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(54) Improved lampholder for a vehicle headlight

Verbesserte Lampenhalterung für eine Fahrzeug- Frontlampe

Porte-lampe amélioré pour projecteur de véhicule

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EP 2 014 971 B1

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Description

[0001] The present invention relates to an improved lampholder for a vehicle light (for example a headlight), of the type in which a collar, normally coaxial with an optical axis of a corresponding reflector of the headlight, houses, inside a seat in the reflector, a light source (e.g. a lamp) having a flange-shaped mounting base.

[0002] A lampholder of the above type is known, for example, from patent documents FR-A-2726631 and US-A-4872096, in which the lamp or other light source is retained in the desired position, with the base resting against an inner shoulder of the collar, by retaining means comprising a fork- or frame-shaped spring, which is articulated at a first end on the collar or a portion close to the collar and releasably engages, e.g. by means of a latch mechanism and with a second end opposite the first, a retainer (tooth or seat) on the collar.

[0003] Such known devices have the disadvantage of being relatively bulky and expensive and of involving awkward operations for attaching and releasing the spring to and from the retainer, which operations essentially have to be performed blind; another point to bear in mind is the effort required of the user to attach and release an elastic spring element such as said fork- or frame-shaped spring.

[0004] The lampholder described in patent document EP-B-0855551 does not solve these problems, in that it requires in any way the use of a spring of the type described above as a safety lock and also because the element provided with flexible arms mounted on the collar to retain the base of the lamp is a complex structure with relatively large axial and radial dimensions and, above all, it involves cooperation with the lamp base for locking it to the collar, which prevents accurate positioning of the lamp, particularly in the direction of the optical axis, in relation to the reflector. Likewise, DE19922298A1 describes the features of the preamble of claim 1, but involves the use of additional fastening elements and EP0390316 involve a large radial bulk and a repetitive operation.

[0005] The object of the present invention is to overcome the drawbacks described above, by providing a lampholder for a vehicle headlight of the type employing a light source with a flange-shaped mounting base, which provides for low-cost production and assembly of both the actual lampholder and the light source, e.g. incandescent, halogen, or discharge lamp, is easy to manoeuvre in confined spaces, in particular during operations to assemble and remove the lamp, and that is compact and highly reliable.

[0006] The present invention therefore relates to a lampholder for a vehicle headlight comprising a collar suitable to receive a light source provided with a flange-shaped mounting base, as claimed in claim 1.

[0007] In particular, the collar, which is operationally coupled, in use, to a reflector and is essentially coaxial with an optical axis of said reflector, comprises retaining

means for the base that, according to one aspect of the invention, consist of at least one elastic member fitted, in use, with a mounting portion thereof so as to straddle a rear edge of the collar to grip the latter radially on opposite sides, and having an elastically deformable arm extending in a cantilevered fashion from the mounting portion and obliquely in relation to the optical axis radially inside the collar, so as to interfere, in use, with the base.

[0008] The device according to the invention is also characterized in that said mounting portion is provided with means to cling it to a respective inner and/or outer lateral surface of the collar, consisting of respective radially innermost projecting parts of the mounting portion made of a harder material than that used to produce the collar and that, in use, face and interfere with the inner and/or outer lateral surfaces of the collar.

[0009] In this way, the light source is retained with precision, in a simple manner and with reduced overall dimensions by means of a plurality of the elastic members of the type described above, preferably three arranged at 120°, which can be formed as separate members without affecting the reliability of the overall device, and are capable of effectively retaining the lamp in the reflector seat, inside the collar, without the need for a frame-shaped spring that has to be attached and released.

[0010] Moreover, the elastically deformable arm extending in a cantilevered fashion from the mounting portion has a free end that, in a radial plane with respect to the collar, is V-shaped with its vertex, in use, facing the part opposite the rear edge of the collar and subtending an angle of more than 90°, the bisecting line of which is essentially perpendicular to the plane in which the arm lies. In combination, the base of the light source is also provided radially on the outside with a fin housed, in use, in a radial recess in the collar, which extends to interrupt the continuity of the rear edge thereof.

[0011] This means unlocking and locking the base in the collar is an extremely simple and convenient operation, as the user simply uses a fingertip to press the lateral fin on the base to tilt it obliquely to the collar and thus unlatch or latch the V-shaped ends of the arms of the elastic members from/to the outside edge of the base.

[0012] The V-shaped ends of the arms of the elastic members can also be unlatched or latched from/to the outside edge of the base by pressing the base or the lamp connector crosswise to or along the optical axis.

[0013] Further characteristics and advantages of the present invention will become clear from the following description of a non-limiting embodiment thereof, with reference to the drawings attached hereto, in which:

- figure 1 shows a three-quarter rear view in perspective of a lampholder according to the invention, without the lamp fitted;
- figure 2 shows the same view of the device in figure 1, on the same scale, in a different operating position;
- figure 3 shows a larger-scale three-quarter front view in perspective of an essential component of the de-

vice of figure 1;

- figure 4 shows an elevation and reduced-scale view of the component in figure 3; and
- figure 5 shows the same view of the lampholder of figure 1 with a lamp fitted.

[0014] With reference to figures 1 to 5, number 1 indicates as a whole a lampholder for a vehicle light of a known type that is not illustrated, for example a headlight; the lampholder 1 comprises an annular collar 10 which is operationally coupled, in use, to a reflector 3 of a known kind; the collar 10 is essentially coaxial with an optical axis A of said reflector 3 (figure 5) and is preferably formed in one piece with the reflector 3, in a way that is known to the person skilled in the art; however, according to possible variations that are not illustrated here and which are obvious to the person skilled in the art, the collar 10 could also be formed as a separate part from the reflector 3, e.g. it could be part of the headlight casing, or it could be an additional separate element, mountable on the casing or on the reflector 3, provided it is mounted in a fixed and certain position with respect to the reflector 3 and, especially, to the optical axis A.

[0015] The collar 10 is suitable to receive, in a specific seat 9 of the reflector 3, (figure 2) a light source which, in the example shown, consists of a lamp 5, provided with a flange-shaped mounting base 6 (figure 5), coupling, in use, inside and on the collar 10, coaxially with respect to the optical axis A, as described later on in this document.

