

(No Model.)

A. C. CAREY.
INCANDESCENT ELECTRIC LAMP.

No. 485,682.

Patented No

FIG. 1

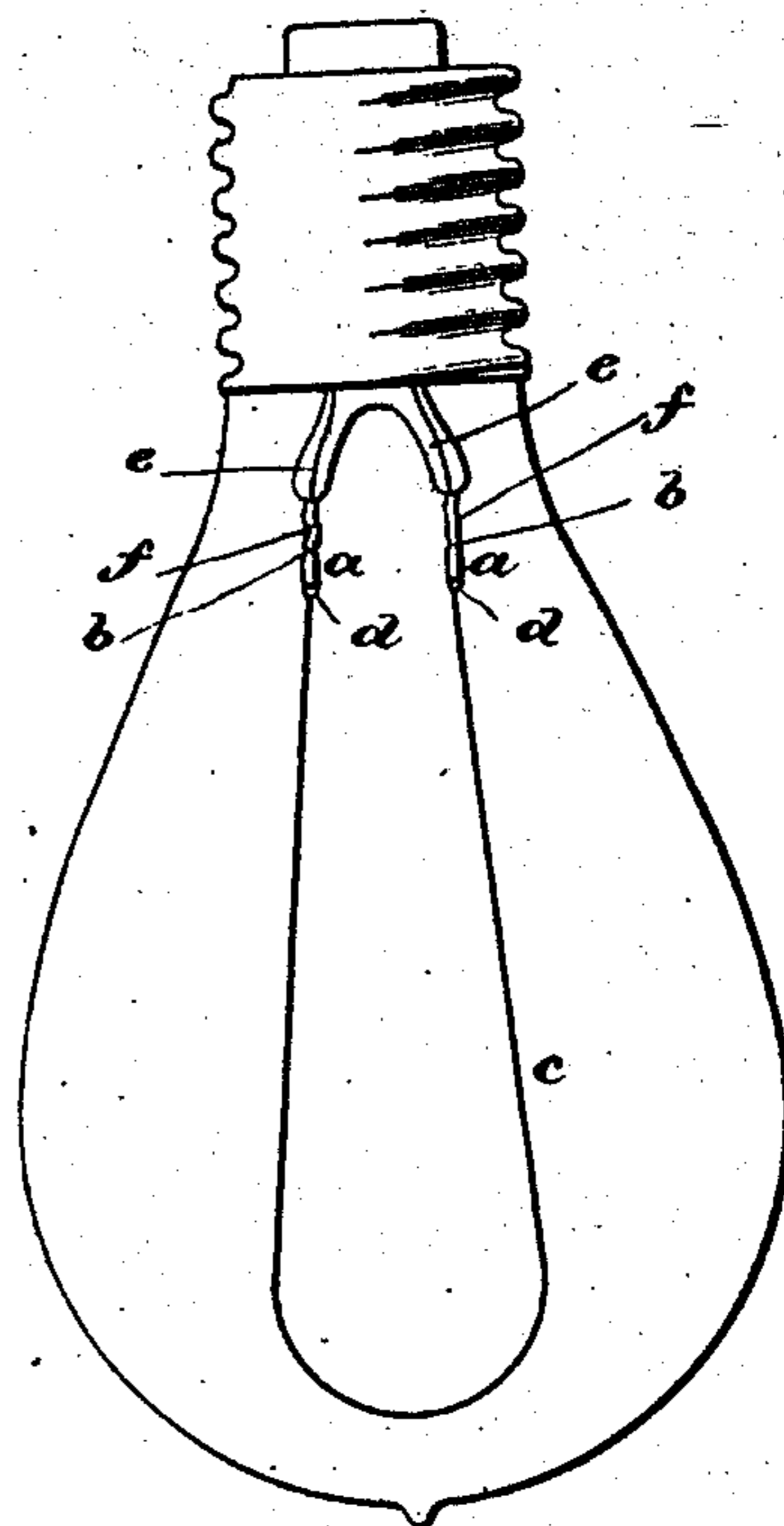


FIG. 2

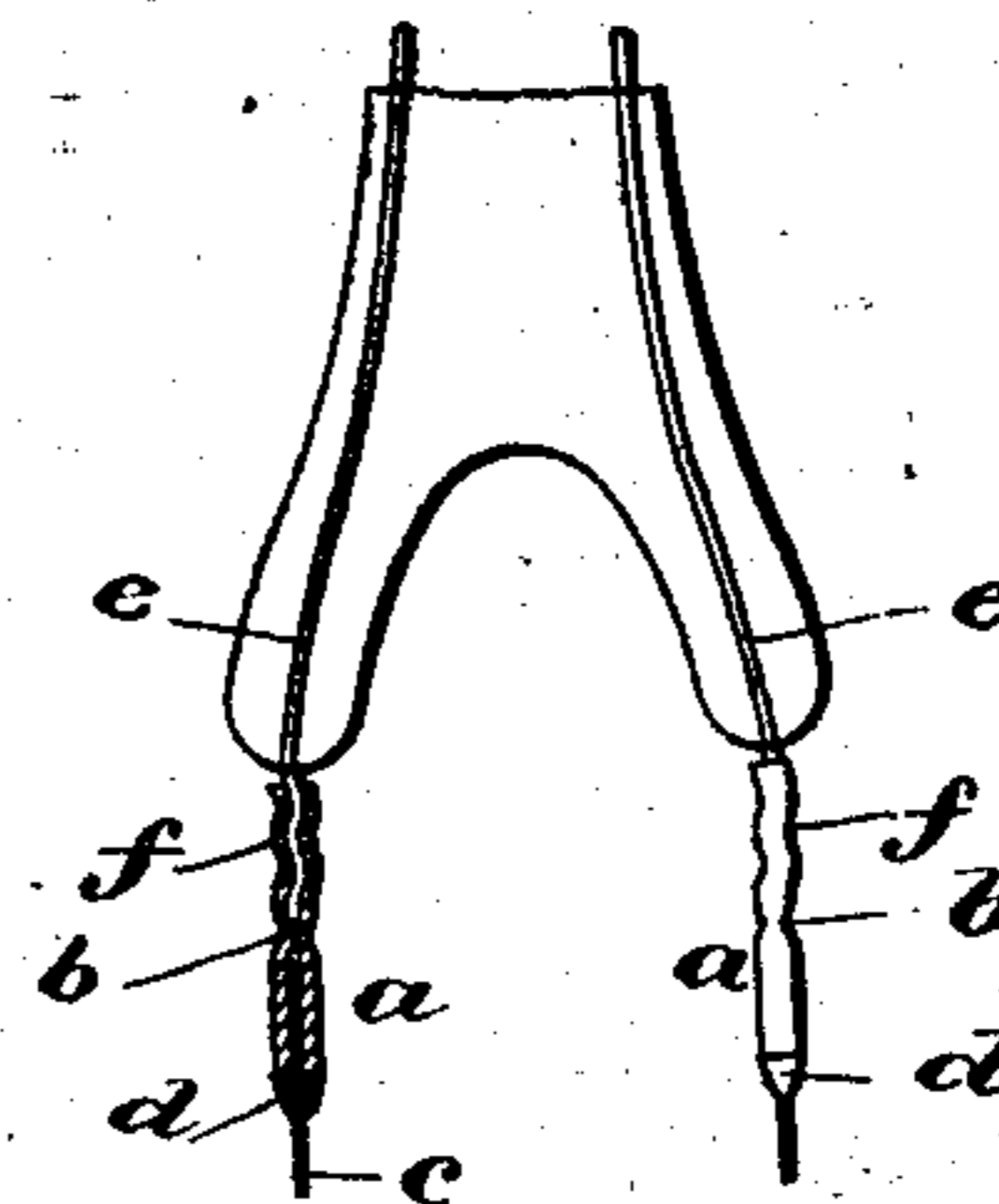


