

(No Model.)

E. P. THOMPSON.  
INCANDESCENT ELECTRIC LAMP.

No. 365,495.

Patented June 28, 1887.

Fig. 1,

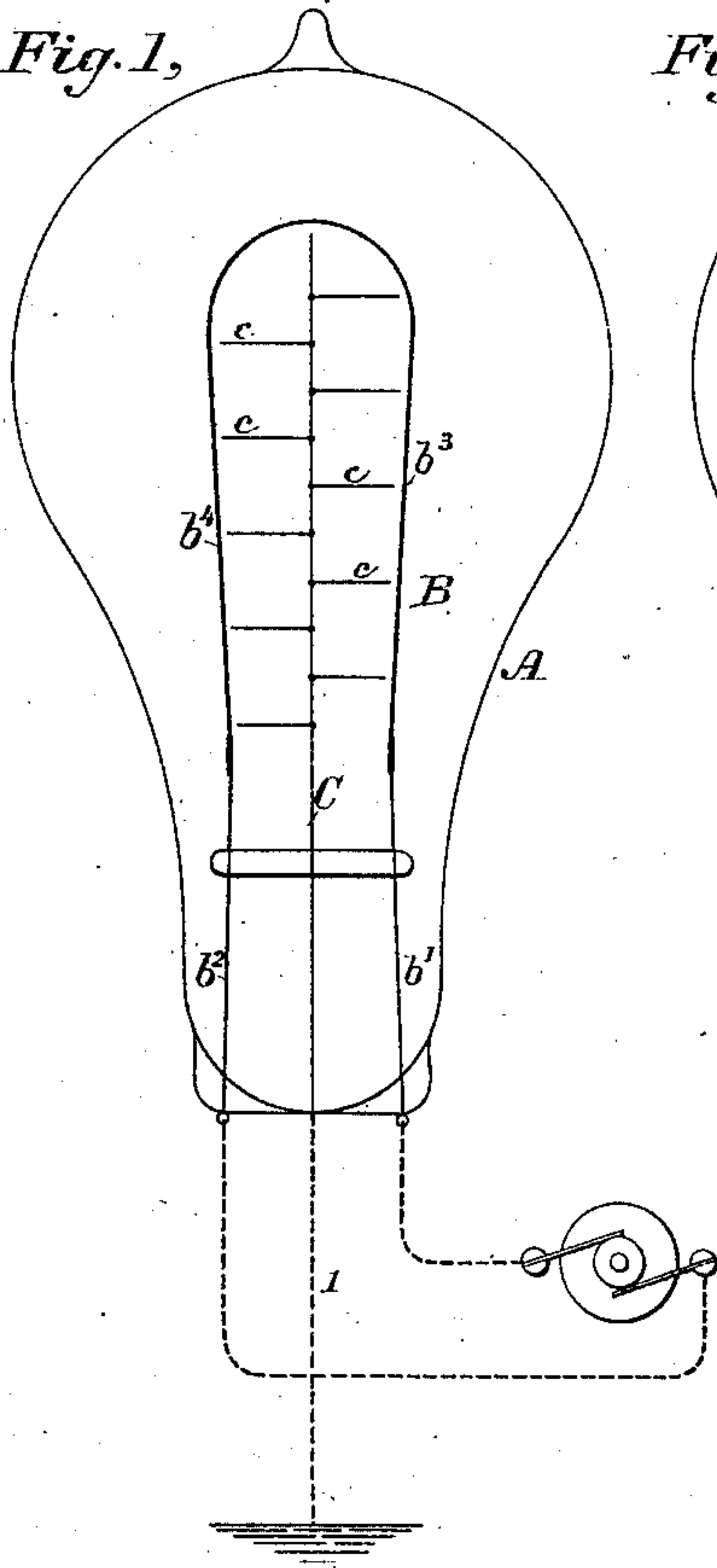