[0016] The device 1 also comprises retaining means, indicated as a whole by number 11, which are operatively coupled, in use, to the collar 10 to cooperate with the base 6 so as to lock the light source 5 in the collar 10 in the direction of the optical axis A; for that purpose, the collar 10 is provided, radially on the inside with respect to the optical axis A and in correspondence with a front end 12 thereof, with stop means 20 (figures 1 and 2) for the base 6, consisting of an annular projecting part radially inside the collar 10 and against which, in use, the base 6 is maintained in contact by the retaining means 11 to establish a predefined position of the light source 5 with respect to a focus (not illustrated for the sake of simplicity) of the reflector 3.

[0017] According to a first aspect of the invention, the retaining means 11 consist of at least one elastic member 21, in the example shown said means consist of at least three elastic members 21 essentially arranged at an equal distance from one another and formed as separate elements. In use, the elastic members 21 are each fitted in correspondence with a rear edge 14 of the collar, e.g. arranged at intervals of approx 120°, by means of respective mounting portions 22 suitable to be coupled, directly or indirectly, to the rear edge 14 of the collar 10 so as to straddle thereupon to grip the same radially on opposite sides.

[0018] Moreover, each elastic member 21 has an elastically deformable arm 23 extending in a cantilevered

fashion from the mounting portion 22 so that, in use, it is arranged obliquely with respect to the optical axis A and extends radially inside the collar 10, so as to interfere, in use, with the base 6, as explained later on.

[0019] In the example shown, instead of being fitted so as to directly straddle the rear edge 14, on the side opposite the front end 12 of the base 10, the members 21 are fitted so as to straddle respective rear edges 14a (figures 1 and 2) of respective circumferential seats 24 for radially housing the mounting portion 22 of each elastic member 21, said seats 24 being formed as an integral part of the collar 10, as extensions thereof and of its rear edge 14, with respect to which, in the non-limiting example shown, the portions of edge 14a are raised, in that they are further from the front end 12 than the rest of the edge 14.

[0020] Each seat 24 is also provided, on a lateral and cylindrical surface 25 radially outside the collar 10, with a projecting member 26 for a rim 27 of the mounting portion 22 of each elastic member 21.

[0021] In particular, the mounting portion 22 of each elastic member 21 is essentially U-shaped in a radial plane with respect to the collar 10 and to the optical axis A with which the collar 10 is essentially coaxial and is delimited, on the side opposite the arm 23 by the rim 27, which is arranged at least partially opposite the elastic arm 23 in the direction of the optical axis A; moreover, the rim 27 is provided with at least one fin 28 (in the example shown it is provided with a pair of fins 28 that flank the elastic arm 23 on opposite sides thereof), extending in a cantilevered fashion from the opposite side of the arm 23 and, thus, in use, radially on the outside with respect to the collar 10, and suitable, in use, to come up against the projecting member 26 of a corresponding seat 24 to ensure the correct axial position of the member 21 and its arm 23 along the axis A.

[0022] To avoid the possibility of assembling the elastic members 21 incorrectly, the collar 10 is provided radially on the inside, on a cylindrical inner lateral surface 29 thereof, and in the example shown in correspondence with each seat 24, with at least one axial projecting part 30 (figure 2) protruding from the inner lateral surface 29 and suitable to cooperate with the rim 27, if the member 21 is mounted in reverse as illustrated in figure 2, with respect to the correct position illustrated in figure 1, to prevent the elastic member 21 from being mounted so as to straddle the rear edge 14 (in the example shown the portions of edge 14a of the seats 24) of the collar 10 when the rim 27 is radially facing the inside of said collar 10.

[0023] According to a further aspect of the invention, the mounting portion 22 is provided with means 40 (figures 3 and 4) to cling it to the respective inner 29 and/or outer 25 lateral surface of the collar 10, and in the example shown of the corresponding seats 24 thereof.

[0024] In particular, at least the collar 10 (normally the entire reflector 3 integral therewith) is made of a relatively soft synthetic plastic material, while the clinging means

40 consist of respective projecting parts 41, 42 radially inside the mounting portion 22 made of a harder material than that used to make the collar 10 and so that, in use, they face to, and interfere with, the inner 29 and/or outer 25 lateral surfaces of the collar 10, i.e. of the seats 24 thereof.

[0025] In the non-limiting embodiment shown, the projecting parts 41, 42 consist of elastically deformable pointed fins, which extend obliquely and in a cantilevered fashion from the mounting portion 22 radially towards said lateral surfaces, that is the inner surface 29 for the fins 41 and the outer surface 25 for the fin 42, in an opposite direction to that in which the mounting portion 22 is inserted on the rear edge 14 of the collar 10, and in the example shown on the portions of edge 14a of the seats 24. In this way, in use, the pointed fins 41, 42 are also able to partially cut into the surfaces 29, 25 and stick into the collar 10, thus securely and reliably anchoring the members 21 thereto.

[0026] According to another aspect of the invention, the elastically deformable arm 23 extending in a cantilevered fashion from the mounting portion 22 has a free end 50 that is V-shaped in a radial plane with respect to the collar 10 and lies so that, in use, its vertex faces the part opposite the rear edge 14 of the collar 10; the V formed by the free end 50 of each arm 23 subtending an angle α equal to or greater than 90° between two sides 51 and 52 of the V and a bisecting line B thereof, at an equal distance from the sides 51 and 52, is essentially perpendicular to the plane in which the arm 23 lies, as illustrated in figure 4.

[0027] In the non-limiting but preferred embodiment shown, the elastic member 21 (figures 3 and 4) consists of a flat metal sheet 60 cut and folded to form the mounting portion 22 and the elastically deformable arm 23; in particular, the flat metal sheet 60 comprises two lateral portions 61 and 62 and a central portion 63, which are rectilinear and arranged side by side parallel to one another, joined together at corresponding first ends by means of a common root portion 64 which extends crosswise in relation to said portions; the lateral portions 61, 62 are folded in a U-shape outside the plane in which they lie and towards the common root portion 64 to form therewith the mounting portion 22, while the central portion 63 is longer than the lateral portions 61, 62 and is folded in an asymmetrical V-shape outside the plane in which it lies and towards the common root portion 64 to form the elastically deformable arm 23 extending in a cantilevered fashion from the mounting portion 22.

