

No. 744,496.

PATENTED NOV. 17, 1903.

C. A. CRANE,
INCANDESCENT ELECTRIC LAMP.

APPLICATION FILED MAY 18, 1903.

NO MODEL.

FIG. 1.

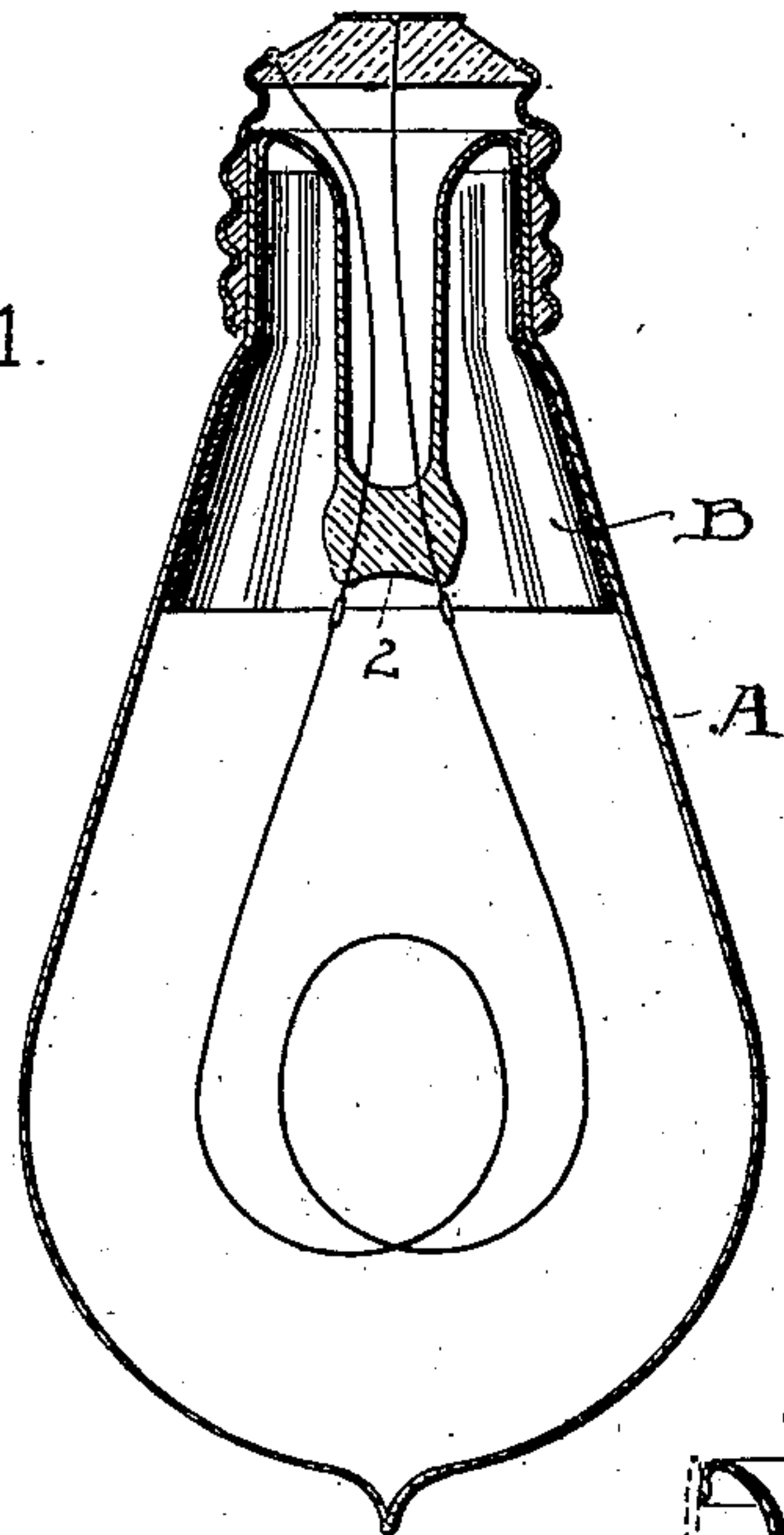


FIG. 2.