FIG. 3

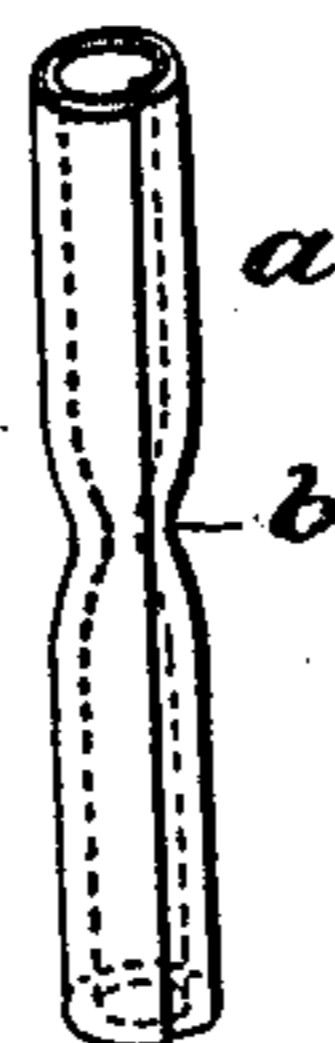


FIG. 4



Witnesses

J. F. Coleman
E. A. Kinney

At

by M

UNITED STATES PATENT OFFICE

AUGUSTUS C. CAREY, OF LAKE PLEASANT, MASSACHUSETTS.

