

⑫ **EUROPEAN PATENT SPECIFICATION**

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⑰ **Lamp assembly.**

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| ⑱ Priority: <b>07.02.81 GB 8103824</b>   | ⑲ Proprietor: <b>Britax Vega Limited</b><br><b>Berry Hill Industrial Estate George Baylis Road</b><br><b>Droitwich Worcestershire WR9 9AZ (GB)</b> |
| ⑳ Date of publication of application:<br><b>15.09.82 Bulletin 82/37</b>                        | ㉑ Inventor: <b>Inglis, Peter John</b><br><b>13 The Lawley Elvers Meadow</b><br><b>Halesowen West Midlands, B63 (GB)</b>                            |
| ㉒ Publication of the grant of the patent:<br><b>17.10.84 Bulletin 84/42</b>                    | ㉒ Representative: <b>Hollinghurst, Antony</b><br><b>Britax Central Services 40 Granby Avenue</b><br><b>Garretts Green Birmingham, B33 OSJ (GB)</b> |
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| ㉔ References cited:<br><b>DE-B-2 441 330</b><br><b>FR-A-2 339 130</b><br><b>GB-A-2 005 001</b> |  |

**EP 0 060 016 B1**

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## Description

This invention relates to a lamp assembly of the type comprising an electrically insulating hollow body, a plurality of bulbholders, at least one contact blade for each bulbholder and a plurality of spaced, electrically conductive elements, cut from an electrically conductive sheet and each extending between a location in the body at which an electric supply connector is attached to the assembly in use and a respective location in the body adjacent to a respective bulbholder, each contact blade having a blade portion within the bulbholder and a flat portion externally of the bulbholder extending parallel to and abutting one of said electrically conductive elements.

Patent Specification No. GB—A—2005001 discloses a lamp assembly of this type, in which each contact blade has a projecting part which is an interference fit in a recess in the insulating body and thus holds the contact blade in place. The electrically conductive elements have apertures therein for receiving spigots which project from the insulating body and are heat deformed after assembly to hold the conductive elements in place.

The present invention provides a single attachment formation for each contact member which also serves to secure the associated conductive element to the insulating body.

According to the invention, in a lamp assembly of the type described above, the insulating body has a respective projection for securing each blade contact and its associated electrically conductive element thereto, with the formations on such blade contact and electrically conductive element each comprising an aperture through which the projection extends, the formation on the one of said blade contacts and said electrically conductive element further from the insulating body comprising barbs adapted to engage with said projection to resist withdrawal.

The electrical connection between each contact blade and its respective electrically conductive element may be formed by a second blade portion which extends from the flat portion of the contact blade at an angle thereto and engages with a corresponding blade portion similarly extending from the electrically conductive element. Recesses may be provided in the insulating body for accommodating each such second blade portion and corresponding blade portion, one of which is resiliently biased to press against the other blade portions which, in turn, is pressed against a wall of the recess.

An embodiment of the invention will now be described, by way of example, with reference to the accompanying drawings, in which:

Figure 1 is a plan view of electrically conductive elements in the relative dispositions which they occupy in a lamp assembly according to the invention;

Figure 2 is a cross-sectional view of a part of

a lamp assembly taken on the line 2—2 in Figure 1; and

Figure 3 is a fragmentary exploded perspective view illustrating the bulbholder shown in Figure 2.

Referring to the drawings, the lamp assembly comprises an electrically insulating, hollow moulded plastics body 10 (only partially shown in the drawings) which is of generally dish form having a rectangular gase 12 and upstanding walls 14. Integrally moulded with the base 12 are five tubular elements each constituting the electrically insulating part of a respective bulbholder 16.

Extending over the otherwise open face of the base 12 are six electrically conductive elements 18 to 23 all formed from the same mild steel sheet. Briefly the sheet is pierced to define the electrically conductive elements 18 to 23 but leaving parts 24 of the sheet metal unpierced so that the electrically conductive elements are held in the required relative dispositions. After the pierced blank has been inserted in a die, the joining parts are removed and the plastics body 10 is offered up to the die so that the electrically conductive elements are retained in position thereon in a manner to be described hereinafter.

The electrically conductive element 18, which serves as a common return path for all five bulbs, has a respective opening 26 aligned with each of the bulbholders 16. As can best be seen from Figure 3, upturned portions 28 and 30 are disposed at diametrically opposite locations on the edge of each opening 26 and each contains a respective opening 32 for receiving the lateral pins 34 (Figure 2) of the bayonet cap of a bulb 36.

