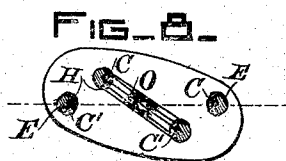
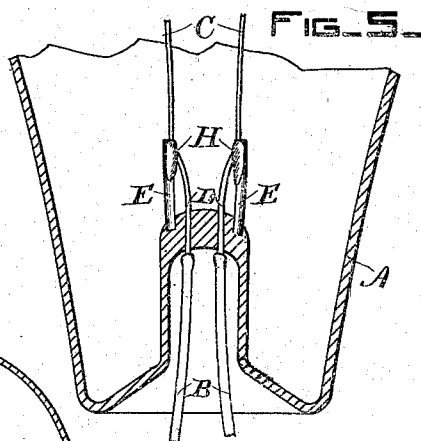
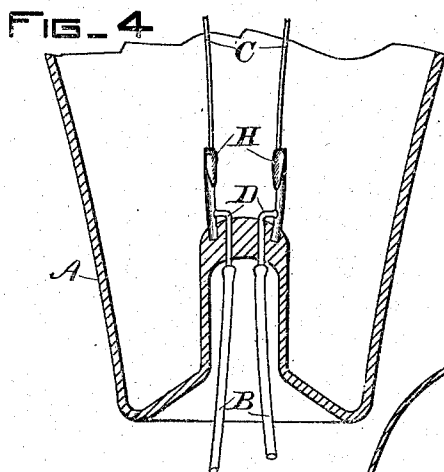
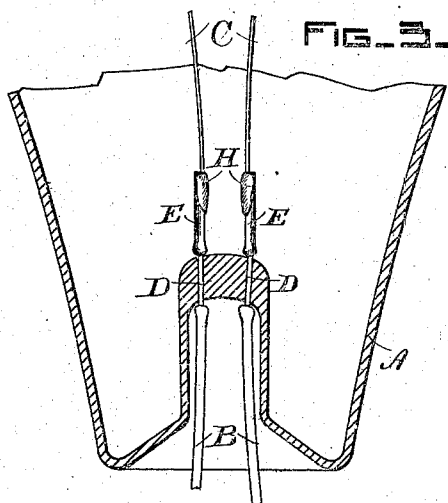
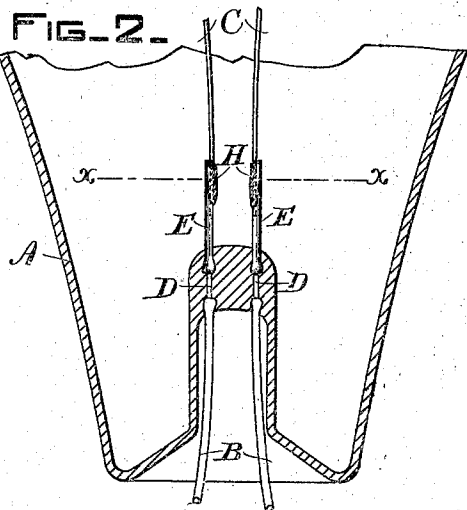


(No Model.)

H. D. BURNETT & S. E. DOANE.
ELECTRIC INCANDESCENT LAMP.

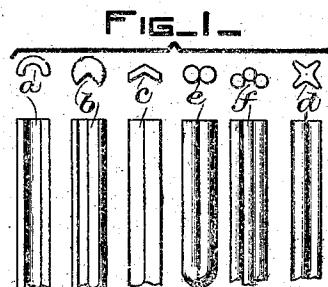
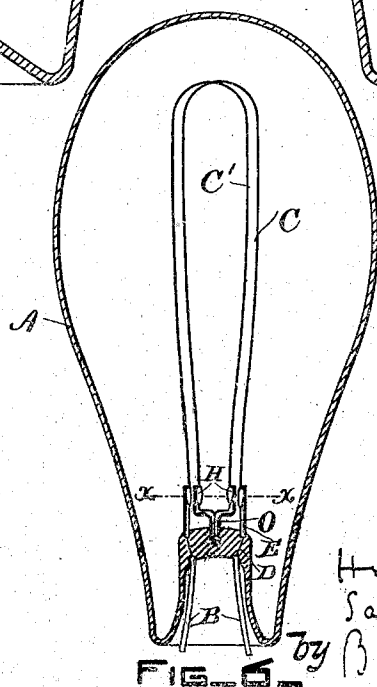
No. 500,849.

Patented July 4, 1893.



WITNESSES

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UNITED STATES PATENT OFFICE.

