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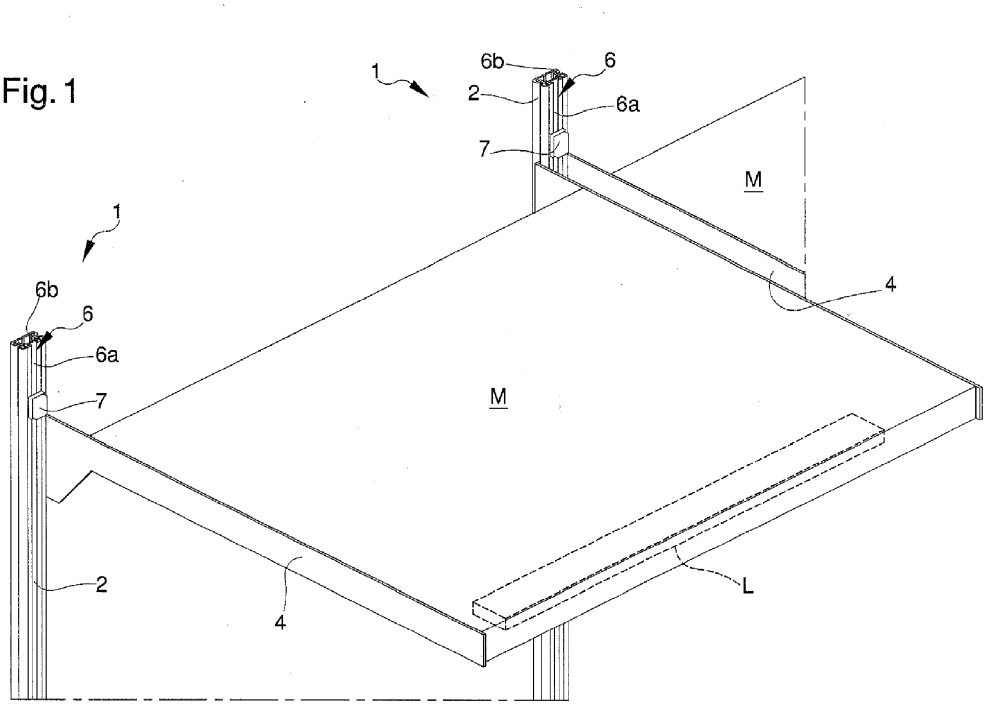
(54) **DEVICE FOR THE SUPPORT OF SHELVES AND THE LIKE**

(57) A device (1) for the support of shelves and the like, comprising at least a self-supporting base element (2), having a tubular shape and defining a rear area (2c) intended to be fixed to a support wall, a front area (2a) opposite the rear area (2c) and at least a pair of lateral areas (2b) positioned between the rear area (2c) and the front area (2a) and arranged transversely to the same, the base element (2) having anchoring means (3) of at least a support element (4) of a shelf or the like, at least an electrified connecting element (6) associated with the base element (2), at least an electrical connector (7) movably associated with the connecting element (6) to allow the electrical connection to at least an electrical source (L) associated with the shelf, where the anchoring means (3) are defined onto at least one of the lateral areas (2b) where the front area (2a) has at least a through opening (16) adapted to allow the access to the rear area (2c) and defines at least a seat (5) for the removable insertion of the connecting element (6).

Fig. 1



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Description

[0001] The present invention relates to a device for the support of shelves and the like.

[0002] The shelf assemblies of known type generally comprise one shelf adapted to define a support plane, which can be made of wood or other material, and at least a pair of support devices arranged on opposite sides of the shelf itself and which are made integral to a support wall.

[0003] Nowadays shelves are particularly used that can be illuminated, i.e. that integrate a light source.

[0004] These shelves are generally made to be recessed, i.e. they are associated with secondary structures inserted within the bearing structure of a piece of furniture or the like in order to conceal the wiring needed to power the light source. These support structures do have a number of drawbacks, since they necessarily require the presence of a base structure against which they can lean.

[0005] Another drawback consists in the fact that such structures are particularly bulky. The main aim of the present invention is to provide a device for the support of shelves or the like that allows to overcome the drawbacks of the prior art.

[0006] In particular, the device according to the invention is intended to support shelves and the like, integrating a light source, without the use of auxiliary bearing structures.

[0007] Within this aim, one object of the present invention is to allow a flexible and easy adjustment of the position of the relative shelf.

[0008] Another object of the present invention is to provide a device for the support of shelves and the like which allows to overcome the mentioned drawbacks of the prior art within the ambit of a simple, rational, easy, effective to use as well as affordable solution.

