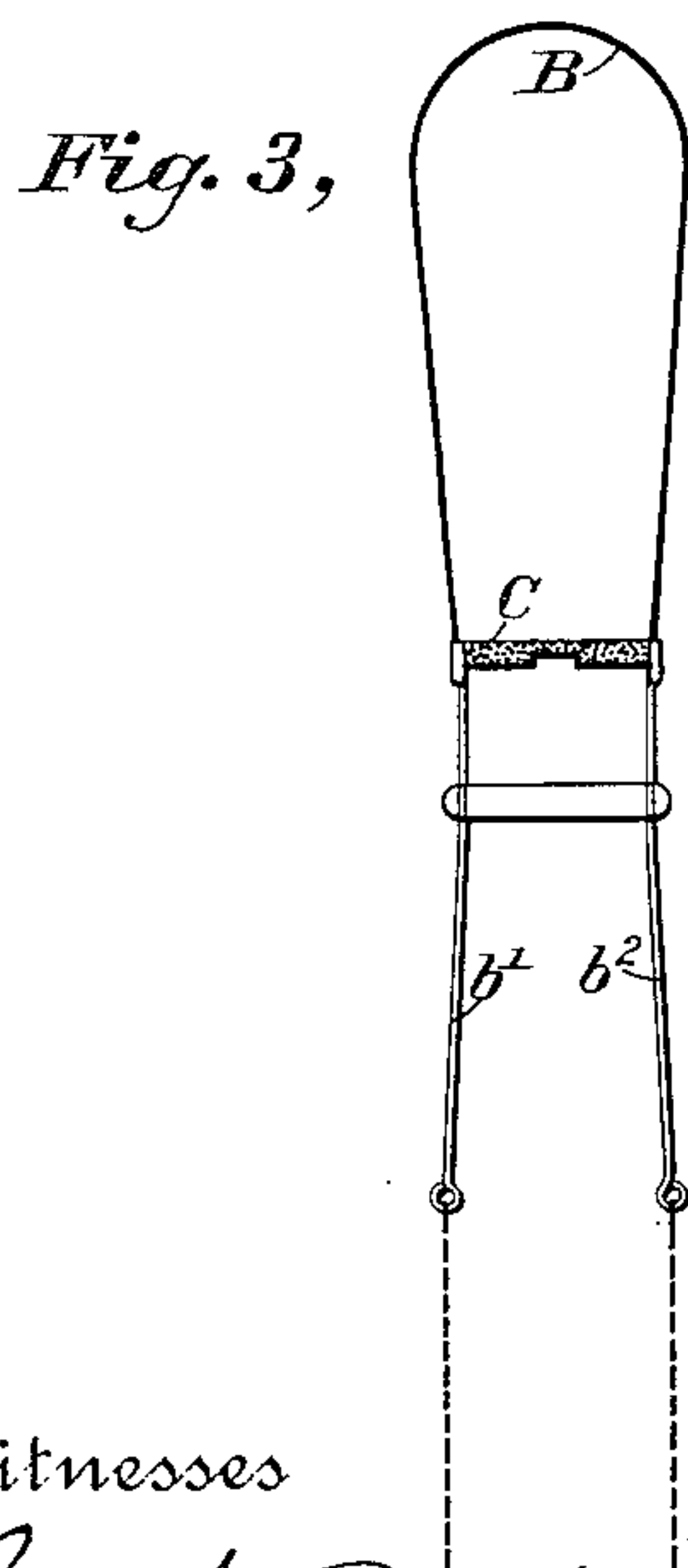
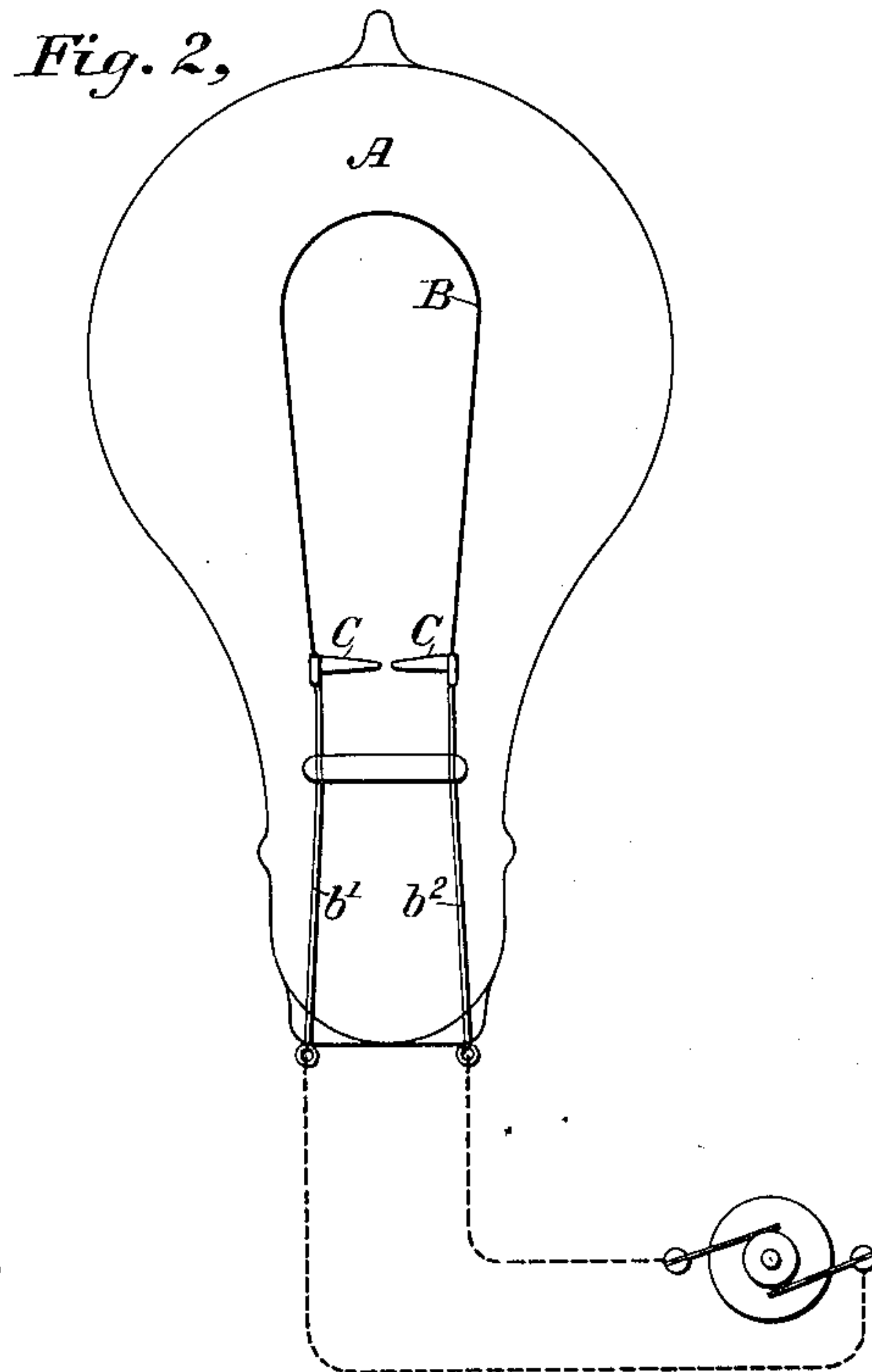