[0028] The latter is also delimited, on the side opposite the rim 27, by an edge 66 defined by second ends of the portions 61, 62, opposite the first ends and the common root portion 64, which edge 66 is interrupted in correspondence with the elastically deformable arm 23 and which is provided, laterally on the sides of the arm 23, with respective fins 67, 68, in use extending obliquely in a cantilevered fashion and radially on the inside with respect to the collar 10 and in the direction in which the

mounting portion 22 is inserted on the collar 10.

[0029] Lastly, the base 6 of the light source 5 is provided radially on the outside with at least one fin 70 (in the example shown with more than one fin 70) housed, in use, in a corresponding radial recess 71 in the collar 10 which extends to interrupt the continuity of the rear edge 14 thereof and which is arranged on the collar 10 in a position diametrically opposite one of the elastic members 21; in the example shown, there are three fins 70 essentially arranged at intervals of 120° and there are three recesses 71 on the collar 10 which are also essentially arranged at equal distances from one another and in correspondence with the portions of the edge 14 between the seats 24.

[0030] When the lamp 5 is inserted in its seat inside the collar 10, the base 6 interferes with the intermediate portion of the arm 23, between the mounting portion 22 and the end 50, which extends towards the inside of the lamp seat 9.

[0031] Proceeding with the insertion of the lamp 5 in the collar 10, the base 6 makes the arm 23 bend up to a point in which the base 6 is able to move past it and continue until it rests against the annular shoulder 20.

[0032] In this position, the arm 23 tends to re-assume its original position, but this movement is prevented as the end 50 comes up against the rear part of the base 6, locking the lamp 5 in the seat 9 and inside the collar 10, both laterally and axially.

[0033] If the end 50 is V-shaped, as described previously, it is the part of the arm 23 between the sides 51 and 52 that comes to rest against the outside edge of the base 6 to lock the lamp 5; however, in that case it is easier for the user to unlock the lamp 5, simply using a fingertip to raise one of the fins 70, so that the arms 23 bend, as the latter then push the base 6 into the release position, with a kind of "snapon" mechanism.

[0034] For that purpose, to facilitate the radial bending of the arms 23, the portions 14a of edge of the seats 24 are provided with radial grooves 90 arranged, in use, exactly opposite the position occupied by the arms 23.

Claims

1. Lampholder (1) for a vehicle light of the type comprising an annular collar (10) operatively coupled, in use, to a reflector (3) essentially coaxial with an optical axis (A) thereof and suitable to receive a light source (5) provided with a flange-shaped mounting base (6); and retaining means (11) operatively coupled, in use, to the collar to cooperate with the base to lock the light source in the collar, in the direction of the optical axis; wherein the collar is provided, radially on the inside with respect to the optical axis and in correspondence with a front end thereof, with stop means (20) for the base against which, in use, the base is maintained in contact by the retaining means so as to establish a predefined position of the

- light source (5) with respect to a focus of the reflector; wherein the retaining means (11) consist of at least one elastic member (21) fitted, in use, with a mounting portion (22) thereof straddling a rear edge (14; 14a) of the collar to grip the latter radially on opposite sides, and having an elastically deformable arm (23) extending in a cantilevered fashion from the mounting portion and obliquely in relation to the optical axis (A) radially inside the collar, so as to interfere, in use, with the base; **characterized in that** the elastic member (21) consists of a flat metal sheet (60) cut and folded to form said mounting portion (22) and said elastically deformable arm (23); said flat metal sheet comprising two lateral portions (61,62) and a central portion (63), which are rectilinear and arranged side by side parallel to one another, joined together at corresponding first ends by means of a common root portion (64) which extends crosswise in relation to said portions; the lateral portions (61,62) being folded in a U-shape outside the plane in which they lie and towards the common root portion (64) to form therewith said mounting portion (22) and said central portion (63) being longer than the lateral portions and folded in an asymmetrical V-shape outside the plane in which it lies and towards the common root portion (64) to form said elastically deformable arm (23) extending in a cantilevered fashion from the mounting portion.
2. Device according to claim 1, **characterized in that** said mounting portion (22) is provided with means (40) to cling it to a respective inner and/or outer lateral surface of the collar.
 3. Device according to claim 2, **characterized in that** at least said collar (10) is made of a synthetic plastic material; and **in that** said clinging means (40) consist of respective radially innermost projecting parts (41,42) of the mounting portion made of a harder material than that used to make the collar and that, in use, face to and interfere with said inner and/or outer lateral surfaces of the collar.
 4. Device according to claim 3, **characterized in that** said projecting parts consist of elastically deformable fins (41,42) that extend obliquely in a cantilevered fashion from the mounting portion (22) radially towards said inner and/or outer lateral surfaces of said collar and in the opposite direction to that in which the mounting portion is inserted on said rear edge of said collar (10).
 5. Device according to any one of the previous claims, **characterized in that** said elastically deformable arm (23) extending in a cantilevered fashion from the mounting portion (22) has a free end (50) that is V-shaped in a radial plane with respect to said collar (10) and is arranged so that, in use, its vertex faces the side opposite said rear edge (14;14a) of the collar and subtends an angle (α) of more than 90°; the bisecting line of said angle subtended by the vertex of the V formed by the free end of the elastically deformable arm being essentially perpendicular to the plane in which the latter lies.
 6. Device according to any one of the previous claims, **characterized in that** said mounting portion (22) has a rim (27) on the side opposite said elastically deformable arm (23) and at least partially facing the latter in the direction of the optical axis; said collar (10) being provided radially on the inside with at least one axial projecting part (30) extending from its inner lateral surface and suitable to cooperate with the rim (27) to prevent the elastic member from being assembled so as to straddle the rear edge (14;14a) of the collar when said rim (27) radially facing the inside of the collar (10).
 7. Device according to claim 6, **characterized in that** said collar (10) is provided with at least one circumferential seat (24) for radially housing the mounting portion (22) of said at least one elastic member, said seat (24) being provided on the side of the radially external lateral surface of the collar with a projecting part (26) for the rim (27); the latter being provided with at least one fin (28) extending in a cantilevered fashion radially on the outside with respect to the collar (10) and suitable to rest, in use, against the projecting part (26).
 8. Device according to claim 6 or 7, **characterized in that** said mounting portion (22) is delimited, on the side opposite said rim (27), by an edge (66) that is interrupted in correspondence with the elastically deformable arm (23) and which is provided, on the sides of the elastically deformable arm, with respective fins (67,68) extending obliquely in a cantilevered fashion radially on the inside with respect to the collar and in the direction in which the mounting portion (22) is inserted on the collar.
 9. Device according to any one of the previous claims, **characterized in that** said base of the light source is provided radially on the outside with a fin (70) housed, in use, in a radial recess (71) in the collar, which extends to interrupt the continuity of the rear edge thereof.
 10. Device according to claim 9, **characterized in that** said retaining means comprise at least three of said elastic members (21), formed as separate elements and fitted on the rear edge of the collar (10) essentially at an equal distance from one another; said radial recess (71) for housing said fin (70) of the base being arranged on the collar in a position diametrically opposite one of said elastic members (21).