[0009] The above mentioned objects are achieved by the present device for the support of shelves and the like according to claim 1.

[0010] Other characteristics and advantages of the present invention will become better evident from the description of a preferred, but not exclusive embodiment of a device for the support of shelves and the like, illustrated by way of an indicative, but not limitative example in the accompanying drawings wherein:

Figure 1 is an axonometric view of a device according to the invention supporting a corresponding shelf;
Figure 2 is an axonometric, partially sectioned view of a portion of the device of Figure 1;
Figure 3 is an enlargement of a detail of the device of Figure 2;
Figure 4 is a longitudinal section of the adjustment means of the device of Figure 2.

[0011] With particular reference to these illustrations, a device for the support of shelves and the like is globally indicated by reference number 1.

[0012] The device 1 comprises at least a base element 2 of the self-supporting type (by this term meaning that it requires no auxiliary support structures) and has anchoring means 3 for at least a support element 4 of a shelf M or the like.

[0013] More particularly, the base element 2 has an elongated shape and the "horizontal" and "vertical" spatial directions defined below refer to the use configuration wherein the base element itself is arranged with its longitudinal axis oriented vertically. Preferably, the anchoring means 3 are of the rack type and thus have a plurality of slots arranged at regular intervals along the longitudinal extension of the base element 2 to allow the positioning of the corresponding shelf M at different heights.

[0014] The base element 2 has a tubular shape and has a rear area 2c intended to be fixed to a support wall (not shown in the illustrations), at least a front area 2a opposite the rear area 2c and a pair of lateral areas 2b positioned between the rear area 2c and the front area 2a and arranged transversely to the same.

[0015] The front area 2a is therefore turned, in use, to the side of the shelf M, i.e. it faces the position of a user who shall access to the shelf itself.

[0016] In the embodiment shown in the illustrations, the base element 2 has a polygonal section, more particularly a substantially quadrilateral section, where the term "substantially" is used here to mean that the corresponding sides are not straight.

[0017] The device 1 comprises at least an electrified connecting element 6 associated with the base element 2 and at least an electrical connector 7 movably associated with the connecting element 6 to allow the electrical connection to at least an electrical source L associated with the shelf M.

[0018] According to the invention, the anchoring means 3 are defined onto at least one of the lateral areas 2b and the front area 2a has at least a through opening 16 adapted to allow the access to the rear area 2c and defines at least a seat 5 for the removable insertion of the connecting element 6.

[0019] The opening 16 extends along at least a longitudinal portion of the front area 2a, preferably along its entire longitudinal extension.

[0020] Preferably, the anchoring means 3 are defined at both the lateral areas 2b of the base element 2 so as to allow the association with two support elements 4 of two respective brackets M, as shown in Figure 1.

[0021] In the embodiment shown in the illustrations, wherein the lateral areas 2b define relative lying planes substantially perpendicular to those defined by the front area 2a and by the rear area 2c, the racks 3 are therefore substantially perpendicular to the connecting element 6.

[0022] Advantageously, the connecting element 6 is interlocked within the seat 5.

[0023] More in detail, the connecting element 6 comprises a guide element 6a, shaped so as to be inserted within the seat 5 and supporting at least a pair of electrical

conductors 6b, e.g. made of copper and connectable to a respective power source (not shown in the illustrations).

[0024] More particularly, the electrical connector 7 is associated movable in translation with the guide element 6a along the longitudinal extension of the same. Advantageously, the device 1 comprises adjustment means 8 of the position of the base element 2 with respect to the vertical reference surface against which it leans.

[0025] Preferably, the adjustment means 8 comprise at least a recess 9 defined on the rear area 2c and extending along at least two directions transversal to one another, namely a first direction 10 which corresponds to the direction of longitudinal extension of the base element 2, and a second direction identified in the illustrations by the double arrow 11, and comprise at least an adjustment element 12 inserted sliding within the base element 2 along the first direction 10.

[0026] More in detail, the adjustment element 12 has a plate-shaped conformation and inserts inside relative grooves 13 defined on the base element 2 and adapted to act as a guide for the sliding of the adjustment element itself along the first direction 10.

[0027] The adjustment element 12 has at least a through slot 14 and which extends along the second direction 11.

[0028] The adjustment means 8 then comprise at least a locking element 15, e.g. of the threaded type, insertable through the slot 14 and the recess 9 to make the base element 2 and the adjustment element 12 mutually integral.

[0029] The locking element 15 can therefore move inside the slot 14 along the second direction 11 and, integrally with the adjustment element 12, along the first direction 10.

[0030] In particular, the recess 9 has a greater extension than the slot 14 along the second direction 11, this is why the stops of the locking element 15 along this direction are defined by the closed extremities of the slot itself.