INCANDESCENT ELECTRIC LAMP.

SPECIFICATION forming part of Letters Patent No. 485,682, dated November 8, 1892.
Application filed January 15, 1892. Serial No. 418,133. (No model.) Patented in England March 8, 1892, No. 4.

To all whom it may concern:

Be it known that I, AUGUSTUS C. CAREY, a citizen of the United States, residing at Lake Pleasant, in the county of Franklin and State of Massachusetts, have invented a certain new and useful Improvement in Couplings for Securing Carbons in Incandescent Electric Lamps, (for which I have obtained a patent in Great Britain, dated March 8, 1892, No. 4,578,) of which the following is a full, clear, and exact description.

This invention relates to a coupling for uniting the carbon or filament of incandescent electric lamps with the leading-in wires, either for purposes of renewing the carbon or filament or for inserting it in the first instance; and the principal objects of the invention are to facilitate the application of the couplings to the filament, to secure good contact between the parts united, and to insure the firm union of the coupling and leading-in wires.

The invention consists of a coupling made as a metal tube preferably constricted about midway between its ends, so as to prevent the adhesion of the cement to the holders for supporting the couplings while the filament is being applied thereto and to determine the extent to which the carbon and leading-in wires shall enter such couplings, and thereby afford good contact between them, the said couplings and leading-in wires being firmly united by crimping or bending them when in position.

In the accompanying drawings, illustrating my invention, in the several figures of which like parts are similarly designated, Figure 1 is an elevation of a common form of glow-lamp supplied with my couplings. Fig. 2 is a partly-sectional elevation, on a larger scale, of the glass standard and the adjacent parts. Figs. 3 and 4 are perspective views, on a very large scale, of two forms of my constricted coupling.

The coupling *a* of this invention is a tube of suitable length crimped, bent, broken down, or otherwise constricted about midway of its ends, as at *b*, so as to close or nearly close its passage-way or opening. This coupling may be variously constructed—as, for example, by rolling a sheet of metal upon itself one or

more times, as in Fig. 3; or, as in Fig. 4, may be made by boring a straight, or other hole in a rod, bar, or cylinder, or it may be of tubular wire. The constriction *b* may be formed by any suitable means. Of course I do not limit my invention to the particular form of the couplings, the constrictions *b* at exactly between the ends of the couplings, may be arranged at any point between the ends thereof.

In using couplings having no constriction when they are mounted on wire-supports, the wire-supports hold them up while the filament is being applied, and cemented in the cement applied to the ends of the filament runs down the wire-supports, and cements the couplings and cements the carbon or filament to the wire-supports, making it very difficult to remove the couplings without breaking the filament; but by constricting the couplings, as in this invention, the openings of the couplings are closed, so that the ends of the carbon or filament *c* are sure to come into contact with the metal of the couplings, and the cement applied to the holes, fastens the ends of the carbon or filament there, and none of the cement can get into the constrictions, so that the couplings can be removed from the wire-supports with perfect ease and no filaments are broken. The couplings are placed on the wire-supports inside the lamp, and instead of being crimped on, as in Figs. 1 and 2, they are crimped on, as in Figs. 3 and 4. The difference between pinching and crimping is shown from the fact that the coupling may get loose from the wire-supports by heating and cooling—the carbon or filament expanding and contracting, inside the lamp—and drop off or result in imperfect contact. On the other hand, if the carbon or filament are crimped on the leading-in wires, the carbon or filament should become a little loose, and the sides are in good contact with the wire-supports whether the lamp is perfect or otherwise.

As the coupling is of electrically-conducting material and the leading-in wire of the carbon or filament are separated by the constrictions in the coupling, there is no contact between the carbon or filament and the wire-supports, but perfect contacts are made between the carbon or filament and the coupling.

What I claim is—

1. The combination, with the

wires and carbon or filament of an incandescent electric lamp, of couplings constructed as tubes constricted between their ends and applied to the ends of such wires by crimping
5 or bending them together transversely and cemented to the carbon or filament, substantially as described.

2. In an incandescent electric lamp, the combination, with the leading-in wires, and
10 the filament or carbon, of couplings therefor

constricted between their ends and connected with the leading-in wires by crimping said wires and couplings together transversely, substantially as described.

In testimony whereof I have hereunto set
my hand this 13th day of January, A. D. 1892.

AUGUSTUS C. CAREY.

Witnesses:

HENRY E. WILKINS,
G. A. FREI.