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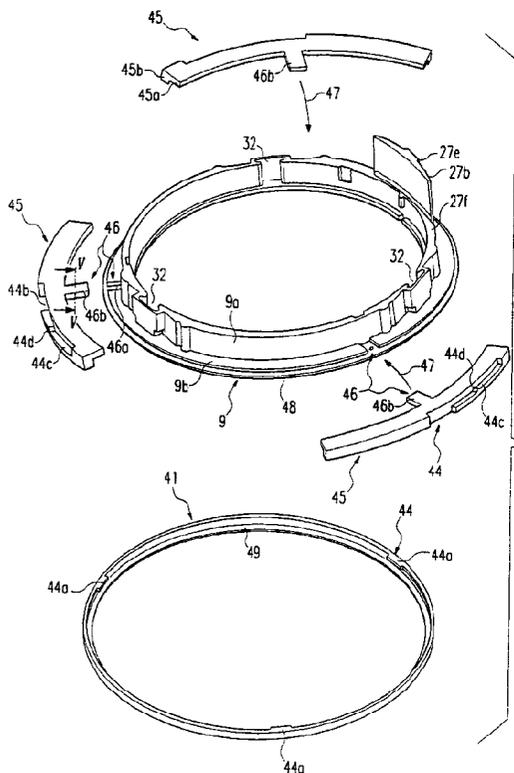
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(54) Title: BUILT-IN ILLUMINATOR COMPRISING A SUPPORTING RING FOR ADDITIONAL COMPONENTS

(54) Bezeichnung: EINBAULEUCHTE MIT EINEM HALTERING FÜR ZUSATZBAUTEILE



(57) Abstract: The invention relates to a built-in illuminator comprising a dome-shaped reflector (6), a light source arranged therein and an assembly ring (9) which has to be arranged in such a way that said ring embraces the reflector (6) very close to the edge of said reflector. The inventive illuminator also comprises a supporting ring (41) to be fixed on the assembly ring (9). Said supporting ring is used for additional components, such as a glass pane or the like. Said illuminator further comprises connecting means for fixing the supporting ring (41) to the assembly ring (9). The aim of the invention is to make construction simple and axially small. The connecting means comprise at least two plug-in elements (45) having plug-in pins (46b) and radially extending plug-in recesses (46a) that are provided on the assembly ring (9) and serve for plugging-in the plug-in pins (46b).

(57) Zusammenfassung: Die Erfindung betrifft eine Einbauleuchte, mit einem domförmigen Reflektor (6), einer darin angeordneten Lichtquelle, einem Montagering (9), der so anzuordnen ist, dass er den Reflektor (6) nächst dessen Rand umgreift, einem an dem Montagering (9) zu befestigenden Haltering (41) für Zusatzbauteile, wie eine Glasscheibe oder dergleichen, und mit Verbindungsmitteln zum Befestigen des Halteringes (41) an dem Montagering (9). Um eine einfache und axial kleine Bauweise zu erreichen, umfassen die Verbindungsmittel mindestens zwei Steckelemente (45) mit Steckzapfen (46b) sowie an dem Montagering (9) vorgesehene, radial verlaufende Steckausnehmungen (46a) zum Einstecken der Steckzapfen (46b).

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*Zur Erklärung der Zweibuchstaben-Codes, und der anderen Abkürzungen wird auf die Erklärungen ("Guidance Notes on Codes and Abbreviations") am Anfang jeder regulären Ausgabe der PCT-Gazette verwiesen.*

Recessed luminaire having a holder ring for  
additional components

The invention relates to a recessed luminaire in  
5 accordance with the preamble of claim 1.

A recessed luminaire of this kind is described in DE 43 44  
431 A1. This known recessed luminaire has a base frame,  
consisting of a mounting ring, which in axial cross-  
10 section is formed in an angled manner having a coaxial  
tube support and a flange part projecting outwardly  
therefrom, there extending from the edge of the tube  
support away from the emission direction, in an arc-shape,  
to a common ridge zone, three struts to which the  
15 reflector is releasably attached.

For the selective mounting of a holder ring for additional  
components there are provided on the side of the mounting  
ring away from the light source connection means in the  
20 form of a connection ring for the holder ring. The  
connection ring has on its side towards the mounting ring  
axially projecting snap hooks which are latched behind  
associated latch edges on the inner side of the tube  
support, whereby the snap hooks are located in an  
25 intermediate space between the tube support and the side  
wall of the reflector. The ring body of the connection  
ring has a U-shaped cross-sectional form. In the hollow  
space of the connection ring formed by means of the U-  
shape there are pivotally arranged, distributed around the  
30 circumference, three tensioning levers, in the region of  
axial cut-outs, with which holder arms arranged on the  
axes of the tensioning levers are radially pivotably  
mounted. With the holder arms, the holder ring can be  
mounted on the side of the connection ring which is away  
35 from the mounting ring. The holder ring serves for the  
holding of additional components, such as a glass plate or  
the like which is located before the emission opening of

the luminaire.

