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**Declarations under Rule 4.17 :**

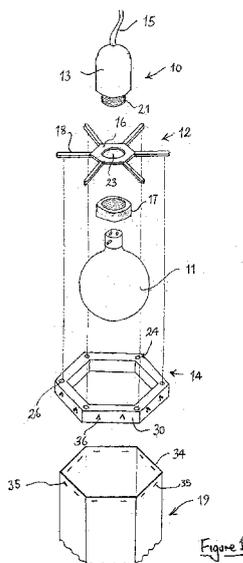
- as to the identity of the inventor (Rule 4.17(i))
- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(H))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(Hi))

**Published:**

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(54) Title: A SHADE ATTACHMENT DEVICE FOR A PENDANT LIGHT FITTING



(57) Abstract: The device includes a support (12) having means (16) for attachment to a pendant light fitting and at least one connecting element having a downwardly facing contact surface (22). A frame (14) has means (28) to support a shade (19) and at least one connecting element having an upwardly facing contact surface (26). The connecting elements (20, 24) cooperate in a releasable manner whereby the frame is capable of being releasably connected to the support. A kit may be provided, including the support (12), a number of shades (19) of different shape and/or ornament and one or more frames (14). The arrangement enables a shade on a light fitting to be quickly, reliably and easily changed.

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## A SHADE ATTACHMENT DEVICE FOR A PENDANT LIGHT FITTING

### FIELD OF THE INVENTION

The present invention relates to a shade attachment device for a pendant light fitting.

### BACKGROUND TO THE INVENTION

The present invention relates to shading for lighting and in particular to a removable lampshade suitable for use with pendant light fittings.

Typically, lighting is provided in one of the following forms, (i) dependent or pendant lighting; (ii) surface mounted lighting; and (iii) recessed lighting. Traditional pendant light fittings are generally used in a domestic situation. A pendant light fitting has an incandescent bulb located in a bulb holder socket, suspended from the ceiling by a cable including the electrical power supply wiring, which is secured to a surface mounted electrical terminal (so-called "rose").

Pendant light fittings offer the advantage of ease of access and are normally adapted to receive a shade which both directs and diffuses the light emitted from the otherwise bare bulb, thereby providing a generally softer light. The pendant fitting normally provides for attachment of a ring secured between a threaded portion of the socket and a threaded sleeve, and the ring mounting has limbs to which a shade is attached.

It may be desirable to change the shade on a light fitting. For example, where the decorations, such as the colour scheme, of a room are changed it may be desirable to replace the shade with one of a different colour. Also, fashions change from time to time and a shade design which is chosen at one time may become outdated. This is especially so, when the light fitting is in a young person's room and the interests of that young person change simply as a result of growing up.

With light fittings and shades of prior art construction, it is necessary to unscrew the threaded sleeve from the socket. To do this, the light must be switched off, so that the bulb is not too hot to the touch. This may require the operation to be carried out in poor light conditions or even in the dark. Furthermore, after long periods of use of the light fitting, the sleeve may be difficult to unscrew, perhaps because the material of which the sleeve is formed becomes hardened over time

tightening the threaded connection to the socket making it difficult to unscrew and/or because the sleeve is cross-threaded on the socket.

British Patent publication GB 2450569A (Cocksedge et al.) describes a shade attachment device for a light fitting having opposed surfaces. There is a releasable contact fixing on one of said surfaces allowing a shade to be mounted by presenting it to the light fitting. The releasable contact fixing may be magnetic, by hook and loop pads, by adhesive or by friction fittings. While the claimed invention concerns recessed light fittings only, one described embodiment is apparatus for adapting a shade for use with a traditional pendant light fitting, but in this embodiment, the light shade cannot be changed with the light bulb in place.

In general, many people do not wish to dismantle the electrical fitting, or even remove the light bulb, due to safety or other concerns.

The present invention seeks to provide a system which enables the shade on a light fitting to be quickly, reliably and easily changed without requiring the removal of the light bulb or parts of the electrical fitting.