11. Device according to any one of the previous claims, **characterized in that** said collar (10) is formed integrally with the reflector.

Patentansprüche

1. Lampenhalterung (1) für eine Fahrzeuglampe von der Art, die aufweist einen ringförmigen Kragen (10), der im Einsatz funktional mit einem Reflektor (3) gekoppelt ist, der im Wesentlichen coaxial mit einer optischen Achse (A) davon ist und geeignet ist, eine Lichtquelle (5) aufzunehmen, die mit einem flanschförmigen Montagesockel (6) versehen ist; und eine Festhalteeinrichtung (11), die im Einsatz funktional mit dem Kragen verbunden ist, um gemeinsam mit dem Sockel die Lichtquelle im Kragen in der Richtung der optischen Achse zu arretieren; bei welcher der Kragen radial auf der Innenseite in Bezug auf die optische Achse und entsprechend einem vorderen Ende davon mit einer Anschlageneinrichtung (20) für den Sockel versehen ist, an welcher der Sockel im Einsatz von der Festhalteeinrichtung im Kontakt gehalten wird, um eine vordefinierte Stellung der Lichtquelle (5) in Bezug auf einen Brennpunkt des Reflektors herbeizuführen; bei welcher die Festhalteeinrichtung (11) aus mindestens einem elastischen Element (21) besteht, das im Einsatz mit einem Montageteil (22) davon angebracht ist, wobei es eine hintere Kante (14; 14a) des Kragens überspannt, um Letzteren radial an gegenüberliegenden Seiten zu ergreifen, und einen elastisch verformbaren Arm (23) besitzt, der sich vom Montageteil aus überkragend und schräg in Bezug auf die optische Achse (A) radial im Inneren des Kragens erstreckt, um im Einsatz den Sockel zu überlagern, **dadurch gekennzeichnet, dass** das elastische Element (21) aus einem flachen Metallblech (60) besteht, das so geschnitten und gefaltet ist, dass es den Montageteil (22) und den elastisch verformbaren Arm (23) bildet; wobei das flache Metallblech zwei seitliche Teile (61, 62) und einen mittleren Teil (63) aufweist, die geradlinig sind und Seite an Seite parallel zueinander angeordnet sind, an entsprechenden ersten Enden mittels eines gemeinsamen Wurzelteils (64) zusammengefügt, der sich kreuzartig in Bezug auf die genannten Teile erstreckt; wobei die seitlichen Teile (61, 62) U-förmig außerhalb der Ebene, in der sie liegen, und in Richtung des gemeinsamen Wurzelteils (64) gefaltet sind, um hiermit den Montageteil (22) zu bilden, und wobei der mittlere Teil (63) länger ist als die seitlichen Teile und in einer asymmetrischen V-Form außerhalb der Ebene, in der er liegt, und in Richtung des gemeinsamen Wurzelteils (64) gefaltet ist, um den elastisch verformbaren Arm (23) zu bilden, der sich vom Montageteil aus überkragend erstreckt.

2. Vorrichtung gemäß Anspruch 1, **dadurch gekennzeichnet, dass** der Montageteil (22) mit einer Einrichtung (40) versehen ist, um ihn an einer entsprechenden inneren und/oder äußeren Fläche des Kragens festzuhalten.
3. Vorrichtung gemäß Anspruch 2, **dadurch gekennzeichnet, dass** mindestens der Kragen (10) aus einem synthetischen Kunststoffmaterial hergestellt ist; und dadurch, dass die Festhalteeinrichtung (40) aus entsprechenden, radial am weitesten nach innen vorspringenden Teilen (41, 42) des Montageteils besteht, die aus einem härteren Material hergestellt sind als dasjenige, welches zum Herstellen des Kragens verwendet wird, und die im Einsatz den inneren und/oder äußeren seitlichen Flächen des Kragens zugewandt sind und sie überlagern.
4. Vorrichtung gemäß Anspruch 3, **dadurch gekennzeichnet, dass** die vorspringenden Teile aus elastisch verformbaren Stegen (41, 42) bestehen, die sich schräg überkragend vom Montageteil (22) aus radial in Richtung der inneren und/oder äußeren seitlichen Flächen des Kragens und entgegen der Richtung erstrecken, in welcher der Montageteil auf der hinteren Kante des Kragens (10) eingesetzt wird.
5. Vorrichtung gemäß irgendeinem der vorigen Ansprüche, **dadurch gekennzeichnet, dass** der elastisch verformbare Arm (23), der sich vom Montageteil (22) aus überkragend erstreckt, ein freies Ende (50) besitzt, das in einer radialen Ebene in Bezug auf den Kragen (10) V-förmig ist und so angeordnet ist, dass im Einsatz sein Scheitel der Seite gegenüber der hinteren Kante (14; 14a) des Kragens zugewandt ist und einem Winkel ($\bullet$) von mehr als 90° gegenüberliegt; wobei die Halbierende des Winkels gegenüber dem Scheitel des V, das vom freien Ende des elastisch verformbaren Arms gebildet wird, im Wesentlichen senkrecht zu der Ebene ist, in welcher der Letztere liegt.
6. Vorrichtung gemäß irgendeinem der vorigen Ansprüche, **dadurch gekennzeichnet, dass** der Montageteil (22) einen Rand (27) auf der Seite gegenüber dem elastisch verformbaren Arm (23), und mindestens teilweise dem Letzteren in der Richtung der optischen Achse zugewandt, besitzt; wobei der Kragen (10) radial auf der Innenseite mit mindestens einem axialen vorspringenden Teil (30) versehen ist, der sich von seiner inneren seitlichen Fläche aus erstreckt und geeignet ist, gemeinsam mit dem Rand (27) zu verhindern, dass das elastische Element so zusammengebaut wird, dass es die hintere Kante (14; 14a) des Kragens überspannt, wenn der Rand (27) der Innenseite des Kragens (10) radial zugewandt ist.

