

G. LÜDECKE.
METAL FILAMENT INCANDESCENT LAMP.
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1,038,613.

Patented Sept. 17, 1912.

Fig. 1.

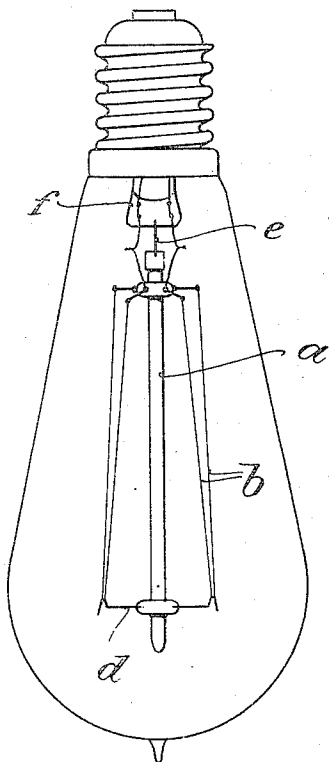
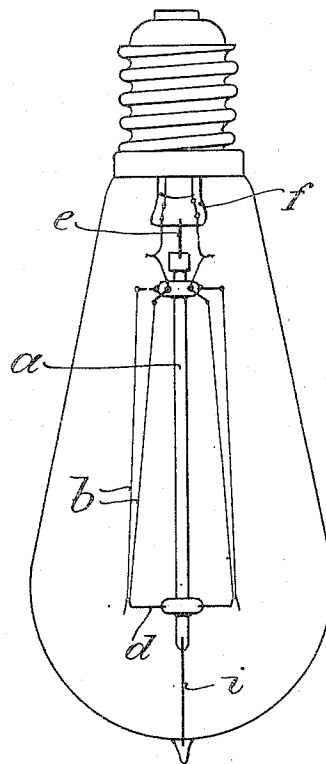


Fig. 2.



WITNESSES:

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GEORG LÜDECKE, OF AUGSBURG, GERMANY, ASSIGNOR TO THE FIRM OF WOLFRAM LAMPEN AKTIEN-GESELLSCHAFT, OF AUGSBURG, GERMANY.

METAL-FILAMENT INCANDESCENT LAMP.

1,038,613.

Specification of Letters Patent. Patented Sept. 17, 1912.

Application filed March 20, 1909. Serial No. 484,812.

To all whom it may concern:

Be it known that I, GEORG LÜDECKE, citizen of Prussia, residing at Augsburg, Bavaria, Germany, have invented certain new and useful Improvements in Metal-Filament Incandescent Lamps; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to an improvement in the elastic or springy fastening of the glass bridge or stay in metallic filament incandescent lamps, by which improvement a considerable simplification and saving in the cost of production of the lamps is effected.

The improvement consists in the arrangement that the central glass bridge of the filament carrier is not, as heretofore usual, supported at the head and foot of the glass bulb by means of small spiral or other springs, but is connected with the foot of the lamp only by a single elastic or springy, straight wire, so that the glass bridge is still freely suspended and with sufficient elasticity within the glass bulb.

In order to prevent the glass bridge swinging too far and coming in contact with the sides of the bulb, which might result in a breaking of the filament, a suitable elastic or springy device may advantageously be provided to limit the movement of said glass bridge.

In the accompanying drawing, Figure 1 shows the device according to the present invention applied to a lamp in which the filament carrier is not limited in its lateral swing, and Fig. 2 a form of construction in which the swinging of the filament carrier is elastically limited.

In these drawings, *a* is the central glass bridge, carrying on suitable holders *d* the filament loops *b* or the single straight filaments, these latter being connected with the conductors of the current in the usual manner.

In Fig. 1 the bridge *a* is connected with the glass foot *f* of the lamp by means of a straight, springy, wire *e* of suitable material, said wire *e* being arranged between the glass bridge and the glass foot of the lamp and having its ends fused into the end surfaces of said bridge and foot.

In order now to be able to elastically limit the movement of the glass bridge in case of concussion or vibration of the lamp, the bridge *a* is provided at its end with a springy metal wire *i* reaching nearly to the apex of the glass bulb, as shown in Fig. 2. When now the glass bridge swings to the side, the wire *i* comes in contact with the curved inner wall of the bulb and the movement of the bridge is thus elastically limited.

A further advantage of this improved device is that, in consequence of the suppression of the lower spiral spring the lamp can be well fused at its apex, and the subsequent entrance of air is thus avoided.

What I claim as my invention and desire to secure by Letters Patent, is:

1. In an incandescent electric lamp, the combination of a bulb, a filament-carrying frame, leading-in wires connecting the outside of the bulb with the filament upon the frame and an axially rigid, but radially elastic supporting member interposed between said bridge and the stem of the bulb.

2. In an incandescent electric lamp, the combination of a bulb, a filament-carrying frame, leading-in wires connecting the outside of the bulb with the filament upon the frame and an axially rigid, but radially elastic supporting member interposed between said bridge and the stem of the bulb and fused at its ends into the lamp foot and frame respectively.

3. In an incandescent electric lamp, the combination of the bulb, the filament, the glass bridge carrying the filament, the leading-in wires connecting the outside of the bulb with the filament carried by the bridge and a straight elastic supporting member interposed between said bridge and the stem of the bulb.

4. In an incandescent electric lamp, the combination of the bulb, the filament, the bridge forming a carrier for said filament, the leading-in wires passing through the bulb and connected with the filament upon the bridge and a straight wiry elastic member interposed between the bridge and the bulb and located in the axial line of both the bulb and of the filament carrier and forming the sole support for the said bridge or carrier.

5. In an incandescent electric lamp, the combination of the bulb, the filament, the

bridge carrying said filament, the leading-in wires passing through the bulb and connected with the filament, a straight wiry flexible support, connecting the bridge with
5 the lamp foot and a radially elastic projection carried by the bridge and adapted to engage the bulb and to limit the lateral movement of the bridge.

10 6. In an incandescent electric lamp, the combination of the bulb, the filament, the bridge carrying said filament, the leading-in wires passing through the bulb and connected with the filament, a straight wiry flexible support, connecting one end of the

bridge with the stem of the bulb and fused
15 at its ends into the lamp foot and bridge respectively and a straight wiry projection extending from the other end of the bridge and fused therein and adapted to engage the
20 bulb to limit the lateral movement of the bridge.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

GEORG LÜDECKE.

Witnesses:

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