

(No Model.)

P. DIEHL.

INCANDESCENT ELECTRIC LAMP.

No. 276,571.

Patented May 1, 1883.

fig.1.

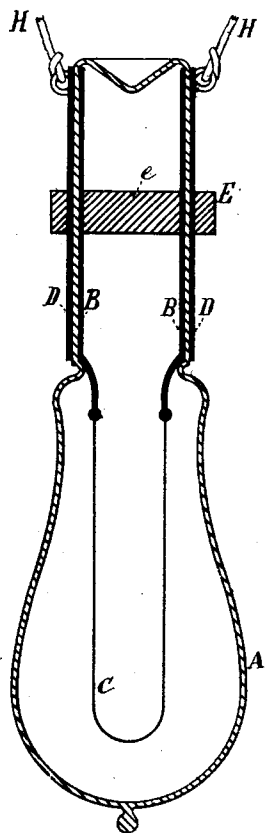


fig.2.

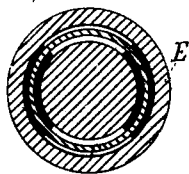


fig 3

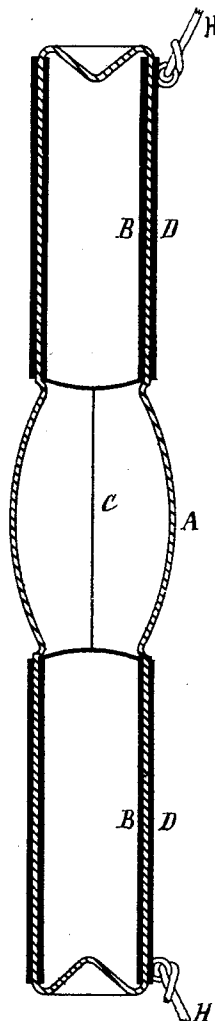
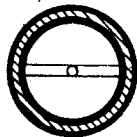


fig 4



figs

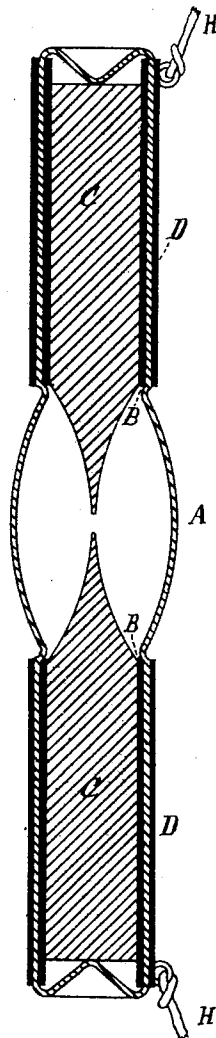
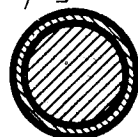


fig 6



WITNESSES
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UNITED STATES PATENT OFFICE.

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INCANDESCENT ELECTRIC LAMP.

SPECIFICATION forming part of Letters Patent No. 276,571, dated May 1, 1883.

Application filed December 13, 1882. (No model.)

To all whom it may concern:

Be it known that I, PHILIP DIEHL, of Elizabeth, in the county of Union and State of New Jersey, have invented certain new and useful
5 Improvements in Incandescent Electric Lamps, of which the following is a specification.

This invention has reference to an improved incandescent electric lamp in which the light is produced *in vacuo* by the inductive action
10 of an exterior condenser-plate on an interior condenser-plate, the induction-currents obtained thereby being of sufficient strength either to pass from one carbon to another or to heat a continuous carbon filament to incan-
15 descence.

The invention consists of a hermetically-sealed glass globe containing the light-giving part and having a shank integral therewith, within which an interior condenser-plate is ar-
20 ranged in inductive relation to an exterior condenser-plate, which latter is supplied with a current of electricity from any suitable source.

In the accompanying drawings, Figures 1, 3, and 5 are vertical central sections of differ-
25 ent forms of my incandescent electric lamp, and Figs. 2, 4, and 6 are horizontal sections through the shanks of the lamps shown respectively in Figs. 1, 3, and 5.

Similar letters of reference indicate corre-
30 sponding parts.

Referring to the drawings, A represents a hermetically-sealed glass globe of any desired shape and size, which is provided at one or both ends with cylindrical extensions or shanks
35 that are made integral with the globe. The light-giving part is arranged in the globe A, while the cylindrical shank or shanks are provided with interior and exterior condenser-plates, B and D, of which the exterior plate, D, is arranged in inductive relation to the
40 former and connected with the poles of a suitable source of electricity. The air is exhausted by the usual appliances from the glass globe A, or the same charged with an artificial
45 atmosphere, so as to produce in either case a longer duration of the light-giving part. The light-giving part C may be made either of a

slender carbon filament that is secured to the terminals of the interior condenser plate or plates, B B, as shown in Figs. 1 and 3, or of
50 solid carbons with pointed ends that approach closely to each other, as shown in Fig. 5. The interior and exterior condenser-plates, B and D, arranged on the shanks of the glass globe A, are made of tin-foil, copper, or any other
55 suitable material capable of storing up electricity and inducing an electric current in the inner condenser-plate, B. When a current of electricity is conducted to the exterior con-
60 denser-plate, so as to charge the same, the interior condenser-plate is charged at the same time with electricity by the inductive action of the outer condenser-plate, and thereby the car-
65 bon filament heated to incandescence. When carbon points are used the current passes from one point to the other and makes the points luminous. In the latter case the glass globe, however, should not be evacuated to such a de-
70 gree that the passage of the current between the points would be impeded or entirely pre-vented. In this manner an incandescent elec-
tric lamp of simple construction is obtained, in which the gradual destruction of the light-
75 giving part by the entrance of air at the points where the conducting-wires pass through the globe is prevented, and a soft pleasant light produced that requires a current of less strength than the high-resistance carbons of the incan-
descent lamps heretofore in use.

Having thus described my invention, I claim
80 as new and desire to secure by Letters Patent—

An electric incandescent lamp consisting of a hermetically-sealed glass globe having a shank integral therewith, a condenser-plate lo-
85 cated at the inside of the shank and connected to the light-giving part, and an exterior con-
denser-plate arranged in inductive relation to the interior condenser-plate, all substantially as set forth.

PHILIP DIEHL.

Witnesses:

G. B. LEACH,
JOHN SAULS.