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(54) **Non-bayonet fitting lamp socket for vehicle headlamps**

(57) It has an elongated, cylindrical configuration, there being defined a first and a second cylindrical section, with the first section having a smaller diameter than the second section, and with both having the same central, whereby the first section is arranged so that it carries a lightbulb and is the one that is actually housed into the headlamp housing, the second section being arranged for the passage of cables therethrough and is the one that remains outside the actual body of the headlamp and wherein the second section is provided with holes through which pass the cables for the supplying electricity supply to the lightbulb in the lamp socket, characterised in that it comprises some cone-shaped parts (20), the bases (21) of which are faced to said holes (8) for the passage therethrough of said cables.

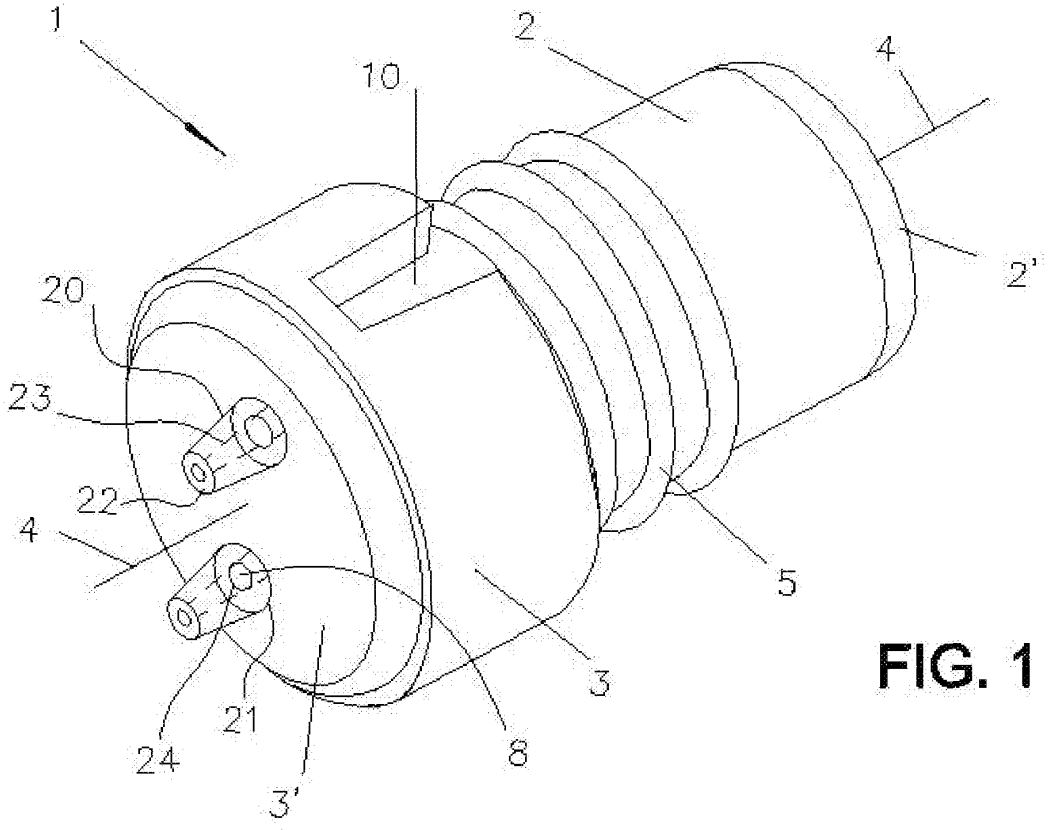

FIG. 1

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Description

[0001] Non-bayonet fitting lamp socket for vehicle headlamps, of the type having an elongated cylindrical configuration, there being defined a first and a second cylindrical section, with the first section having a smaller diameter than the second section, and with both having the same central longitudinal axis of symmetry, and being arranged consecutively one after the other without any continuity solution, whereby the first section is arranged so as to carry a lightbulb and is the one that is actually housed and inserted into the headlamp housing, the second section being arranged for the passage of cables therethrough and is the one that remains outside the actual body of the headlamp and wherein the second section is provided with holes through which pass the cables for supplying electricity to the lightbulb in the lamp socket, characterised in that it has some cone-shaped parts, the bases of which face said holes for the passage therethrough of said cables.

