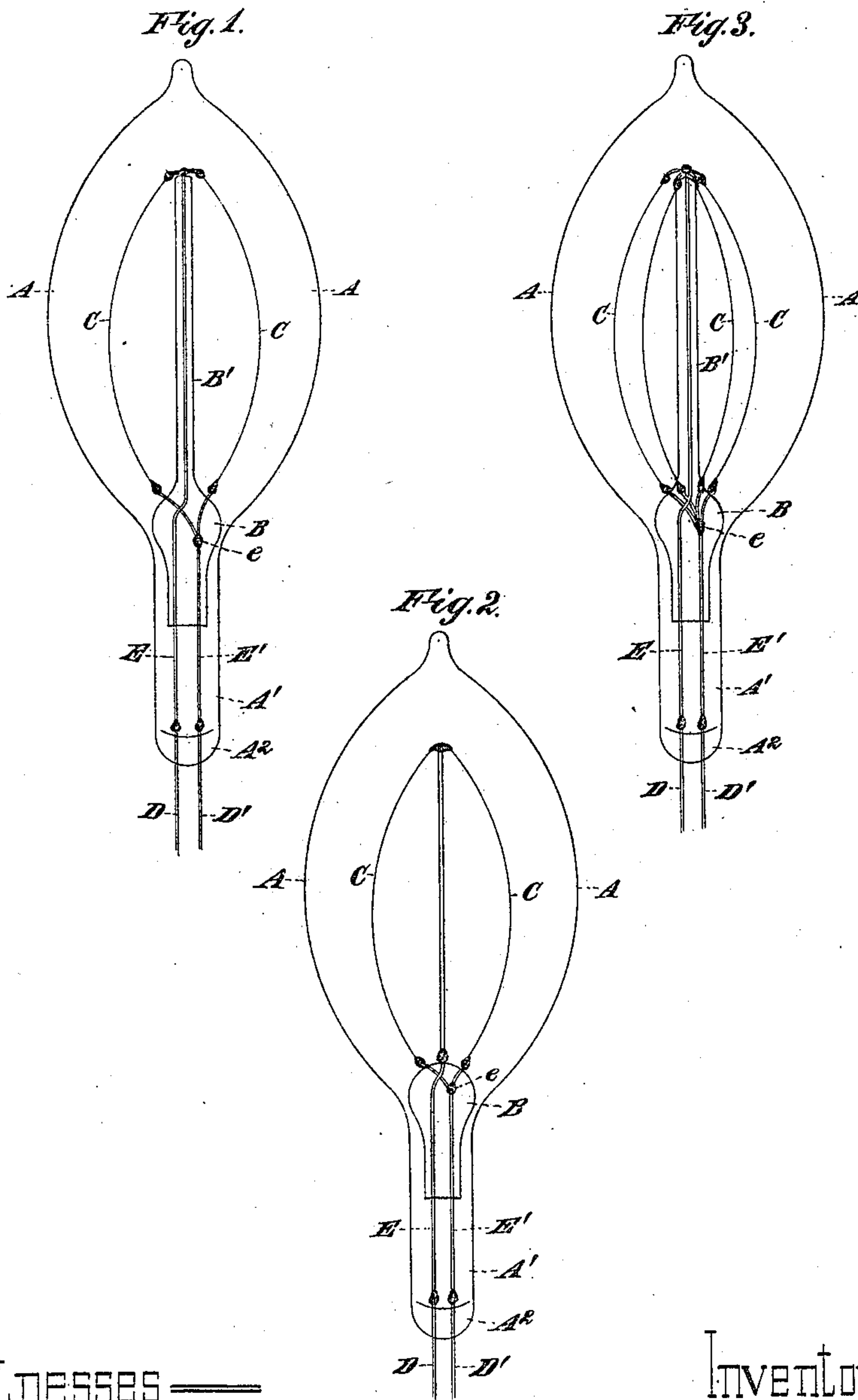


(No Model.)

