

(No Model.)

C. G. PERKINS.

CLAMPING DEVICE FOR INCANDESCENT ELECTRIC LAMPS.

No. 331,002.

Patented Nov. 24, 1885.

Fig. 1.

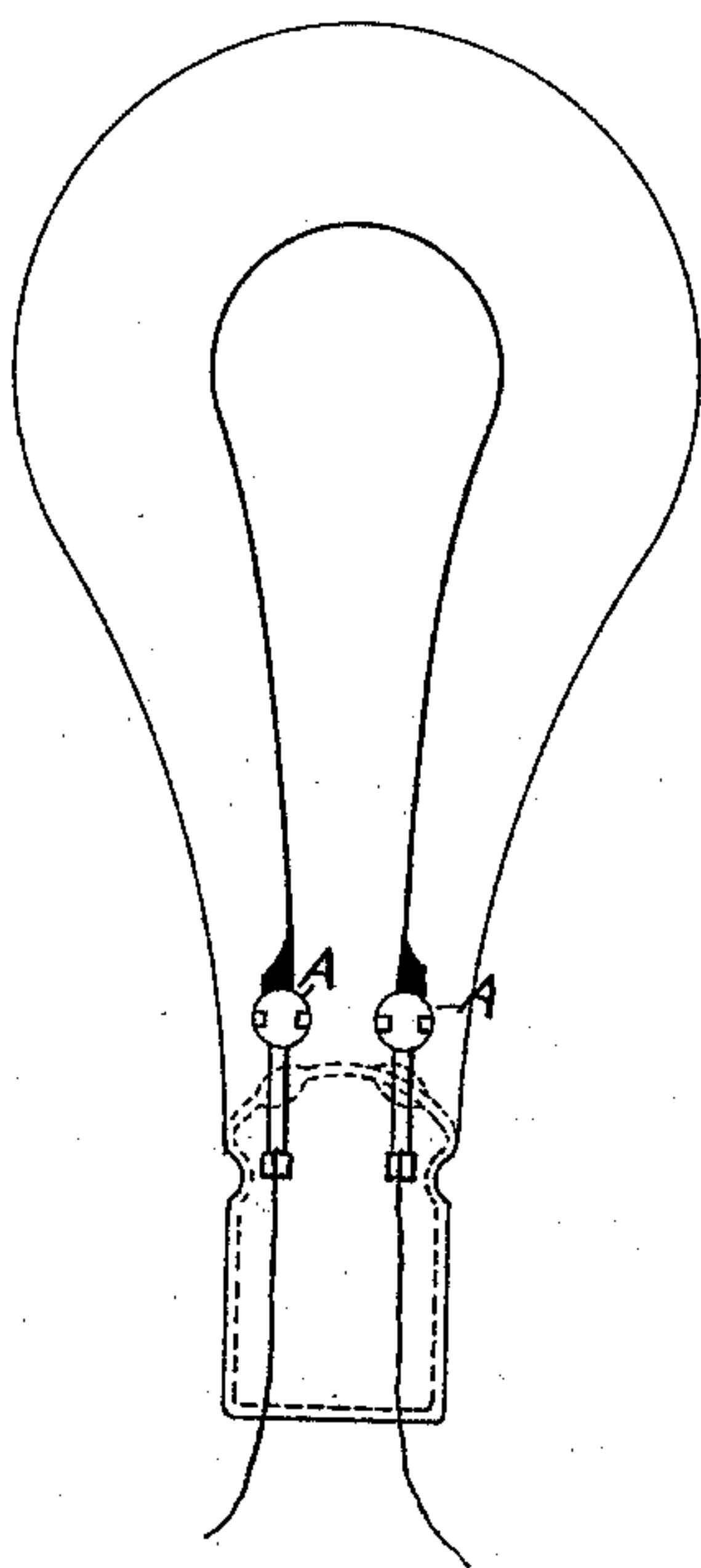


Fig. 2.