#### SUMMARY OF THE INVENTION

According to a first aspect of the invention, there is provided a shade attachment device for a light fitting extending from a building surface, comprising: (i) a support having attachment means for attachment to the light fitting and at least one support connecting element; and (ii) a frame having support means to support a shade that extends in a direction away from the support and at least one frame connecting element, wherein the at least one support connecting element cooperates with the at least one frame connecting element in a releasable manner such that the frame is releasable from the support by movement in the direction away from the support. This is particular suitable for pendant light fittings where the building surface is a ceiling. The direction away from the support is then downwards.

A second aspect of the invention provides a kit of parts for shading a pendant light fitting, the kit comprising: (i) a support having attachment means for attachment to a light fitting and at least one support connecting element; (ii) at least one shade; and (iii) a frame having support means to support a shade and at least one frame connecting element, wherein the at least one support connecting element cooperates with the at least one frame connecting element in a releasable manner such that the frame is releasable from the support by movement in the direction away

from the support. This is particular suitable for pendant light fittings where the building surface is a ceiling. The direction away from the support is then downwards.

According to a third aspect of the invention, there is provided a kit of parts for shading a pendant light fitting, the kit comprising: (i) a shade; and (ii) a frame comprising support means to support the shade and at least one frame connecting element, wherein the shade extends in a direction away from one side of the support means when supported thereon, and the at least one frame connecting element is on the opposite side of the support means.

The support preferably comprises a ring for attachment to a pendant light fitting and a plurality of arms extending away from the ring. The support connecting elements are then preferably provided at the distal end of each of the arms. The arms preferably lie in a common horizontal plane. The arms may be equally spaced from each other. It is desirable that in use neither the support nor the frame in anyway surround the lightbulb as this would effect the light that is generated and is not aesthetically appealing. It is also preferred that the elements that may be touched by a user when dismantling the shade attachment device are not in close proximity to the lightbulb so that they are not substantially heated thereby.

The frame may have a circular or more preferably a polygonal configuration, the frame connecting elements are then preferably provided one at each corner of the polygon. The means to support a shade preferably comprises a downwardly opening slot formed on the frame. Portions of at least one wall of the slot may protrude into the slot to act as retaining elements for retaining an upper edge portion of a shade in the slot.

The cooperating releasable connecting elements may comprise magnets provided on the support and on the frame. The magnets may be orientated in such a manner that the downwardly facing contact surfaces of the support are all of one magnetic pole while the upwardly facing contact surfaces of the frame are all of the opposite magnetic pole. Alternatively, the orientations of the magnets are non-symmetrical so that the frame can only be connected to the support in one orientation. This arrangement could be of benefit where the shape or ornament of the shade is non-symmetrical and it is desired for the shade to occupy a specific orientation.

**DESCRIPTION OF PREFERRED EMBODIMENTS**

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

Figure 1 is an exploded view of a shade attachment device according to the invention, with a pendant light fitting and shade;

Figure 2 is a view of the support of the device shown in Figure 1, from underneath; and

Figure 3 is a view of the frame of the device shown in Figure 1, from underneath.

Referring to the drawings, a pendant light fitting 10 has an incandescent bulb 11 located in a bulb holder socket 13, suspended from the ceiling by a cable 15 including the electrical power supply wiring, which is secured to a surface mounted electrical terminal (not shown). A shade attachment device for the pendant light fitting 10 includes a support 12 and a frame 14, both formed of a plastics material in the illustrated embodiment.

The support 12 includes a ring 16 through the aperture 23 of which a screw threaded lower portion 21 of the socket 13 passes. The ring 16 is secured between the socket 13 and a screw threaded sleeve 17. The support 12 has six arms 18 integral with and extending away from the ring 16. The six arms 18 lie in a common horizontal plane and are equally spaced from each other. As shown in Figure 2, at the distal end of each of the arms, a magnet 20 is embedded in the under surface of the arm, the magnet 20 having a downwardly facing contact surface 22.

The frame 14 has a regular hexagonal configuration. At each corner of the frame 14 a magnet 24 is embedded in the upper surface of frame, the magnet 24 having an upwardly facing contact surface 26.

Alternatively, frame 14 may be made out of metallic material (not shown). Instead of using magnets using guides on frame 14 to attach to magnets 20 on frame 12. This can make production more economical.

In the illustrated embodiment, the magnets 20, 24 are orientated in such a manner that the downwardly facing contact surfaces 22 of the support magnets 20 are all of a north magnetic pole while the upwardly facing contact surfaces 26 of the frame magnets 24 are all of a south magnetic pole. The magnets serve to enable the frame 14 to be releasably connected to the support 12.