This known recessed luminaire has several disadvantages. On the one hand, the connection ring and the holder ring increase the axial dimension of the recessed luminaire in the region arranged in front of the mounting ring. This is unavoidable due to the presence of the connection ring, which has a considerable axial dimension in order to be able to receive the tensioning levers. On the other hand, the known configuration is disadvantageous because the connection ring is clearly visible for the observer, as a result of which the structure not only appears to be large, but also its appearance is adversely affected. A further disadvantage consists in that the known configuration is of complex configuration and production, not only with regard to the arrangement and mounting of the tensioning levers. Furthermore, the mounting or de-mounting is complex, whereby it is to be taken into account that the tensioning levers are not easy to access.

It would therefore be desirable to configure a recessed luminaire of the kind indicated in the introduction so that a simple and axially small construction can be attained.

The above discussion of background art is included to explain the context of the present invention. It is not to be taken as an admission that any of the documents or other material referred to was published, known or part of the common general knowledge at the priority date of any one of the claims of this specification.

According to a first aspect, the present invention provides recessed luminaire, having a dome-shaped reflector, a light source arranged therein, a mounting ring which is to be so arranged that it engages around the reflector near to its edge, a holder ring for additional components, such as a glass plate or the like, which can be attached to the mounting ring, and connection means for fastening the holder ring on the mounting ring, wherein the connection means include (a) at least two separate plug-in elements having

radially inwardly directed plug-in pins and (b) radially developing plug-in recesses, which plug-in recesses are provided on the mounting ring, and wherein the plug-in elements can be plugged with the plug-in pins into said plug-in recesses radially from the outside inwardly Advantageous developments of the invention are indicated in the subclaims.

With the configuration in accordance with the invention, the connection means between the mounting ring and the holder ring are formed by means of at least two plug-in elements having plug-in pins and radially developing plug-in recesses on the mounting ring for plugging in of the plug-in pins. Due to the radial direction of the connection means there can be realized a structure which is thin in the axial direction, which is advantageous and

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desired in order to avoid a large visible projection of the recessed luminaire from the installation wall. A radial plug-in movement, in particular a radially inwardly directed plug-in movement, is unproblematic since at least  
5 two plug-in elements are present which can be mounted independently of one another and can for example be formed as segments. A further advantage of the configuration in accordance with the invention consists in that the plug-in elements in accordance with the invention can be simply  
10 formed, so that the recessed luminaire can also be produced economically. For connection of the plug-in elements with the holder ring there can be employed mutually corresponding known connection means.

15 It is advantageous to form the connection means between the plug-in elements and the holder ring by means of so-called bayonet connections, whereby two or more, for example three, bayonet connection means may be provided arranged distributed on the circumference. Such a  
20 configuration is advantageous both for reasons of handling upon closing and opening of the connection and also for design technical reasons. It is further advantageous to form the holder ring as a sleeve-like component, which in the mounted disposition covers over both the plug-in  
25 elements and also a flange part of the mounting frame and, if applicable, also an edge flange of a reflector. Thereby it is to be taken into account that in the mounted condition there can remain between the holder ring and the installation wall a gap, as a so-called shadow edge, which  
30 does not adversely affect the appearance of the recessed luminaire.

Further features of the subclaims likewise contribute to improving the construction in terms of design technical  
35 considerations and also handling, and to ensure a simple and economic production.

Below, the invention and further advantages which can be achieved thereby will be explained in more detail with reference to advantageous configurations and simplified drawings. There is shown:

- 5
- Fig. 1 a recessed luminaire in accordance with the invention, in axial section;
- 10 Fig. 2 a detail, designated with X in Fig. 1, on the reflector, in an alternative configuration, to an enlarged scale;
- 15 Fig. 3 a detail, designated by Y in Fig. 1, in an illustration to an enlarged scale, and with additionally mounted accessory parts;
- Fig. 4 a mounting ring with accessory parts in an exploded perspective illustration;
- 20 Fig. 5 the partial section V-V of Fig. 4;
- Fig. 6 an adaptor formed as an extension piece, in perspective illustration.

25 The recessed luminaire, designated in its entirety by 1, can be installed in an installation opening 2 of an installation wall 3 which may be a ceiling or a wall of a room 4 to be illuminated with the recessed luminaire 1. For fastening the recessed luminaire 1 to the installation

30 wall 3 there are provided first holder means 5 which will be described further below.