[0031] The stops of the locking element 15 along the first direction 10, on the contrary, are defined by the edges of the recess 9.

[0032] Preferably, the base element 2 has a plurality of recesses 9 arranged mutually spaced along the vertical extension, i.e. along the first direction 10, of the base element itself.

[0033] Advantageously, the adjustment means 8 also comprise braking means (not visible in detail in the illustrations) adapted to slow down the sliding of the adjustment element 12 along the first direction 10.

[0034] More in detail, the braking means comprise at least a braking element positioned between the adjustment element 12 and the base element 2. This braking element is therefore adapted to increase the friction between the adjustment element 12 and the base element 2.

[0035] The braking element may be of the type of an elastic means, such as a helical spring, be made of an elastomeric material or, in a further embodiment, be of the type of a ball pointer.

[0036] The operation of this invention is as follows.

[0037] Each base element 2 has to be fixed first of all to the relative wall.

[0038] By means of the adjustment means 8 the position of each base element 2 is adjusted both vertically and horizontally, so as to obtain the optimal leveling and the correct alignment of the rack pitch, and therefore of the support elements, between two adjacent base elements 2.

[0039] As already anticipated above, the adjustment along the first direction 10 is made by moving the base element 2 with respect to the locking element 15 and to the adjustment element 12, the latter being integral to the locking element itself along the first direction 10.

[0040] The movement along the second direction 11 is performed instead by moving the base element 2 and the adjustment element 12 with respect to the locking element 15.

[0041] The adjustment of the position of the base elements 2 can also be made after their fixing to the relative wall, by simply loosening the locking element 15 so as to allow the displacement with respect to it of the corresponding base element 2 along the directions 10 and 11.

[0042] Once the position of the base elements 2 has been defined, the support elements 4 and the corresponding shelf M are applied to the same.

[0043] Since the shelf M also has a light source L, the latter is connected to the electrical connector 7 in order to allow its power supply.

[0044] In practice it has been ascertained how the described invention achieves the proposed objects and in particular the fact is underlined that the device making the subject of the present invention enables the support of shelves or the like integrating a light source without the use of auxiliary support structures.

[0045] The device making the subject of the present invention also allows greater practicality of use due to the positioning of the attachment means on the lateral areas of the base element arranged transversely with respect to the front area adapted to receive the connecting element. This allows an effective and at the same time pleasant support of the corresponding shelf, since the support elements can be arranged so as to laterally embrace the shelf itself and leave free access to the electrified connecting element associated with the base element.

Claims

1. Device (1) for the support of shelves and the like, comprising:

   - at least a self-supporting base element (2), having a tubular shape and defining a rear area (2c) intended to be fixed to a support wall, a front

area (2a) opposite said rear area (2c) and at least a pair of lateral areas (2b) positioned between said rear area (2c) and said front area (2a) and arranged transversely to the same, said base element (2) having anchoring means (3) of at least a support element (4) of a shelf or the like;
- at least an electrified connecting element (6) associated with said base element (2);
- at least an electrical connector (7) movably associated with said connecting element (6) to allow the electrical connection to at least an electrical source (L) associated with said shelf;

and **characterized by** the fact that said anchoring means (3) are defined onto at least one of said lateral areas (2b) and by the fact that said front area (2a) has at least a through opening (16) adapted to allow the access to said rear area (2c) and defines at least a seat (5) for the removable insertion of said connecting element (6).

2. Device (1) according to claim 1, **characterized by** the fact that said anchoring means (3) are defined at both said lateral areas (2b).

3. Device (1) according to claim 1, **characterized by** the fact that said anchoring means (3) are of the rack type.

4. Device (1) according to claim 1, **characterized by** the fact that said connecting element (6) is interlocked within said seat (5).

5. Device (1) according to claim 1, **characterized by** the fact that it comprises adjustment means (8) of the position of said base element (2) with respect to a reference surface.

6. Device (1) according to claim 5, **characterized by** the fact that said adjustment means (8) comprise at least a through recess (9) defined on said rear area (2c) and extending along at least a first and a second direction (10, 11) perpendicular to one another and at least an adjustment element (12) inserted sliding within the base element itself along said first direction (10), said adjustment element (12) having at least a through slot (14) extending along said second direction (11), and at least a locking element (15) intended to be fixed to said reference surface and insertable through said slot (14) and said recess (9) to make said base element (2) and said adjustment element (12) mutually integral, said base element (2) being movable with respect to said locking element (15) along said first and second directions (10, 11).