BACKGROUND OF THE INVENTION

[0002] Various lightbulb lamp sockets are known in the state of the art, which are housed in places where they suffer either from the inclemency of the weather, or from humidity.

[0003] So, European Patent No. 1016818 is known, dated 1999, in the name of HUGO SCHNIPPERING GMBH & CO. KG., which relates to a lamp socket made from insulating material for H 7 lamps designed for car vehicle lighting systems, wherein the lamp socket supports connector sockets made from electrically conducting material into which the connection contacts of the H 7 lamp can be inserted, and which lamp socket also supports socket connection means made from electrically conducting material that are each linked in a conducting manner to one of the connector sockets and which can be plugged into or onto the socket connection parts, which are attached to the reflector or the housing of the headlamp that is to be fitted with the lamp socket and which can be attached to connection cables, the connector sockets being supported in a floating manner in the lamp socket, characterised in that the socket connection means are arranged in a radial direction outside the plug-in area of the H 7 lamp, each connector socket is attached to a socket connection means via a jumping cable that is supported elastically and flexibly with partial areas in the bottom of the lamp socket, with the jumping cable being shaped in the connector socket leaving the connection area free, the conformation area having a certain distance at the bottom of the lamp socket, with arms previously curved outwards projecting from the conformation, which arms lie on rest areas like skates on the bottom wall of the lamp socket, with one of the arms being connected integrally to a socket connection part.

[0004] Finally, it is worth mentioning European Patent No. 0683367, dated 1995, in the name of ELECTROLUX ZANUSSI, S.p.A., which relates to an improvement in the lamp socket of a refrigerator. A lamp support attachment is presented for a refrigeration apparatus, in particular a domestic refrigerator or freezer, which comprises one or more refrigerating circuits full of inflammable refrigerating gases and which includes at least a compressor, a condenser, one or more evaporators associated with one or more food storage compartments, with said food storage compartments being lit by at least one incandescent element carried by a respective lamp support attachment, wherein said lamp support attachment has an internal volume that is hermetically sealed and separated from the exterior environment and which has at least one adapted terminal for establishing contact with electrical terminal cables connected to the lamp power supply circuit. Said lamp support attachment has at least one opening, with a movable element being provided inside the opening so that it can close the opening due to the action of a spring element, the movable element also being adapted to move to open the opening due to the action of a terminal that pushes against the mobile element, and at least one contact element that is arranged substantially in line with the opening, which is provided inside the lamp support attachment.

[0005] So, although such lamp sockets have good characteristics for supporting lightbulbs and allowing them to be changed, they suffer from the drawback that they are not sufficiently watertight, either on the side that is actually inside the headlamp where it holds the lightbulb, or on the opposite side where it receives the electricity supply.

[0006] Said drawback proves particularly problematic when it rains, and also in vehicles designed for use in marshy land, or four-wheel drives in general (amphibious vehicles, used by the military, racing vehicles, etc.).

BRIEF DESCRIPTION OF THE UTILITY MODEL

[0007] This invention implies a considerable development in non-bayonet fitting lamp socket for vehicle headlamps.

[0008] The inventor already revolutionised this field with Spanish Utility Model No. U200502671 (ES1061613), which implied completely changing the concept at the time of watertightness in vehicle lamp sockets.

[0009] This application aims at improving said utility model, by increasing the watertightness in the area of the cable outlet holes, while also allowing for the attachment of the lamp socket.

[0010] This is achieved by adding cone-shaped parts to said hole outlets, which, on the one hand, increases watertightness, since the cable is protected and prevented from coming into contact with humidity or liquids, and on the other hand, said cone-shaped parts allow a support to be attached, which performs the function of locking means, thereby enhancing the attachment of the lamp socket inside the headlamp and preventing false cable

contacts or cable erosion.