Fig. 2,

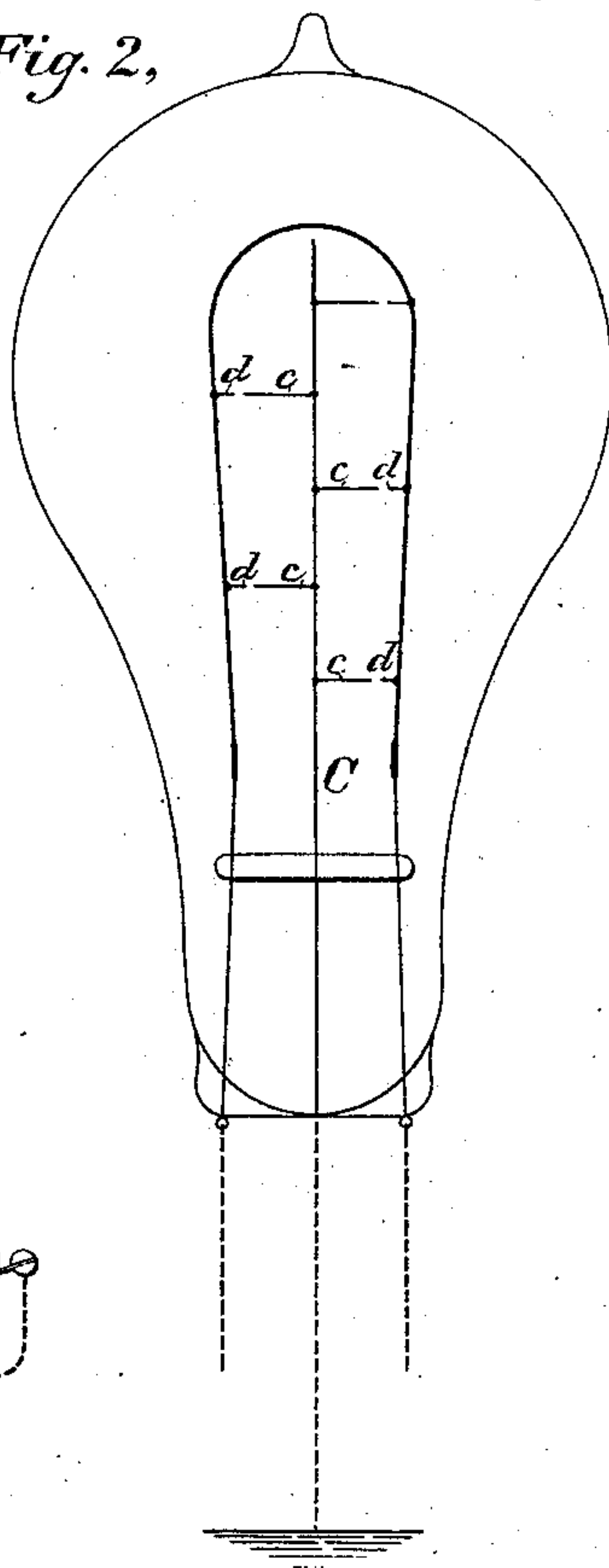


Fig. 3,

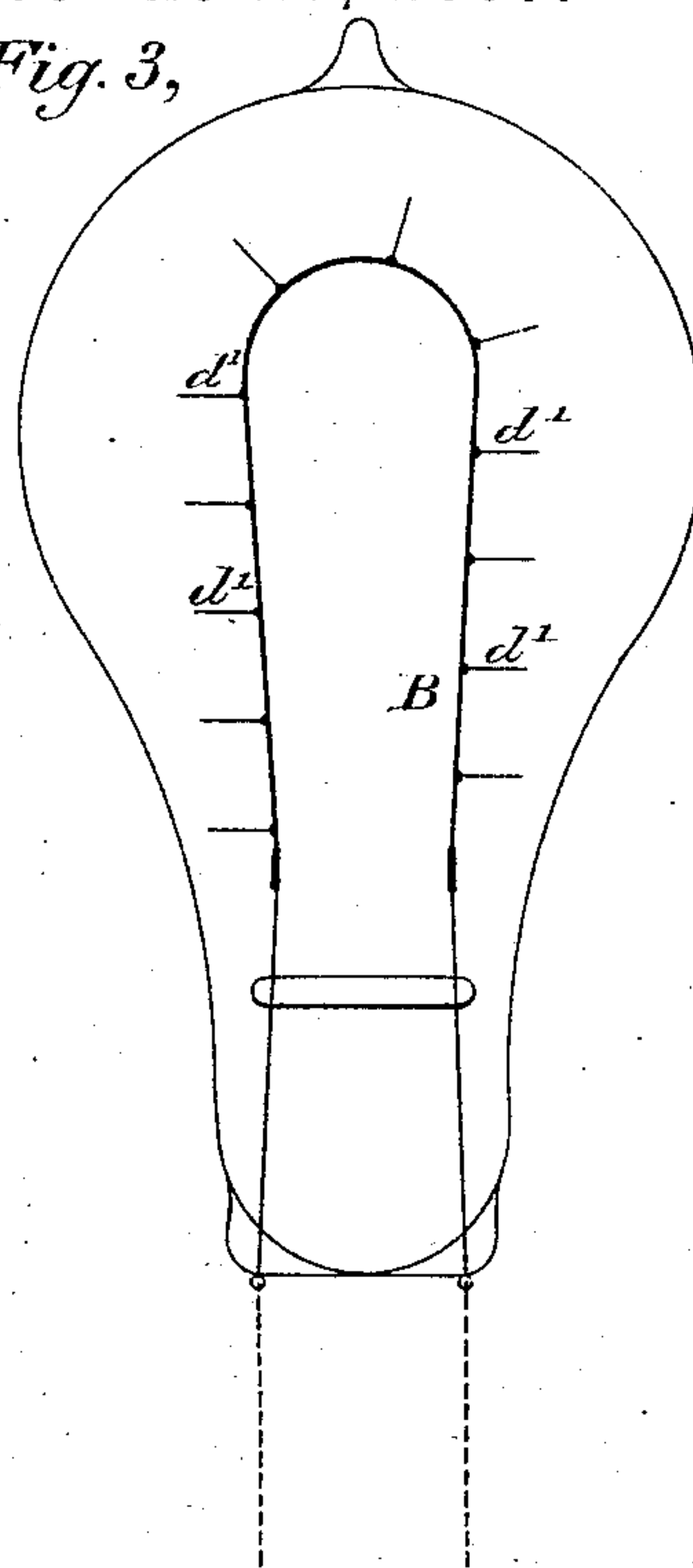


Fig. 4,

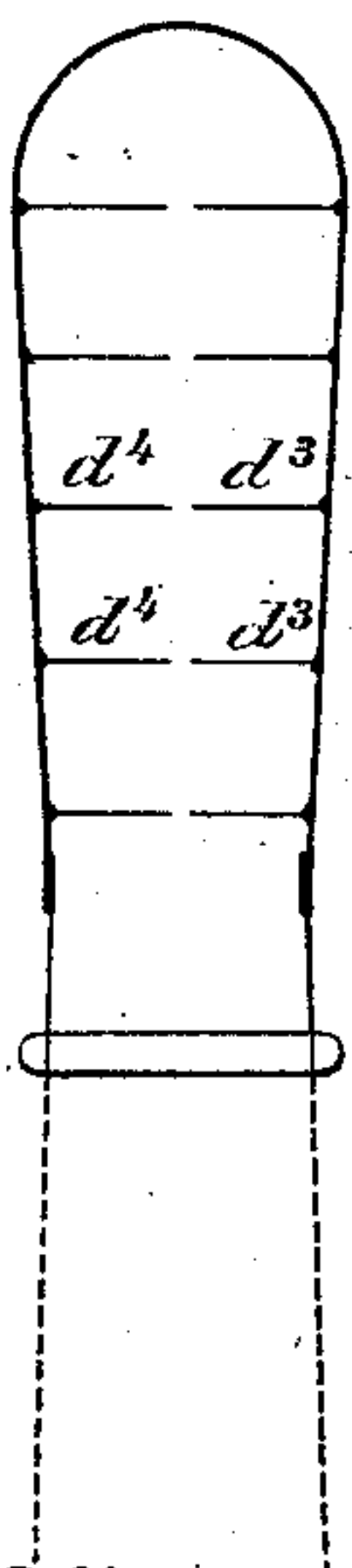
