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ELECTRIC INCANDESCENT LAMPS

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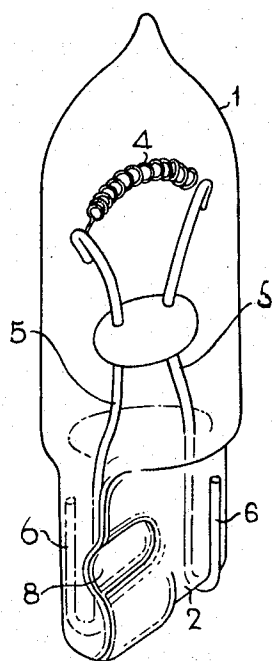


Fig. 1.

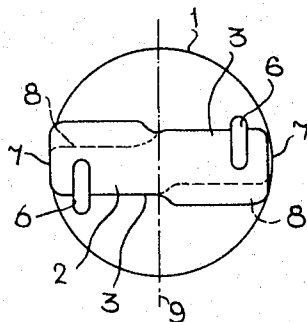


Fig. 2.

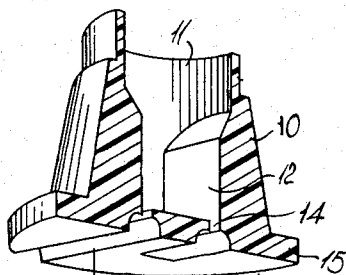
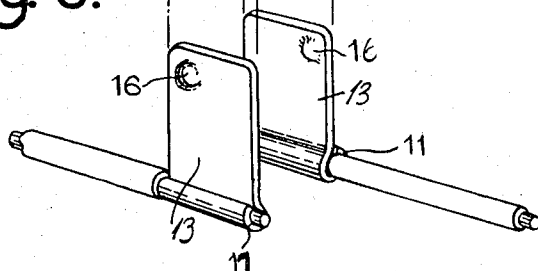


Fig. 3.



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3 Claims. (Cl. 339—144)

This invention relates to electric incandescent lamps and in particular to so-called capless lamps. It is a feature of capless lamps that the lamp base comprises a flattened glass pinch and the lamp contacts are formed by extended portions of the lead-in wires which are flattened down on to the outer surfaces of the pinch.

In accordance with the present invention, a capless electric incandescent lamp comprises a glass envelope with a flattened glass pinch providing two substantially parallel faces at one end of the envelope, and two lead-in conductors to the filament brought out through the pinch with the end portion of each conductor bent back one parallel to or against each one of the parallel faces, said end portions being positioned one adjacent each of the opposite edges of the parallel faces and with a recess located in the portion of each face which extends between the conductor on that face and the edge of the face remote from the conductor.

The recesses which are located one on each face of the flattened glass pinch serve to co-operate with locating means provided on a suitable lamp holder for the retention of the lamp within the holder when it is inserted therein. The recesses are preferably in the form of grooves which extend between the edge of the face which is located from the conductor on that face and a region on substantially the centre of the face and are located in planes which lie normal to the longitudinal axis of the lamp.

A holder which is suitable for use with a lamp in accordance with the present invention provides two plate terminals which engage with the base of the lamp and make contact with the end portions of the lead-in conductors which are bent back against the flat parallel faces of the pinch. It is to be understood that although the end portions of the lead-in conductors may be bent back against the pinch the resilience of the material from which the conductors are formed may be sufficient to cause the conductors to take up a position in which they are spaced from the face by a small distance. However, when the lamp is inserted in the holder the plate terminals urge the lead-in conductors into engagement with the face of the pinch.

In order that the invention may be more readily understood an embodiment thereof will now be described by way of example with reference to the accompanying drawings, in which:

FIG. 1 is a perspective view;

FIG. 2 is a plan view of the lamp; and

FIG. 3 is a perspective view of the terminals and the lamp holder, partially in section.

Referring to FIGS. 1 and 2 a miniature electric incandescent lamp comprises a tubular glass envelope 1 sealed with an exhaust tube at one end and having the other end sealed by means of a flattened pinch 2 which is of a rectangular form and provides two substantially parallel faces 3. The filament 4 is supported within the envelope by means of two lead-in conductors 5, which extend in sealing relation through the glass pinch 2. The end portion 6 of each conductor is bent back one against or in close parallel relation with each of the parallel faces of the pinch and serves as an electrical contact to

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the lamp, thus avoiding the necessity of providing the conventional conducting cap which is secured to the envelope and provides the electrical contacts for an incandescent lamp.

In accordance with the present invention the two end portions 6 of the lead-in conductors 5 are bent back one parallel to or against each of the two parallel faces of the pinch and are positioned one adjacent each of the opposite edges 7 of the parallel faces and with a recess in the form of a groove 8, located in the portion of each face which extends between the end portion of the conductor 6 on that face and the edge 7 which is remote from the conductor. The grooves extend between the edge of the face which is remote from the conductor on that face and substantially the centre 9 of the face, the grooves being located in planes which are normal to the longitudinal axis of the lamp.

Referring to FIG. 3 which shows a lamp holder which could be employed to support a lamp structure in accordance with the present invention, the holder 10 which comprises a body of insulating material of generally frusto-conical form has a recess 11 formed in one of the parallel faces thereof. The inner portion 12 of the recess is of generally rectangular cross-section to accommodate the flattened pinch 2 of the lamp when it is inserted therein and two plates 13 are spaced apart within the inner portion of the recess and make contact with the end portions 6 of the lead-in conductors of the lamp. The terminals extend through openings 14 in an enlarged base portion 15 of the holder to enable permanent electrical connections 17 to be made thereto and a raised inwardly extending projection 16 is formed on each plate to coact with one of the recesses 8 formed in the pinch of the lamp. The projections serve to locate and support the lamp within the holder when the lamp is inserted therein.

Although the invention has been described as being related to capless electric incandescent lamps, it is to be understood that the term "incandescent lamp" is intended to include photographic flash bulbs and similar devices.

What we claim is:

1. In the combination of a socket and a lamp; a socket comprising a body of insulating material having a recess formed in one face thereof, at least the inner portion of the recess being of generally rectangular form to receive the pinch of a lamp, a pair of plate contacts arranged in spaced apart relation adjacent the longer sides of the recess, with a part of each of said contacts projecting through a respective opening in a wall of the body which is parallel to the face having the recess therein and each contact having an inwardly extending projection thereon, and a capless electric incandescent lamp comprising a glass envelope with a flattened glass pinch providing two substantially parallel faces on one end thereof and two lead-in conductors brought out through the pinch with the end portion of each conductor bent back, one parallel to each one of the parallel faces, said end portions being positioned one adjacent each of the opposite edges of the parallel faces and with a recess located in the portion of each face which extends between the conductor on that face and the edge of the face remote from the conductor, said inwardly extending projection engaging with one of said recesses on the pinch of the lamp and said plate contact engaging and pressing an end portion of a conductor against the face of the pinch of the lamp.

2. A capless electric incandescent lamp comprising a glass envelope, an external glass pinch sealed to close said envelope at one end and having opposed flat faces, two lead-in conductors which enter said envelope through said pinch with the free end portion of each conductor bent back one parallel to each flat face of the pinch to

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provide lamp contacts with said contacts positioned one adjacent each of the two side edges of the pinch, a first recess formed in one of said faces extending from one edge of said pinch remote from the conductor to substantially the center of said face; a second recess formed in the other face extending from the opposite edge of said pinch to substantially the center of said other face so that said recesses are arranged in non-overlapping relation.

3. A capless electric lamp as claimed in claim 2, in which the recesses are in the form of grooves which extend normal to the longitudinal axis of the lamp.

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