As shown in Figure 3, the frame 14 has a downwardly opening slot 28 defined

by walls 30, 32. This slot serves to receive an upper edge portion 34 of a shade 19. Portions 36 of one wall 30 of the slot 28 protrude into the slot 28 to act as retaining elements for retaining the upper edge portion 34 of a shade 19. Shade 19 is provided with holes 35 near upper edge portion 34 for insertion of portions 36. Each portion 36 having a corresponding hole 35.

In use, the upper edge portion 34 of a shade 19 is inserted in the slot 28 of the frame 14. The frame with its shade attached is lifted towards the light fitting until the upper surface 26 of the frame magnets 24 contact the downwardly facing surfaces 22 of the support magnets 20. Thereby the frame 14 is held against the support 12.

When it is desired to change the sleeve, the frame 14 is pulled downwards out of engagement with the support 12. A replacement shade, already engaged in a downwardly facing slot of another frame, similar to frame 14, is then lifted towards the light fitting until the upper surface of the magnets of the replacement frame contact the downwardly facing surfaces 22 of the support magnets 20. Thereby the replacement frame and its attached shade are held against the support 12. This change is achieved without the need to remove the threaded sleeve 17 from the socket 13, even without having to turn off power to the light fitting, as would be the case with prior art arrangements.

Alternatively, when it is desired to change the sleeve, the frame 14 is pulled downwards out of engagement with the support 12 and the shade 19 is removed from the frame 14. A replacement shade is then engaged in the slot 28 of the frame 14, and the frame 14, with its new shade attached, is then lifted towards the light fitting until the upper surface 26 of the frame magnets 24 contact the downwardly facing surfaces 22 of the support magnets 20 again. Thereby the frame 14 and its attached replacement shade are held against the support 12. Again, this change is achieved without the need to remove the threaded sleeve 17 from the socket 13, even without having to turn off power to the light fitting, as would be the case with prior art arrangements.

The product may be in the form of a kit including the support 12, a number of shades 19 of different shape and/or ornament and one or more frames 14. Where just one frame 14 is provided, the user can remove one shade 19 from the frame and replace it with another, according to choice. Alternatively, the kit may provide a frame 14 for each shade, so that removing a shade from its frame becomes unnecessary.

References to upwards, downwards and the like, in this document particular

refer to the orientation of a pendent light fitting depending from a ceiling, but it should be appreciated that the invention will work for any light fitting where the bulb is fitted in to a connector which in turn is connected directly or indirectly to a surface regardless of the orientation of the surface. The invention will still provide the advantage that the shade can be changed without requiring the removal of the lightbulb. The invention is also suitable for use with lamps where the light bulb is fitted in to a connector on a base.

CLAIMS:

1. A shade attachment device for a light fitting extending from a building surface, comprising:

(i) a support having attachment means for attachment to the light fitting and at least one support connecting element; and

(ii) a frame having support means to support a shade that extends in a direction away from the support and at least one frame connecting element,

wherein the at least one support connecting element cooperates with the at least one frame connecting element in a releasable manner such that the frame is releasable from the support by movement in the direction away from the support.

2. A shade attachment device according to claim 1, wherein the support comprises a ring for attachment to the light fitting and a plurality of arms extending away from the ring.

3. A shade attachment device according to claim 2, wherein a support connecting element is provided at the distal end of each of the arms.

4. A shade attachment device according to claim 2 or 3, wherein the arms lie in a common plane.

5. A shade attachment device according to claim 2, 3 or 4, wherein the arms are equally spaced from each other.

6. A shade attachment device according to any preceding claim, wherein the frame has a polygonal configuration and a support connecting element is provided at each corner of the polygon.

7. A shade attachment device according to any preceding claim, wherein the support means comprises a downwardly opening slot formed on the frame.

8. A shade attachment device according to claim 7, wherein portions of at least one wall of the slot protrude into the slot to act as retaining elements for retaining an upper edge portion of a shade in the slot.

9. A shade attachment device according to any preceding claim, wherein the cooperating releasable connecting elements comprise magnets provided on the support and on the frame.