The main parts of the recessed luminaire 1 are a dome-shaped reflector 6, a light source carrier 7 for receiving

35 at least one light source 8 and a mounting ring 9, which with a tube support 9a and a flange part 9b outwardly projecting from this tube support, is formed with an angle

shape and with the aid of the first holder means 5 can be fixed in the installation opening, for example on the installation opening edge. For this purpose there may serve a plurality of holder arms 11 arranged distributed  
5 around the circumference and formed for example by means of leaf springs, of which only one is schematically illustrated in Fig. 1. The holder arms 11 are, with a base section 11a, each displaceably mounted on a carrier bar 13 extending approximately parallel to the middle axis 12 of  
10 the recessed luminaire 11, whereby in each case the base section 11a is self-actingly arrested on the carrier bar 13, in particular by means of a clamping effect, when a holder finger 11b, outwardly projecting and engaging below the installation opening edge, bears with a pressure force  
15 on the side of the installation wall 3 away from the room 4. By these means, the mounting ring 9 is fixed in the installation opening 2, whereby its tube support 9a projects into the installation opening 2 and its flange part 9b bears on the installation wall 3. Axially, the tube section 9a is relatively short. It does not need to project far into the free space 14 behind the installation wall 3. It is sufficient when the axial length of the tube support 9a corresponds approximately to the thickness of the installation wall 3, whereby the axial length may be  
20 dimensioned to be somewhat greater or also somewhat smaller. The width of the flange part 9b is so dimensioned that the flange part 9b engages below the installation opening edge and therewith covers over the installation gap between the tube support 9a and the installation  
25 opening edge.  
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Preferably, the reflector 6 has the form of a dome closed in the ridge region, the inner surface 15 of which is constituted as a reflection surface and which may be  
35 formed for example at least in the free edge region with facet surfaces 16, of which a part region is illustrated by hatching by way of example in lozenge-like shape. In

the upper region of its side wall 17, the reflector 6 has a lead-through hole 18 in the region of which the light source carrier 7 is held, for example in a position outwardly opposite the lead-through hole 18, as Fig. 1 shows. With the present exemplary embodiment, the light source carrier 7 is a fitting carrier having one or more non-illustrated fittings which, with one or more lamps, are accessible from the inner space 19 of the reflector 6, so that at least one lamp is mountable from the inside onto the fitting carrier in a position in which its light source 8 is located in the inner space 19. The reflector 6 is releaseably connected or connectable with the mounting ring 9 by means of a plug-in fitting designated in its entirety by 21. The plug-in fitting 21 makes it possible to insert the reflector into the mounting ring 9 in the direction opposite to the light emission direction 22, and thereby to connect it with the mounting ring 9. There may be provided a plurality, for example three, latching devices 23 distributed around the circumference for the releasable latching of the reflector 6 with the mounting ring 9. The latching devices 23 have in each case a latch nose 23a which in the latched position engages behind a latch edge 23b. This engagement behind is, due to the elasticity present of at least one of the parts standing in latching engagement, releasable in that the latching can be overcome manually or by means of a tool, here by means of a movement of the reflector 6 in the light emission direction 22. With the present configuration, the latch nose 23a is arranged on the outer side of the side wall 17, preferably being formed thereon in one piece. The axial spacing of the latching elements from the free edge of the reflector 6 or of the mounting ring 9 is selected to be of such a size that in the latching position an edge flange 24 projecting outwardly from the side wall 14 bears on the flange part 9b and preferably covers this over or projects over this, whereby it may also engage behind the flange part 9b in an angled manner, as Fig. 1 and 3 show.

The latching edge 23b may be formed by means of an inner web 25 on the inner surface of the mounting ring 9.

5 Fig. 2 shows the latching nose 23a in a modified configuration. Here, the latching nose 23a is yieldingly mounted, so that it can spring in against an elastic return force. Here, the latching nose 23a may be arranged on a spring arm 23c, which may extend along or obliquely of the middle axis 12 and which may preferably be formed  
10 in one piece on the mounting ring 9 or on its side wall 14. With the present exemplary embodiment the spring arm 23c is formed on in the corner region of the mounting ring 9 whereby it extends, if applicable obliquely, in the direction opposite to light emission direction 22. The  
15 spring arm 23c can, due to its material elasticity, be transversely elastically bent in. In order to simplify or make possible the latching, with the present exemplary embodiments, the latching nose 23a and/or the latching edge 23b or the inner web 25, has associated therewith an  
20 oblique or rounded lead-in surface 26, which manifests an acute angle  $W$  with reference to the middle axis 12, which angle is open in the direction opposite to the emission direction 22.

25 The light source carrier 7 is connected exclusively with the mounting ring 9, by means of a special connection means, here connected exclusively with the tube support 9a of the mounting ring. The connection means are formed by means of a plug-in connection having a plug-in fitting 27a  
30 on the one plug-in connection part and a plug-in pin 27b, which can be inserted in the plug-in fitting 27a, on the other connection part. The plug-in direction 28 of the plug-in connection 27 extends approximately parallel to the middle axis 12 and in the emission direction 22. The  
35 cross-sectional form of the plug-in fitting 27a and of the plug-in pin 27b is preferably non-round. By these means there is formed a rotation lock which positions the light