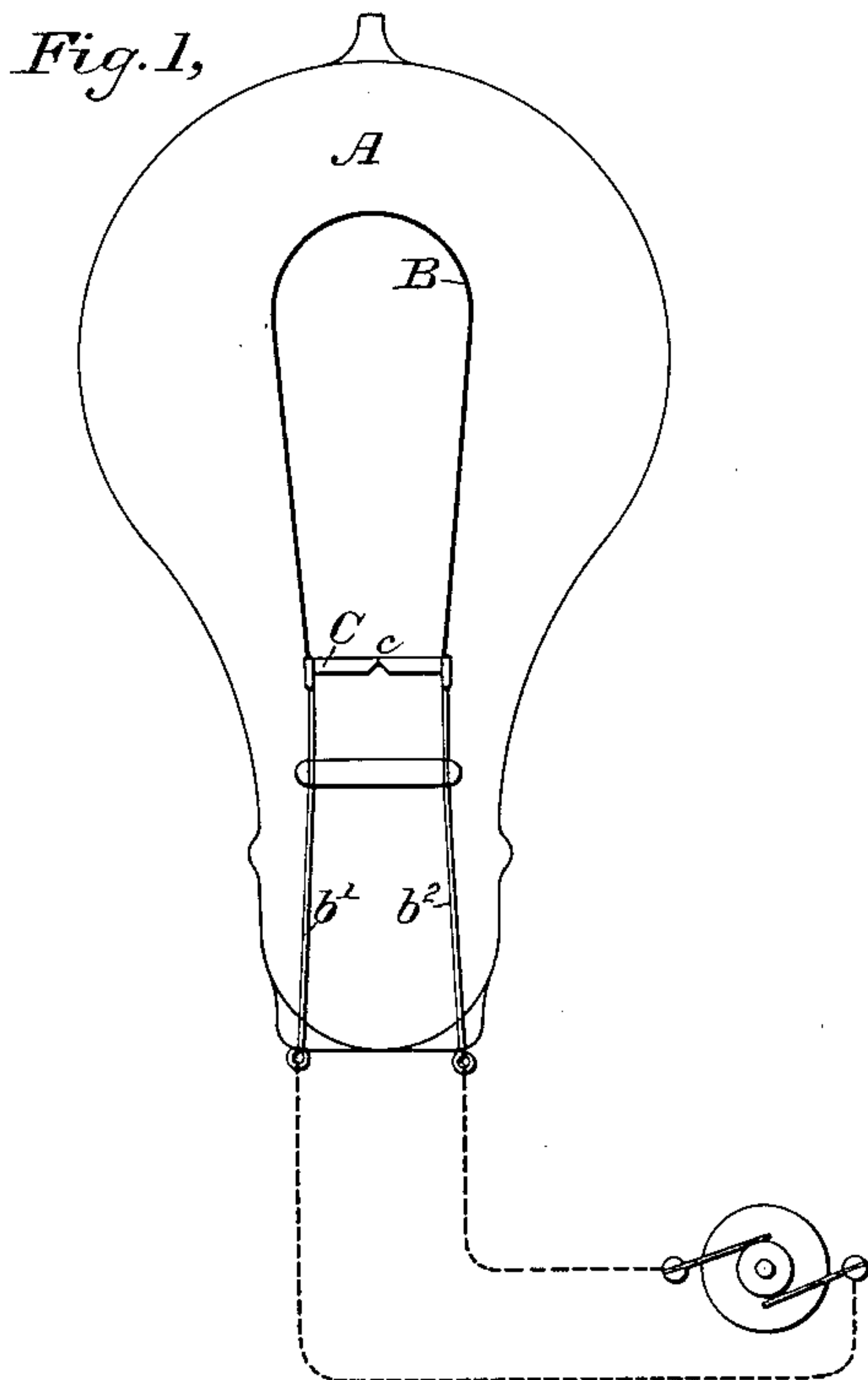