10. A shade attachment device according to any one of the preceding claims, wherein the frame is only releasably connected to the support in a particular orientation.

11. A shade attachment device according to claim 9 or claim 9 and 10, wherein the magnets are of more than one strength.

12. A shade attachment device according to any one of the preceding claims, wherein the frame and the support are releasably connected together in an area between the building surface and a lightbulb in the light fitting.

13. A shade attachment device according to any one of the preceding claims, wherein the direction is downwards.

14. A shade attachment device according to any one of the preceding claims, arranged for attachment to a pendant light fitting.

15. A kit of parts for shading a pendant light fitting, the kit comprising:

(i) a support having attachment means for attachment to a light fitting and at least one support connecting element;

(ii) at least one shade; and

(iii) a frame having support means to support a shade and at least one frame connecting element,

wherein the at least one support connecting element cooperates with the at least one frame connecting element in a releasable manner such that the frame is releasable from the support by movement in the direction away from the support.

16. A kit of parts according to claim 15, wherein the support comprises a ring for attachment to a pendant light fitting and a plurality of arms extending away from the ring.

17. A kit of parts according to claim 16, wherein a support connecting element is provided at the distal end of each of the arms.

18. A kit of parts according to claim 16 or 17, wherein the arms lie in a common plane.

19. A kit of parts according to claim 16, 17 or 18, wherein the arms are equally spaced from each other.

20. A kit of parts according to any one of claims 15 to 19, wherein the frame has a polygonal configuration, and a frame connecting element is provided at each corner of the polygon.

21. A kit of parts according to any one of claims 15 to 20, wherein the means to support a shade comprises a downwardly opening slot formed on the frame.

22. A kit of parts according to claim 21, wherein portions of at least one wall of the slot protrude into the slot to act as retaining elements for retaining an upper edge portion of one of the shades in the slot.

23. A kit of parts according to any one of claims 15 to 22, wherein the cooperating releasable connecting elements comprise magnets provided on the support and on the frame.

24. A kit of parts for shading a pendant light fitting, the kit comprising:

- (i) a shade; and
- (ii) a frame comprising support means to support the shade and at least one

frame connecting element, wherein the shade extends in a direction away from one side of the support means when supported thereon, and the at least one frame connecting element is on the opposite side of the support means.

25. A kit according to claim 24, wherein the frame connecting element comprises at least one magnet.

26. A shade attachment device for a pendant light fitting, substantially as hereinbefore described with reference to the accompanying drawings.

27. A kit of parts for shading a pendant light fitting, substantially as hereinbefore described with reference to the accompanying drawings.