source carrier 7 in its transverse disposition. The plug-in connection 27 distinguishes itself through a great stability, with simple and small construction, whereby it can in particular be constituted to be relatively thin, and thus mounted on the tube support 9a, in particular formed in one piece thereon, which should be formed as thin as possible in order to have a greater cross-sectional surface available for the reflector. This can be realized in that the plug-in pin has the cross-sectional form of a broad and relatively thin web. This applies also for the attachment of the carrier bars 13 which preferably are likewise connected with the tube support 9a by means of plug-in fittings 31. Preferably there are provided, prefabricated, in the tube support 9a in each case an undercut groove or plug-in recesses 32 forming a plug-in fitting 31 into which the carrier bars 13 are placed and attached, for example by means of gluing or press fitting. There can be seen from Fig. 4 the elongate, in the circumferential direction, cross-sectional form of the for example three plug-in recesses 32 for the carrier bars 13. The plug-in recesses 32 may, for the purpose of material savings and small width, be undercut on one side and thus open to the side; here they are inwardly open.

With the present exemplary embodiment according to Figures 1 and 5, the plug-in connection has, between two matching plug-in connection parts, a plug-in adaptor 29 which on its one end has a plug-in recess or plug-in fitting 27a matching the plug-in connection 27 present, and at its other end has a matching plug-in pin 27b, and which forms an extension piece. Through this it is possible to realize the plug-in connection 27 selectively with or without a plug-in adaptor 29. Without plug-in adaptor 29, the plug-in connection 27 is suitable for a reflector 6 of lesser structural height, which otherwise is formed in the region of its free edge as described above. Through this it is possible to combine one and the same mounting ring with

reflectors 6 of differently sized structural height and thus to adapt the luminaire to different illumination requirements. In the configuration according to Fig. 1 there are thus present in fact two plug-in connections 21 in coaxial arrangement. It is advantageous to associate with the plug-in connection or connections 21 in each case a positioning device 33 which is effective in the plugged together position, which brings about a fixing of the plug-in connection parts in the plugged together condition. This is advantageous for providing the plug-in connection 27 with a certain stability in the plugged together condition. Further, by means of a such a positioning device 33 it is prevented that the plug-in connection parts can be released from one another unintentionally, for example upon the mounting of a lamp. The positioning device 33 can be formed for example by means of a latching device or a clamping device. The positioning device 33 is preferably releasable by being overcome manually with a certain application of force. A clamping device can for example be realized in that the plug-in pin 27b is formed to be conically convergent towards its free end and the plug-in fitting 27a has a matching and corresponding form. Such a conical configuration also facilitates the plugging together, because in the entry region of the plug-in fitting a considerable play for movement is available. Further, the conical form can provide the positioning device 33 in that in the inserted condition the cone connection jams. The plug-in recess 27a can be slotted on a broad side by means of a longitudinal slot 27d in which a web 27e on the plug-in pin 27b can engage. The plug-in adaptor 29 may have a thickened shaft 29 through which there are provided on its plug-in recess 27a and its plug-in pin 27b end or step surfaces 29b, 29c which, with corresponding step surfaces 27f, 27g at the foot of the corresponding plug-in pin 27b and on the edge of the corresponding plug-in recess 27a, form stops.

Within the scope of the present invention both plug-in connection parts of the plug-in connection 27 may each project, from the parts carrying them, towards one another with a rod-like base section 27c. The plug-in connection parts standing up from the light source carrier 7 may be formed on, preferably in one piece, a floor wall 7a of a housing forming the light source carrier 7, which furthermore may have side walls 7b lying opposite to one another and at its side away from the reflector 6 an end wall 7c which if appropriate may be formed with cable lead-through holes.

The light source carrier 7 may, on its end side away from the reflector 6, be connected with a cable connector housing 35. With the present configuration, the connector housing 35 is a separate component which is pivotable between a transversely upstanding position, referred to the middle axis 12, into a position displaced towards the mounting ring 9. For fixing the connector housing 35 in the first-mentioned position there may be provided a positioning device, for example in the form of a latching device or a clamping device. With the present exemplary embodiment a joint 36, making the pivoting possible, is arranged in the edge region between the floor wall and the end wall.

The mounting ring 9 is suitable as a carrier for a holder ring 41 for holding at least one additional component 42 or accessory part, which may be for example a light permeable plate, which is releasably held by the holder ring 41 in a position covering the emission opening 43 of the reflector 6. For releasable connection directly or indirectly with the flange part 9b there is provided a so-called bayonet connection 44 having bayonet connection parts which correspond to one another.

With the present configuration there serve for the releasable attachment of the holder ring 41 at least two, for example three, plug-in elements 45 arranged distributed on the circumference, here for example in the form of ring segments which on the one hand, in each case by means of a plug-in connection 46 having a plug-in recess 46a on the one connection part and a plug-in pin 46b insertable therein on the other connection part, are connectable with the flange part 9b of the mounting frame 9. For connecting the plug-in elements 45 with the holder ring 41 there serve connection parts corresponding to one another, which are preferably formed by means of the bayonet connection 44.