7. Vorrichtung gemäß Anspruch 6, **dadurch gekennzeichnet, dass** der Kragen (10) mit mindestens einem umlaufenden Sitz (24) versehen ist, um den Montageteil (22) des mindestens einen elastischen Elements radial aufzunehmen, wobei der Sitz (24) auf der Seite der radial äußeren, seitlichen Fläche des Kragens mit einem vorspringenden Teil (26) für den Rand (27) versehen ist; wobei Letzterer mit mindestens einem Steg (28) versehen ist, der sich radial überkragend auf der Außenseite in Bezug auf den Kragen (10) erstreckt und geeignet ist, im Einsatz am vorspringenden Teil (26) aufzuliegen. 5
8. Vorrichtung gemäß Anspruch 6 oder 7, **dadurch gekennzeichnet, dass** der Montageteil (22) auf der Seite gegenüber dem Rand (27) von einer Kante (66) begrenzt wird, die entsprechend dem elastisch verformbaren Arm (23) unterbrochen ist, und die auf den Seiten des elastisch verformbaren Arms mit entsprechenden Stegen (67, 68) versehen ist, die sich schräg überkragend radial auf der Innenseite in Bezug auf den Kragen und in die Richtung, in welcher der Montageteil (22) auf dem Kragen eingesetzt wird, erstrecken. 10
9. Vorrichtung gemäß irgendeinem der vorigen Ansprüche, **dadurch gekennzeichnet, dass** der Sockel der Lichtquelle radial auf der Außenseite mit einem Steg (70) versehen ist, der im Einsatz in eine radiale Vertiefung (71) im Kragen aufgenommen wird, die in ihrem Verlauf die durchgängige hintere Kante davon unterbricht. 20
10. Vorrichtung gemäß Anspruch 9, **dadurch gekennzeichnet, dass** die Festhalteeinrichtung mindestens drei der elastischen Elemente (21) aufweist, die als separate Elemente gebildet werden und an der hinteren Kante des Kragens (10) im Wesentlichen im gleichen Abstand voneinander angebracht sind; wobei die radiale Vertiefung (71) zum Aufnehmen des Stegs (70) des Sockels auf dem Kragen in einer Stellung diametral gegenüber einem der elastischen Elemente (21) angeordnet ist. 25
11. Vorrichtung gemäß irgendeinem der vorigen Ansprüche, **dadurch gekennzeichnet, dass** der Kragen (10) in einem Stück mit dem Reflektor gebildet wird. 30

Revendications

1. Douille (1) pour feu de véhicule, du type comprenant une bague annulaire (10) qui, en utilisation, est accouplée fonctionnellement à un réflecteur (3), sensiblement coaxialement à un axe optique (A) de ce dernier, et qui est appropriée pour recevoir une source lumineuse (5) munie d'une base de montage (6) 55

en forme de collerette ; et des moyens de retenue (11) qui, en utilisation, sont accouplés fonctionnellement à la bague pour coopérer avec la base afin de verrouiller la source lumineuse dans la bague, dans la direction de l'axe optique ; dans laquelle la bague est munie, radialement à l'intérieur par rapport à l'axe optique et au droit de son extrémité avant, de moyens d'arrêt (20) pour la base, contre lesquels, en utilisation, la bague est maintenue en contact par les moyens de retenue de manière à établir une position prédéfinie de la source lumineuse (5) par rapport au foyer du réflecteur ; dans laquelle les moyens de retenue (11) sont constitués par au moins un élément élastique (21) qui, en utilisation, est monté, avec sa partie de montage (22) à cheval sur le bord arrière (14 ; 14a) de la bague pour pincer ce dernier radialement sur des côtés opposés, et qui possède un bras élastiquement déformable (23) qui s'étend en porte-à-faux à partir de la partie de montage et obliquement par rapport à l'axe optique (A), radialement à l'intérieur de la bague, de manière à être à serrage par rapport à la base en utilisation; **caractérisée en ce que** l'élément élastique (21) est constitué par une tôle plate (60) découpée et pliée pour former ladite partie de montage (22) et ledit bras élastiquement déformable (23) ; ladite tôle plate comprenant deux parties latérales (61, 62) et une partie centrale (63) qui sont rectilignes et disposées côte à côte parallèlement entre elles, étant réunies l'une à l'autre au droit de premières extrémités correspondantes au moyen d'une partie formant racine commune (64) qui s'étend transversalement par rapport auxdites parties ; les parties latérales (61, 62) étant repliées en forme de U en dehors du plan dans lequel elles sont contenues et en direction de la partie formant racine commune (64) pour former avec cette dernière ladite partie de montage (22), et ladite partie centrale (63) étant plus longue que les parties latérales et étant pliée en une forme de V asymétrique en dehors du plan dans lequel elle est contenue et en direction de la partie formant racine commune (64) pour former ledit bras élastiquement déformable (23) qui s'étend en porte-à-faux à partir de la partie de montage.