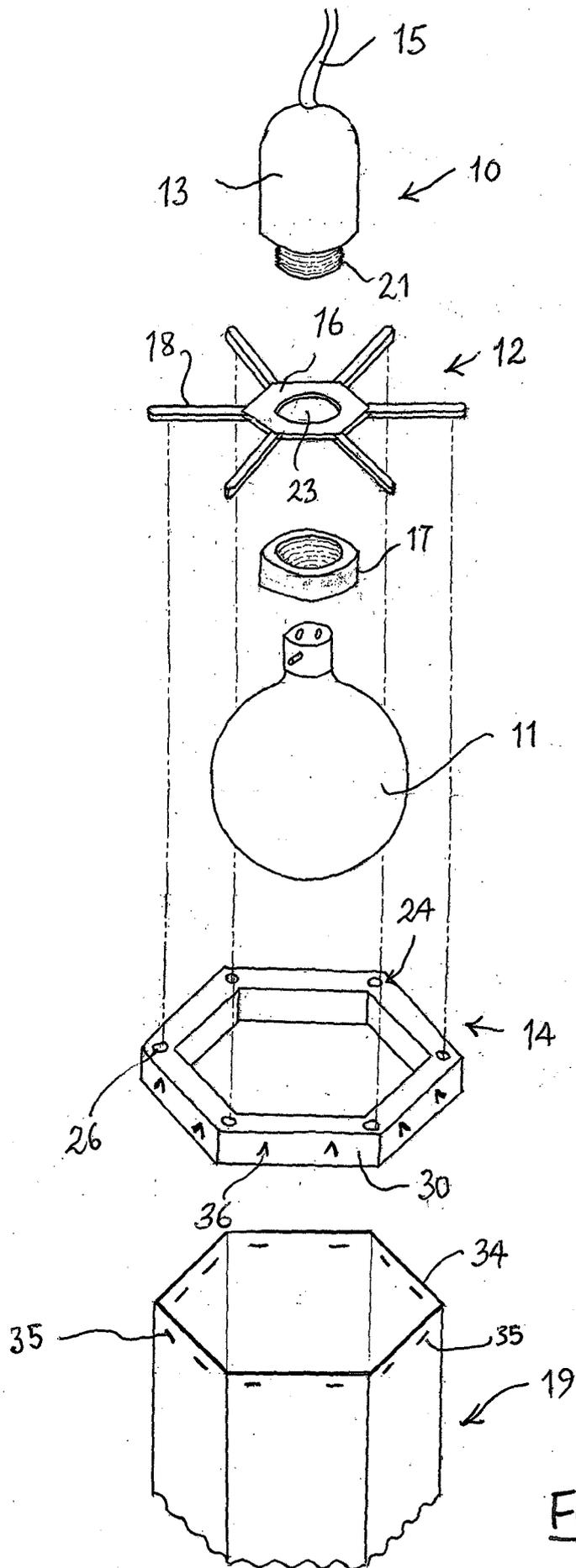


Figure 1

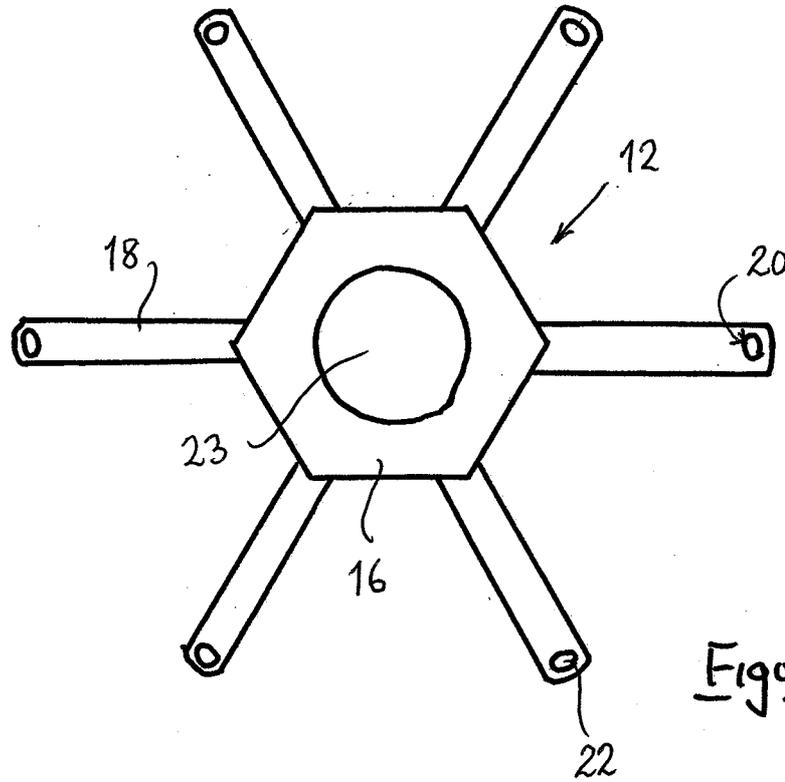


Figure 2

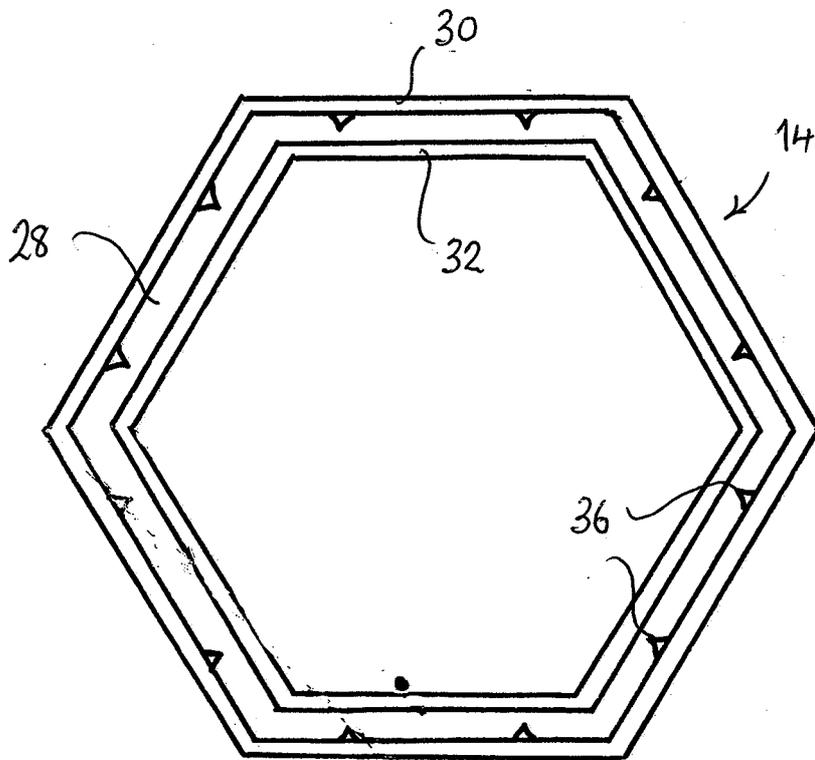


Figure 3

# INTERNATIONAL SEARCH REPORT

International application No PCT/GB2011/05Q192
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<b>A. CLASSIFICATION OF SUBJECT MATTER</b> INV. F21V1/Q2 F21V17/10 ADD.				
According to International Patent Classification (IPC) or to both national classification and IPC				
<b>B. FIELDS SEARCHED</b>				
Minimum documentation searched (classification system followed by classification symbols) F21V				
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched				
Electronic data base consulted during the international search (name of data base and, where practical, search terms used)  EPO-Internal				
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>				
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.		
X	DE 202 02 455 UI (HOHMANN MARIO [DE] ) 13 June 2002 (2002-06-13)  the whole document -----	1-6, 9-20, 23-25		
X	US 3 764 801 A (MAINI EKS W) 9 October 1973 (1973-10-09) the whole document -----	1-23,25		
X	DE 20 2006 003034 UI (PETERS DESIGN GMBH [DE] ) 27 April 2006 (2006-04-27)  the whole document -----	1-6, 9-20, 23-25		
X	US 3 593 021 A (AUERBACH SEYMOUR) 13 July 1971 (1971-07-13) the whole document -----  - / - -	1,9-15 , 23-25		
<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"><input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C.</td> <td style="width: 50%; border: none;"><input checked="" type="checkbox"/> See patent family annex.</td> </tr> </table>			<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C.	<input checked="" type="checkbox"/> See patent family annex.
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C.	<input checked="" type="checkbox"/> See patent family annex.			
* Special categories of cited documents :				
"A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. "&" document member of the same patent family			
Date of the actual completion of the international search  29 June 2011	Date of mailing of the international search report  06/07/2011			
