculiarities of construction, all of which will be hereinafter first fully described, and then pointed out in the claims.

In the drawings, Figure 1 is an elevation of my improved lamp, showing the construction and arrangement of all the parts; and Figs. 2 and 3 are like views of modified forms of the same.

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

A is the globe or bulb of the lamp, constructed in the usual manner.

A' is the tube at the bottom of the globe.

B is the rigid support for the incandescing filament of carbon. This support may be constructed of glass or any other preferred material. Support B is provided at its base with an enlargement, B', which fits into the opening from bulb A into tube A' in such a manner as to maintain the support in an erect position.

E are the platinum conductors, passing to the interior of the lamp through a solid mass of glass A<sup>2</sup> at the base of tube A'.

E' E<sup>2</sup> are conductors, formed of copper or other suitable material, passing to the filament of carbon F. E' passes directly upward through

the enlargement B', and E<sup>2</sup> passes up through the arm B of the support, each of said wires extending sufficiently beyond the support to permit soldering of the filament of carbon thereto. The conducting-wires E are sealed into the glass where they enter tube A' in such a manner as to hold the enlargement B' firmly in position, and conducting-wires E' E<sup>2</sup> are fused into the glass of the support at a a.

If desired, the support may be provided with two arms, as shown in Fig. 2, the conductor to the incandescing filament passing through one of them. In Fig. 4 is shown a support wherein the arm B is dispensed with, one of the conductors to the carbon being enlarged after passing through B', and extending upward within the lamp-bulb and down again to the enlargement B', one side of the support forming the conductor to the carbon.

When constructed and arranged as above described, incandescent electric lamps can be easily and cheaply made, and from the simple and substantial construction of the parts there is less danger of fracturing in manipulation. By use of glass for the support B for the conductor and carbon no shadow is cast to intercept the light, and by my method of sealing the conductors in tube A' at A<sup>2</sup> the interior parts of the lamp are held securely against displacement.

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

1. In an incandescent electric lamp of the character herein specified, a support for the incandescing filament of carbon, resting in the neck of the globe and held firmly in place by sealing the conductors firmly in the solid portion of the tube passing to the bulb or globe, substantially as set forth.

2. In an incandescent electric lamp, a support for the incandescing filament of carbon, constructed of glass, said support being provided with an enlargement fitting into the neck of the globe, and an arm containing one of the conductors extending upward within the globe, substantially as shown and described.

3. In an incandescent electric lamp, a support for the incandescing filament of carbon, formed of non-conducting material, said support being provided at bottom with an enlarge-



ment fitting into the neck of the globe and with an arm containing one of the conductors to the incandescing filament of carbon, adapted and arranged to support the carbon, substantially as shown and described.

5 4. The support for the incandescing filament of carbon F, having enlargement B' fitting into tube A', and arm B extending upward within the lamp-bulb, the conductors to said carbon passing through the enlargement and supporting arm, and being fused therein at a, substantially as shown and described.

10 5. In an incandescent electric lamp of the character herein specified, the combination,

with the bulb or globe A, of the tube A', having a solid portion, A<sup>2</sup>, at its lower extremity sealed around the conductors E, and the support for the incandescing filament of carbon, having enlargement B' and an arm, B, the whole combined and arranged to operate substantially as shown and described.

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

W. L. VOELKER.

Witnesses:

SAMUEL BELL,  
J. McGOWN, Jr.