2. Dispositif selon la revendication 1, **caractérisé en ce que** ladite partie de montage (22) est munie de moyens (40) destinés à l'accrocher à une surface latérale respective intérieure et/ou extérieure de la bague. 50

3. Dispositif selon la revendication 2, **caractérisé en ce qu'**au moins ladite bague (10) est faite d'une matière plastique synthétique ; et **en ce que** lesdits moyens d'accrochage (40) sont constitués par des parties respectives (41, 42) de la partie de montage qui sont le plus fortement en saillie radialement vers l'intérieur et faites d'une matière plus dure que celle 55

utilisée pour former la bague et qui, en utilisation, font face auxdites surfaces latérales intérieure et/ou extérieure de la bague et sont à serrage par rapport à ces surfaces.

4. Dispositif selon la revendication 3, **caractérisé en ce que** lesdites parties en saillie consistent en ailettes élastiquement déformables (41, 42) qui s'étendent obliquement en porte-à-faux à partir de la partie de montage (22), radialement vers lesdites surfaces latérales intérieure et/ou extérieure de ladite bague et dans la direction à l'opposé de celle dans laquelle la partie de montage est engagée sur ledit bord arrière de ladite bague (10).

5. Dispositif selon une quelconque des revendications précédentes, **caractérisé en ce que** ledit bras élastiquement déformable (23) qui s'étend en porte-à-faux à partir de la partie de montage (22) présente une extrémité libre (50) qui est en forme de V dans un plan radial par rapport à ladite bague (10) et est disposée de telle manière qu'en utilisation, son sommet soit face au côté qui est à l'opposé dudit bord arrière (14 ; 14 a) de la bague et sous-tende un angle (α) de plus de 90° ; la bissectrice dudit angle sous-tendu par le sommet du V formé par l'extrémité libre du bras élastiquement déformable étant sensiblement perpendiculaire au plan dans lequel ce dernier est contenu.

6. Dispositif selon une quelconque des revendications précédentes, **caractérisé en ce que** ladite partie de montage (22) a un rebord (27) situé sur le côté qui est à l'opposé dudit bras élastiquement déformable (23) et disposé au moins partiellement face à ce dernier dans la direction de l'axe optique ; ladite bague (10) étant munie radialement sur le côté intérieur d'au moins une partie saillante axiale (30) qui s'étend à partir de sa surface latérale intérieure et est appropriée pour coopérer avec le rebord (27) pour empêcher l'élément élastique d'être assemblé de façon à être à cheval sur le bord arrière (14 ; 14a) de la bague lorsque ledit rebord (27) fait face radialement vers l'intérieur de la bague (10).

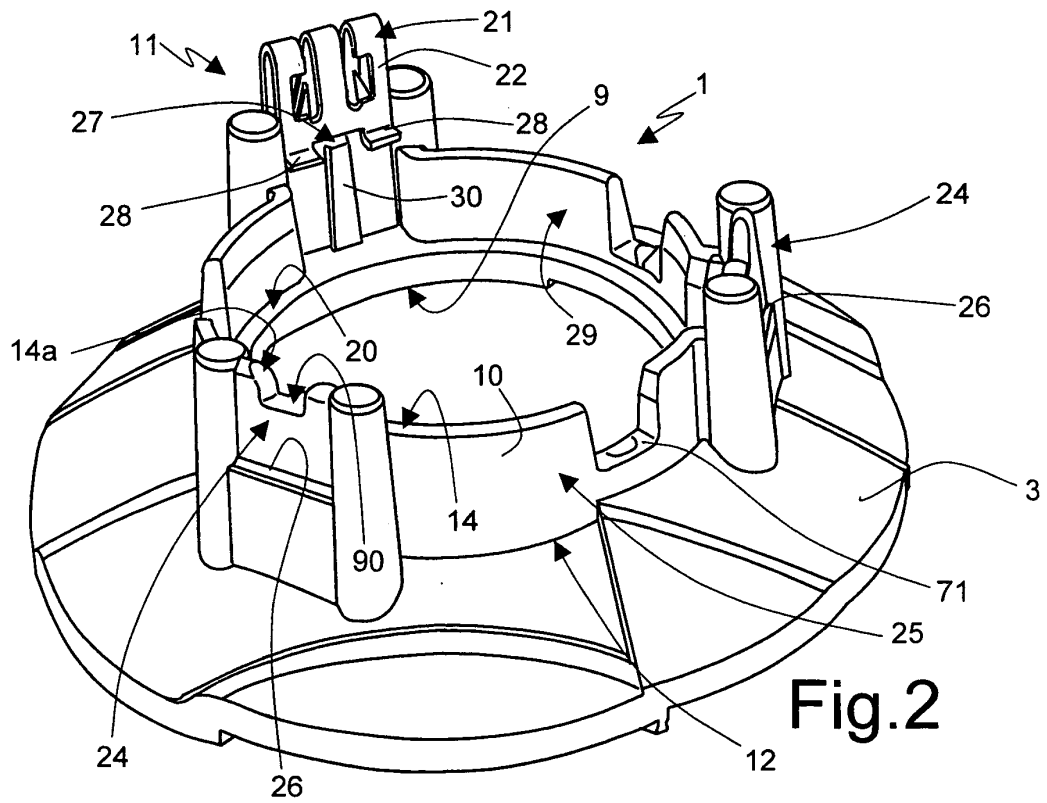
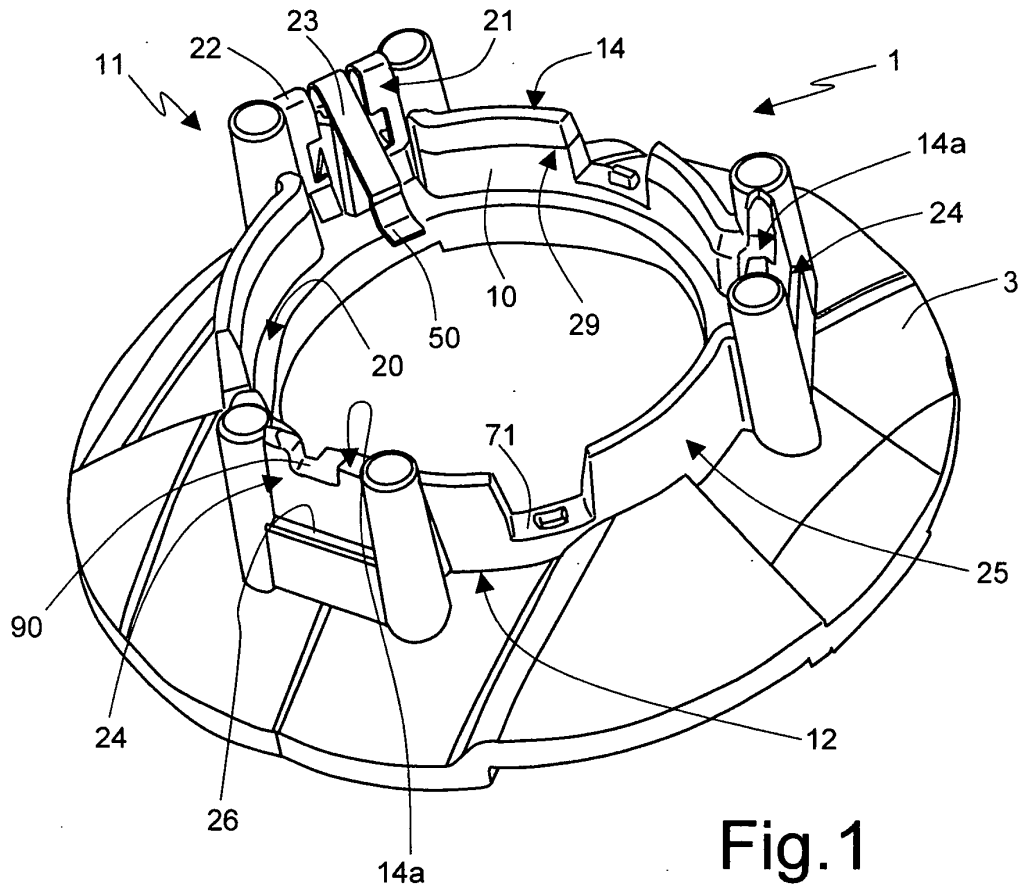
7. Dispositif selon la revendication 6, **caractérisé en ce que** ladite bague (10) est munie d'au moins un appui circonférentiel (24) destiné à loger radialement la partie de montage (22) de l'au moins un élément élastique, ledit appui (24) étant muni sur le côté de la surface latérale radialement extérieure de la bague, d'une partie en saillie (26) prévue pour le rebord (27) ; ce dernier étant muni d'au moins une ailette (28) qui s'étend en porte-à-faux radialement sur le côté extérieur par rapport à la bague (10) et qui est appropriée pour s'appuyer contre la partie en saillie (26) en utilisation.