[0011] In the light of the above, this application implies a double development in the vehicle headlamp lamp socket sector.

[0012] An object of this invention is a non-bayonet fitting lamp socket for vehicle headlamps, of the type having an elongated, cylindrical configuration, there being defined a first and a second cylindrical section, with the first section having a smaller diameter than the second section, and with both having the same central longitudinal axis of symmetry, and being arranged consecutively one after the other without a solution of continuity, whereby the first section is arranged so that it carries a lightbulb and is the one that is actually housed and inserted into the headlamp housing, the second section being arranged for the passage of cables therethrough and is the one that remains outside the actual body of the headlamp and wherein the second section is provided with holes through which pass the cables for supplying electricity to the lightbulb in the lamp socket, characterised in that it comprises some cone-shaped parts, the bases of which are faced to said holes for the passage therethrough of said cables.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013] In order to facilitate the explanation of this invention, two sheets of drawings are attached to this description, which represent a practical embodiment, which is proposed as a non-limiting example of the scope of this invention.

- Figure 1 is a perspective view of the lamp socket of the invention, and
- Figure 2 is a side view of the lamp socket.

PARTICULAR EMBODIMENT OF THE PATENT UNDER APPLICATION

[0014] So Figure 1 illustrates the lamp socket 1, the first section 2 and the second section 3 thereof, and the respective ends thereof 2' and 3', the central longitudinal axis 4 of symmetry thereof, the grooves 5 of the first section 2, a cavity 10 and the holes 8 in the end 3' of the section 3.

[0015] Figure 2 shows the lamp socket 1, sections 2 and 3 thereof, and the respective ends thereof 2' and 3', the central longitudinal axis 4 of symmetry thereof, and the grooves 5 of the section 2.

[0016] In a particular embodiment, and as can be seen in Figures 1 and 2, the lamp socket 1 of the invention has an elongated, cylindrical constitutional shape, with the two sections 2 and 3 having different diameters, but with one and the same central longitudinal axis 4 of symmetry.

[0017] The larger diameter section 2 carries the lightbulb attached and positioned in the end 2' of the first section thereof 2.

[0018] The cavities 10 (Figure 1) are to anchor the lamp socket in the contrary container, and also to prevent the lamp socket from rotating and this way the lightbulb filament is always arranged in the same position, which is very important to ensure that the correct lighting lux are provided.

[0019] The second section 3 has cone-shaped parts 20, with the bases 21 of said cone-shaped parts facing said holes 8 for the passage therethrough of said cables.

[0020] This means that when the cable is passed therethrough, the watertightness of the wiring is increased, because it is difficult for water and other elements to enter inside hole 8, and at the same time it acts as a means for attaching the lamp socket and prevents it from moving inside the headlamp.

[0021] In this embodiment it has been chosen that the cone-shaped parts 20 have a frustum of cone shape. This is because, on the one hand, this facilitates said locking action and, on the other hand, prevents water or various agents from being retained inside the cone, in other words, it stops said water or agents from being retained in the top base 22 of the cone 20 because, as it has a conical shape, said water and agents slide off said top base 22.

[0022] So the cables are guided inside the lamp socket as far as the holes 8 and then from the bottom base 21 to the top base 22 of the frustum of cone-shaped part along a passageway 23 provided for this purpose.

[0023] The passageway, which is also to facilitate the watertightness, can have a frustum of cone shape, since the lower base 24 of the frustum of cone-shaped part of the passageway 23 lies on the lower base 21 of the cone-shaped part 20 and the passageway 23 also lies facing the hole 8.

[0024] This patent describes a new non-bayonet fitting lamp socket for vehicle headlamps. The examples cited herein do not limit this invention, and therefore said invention can have various applications and/or adaptations, all of which are included within the scope of the following claims.