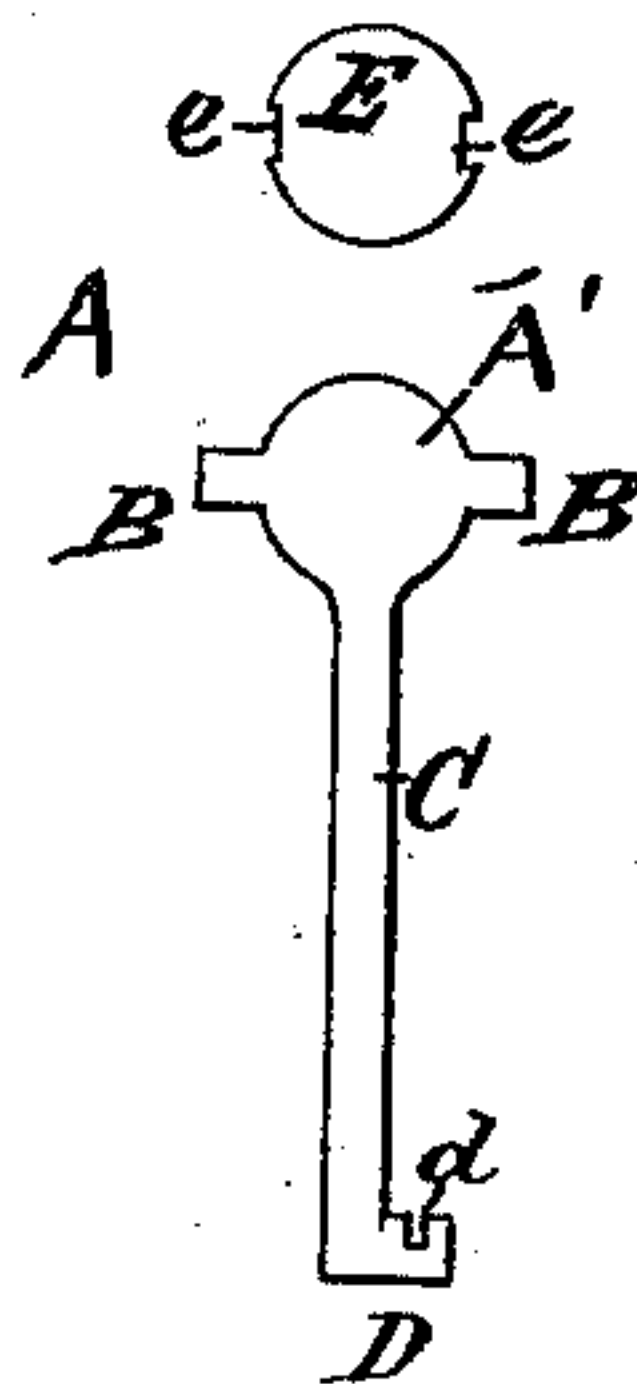


Fig. 3.

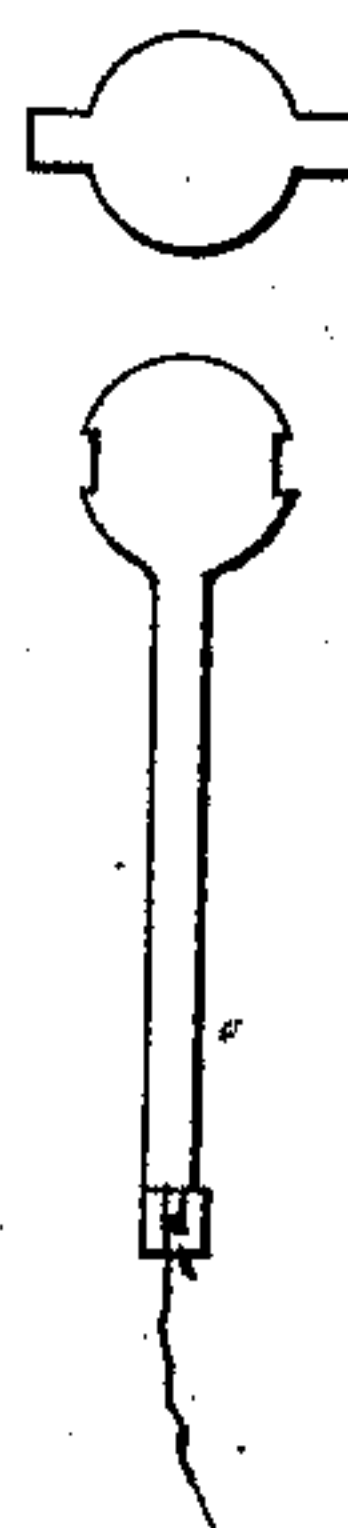


Fig. 5.