W. L. VOELKER.
INCANDESCENT ELECTRIC LAMP.

No. 356,019.

Patented Jan. 11, 1887.



Witnesses—
Charles H. Searle,
L. F. Pierce

Inventor—
William L. Voelker
By A. M. Pierce,
Atty.

UNITED STATES PATENT OFFICE.

WILLIAM L. VOELKER, OF MORTON, PENNSYLVANIA, ASSIGNOR TO JOHN H. IRWIN, TRUSTEE, OF SAME PLACE.

INCANDESCENT ELECTRIC LAMP.

SPECIFICATION forming part of Letters Patent No. 356,019, dated January 11, 1887.

Application filed January 23, 1882. Serial No. 50,769. (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, (Case 6,) of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention relates, especially, to the construction of vacuum-lamps, and has for its object the production of a device simple in construction, and wherein provision is made for the breaking of one or more of the filaments of carbon, still leaving one or more therein to continue the illumination; and it consists, essentially, in dividing the incandescing filament of carbon into two or more parts, connecting the same in multiple arc; and my invention involves certain novel and useful combinations or arrangements of parts, and peculiarities of construction and operation, all of which will be hereinafter first fully described, and then pointed out in the claim.

In the drawings, Figure 1 is an elevation of a lamp wherein are placed two filaments of carbon. Fig. 2 is a modification of the same. Fig. 3 shows a lamp wherein are four carbons.

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

In incandescent electric lamps as now constructed should the filament of carbon break the lamp goes out, and an entire new lamp must be substituted therefor. This difficulty I substantially overcome by employing two or more incandescing filaments of carbon.

A is the vacuous bulb or globe.

B is a support, composed of glass or any other suitable material, fitting into the neck A' of globe A. Extending upward from the base or support B, Figs. 1 and 3, is an arm, B'.

D D' are platinum conductors extending through the sealed solid portion A² of tube A', said conductors being united within the

lamp to metallic connections E E', leading to and from the incandescing filaments of carbon. The conductor D extends up through the support B and arm B' to the upper extremity thereof. The conductor D' extends nearly through the support B and divides at e in support B, and extends therefrom upon each side with side branches, as indicated. C are the filaments of carbon, united to the metallic said side branches, as shown.

The lamp shown in Fig. 2 is constructed in the same manner as that shown in Fig. 1, with the exception of arm B', said arm being dispensed with in this form and the conductor D is made larger, acting as a support for the filaments of carbon, C.

Fig. 3 shows a lamp wherein four incandescing filaments of carbon are employed instead of two; but it is obvious that any number may be used. The carbon incandescing filaments are connected at one end near the top of the bulb to the metallic conductor D, and at the other end near the bottom of the bulb to the branch wires, which connect with the metallic conductor D.

In constructing my improved lamp the resistance of the carbons should be substantially the same. By connecting the filaments in multiple arc, as shown, the resistance is halved or quartered, because the conductor has been doubled or quadrupled.

When constructed and arranged in accordance with the foregoing description, my improved electric lamp possesses many advantages over the old styles, and the length of time which the lamp will last may be said to be doubled or quadrupled, according to the number of carbons used, while at the same time the cost of the lamp is not enhanced.

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

An incandescent electric lamp having a vacuous bulb, a glass conductor-support at the bottom of the same, a metallic conductor passing through said support and rising to near the top of the bulb, another metallic conductor contained in said support and ter-

minating in branch wires near the bottom of
the bulb, and two or more bent or arched
carbon - filament conductors connected with
the top of the first-named conductor and the
5 branch wires of the other conductor in mul-
tiple arc, substantially as described.

In testimony that I claim the foregoing I

have hereunto set my hand in the presence of
two witnesses.

WILLIAM L. VOELKER.

Witnesses:

GARRETT E. SMEDLEY,
HORACE R. MANLEY.