Claims

1. Non-bayonet fitting lamp socket for vehicle headlamps, of the type having an elongated, cylindrical configuration, there being defined a first (2) and a second (3) cylindrical section, with the first section (2) having a smaller diameter than the second section (3), and with both having the same central longitudinal axis (4) of symmetry, and being arranged consecutively one after the other without a solution of continuity, whereby the first section (2) is arranged so that it carries a lightbulb and is the one that is actually housed and inserted into the headlamp housing, the second section (3) being arranged for the passage of cables therethrough and is the one that remains outside the actual body of the headlamp and wherein the second section (3) is provided with

holes (8) through which pass the cables for the supplying electricity to the lightbulb in the lamp socket (1), **characterised in that** it comprises some cone-shaped parts (20), the bases (21) of which face said holes (8) for the passage therethrough of said cables.

2. Lamp socket according to claim 1, **characterised in that** the cone-shaped parts (20) are a frustum of cone, defining a top base (22) and a bottom base (21).

3. Lamp socket according to claim 2, **characterised in that** the cables are guided from the bottom base (21) to the top base of the frustum of cone-shaped part by means of a passageway (23).

4. Lamp socket according to claim 3, **characterised in that** the passageway has a frustum of cone shape, with the bottom base (24) of the frustum of cone passageway (23) lying over the bottom base (21) of the cone-shaped part (20).