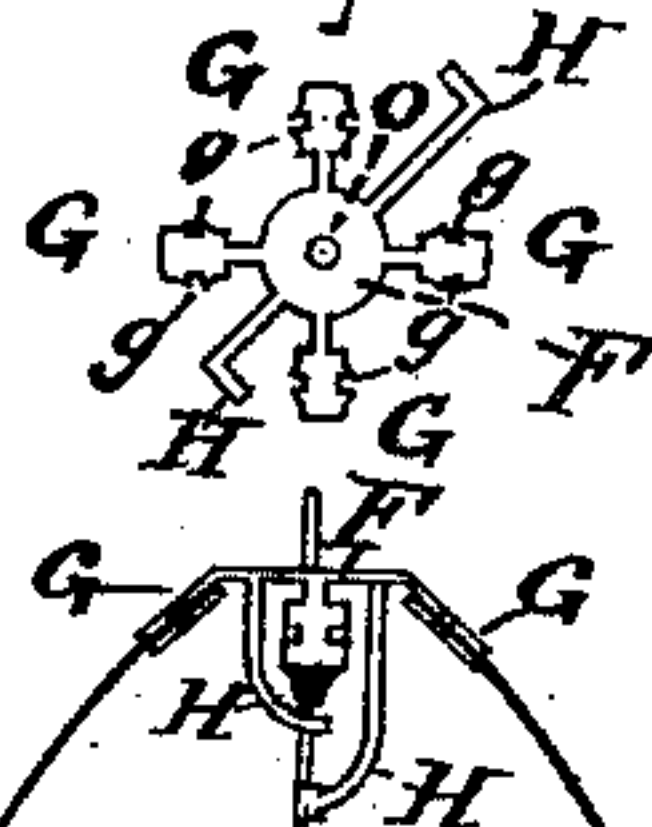
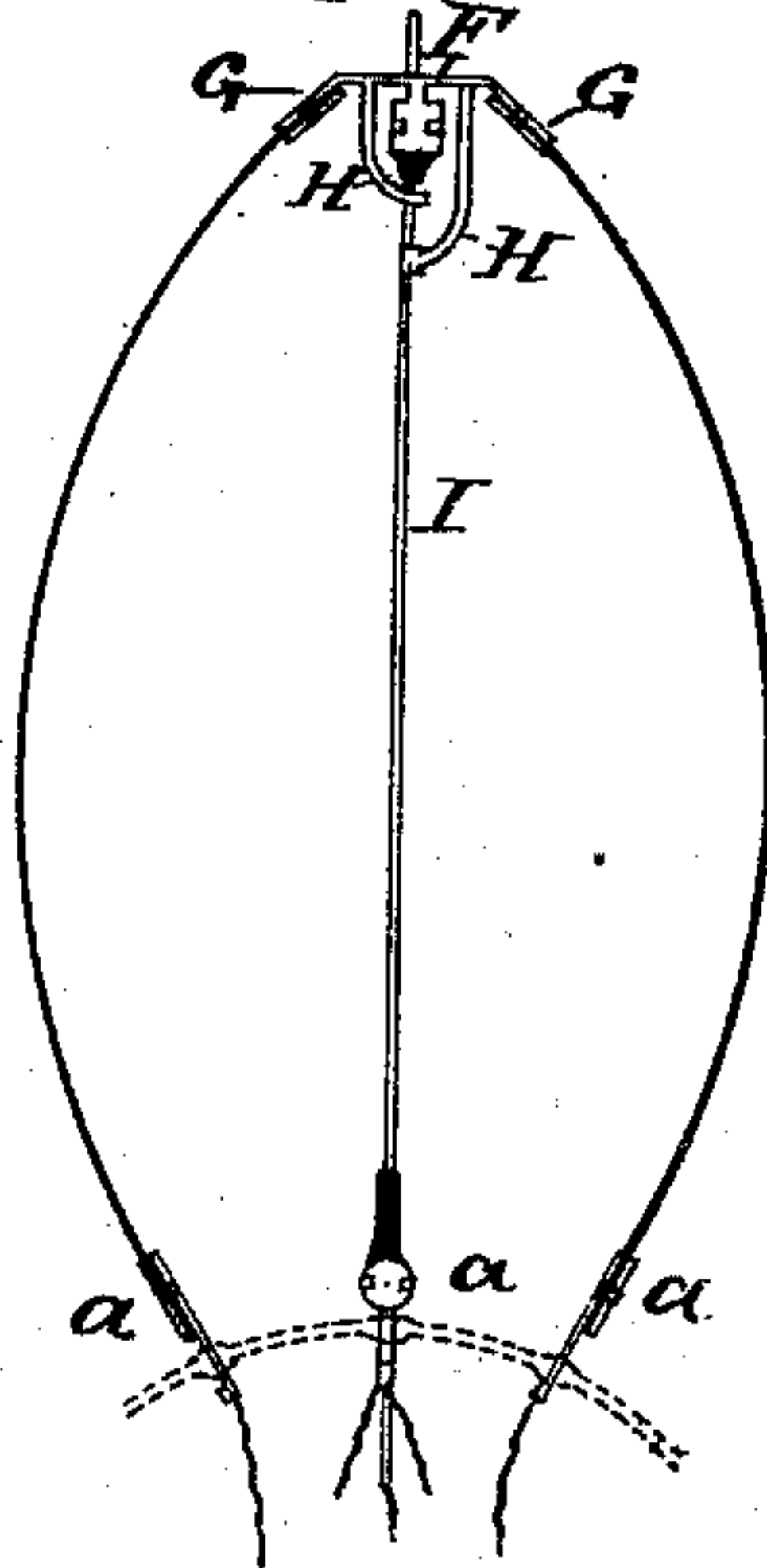


Fig. 4.