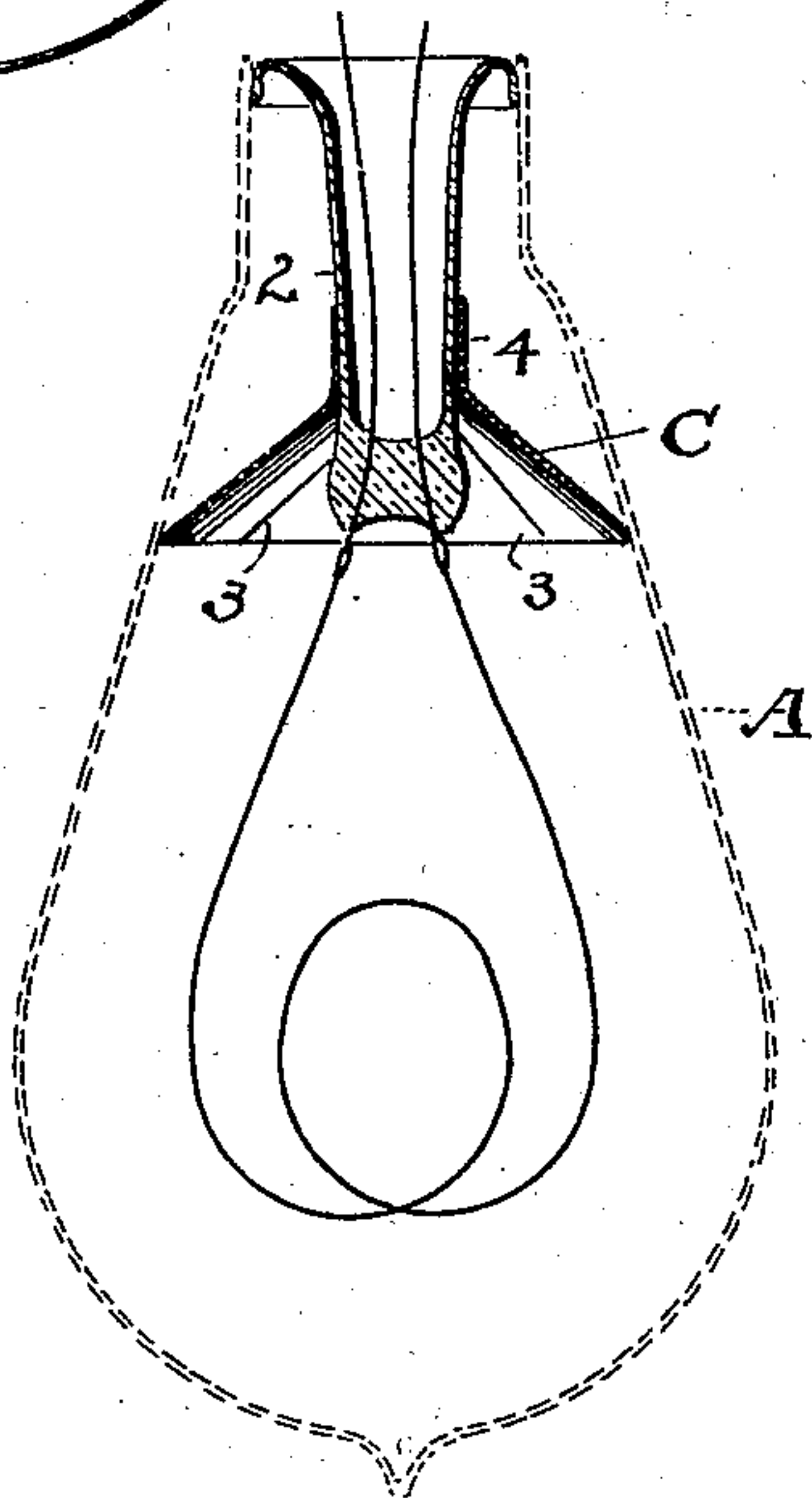


FIG. 3.