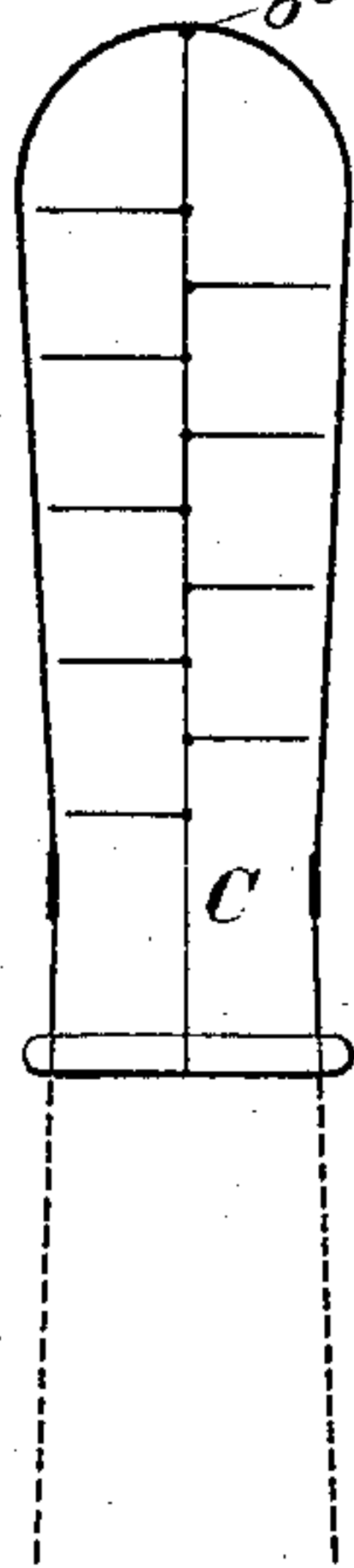


Fig. 5,



Witnesses

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# UNITED STATES PATENT OFFICE.