The insertion direction 47 of the plug-in fittings 46 is directed transversely of the middle axis 12, radially inwardly, as is illustrated by the associated arrows shown in Fig. 4. The plug-in recesses 46a are thus, referred to the middle axis 12, radially outwardly opened. They may also be open towards the inner side of the flange part 9b which is intended for bearing on the installation wall 3, as Figs. 3 and 4 clearly show. With the present exemplary embodiment, the plug-in recesses 46a, and the plug-in pins 46b have each a quadrilateral, in particular flat cross-sectional form. The plug-in elements 45 are formed in an angled manner with a radially inwardly directed plug-in element limb 45a and a plug-in element limb 45b extending in the emission direction 22. The plug-in element limb 45b may include an inwardly projecting ring web or web segments. On the outer edge of the flange part 9b away from the emission direction 22 there is arranged a ring groove 48. The plug-element limb 45a is, with regard to its axial dimension, so adapted to the axial depth of the ring groove 48 that on the side towards, the installation wall 3 it ends approximately flush with the remaining flange section of the flange part 9b.

The bayonet connections 44 are each formed by means of a bayonet nose 44a and a bayonet recess 44b, and a bayonet

step 44c adjoining onto the bayonet recess in the circumferential direction. The bayonet recess 44b, arranged outwardly on the plug-in element 45, is open radially outwardly and in the emission direction 22. Thus, the bayonet noses 44a can be introduced into the bayonet recesses 44b by an axial movement of the holder ring 41 opposite to the emission direction 22, and then introduced into the bayonet steps 44c by turning. The bayonet noses 44a are located radially inwardly on the edge of the holder ring 41 away from the emission direction 22. Further, the holder ring 41 may be formed by means of a thin sleeve. On at least one surface of the bayonet steps 44c there may be formed, for example formed on, a cam 44d having rounded or oblique lead-in surfaces, which constitutes a securing means, which can be manually overcome, against a reverse turning of the holder ring 41.

For holding the projecting or additional component 42, the holder ring 41 may have on its edge facing in the emission direction 22 a plurality of holder parts arranged distributed around the circumference or an encircling holder web 49, which engage or engages behind the additional component 42. The introduction of the additional component 42, for example a plate, between the bayonet noses 44a and the holder web 49 can be ensured for example due to the material elasticity of the holder ring 41, which is preferably of plastics. The reflector 6, the mounting ring 9, the adaptor 29, the light source carrier 7 and the plug-in elements 45 may also be of plastics. For reasons of stability it is advantageous alternatively to form the mounting ring 9 and possibly also the plug-in elements 45 and the adaptor 29 of light metal, in particular aluminium. For this purpose there is preferably suited die casting technology or injection moulding technology, which make possible a rapid and an economical manufacture even with difficult shapings.

For securing the plug-in pins 46b in the plug-in recesses 46a there may be provided a positioning device. This can be formed by means of an elastically yielding pressure element, which is arranged on the one plug-in connection part and preferably latches into a recess on the other  
5 plug-in connection part. The pressure element may be formed by means of a rounded pin or a ball 51 in a transverse bore 52 in the plug-in pin 46b and be prevented from falling out of the bore by means of a turned in bore  
10 edge. By means of a spring 53 arranged in the bore, which bears on the base of the bore or on a closure part, the desired pressure tension can be produced.

The installation of the recessed luminaire 1 can be  
15 effected in accordance with the following method steps.

Initially, the mounting ring 9 is placed into the installation opening 2 and fixed with the holder arms 11 engaging behind the installation opening edge. The carrier bars 13 and holder arms 11 are pre-installed on the  
20 mounting ring 9 in the factory. The installation into the installation opening 2 can be carried out readily through the ring opening. Then, the light source carrier 7 is brought into its mounting position through the mounting  
25 ring 9 and connected with the mounting ring 9 by plugging in. Thereby, the connector housing 35 may be in its pivoted out or pivoted in position. The latter position improves the accessibility to the connector housing 35 which is open on its side towards the holder ring. With  
30 the next method step, the reflector 6 is inserted and latched into the mounting ring 9. Then, the light source 8 or the at least one lamp can be mounted on the light source carrier 7 from the inner space of the reflector 6, for example being plugged into the fitting carrier. The  
35 connection of the operating means for current supply, arranged for example in the light source carrier 7 or in the connector housing 35, may be effected before the

mounting of the mounting ring 9 or before the mounting of the light source carrier 7. Insofar as the mounting of an accessory part 42 is desired, the plug-in elements 45 are then plugged in, radially inwardly, into the plug-in recesses 46a, and then the holder ring 41, for example with the additional part 42 located therein, can be mounted. The de-mounting can be carried out with method steps of reverse order.