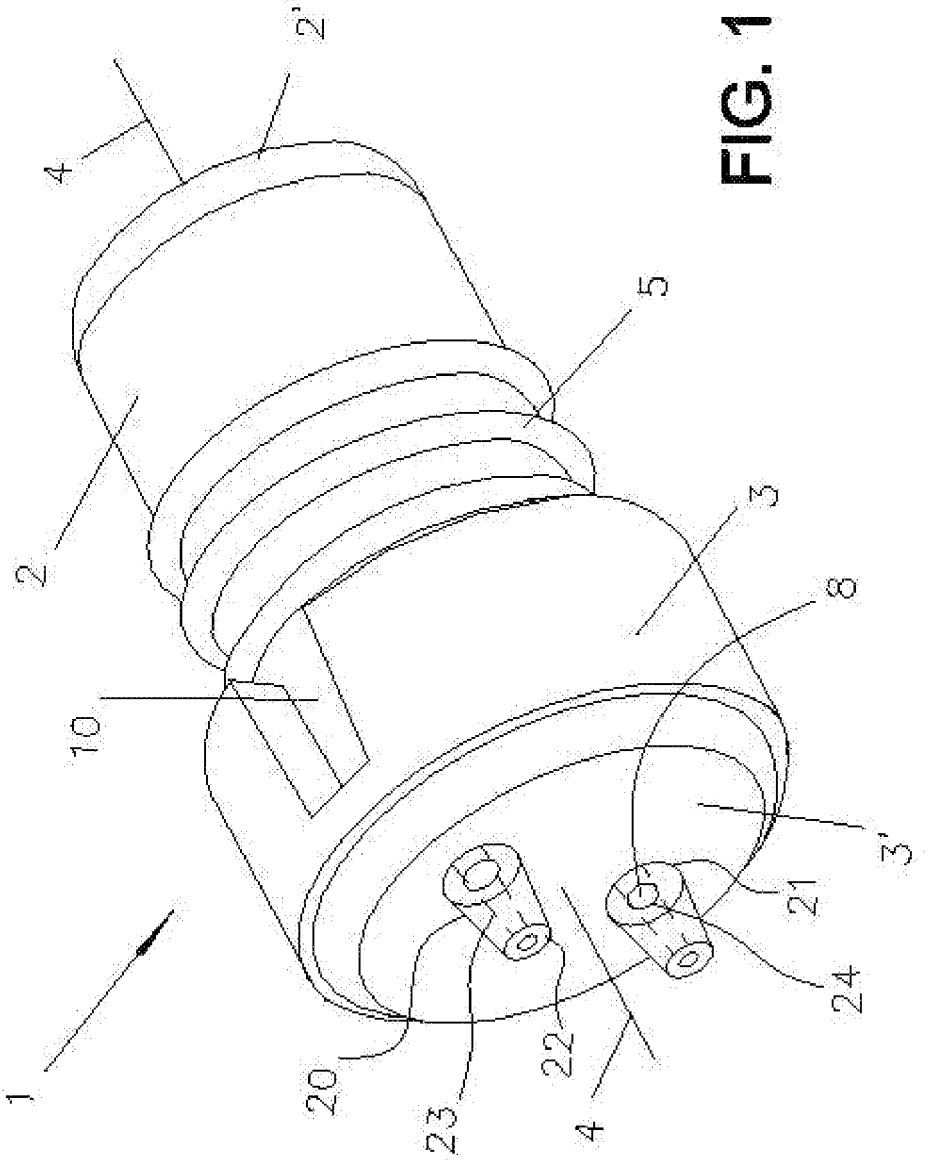

FIG. 1

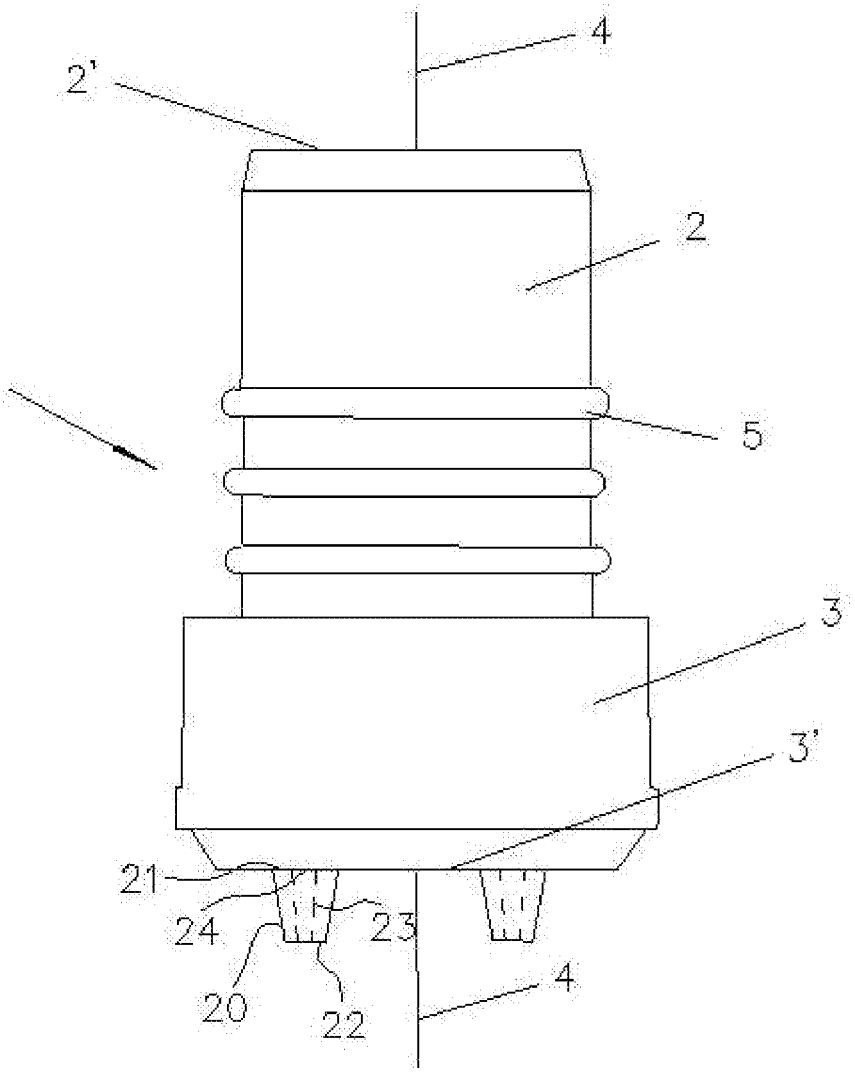

FIG. 2

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 07 38 1058

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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	11 December 2007	Criqui, Jean-Jacques

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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EPO FORM 1503 03.82 (P04C01)

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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

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