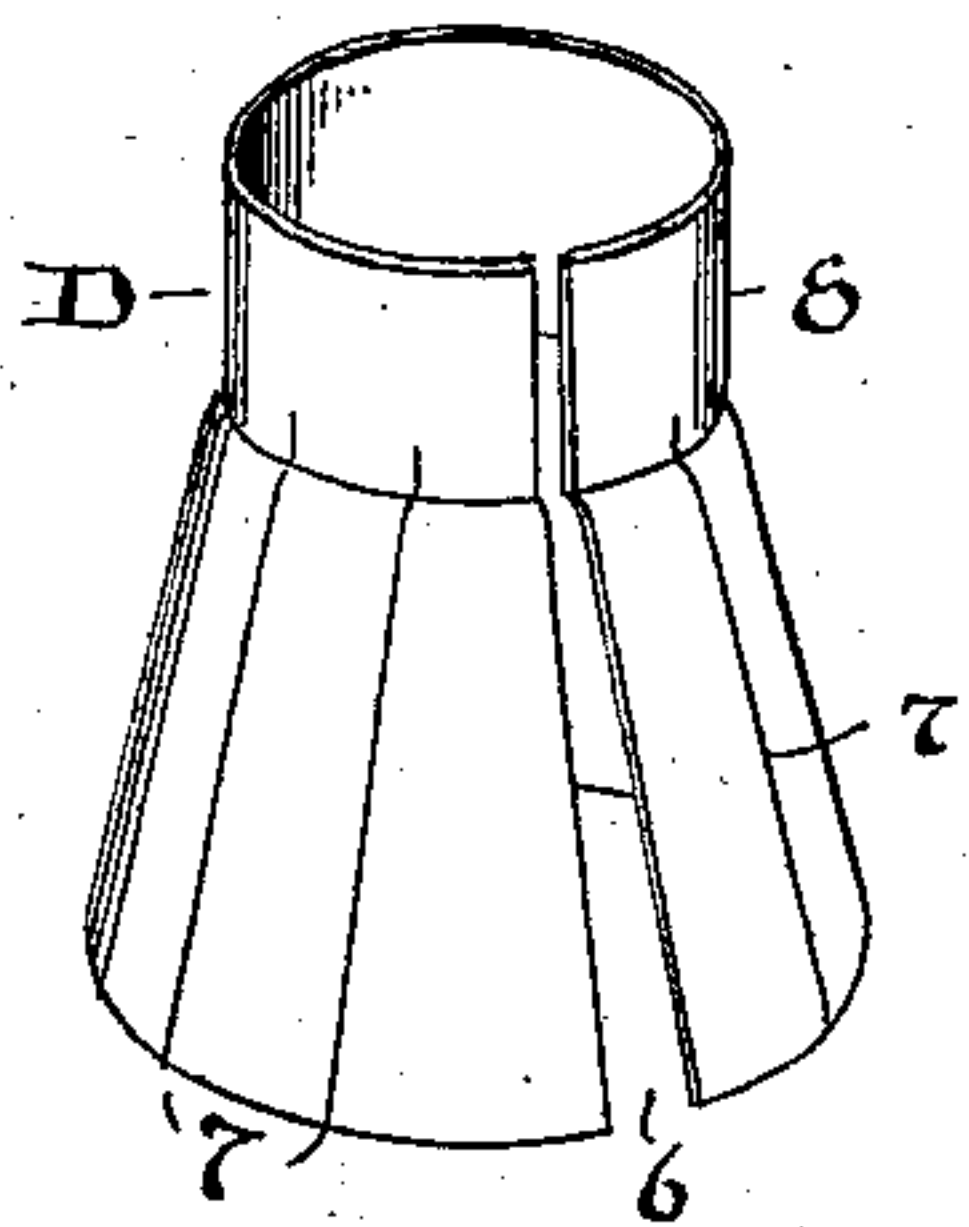
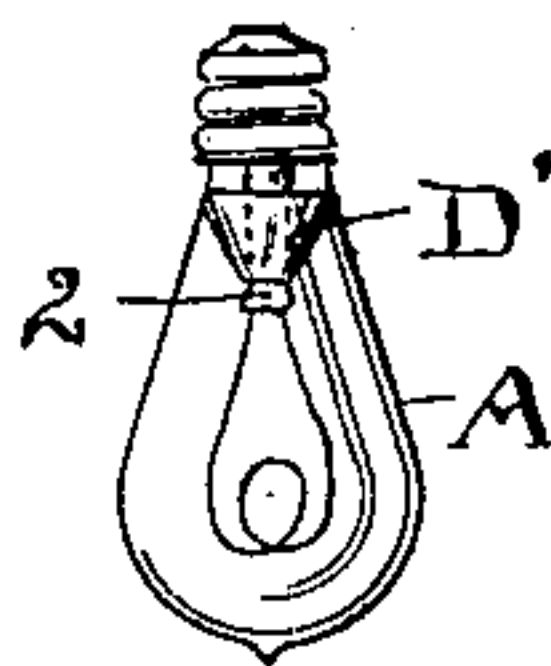


FIG. 4.



ATTEST.

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INCANDESCENT ELECTRIC LAMP.

SPECIFICATION forming part of Letters Patent No. 744,496, dated November 17, 1903.