The claims defining the invention are as follows:

- 5
1. Recessed luminaire, having a dome-shaped reflector, a light source arranged therein, a mounting ring which is to be so arranged that it engages around the reflector near to its edge, a holder ring for additional components, such as a glass plate or the like, which can be attached to the mounting ring, and connection means for fastening the holder ring on the mounting ring, wherein the connection means include
- 10
- (a) at least two separate plug-in elements having radially inwardly directed plug-in pins and
- (b) radially developing plug-in recesses, which plug-in recesses are provided on the mounting ring,
- 15
- and wherein the plug-in elements can be plugged with the plug-in pins into said plug-in recesses radially from the outside inwardly.
2. Recessed luminaire according to claim 1, wherein, plug-in recesses and the plug in pins have quadrilateral cross-sectional form.
- 20
3. Recessed luminaire according to claim 1 or 2, wherein, the plug-in elements are formed by ring segment parts which on their outer sides - axially observed - have a bayonet recess and a bayonet step running in the ring circumferential direction, and wherein the holder ring has radially inwardly directed bayonet noses, which are provided for engagement in the bayonet recesses and in the bayonet steps.
- 25
4. Recessed luminaire according to claim 3, wherein, the mounting ring is formed with a tube support, coaxial with regard to its middle axis, and a flange part projecting outwardly from this tube support, whereby the flange part is arranged on the edge of the tube support away from the light source, and the plug-in recesses are arranged in the flange part.
- 30

5. Recessed luminaire according to claim 3 or 4, wherein, the flange part has a ring groove, preferably of rectangular cross-section, on its edge away from the light source, and the ring segment parts are arranged in the ring groove.  
5
6. Recessed luminaire according to claim 5, wherein, the plug-in recesses are open on the side of the flange part towards the light source.
- 10 7. Recessed luminaire according to any one of claims 4 to 6, wherein, the reflector has an edge flange which is arranged at the side of the flange part which is away from the light source.
- 15 8. Recessed luminaire according to any one of claims 3 to 7, wherein, the ring segment parts are formed, in axial cross-section in an angle shape, with a radially inwardly extending limb and an axial limb being directed away from the light source, which engages around the flange part and preferably also the edge flange.
- 20 9. Recessed luminaire according to claim 8, wherein, the axial limb projects beyond the flange part at an axial spacing from the flange part.
10. Recessed luminaire according to claim 8, wherein, the axial limb projects beyond an edge flange on the reflector.  
25
11. Recessed luminaire according to claim 8, wherein, the axial limb includes an inwardly projecting ring web or web segments.
- 30 12. Recessed luminaire according to any one of claims 3 to 11, wherein, there is arranged on at least one bayonet step a cam preventing a release movement of the associated bayonet nose.

13. Recessed luminaire according to any preceding claim, wherein, three plug-in elements are arranged distributed around the circumference of the mounting ring.
- 5 14. Recessed luminaire, having a dome-shaped reflector, a light source arranged therein, a mounting ring which is to be so arranged that it engages around the reflector near to its edge, a holder ring for additional components, such as a glass plate or the like, which can be attached to the mounting ring, and connection means for fastening the  
10 holder ring on the mounting ring, wherein the connection means include
- (a) at least two separate plug-in elements having radially inwardly directed plug-in pins and
  - (b) radially developing plug-in recesses, which plug-in recesses are  
15 provided on the mounting ring,
- and wherein the plug-in elements can be plugged with the plug-in pins into said plug-in recesses radially from the outside inwardly, substantially as herein described with reference to the accompanying  
20 drawings.