HENRY D. BURNETT, OF LYNN, AND SAMUEL E. DOANE, OF SWAMPSCOTT,
MASSACHUSETTS, ASSIGNORS TO THE GENERAL ELECTRIC COMPANY, OF
NEW YORK.

ELECTRIC INCANDESCENT LAMP.

SPECIFICATION forming part of Letters Patent No. 500,819, dated July 4, 1893.

Application filed October 28, 1892. Serial No. 450,237. (No model.)

To all whom it may concern:

Be it known that we, HENRY D. BURNETT, residing at Lynn, and SAMUEL E. DOANE, residing at Swampscott, in the county of Essex, State of Massachusetts, have invented a certain new and useful Improvement in Incandescent Lamps, of which the following is a specification.

In the manufacture of incandescent lamps as commonly practiced at the present time, there are two principal ways by which the incandescing conductor is fastened to the leading-in wires; by a deposit of carbon from a hydro-carbon fluid, and by a paste composition usually composed mainly of carbon. It has been customary in the latter method to attach the filament simply by adhesion of the paste to a round wire. We have, however, experienced difficulty in making paste joints in this way especially when using a filament composed partly of deposited carbon, as the spring of the filament is such that its ends tend to move away from the leading-in wires toward the outer surface of the paste globule, thereby interposing a greater or less portion of the joint between the filament and leading-in conductor. This we propose to obviate by making use of a specially shaped wire, which on its side next the filament has a longitudinal groove or recess into which the ends of the filament are sprung so that the elasticity of the filament may be utilized in holding it against the wire, the paste securing it in position. We also prefer that this supporting wire be separate from the leading-in wires passing through and sealed into the globe, and somewhat stouter, so that a firm support is secured for the filament, the supporting wires being electrically connected with the platinum leading-in wires and being sealed into the stem of the globe though not passing through the glass.

In the accompanying drawings Figure 1 shows in section and side view a number of supporting wires falling within our invention but different in shape and arrangement. Figs. 2, 3, 4 and 5 show in section portions of a lamp with the filament attached to supporting wires similar that seen in Fig. 1. Fig. 6 shows similarly a lamp provided with two

filaments in series, and Figs. 7 and 8 show sections on line $x-x$ of Figs. 2 and 6.

In these views A represents the glass globe or bulb of the lamp which may be of any desired pattern.

B, B are the wires leading to the lamp and C is the filament.

Platinum leading-in wires are shown at D and to these are connected the stouter supporting wires E to which the ends of the filament are respectively attached.

In order that the elasticity of the filament may be utilized to hold it closely against the supporting wires the latter are variously shaped as seen in Fig. 1, so as to form on the side next the filament an indentation, groove or recess a to receive the end of the filament. The exact shape of this groove is immaterial but suitable forms are seen at b , c and d , and the same result is secured at e and f by arranging two or more wires or a single wire bent double so as to provide the necessary indentation.

In Fig. 6 two filaments C, C' are shown which are electrically in series, and each of which has one terminal supported by a separate conductor of the kind previously described, while their remaining ends are secured to a support O having two branches similarly recessed.

In making the lamps the supporting wires are fixed in position. The filament is then sprung into place with its ends located in the indentations in the sides of the supporting wires, and the joint is then completed by applying a globule of paste H uniting the two together.

What we claim as new, and desire to secure by Letters Patent, is—

1. In an incandescent electric lamp a filament and conductor supporting its ends consisting of wires of a grooved or indented section; whereby the ends of the filament may be seated in grooves or notches therein and be held in place by its own elasticity, as set forth.

2. In an incandescent electric lamp a filament and supporting conductor for each end of the filament, each consisting of two or more wires so arranged relatively to one another as

to form longitudinal open sided grooves or recesses to receive the ends of the filament.

3. In an incandescent electric lamp a filament and supporting wires longitudinally
5 grooved or recessed throughout on their sides opposite the ends of the filament, in which recesses the filament ends are seated, and carbon paste uniting the wires and filament, as set forth.
- 10 4. In an incandescent electric lamp a filament and comparatively stout conducting wires fastened to the globe but not passing through it, which wires are so shaped as to form longitudinal open sided recesses or
15 grooves to receive the ends of the filament and hold it in place by its own elasticity.

5. In an incandescent electric lamp two pairs of filament supports, one pair being insulated and the other connected electrically so as to allow of two or more filaments being
20 used in a single bulb, the supports having longitudinal grooves on their sides so that the filament can be held in place by its own elasticity, as set forth.

In testimony whereof we have hereto set
25 our hands this 25th of October, 1892.

HENRY D. BURNETT.
SAMUEL E. DOANE.

Witnesses:

JOHN W. GIBBONEY,
BENJAMIN B. HULL.