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer  Chal oupy, Marc			

# INTERNATIONAL SEARCH REPORT

International application No  
PCT/GB2011/05Q192

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 20 2004 007742 U1 (LAAS KAY UWE [DE]) 15 July 2004 (2004-07-15) the whole document -----	1-6,9, 15,23-25

**INTERNATIONAL SEARCH REPORT**

International application No.  
**PCT/GB2011/05Q192**

**Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)**

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2.  Claims Nos.: **26, 27**  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:  
**see FURTHER INFORMATION sheet PCT/ISA/21Q**
  
3.  Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

**Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)**

This International Searching Authority found multiple inventions in this international application, as follows:

1.  As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
  
2.  As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
  
3.  As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos. :
  
4.  No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

**Remark on Protest**

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

**FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210**

Continuation of Box 11.2

Claims Nos. : 26, 27

Claims 26 and 27 contain no technical features, consequently the scope of protection sought by these claims and the subject-matter to be searched cannot be determined.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.2), should the problems which led to the Article 17(2) declaration be overcome.

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/GB2011/05Q192

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE 20202455	U1	13-05-2002	NONE
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US 3764801	A	09-10-1973	NONE
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DE 202006003034	U1	27-04-2006	NONE
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US 3593021	A	13-07-1971	NONE
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DE 202004007742	U1	15-07-2004	NONE
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