25 Dated 9 December 2005  
PHILLIPS ORMONDE & FITZPATRICK  
Attorney's For Zumtobel Staff GmbH & Co.KG

30 *David B Fitzpatrick*

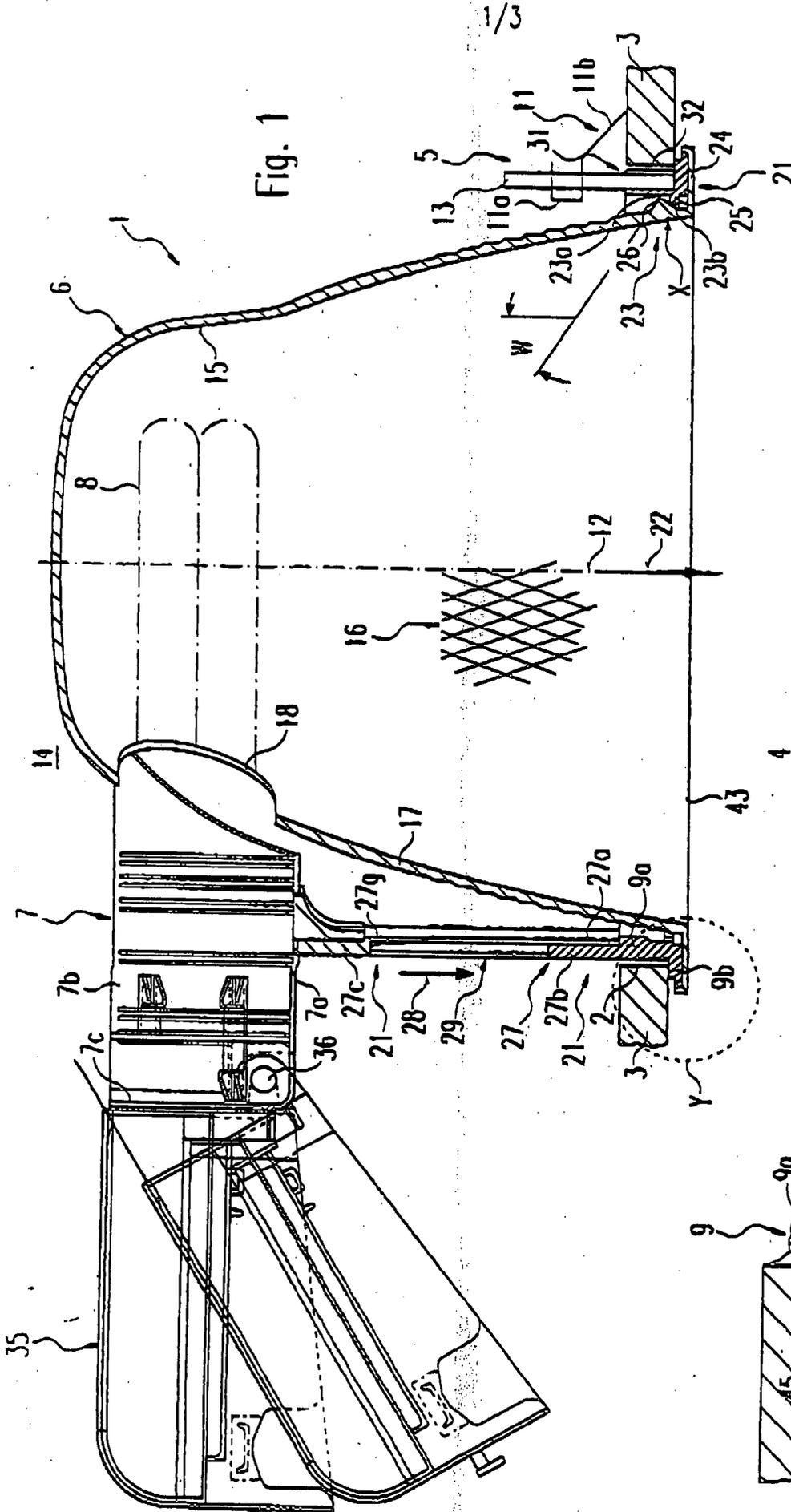


Fig. 1