Associated with each bulbholder 16 is a respective spring contact blade 38 having a first blade portion 40 within the bulbholder 16 and engaging with the centre contact of the bulb 36. Each contact blade also has an intermediate flat portion 42 and a second blade portion 44 which extends into a rectangular recess 46 disposed adjacent to the corresponding bulbholder 16. A rectangular opening is formed in the flat portion 42 in order to accommodate a projection 48 which is moulded integrally with the plastics base 12.

During assembly, the contact blades 38 are positioned on the plastics body 10 before it is offered up to the die containing the electrically conductive elements 18 to 23. Each such element has at least one rectangular aperture, such as the aperture 50 in the element 22, provided with inwardly directed barbs 52 and 54 which engage with opposite sides of the projection 48. Adjacent to the aperture 50, a tongue 56 is stamped out of the element 18 and bent downwards so as to be insertable into the recess 46 where it engages between one of the walls thereof and the second blade portion 44. The engagement of the bars 52 and 54 with the projection 48 not only serve to retain the con-

ductive element 22 in position but also enable it to hold the contact blade 38 in place as can be seen in Figure 3, a second projection 58 is formed on the base 12. The projection 58 is engaged by barbed projections 60 and 62 formed on the edges of an opening 64 in the conductive element 18.

Similar arrangements of projections and barbed projections are provided at each of the other bulbholders, at the other ends of each of the conductive strips to which electrical connections are made and at such intermediate locations as are necessary to give the conductor strips the required rigidity.

It will be appreciated that the invention can be used in a lamp assembly having a different number of bulbholders from that described above.

### Claims

1. A lamp assembly comprising an electrically insulating hollow body (10), a plurality of bulbholders (16), at least one contact blade (38) for each bulbholder, and a plurality of spaced, electrically conductive elements (19—23), cut from an electrically conductive sheet and each extending between a location in the body (10) at which an electric supply connector is attached to the assembly in use and a respective location in the body adjacent to a respective bulbholder (16), each contact blade (38) having a blade portion (40) within the bulbholder (16) and a flat portion (42) externally of the bulbholder (16) extending parallel to and abutting one of said electrically conductive elements (22), characterised in that the insulating body (10) has a respective projection (48) for securing each blade contact (38) and its associated electrically conductive element (22) thereto, with the formations on such blade contact (38) and electrically conductive element (22) each comprising an aperture (50) through which the projection (48) extends, the formation on the one of said blade contacts (38) and said electrically conductive element (22) further from the insulating body (10) comprising barbs (52, 54) adapted to engage with said projection (48) to resist withdrawal.

2. A lamp assembly according to claim 1, characterised in that the electrical connection between each contact blade (38) and its respective electrically conductive element (22) is formed by a second blade portion (44) which extends from the flat portion (42) of the contact blade (38) at an angle thereto and engages with a corresponding blade portion (56) similarly extending from the electrically conductive element (22).

3. A lamp assembly according to claim 2, characterised in that recesses (46) are provided in the insulating body (10) for accommodating each second blade portion (44) and corresponding blade portion (56), one of which is

resiliently biased to press against the other blade portion which, in turn, is pressed against a wall of the recess (46).

### 5 Revendications

1. Assemblage de lampe comportant un corps creux (10) électriquement isolant, un certain nombre de montures d'ampoules (16) avec au moins une lame de contact (38) pour chaque monture d'ampoule, et un certain nombre d'éléments conducteurs (19—23) écartés l'un de l'autre et découpés dans une feuille de matière conductrice, chaque élément conducteur d'étendant dans le corps (10), entre un endroit où se trouve fixé un organe de connexion pour l'alimentation électrique de l'assemblage, et un autre endroit du corps adjacent à une monture d'ampoule (16) associée à l'élément conducteur considéré, chaque lame de contact (38) ayant une partie (40) disposée à l'intérieur de la monture d'ampoule associée (16), et à l'extérieur de la monture d'ampoule (16) une partie plane (42) parallèle à l'un des éléments conducteurs précités (22) et aboutissant à cet élément, caractérisé en ce que le corps isolant (10) comporte un bossage de fixation (48) pour chacune des lames de contact (38) et pour l'élément conducteur associé (22) en ce que l'assemblage superposé de chacune des lames de contact (38) avec l'élément conducteur associé (22) est réalisé au moyen d'une ouverture (50) percée dans la lame de contact (38) et d'une ouverture identique percée dans l'élément conducteur (22), pour recevoir le bossage de fixation (48) correspondant, et en ce que des languettes de retenue, dentelées et élastiques (52, 54) sont prévues dans l'assemblage superposé de chaque lame de contact (38) avec un élément conducteur (22), à l'endroit de cet assemblage le plus éloigné du corps isolant (10), pour s'accrocher sur le bossage (48), afin d'y maintenir ledit assemblage.