Application filed May 18, 1903. Serial No. 157,583. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE A. CRANE, a citizen of the United States, residing at Warren, in the county of Trumbull and State of Ohio, have invented certain new and useful Improvements in Incandescent Electric Lamps; and I do declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention comprises an incandescent electric lamp with a reflector within the same about its upper or reduced end, all substantially as shown and described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a vertical sectional elevation of an incandescent electric lamp or bulb embodying my invention with one form of reflector. Fig. 2 is a vertical sectional elevation of a lamp or bulb, showing a modification of the reflector and the manner of supporting the same; and Fig. 3 is a perspective view of another modification of the reflector apart from the lamp. Fig. 4 is a reduced view of a lamp having an inverted or concave reflector.

The idea of this invention is to convert the usually dead or dark space about the upper portion of the lamp where the filament begins into an illuminating and radiating space, and thus materially enhance the light-giving power and value of a lamp without increasing the volume of the electric current. To these ends I equip the lamp or bulb A with a reflector B, C, D, or D', as seen in the respective Figs. 1, 2, and 3, according as one style or another may be preferred. It will be noticed that all these reflectors are wholly within the glass bulb and of a form either to be introduced through the neck of the lamp before the neck is closed by glass stem 2, as in forms B and D, or of form C, which is affixed to said stem and then inserted therewith.

In the style of reflector Fig. 1 I introduce the tubing from which the reflector is spun before inserting the glass stem 2 and filament and spin the reflector within the bulb to fit about the side thereof, relatively as shown. This can be easily and quickly done

by means of a suitable expanding spinning-tool, and the lamp is then completed in the usual way. If there be any tendency for the reflector to work down by reason of looseness, a small quantity of suitable cement previously introduced within the neck of the lamp will hold it permanently in place.

In Fig. 2 I show a somewhat radical departure from the foregoing style in that the reflector is affixed directly to stem 2 and is split on radial lines, so as to be compressible for introduction through the neck of the bulb. Then by reason of its springy quality it spreads itself to its original size and holds a reflecting position over the filament, substantially as shown. The splits 3, however, run only to the band portion 4, by which the reflector is secured to or upon stem 2.

In the form Fig. 3 I show a reflector adapted to occupy the position of reflector B, Fig. 1, with the difference that in this case it is split lengthwise, so as to be compressible for entering through the neck of the bulb to working position. Of course the presumption is that this style of reflector, as well as that shown in Fig. 2, is of springy material, and usually it has spring enough to hold itself in place frictionally and without other means of support. The single split 6 runs the entire length of the reflector, while splits 7 run only to band 8. This style of reflector may, however, omit splits 7 if it be otherwise fashioned to be passed down through the neck of the bulb.

In these several constructions, and preferably, the reflector does not drop any distance materially below the beginning of the filament at the bottom of sustaining-stem 2, so that no laterally-radiated light will be lost, while the reflector will gather up rays of light otherwise practically lost and materially enhance the whole brilliancy of the lamp.

For the purpose of this description and the claims it is assumed that the neck or reduced end of the bulb or lamp through which the filament is introduced is also the top or upper end of the lamp, although in use it is now common to invert lamps and to place them in various positions relatively. The bulb proper is the glass shell as such, and the stem 2 is primarily a separate part which

has a flared base inserted and sealed in the neck of the bulb, as is well known in this manufacture.

Reflector D' (shown in Fig. 4) is also mounted upon stem 2, but in inverted position as compared with the other forms, and the reflecting side is upon the convex surface. In some respects this is a desirable form, in that it is more readily inserted and gives a finished reflecting-cone base within the lamp for the filaments.

What I claim is—

1. An electric-light bulb, in combination with a reflector of resilient material having an open reduced neck portion from which it is supported within the bulb and the edge of its flared portion engaged against the wall of the bulb, and the said reflector split from edge to edge on a single line, substantially as described.

2. A reflector for the interior of incandescent-electric-lamp bulbs having a substantially band-shaped split neck by which the reflector is adapted to be supported and a radially-split flaring portion of resilient material, substantially as described.

3. As a new article of manufacture, a re-

flector for the inside of electric lamps consisting of resilient material and having a substantially band-shaped neck and a flaring body, said body split at intervals on radial lines and having one of said splits extending across the neck of the reflector, whereby the reflector can be compressed to be inserted into a lamp, substantially as described.

4. An incandescent-electric-lamp bulb having a neck portion smaller in cross-section than the body of the bulb and provided with a central stem, in combination with a reflector of resilient material in said bulb having a substantially band-shaped end supported on said stem and a radially-split flaring body engaged at its edge against the wall of the bulb, said reflector having a single split line running through the said band-shaped end, whereby the reflector can be introduced through the neck of the bulb, substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses.

CLARENCE A. CRANE.

Witnesses:

R. B. MOSER,

R. ZBORNIK.