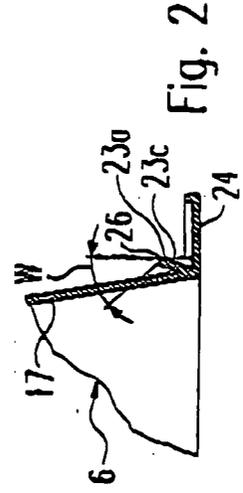


Fig. 2

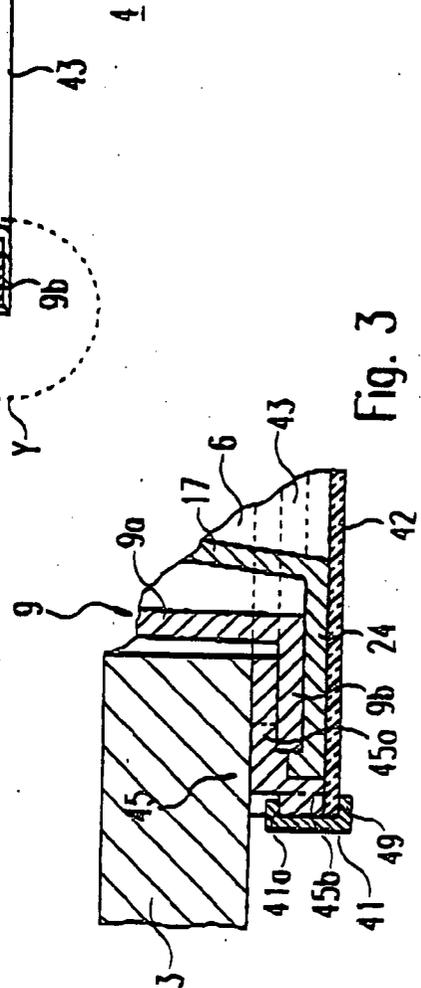


Fig. 3

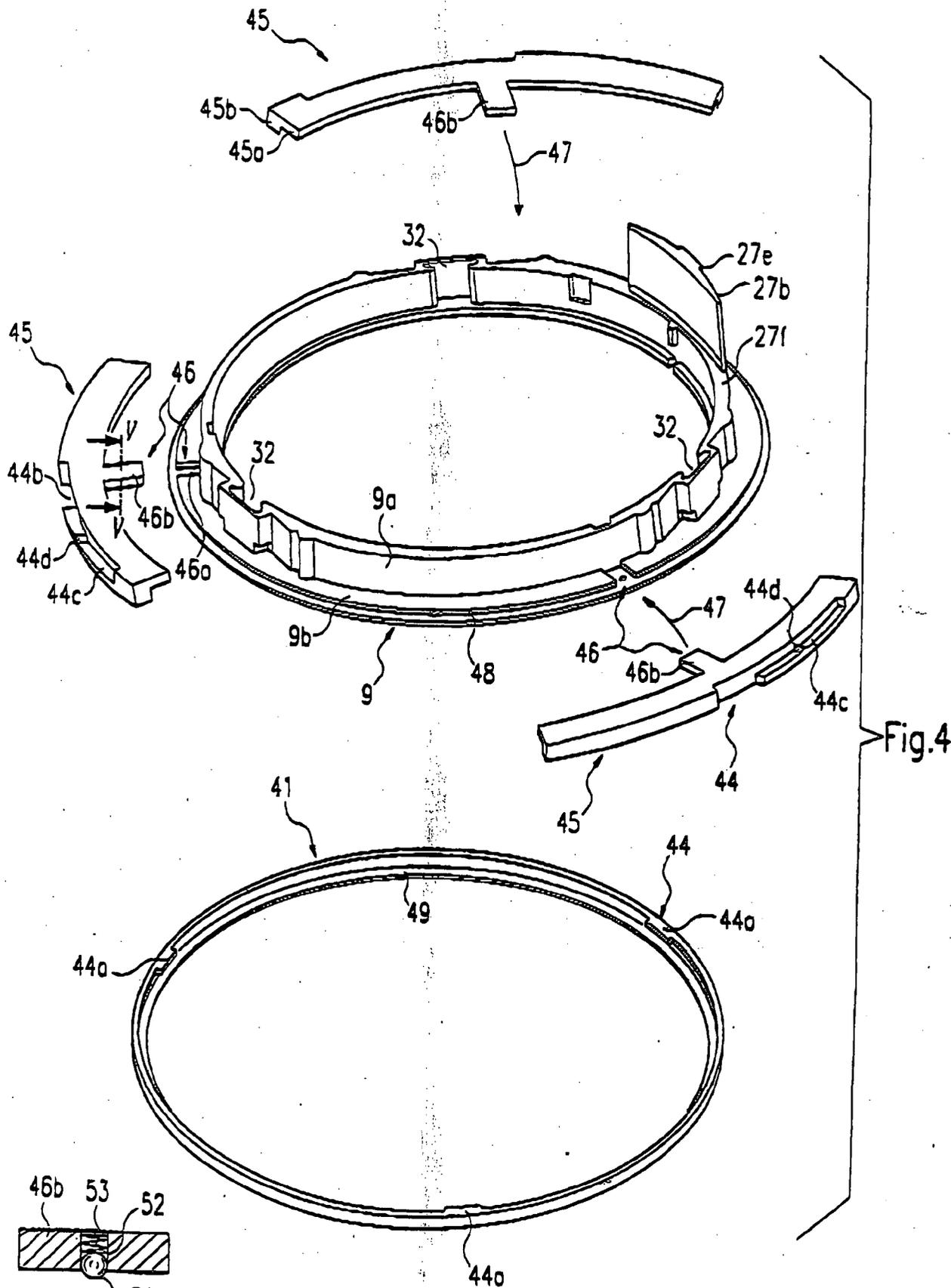


Fig. 4

Fig. 5

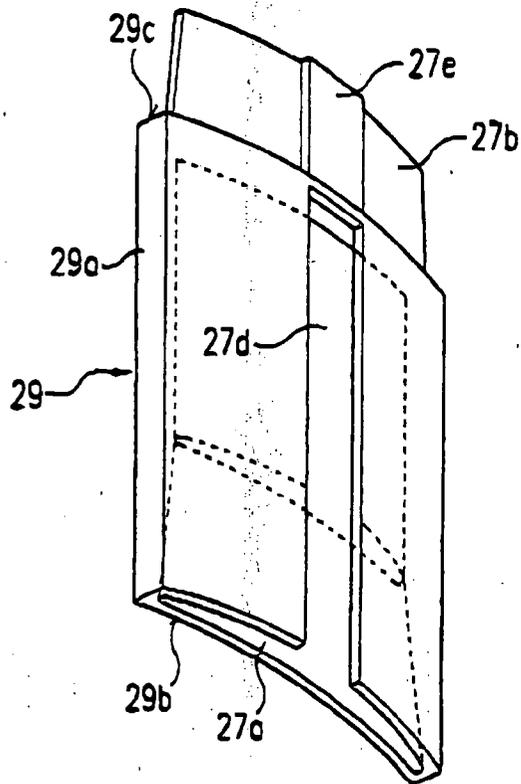


Fig. 6