ATTEST:

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CLAMPING DEVICE FOR INCANDESCENT ELECTRIC LAMPS.

SPECIFICATION forming part of Letters Patent No. 331,002, dated November 24, 1885.

Application filed August 31, 1882. Renewed November 5, 1883. Serial No. 110,901. (No model.)

To all whom it may concern:

Be it known that I, CHARLES G. PERKINS, of the city of New York, in the county and State of New York, have invented certain new and useful Improvements in Incandescent Lamps, the following being a full, clear, concise, and exact description, such as will enable others skilled in the art to which my invention relates to make and use the same, reference being had to the accompanying drawings.

The object of my invention is to provide a cheap and suitable clamp for the ends of carbon filaments, which clamp, when applied, shall make intimate contact with the filament, securing at the same time a broad surface of contact.

I have illustrated my invention as applied both to a multiple-filament lamp and a single-filament lamp.

In the drawings which illustrate my invention and form a part of this specification, Figure 1 is a full size view of my invention applied to the carbon of a single-filament lamp. Fig. 2 is an enlarged view of the clamp alone. Fig. 3 is a modification of the same. Fig. 4 shows my invention applied to a four-filament lamp and Fig. 5 is a plan view of the last form of clamp.

My clamp consists, broadly, of two flat metallic pieces and means for securing them closely together around the ends of a carbon filament. The pieces may be cut out of ordinary sheet metal. One of the pieces, as A, of each clamp is formed on or attached to the inner end of one of the leading-in wires of the lamp. The other, as E, is a detached piece. The means of connection between the two are a pair of lugs, B B, on one piece and a pair of corresponding notches, *e e*, on the other. The parts are secured by bending the lugs around the filament and into the notches. It is a matter of indifference whether the lugs are on the piece A or the piece E.

For connecting the outer end of the leading-in wire with the wires of the outer circuit, I provide a flange or lug, D, having a notch, *d*. The wire of the outer circuit is hooked into the notch *d*, and the lug D is bent over it, forming a strong and intimate connection.

Fig. 5 shows my clamp for a four-filament lamp, and Fig. 4 shows the same applied.

The lamp illustrated in Fig. 4 differs from the ordinary four-filament lamp, in that the several filaments do not form loops, but are clamped at the top and bottom of the lamp by my devices herein described. The lower clamps are exactly similar to that described above. As usual, all the filaments are connected to a common conduction, as I, which may be considered as one pole of the lamp. In this instance the common conductor is sealed into the base of the lamp, and extends vertically into the chamber and through a central perforation, *o*, in my clamp. (See Fig. 5.) The arms of the clamp have formed upon their ends pieces which correspond exactly to the part A in Fig. 2, and the upper ends of the carbon filaments are clamped between the pieces and others corresponding to the part E in Fig. 2. The arms H are bent down, as shown in Fig. 4, and the lugs on their ends are bent around the conductor I to keep the clamp and its attached parts in position. When this form of lamp is provided with my multiple switch, for which I have received Letters Patent No. 290,469, it is so arranged that one or more of the carbon filaments can be thrown at will into the lamp-circuit. It will be observed that one end of each of the carbon filaments is held at the top by the multiple clamping device F, while the other ends of the carbons are held at the base of the vacuous chamber by separate clamps, thus making each carbon independent of the others, so that when the lower clamps are electrically connected with each other they will likewise be connected with the multiple clamp F, thus directing the current of electricity through as many carbons as may be connected together by the switch.

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

1. A clamp for one of the ends of the incandescent lamp, consisting of two thin metallic pieces provided with corresponding lugs and notches, one of the pieces being formed on the inner end of a leading-in wire of the lamp, substantially as and for the purpose described.

2. In a clamping device for holding carbon filaments within the vacuous chamber of an incandescent lamp, the clamp A, lugs B B, and shank C, with a lug, D, on the end thereof, and the plate E, with notches *e e*, substantially as shown and described.

3. In a device for holding the carbon filaments within the vacuous chamber of an incandescent lamp, the combination of the

clamps *a a*, multiple clamp F, with radial projections G, provided with notches *g*, which hold a corresponding plate, and the arms H H, made fast to the upright rod I, substantially as shown and described.

CHARLES G. PERKINS.

Witnesses:

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J. L. DOUGLASS, Jr.