EDWARD P. THOMPSON, OF ELIZABETH, NEW JERSEY.

## INCANDESCENT ELECTRIC LAMP.

SPECIFICATION forming part of Letters Patent No. 365,495, dated June 28, 1887.

Application filed September 15, 1886. Serial No. 213,571. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD P. THOMPSON, a citizen of the United States, residing in Elizabeth, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Incandescent Electric Lamps, of which the following is a specification.

The invention relates to the construction of incandescent electric lights.

The object of the invention is to provide means for preventing the deposit upon the globes of the loose particles of carbon which are set free from the filaments during the operation of the lamp.

It is well known that an incandescent electric lamp while in operation sets free or drives off from its filament more or less carbon in loose particles, which become deposited upon the inner surface of the globe and cloud it. I have found that such carbon is, for the most part, set free upon the closing and interrupting of the circuit, and that it is due to the static charge received by the lamp and to the discharge which takes place.

The object, therefore, of the present invention is to provide means for discharging the high-potential currents from the filaments and preventing the free carbon from being thrown off, at the same time causing that which is thrown off to be deposited at points where it will not injure the light.

The invention consists, in general terms, in placing within the globe discharge-points extending toward the filament and affording a ready path for high-potential currents to pass across from the filaments. This is usually accomplished by inserting in the globe an independent conductor which is provided with points projected in opposite directions toward the respective arms of the filament, and connecting the same with the earth. It may not, however, always be necessary to employ the earth-connection. In some instances it may be found desirable to form the filaments with points projecting toward those of the independent conductor, or the points upon the filaments may be extended into proximity to each other.

In the accompanying drawings, Figure 1 is

a side elevation of a lamp constructed on the plan of the invention. Figs. 2, 3, 4, and 5 illustrate modifications.

Referring to the figures, A represents the globe of an incandescent light, B the filament, and  $b^1$   $b^2$  the leading-in wires. A conductor, C, extends in Fig. 1 into the globe between the two arms of the filament B. This conductor C is provided with sharp points  $c$   $c$  of conducting material extending in opposite directions toward the respective arms,  $b^3$  and  $b^4$ , of the filament, but not quite in contact therewith. The high-potential currents or charges, especially such as are present upon the interruption of the circuit of the lamp, tend to discharge across the arms of the filament to these points, and whatever loose carbon is thrown off at such time will tend to gather upon the inner conductor, C, rather than upon the surface of the globe. The conductor C is connected with the earth by a conductor, 1, and thereby the discharge will find a ready path to the earth.

In Fig. 2 the conductor C is supplemented by points  $d$   $d$ , extending from the inner surface of the filament toward the corresponding points,  $c$ , for the purpose of assisting the discharge. In some instances it may not be necessary to provide an independent conductor, C; but the filament may be provided with points  $d'$   $d'$ , Fig. 3, projecting outward toward the globe, and these points will permit of a silent continuous discharge less disruptive than would occur from the filament, and thereby less carbon will be thrown off from the filament.

In Fig. 4 a form is shown wherein the filament is constructed with points  $d^3$   $d^3$  and  $d^4$   $d^4$  upon its respective arms, projecting into proximity to each other, so that, considering the curved portion of the filament as neutral with reference to the two arms, the opposing potentials of the two arms will tend to neutralize each other across the points.

In Fig. 5 the conductor C is shown as connected with the filament at its neutral point  $b^5$ , the earth-connection not being employed in this instance.

I claim as my invention—

1. The combination, with the globe and filament of an incandescent electric light, of a



conductor having conducting-points projecting toward the filaments, substantially as described.

2. In an incandescent electric light, the combination, with a filament, of a conductor between the arms of the filament, and conducting-points extending from said conductor toward the respective arms.

3. In an incandescent electric light, the combination, with the filament, of discharge-points and a conductor in electrical connection with the arms of the filament.

4. In an incandescent electric light, the combination, with a filament having discharge-points, of a conductor in electrical connection

with the arms of the filament, and an independent conductor having conducting-points applied to the points upon said filament, substantially as described.

5. The combination, with the globe of an incandescent electric lamp and the filament, of discharge-points located within the globe.

In testimony whereof I have hereunto subscribed my name this 17th day of August, A. D. 1886.

EDWARD P. THOMPSON.

Witnesses:

DANL. W. EDGEComb,

CHARLES A. TERRY.