8. Dispositif selon la revendication 6 ou 7, **caractérisé en ce que** ladite partie de montage (22) est délimitée, sur le côté qui est à l'opposé dudit rebord (27), par une arête (66) qui est interrompue au droit du bras élastiquement déformable (23) et qui est munie, sur les côtés du bras élastiquement déformable, d'aillettes respectives (67, 68) qui s'étendent obliquement en porte-à-faux radialement sur le côté intérieur par rapport à la bague et dans la direction dans laquelle la partie de montage (22) est emboîtée sur la bague.

9. Dispositif selon une quelconque des revendications précédentes, **caractérisé en ce que** ladite base de la source lumineuse est munie radialement sur le côté extérieur d'une ailette (70) qui, en utilisation, est logée dans une encoche radiale (71) de la bague, qui s'étend pour interrompre la continuité du bord arrière de celle-ci.

10. Dispositif selon la revendication 9, **caractérisé en ce que** lesdits moyens de retenue comprennent au moins trois desdits éléments élastiques (21) formés d'éléments séparés et montés sur le bord arrière de la bague (10) sensiblement à égale distance l'un de l'autre ; ladite encoche radiale (71) destinée à recevoir ladite ailette (70) de la base étant disposée sur la bague dans une position diamétralement opposée à l'un desdits éléments élastiques (21).

11. Dispositif selon une quelconque des revendications précédentes, **caractérisé en ce que** ladite bague (10) est formée en une seule pièce avec le réflecteur.