(No Model.)

E. P. THOMPSON.  
INCANDESCENT ELECTRIC LAMP.

No. 370,993.

Patented Oct. 4, 1887.



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. 370,993, dated October 4, 1887.

Application filed September 15, 1886. Serial No. 213,572. (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 the Method of Expelling Oxygen from the Leading-in Wires of Incandescent Electric Lights, of which the following is a specification.

The object of the invention is to provide efficient means for depriving the leading-in wires of incandescent electric lights from the occluded oxygen during the process of evacuating the globes.

The invention consists, in general terms, in causing a strong electric current to pass through the leading-in wires and across from one to the other by means of a temporary bridge, which, upon becoming heated by a sufficient current, melts, and thus interrupts the connection between the two wires. This bridge is preferably formed of platinum, and has a nick or narrow portion at or near its center, which determines the point at which it will be fused. It may be carbon, if preferred.

In the accompanying drawings, Figure 1 is a diagram of a lamp constructed to be treated in the manner contemplated by this invention, and Fig. 2 shows the completed lamp. Fig. 3 illustrates a modification.

Referring to the figures, A represents the globe, and B the filament, of an incandescent lamp. The leading-in wires  $b'$  and  $b''$  are of the usual character; but they are connected with each other at or near the points where they unite with the carbon filament by a bridge-piece, C. In the instance shown in Fig. 1 this piece is of platinum. It is constructed with a nick,  $c$ , at or near its center, for the purpose of increasing the resistance at that point. During the process of evacuating the lamp a current is passed through the two leading-in wires and across the bridge-piece of sufficient strength to heat the metal; but this current is not allowed to melt the bridge-piece until the globe has been practically evacuated. Then it is gradually raised to such heat that all the remaining oxygen is driven off from the platinum, and as the process of evacuation continues this oxygen is with-

drawn from the globe, and ultimately the current is increased, so that the bridge-piece C will fuse at the point  $c$ , whereupon the current will traverse the filament B until the connection with the source is interrupted.

For the purpose of preventing the current from doing injury to the filament B it should be of low electro-motive force and great quantity. After the globe has been sealed and the parts allowed to cool, the platinum will tend to take up whatever oxygen may have remained within the globe, thereby working advantageously.

In Fig. 3 a modification is shown wherein a carbon bridge-piece, C, is employed in place of the platinum piece. This operates in precisely the same manner. It may be constructed in any convenient manner—for instance, by electro-deposition. Thus a thin strip of carbon may be connected across the leading-in wires, and the electric connection may be completed therewith by means of a narrow contact-plate which is submerged in a deposition-vat, which serves to enlarge the bridge-piece except at the point where the plate is applied, and to secure the ends in good electrical connection with the leading-in wires.

An advantage incident to this method of treating the lights is that the projecting ends of the bridge-piece which remain after it is fused serve in a measure to neutralize the static charge upon the opposing arms of the lamps or the opposite leading-in wires, thus reducing the tendency of the filament to throw off loose carbon and deposit it upon the inner surface of the globe. Another advantage is that it removes the necessity of employing the glass bridge-piece for steadying the parts while they are being inserted in the lamp.

I claim as my invention—

1. In an incandescent electric light, the combination, with the filament and the leading-in wires connected with the respective terminals thereof, of a bridge-piece connecting said leading-in wires, consisting of conducting material and having a nick or point of high resistance in its length.

2. The combination, substantially as described, in an incandescent electric light, of the filament, the leading-in wires, the joints



between the two, and discharge-points extending toward each other from said joints.

3. The combination, in an incandescent electric lamp, of the filament, the leading-in wires,  
5 and discharge-points extending toward each other from the joints of the filament with the respective leading-in wires.

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.