2. Assemblage de lampe selon la revendication 1, caractérisé en ce que la connexion électrique entre chaque lame de contact (38) et l'élément conducteur associé (22) est assurée par une seconde partie (44) qui prolonge obliquement la partie plane (42) de cette lame de contact (38), et qui coopère en position de service avec une languette correspondante (56) de l'élément conducteur associé (22).

3. Assemblage de lampe selon la revendication 2, caractérisé en ce que le corps isolant (10) est pourvu de logements (46) adaptés à recevoir chacun la seconde partie (44) de chacune des lames de contact (38) et la languette correspondante (56) de l'élément conducteur associé (22); l'un de ces deux organes de contact étant agencé pour s'appuyer élastiquement contre l'autre organe, qui repose lui-même contre une paroi du logement concerné (46).

### Patentansprüche

1. Lampananordnung mit einem elektrisch isolierenden hohlen Körper (10), einer Vielzahl von Glühbirnenhaltern (16), mindestens einer Kontaktzunge (38) für jeden Glühbirnenhalter, und mit einer Vielzahl von beabstandeten elektrisch leitfähigen Leitungselementen (19—23), die aus einem elektrisch leitfähigen Blech ausgeschnitten sind und sich erstrecken zwischen einem Platz im Gehäuse (10), an welchem im Betrieb eine elektrischer Versorgungsanschluß an die Anordnung angebracht wird, und einer entsprechenden Stelle im Gehäuse neben dem jeweiligen Birnenhalter (16), wobei jede Kontaktzunge (38) einen Zungenteil (40) innerhalb des Birnenhalters (16) aufweist und einen Flachteil (42) außerhalb des Birnenhalters (16), welcher sich parallel zu und anliegend an einem der elektrischen Leitungselemente (19—23) erstreckt, dadurch gekennzeichnet, daß der Isolierkörper (10) einen jeweiligen Vorsprung (48) aufweist, zum Halten eines jeden Zungenkontaktes (38) und des zugehörigen elektrischen Leitungselementes (22) daran, wobei die Gestaltung auf jedem dieser Zungenkontakte (38) und elektrischen Leitelement (22) eine Öffnung (50) aufweist, durch welche sich

der Vorsprung (48) erstreckt und wobei die Ausgestaltung auf dem weiter vom Isolierkörper (10) entfernt liegenden Zungenkontakt (38) oder elektrischen Leitungselement (22) Widerhaken (52, 54) aufweist, die in den Vorsprung (48) eingreifen können, um sich einem Abziehen zu widersetzen.

2. Lampananordnung nach Anspruch 1, dadurch gekennzeichnet, daß die elektrische Verbindung zwischen jeder Kontaktzunge (38) und dem jeweiligen elektrischen Leitungselement (22) durch ein zweites Zungenteil (44) gebildet wird, welches sich vom Flachteil (42) der Kontaktzunge (38) rechtwinkelig erstreckt und im Eingriff steht mit einem entsprechenden Zungenteil (56), das sich in ähnlicher Weise vom elektrischen Leitungselement (22) aus erstreckt.

3. Lampananordnung nach Anspruch 2, dadurch gekennzeichnet, daß Ausnehmungen (46) im Isolierkörper (10) vorgesehen sind, um jedes der zweiten Zungenteile (44) und entsprechenden Zungenteile (56) aufzunehmen, von denen eines elastisch vorgespannt ist, um gegen das andere Zungenteil zu drücken, welches wiederum gegen die Wandung der Ausnehmung (46) gedrückt wird.