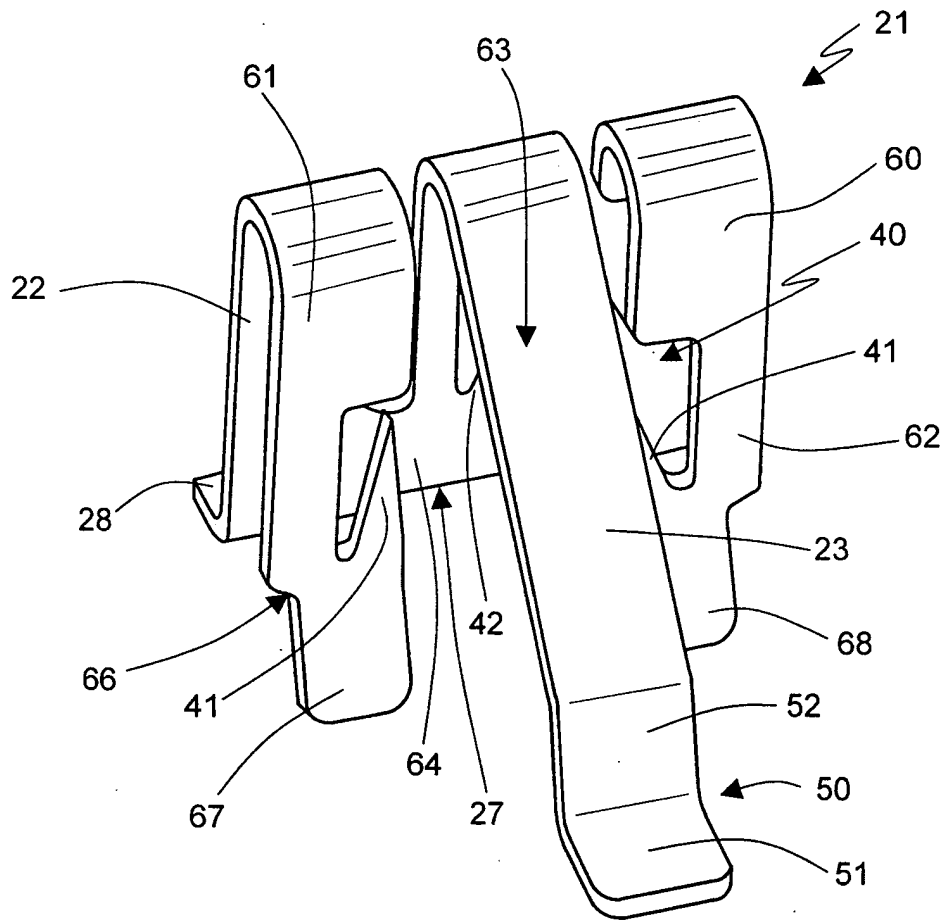


Fig.3

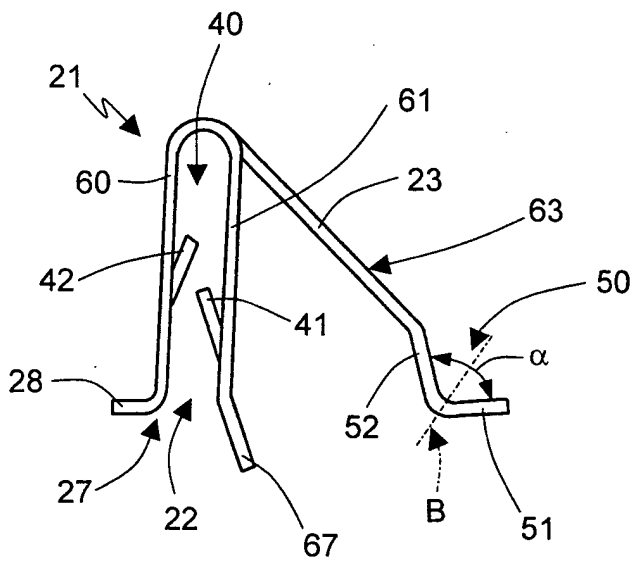


Fig.4

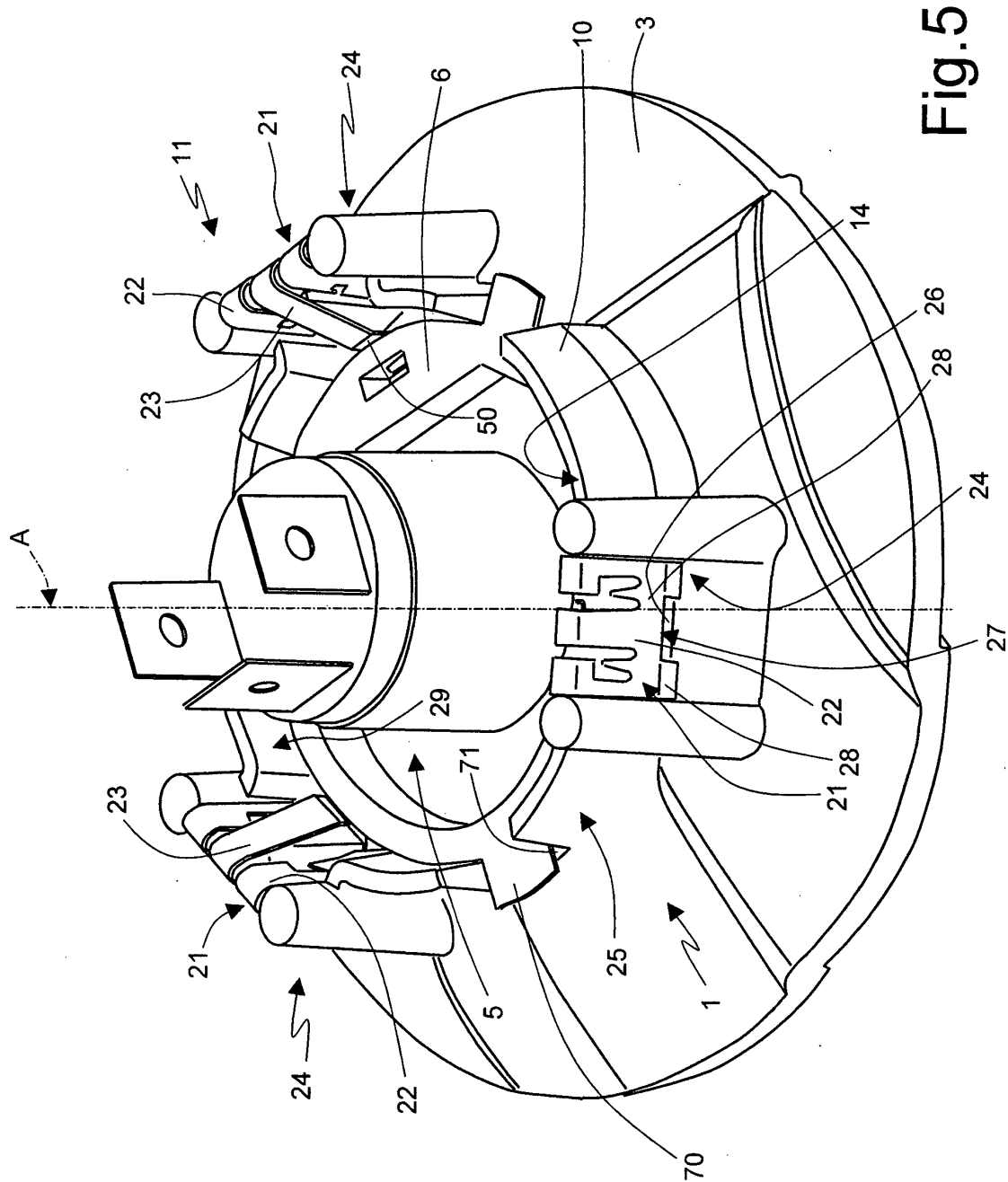


Fig. 5

REFERENCES CITED IN THE DESCRIPTION

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