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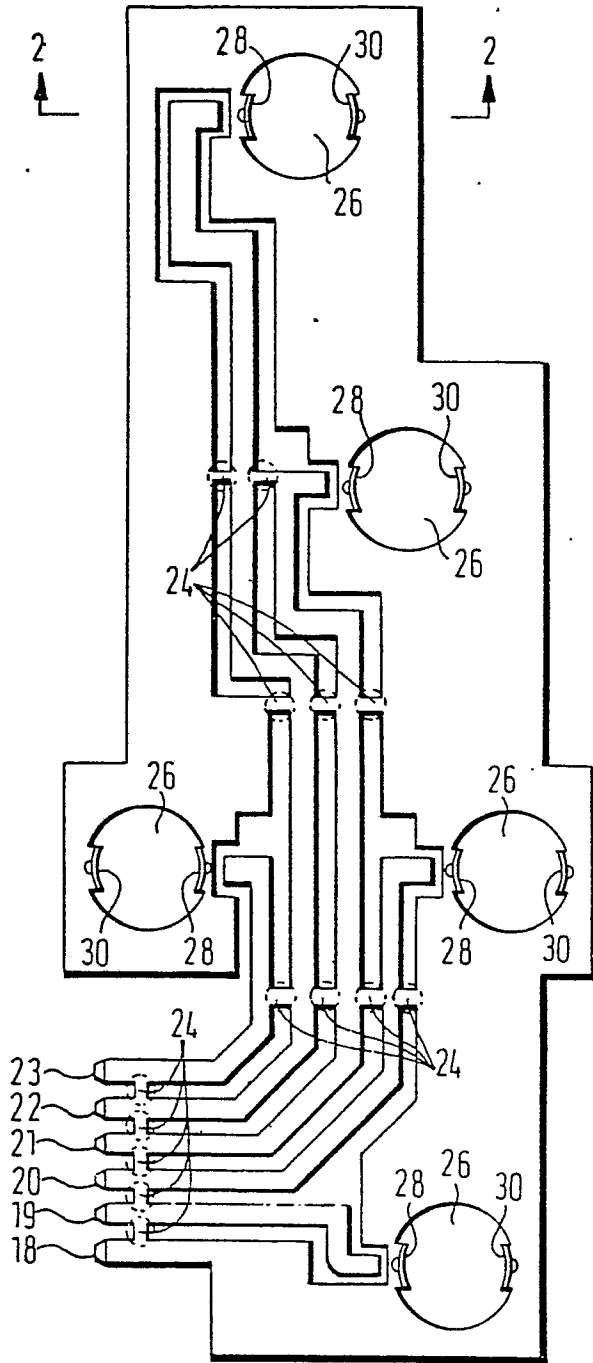


FIG. 1.

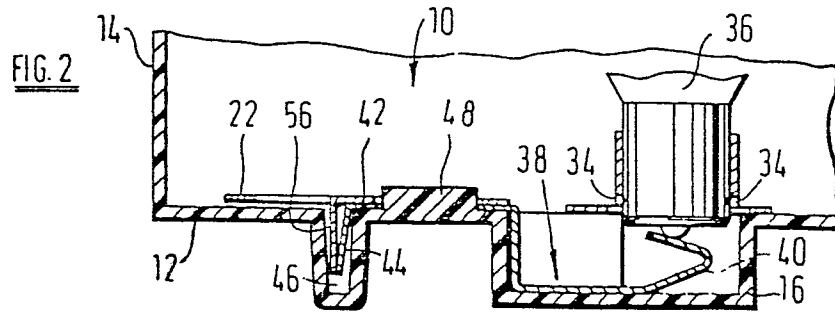


FIG. 2

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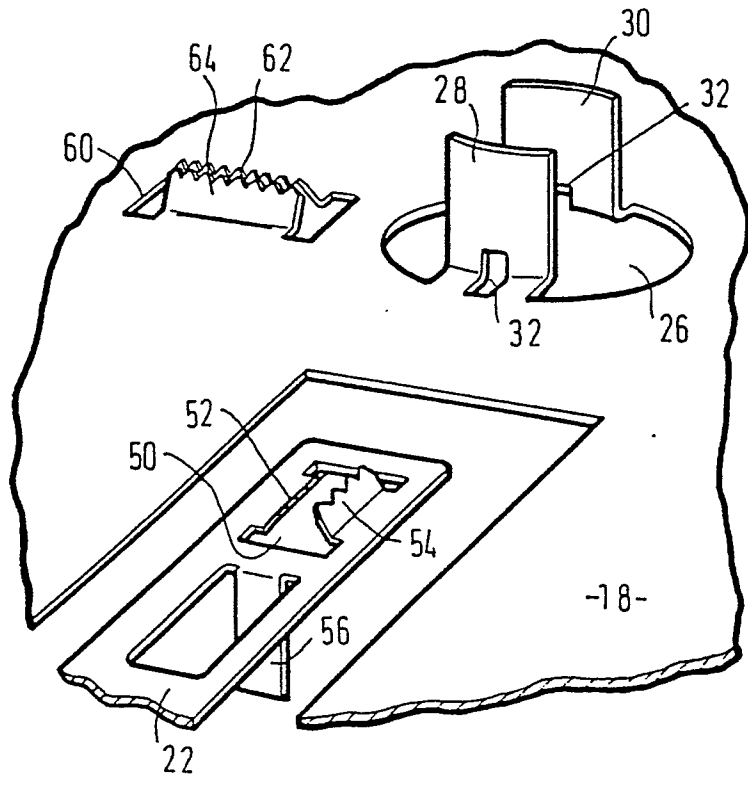


FIG. 3.