7. Device (1) according to claim 6, **characterized by** the fact that the end-of stroke positions of said base element (2) along said first direction (10) are defined by the extremity edges of said recess (9).

8. Device (1) according to claim 6, **characterized by** the fact that the end-of stroke positions of said base element (2) along said second direction (11) are defined by the closed extremities of said slot (14).

9. Device (1) according to claim 6, **characterized by** the fact that said base element (2) has a plurality of said recesses (9) arranged mutually spaced along said first direction (10).

10. Device (1) according to claim 6, **characterized by** the fact that it comprises braking means adapted to slow down the sliding of said adjustment element (12) along said first direction (10).

11. Device (1) according to claim 10, **characterized by** the fact that said braking means comprise at least a braking element positioned between said adjustment element (12) and said base element (2).

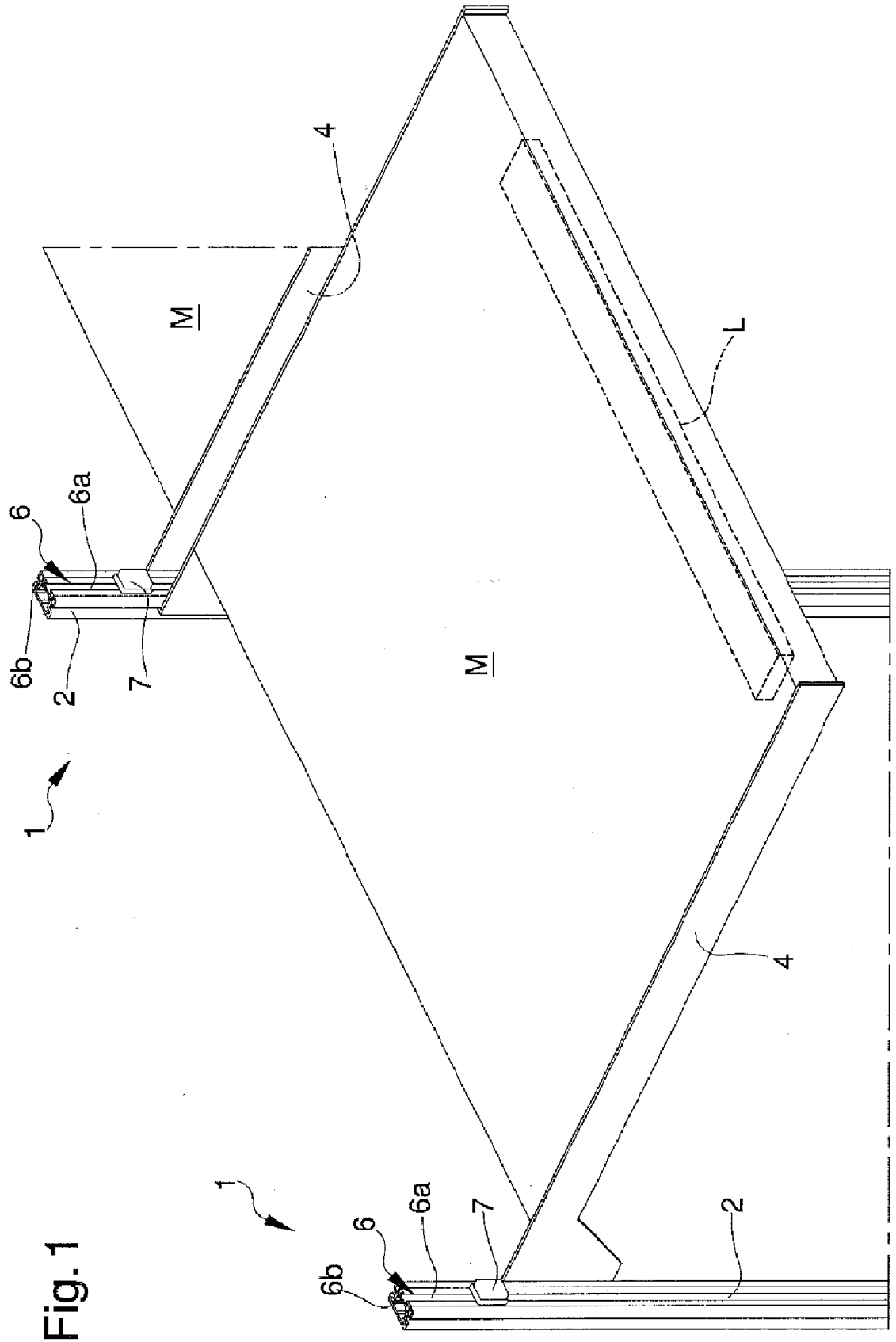

Fig. 1

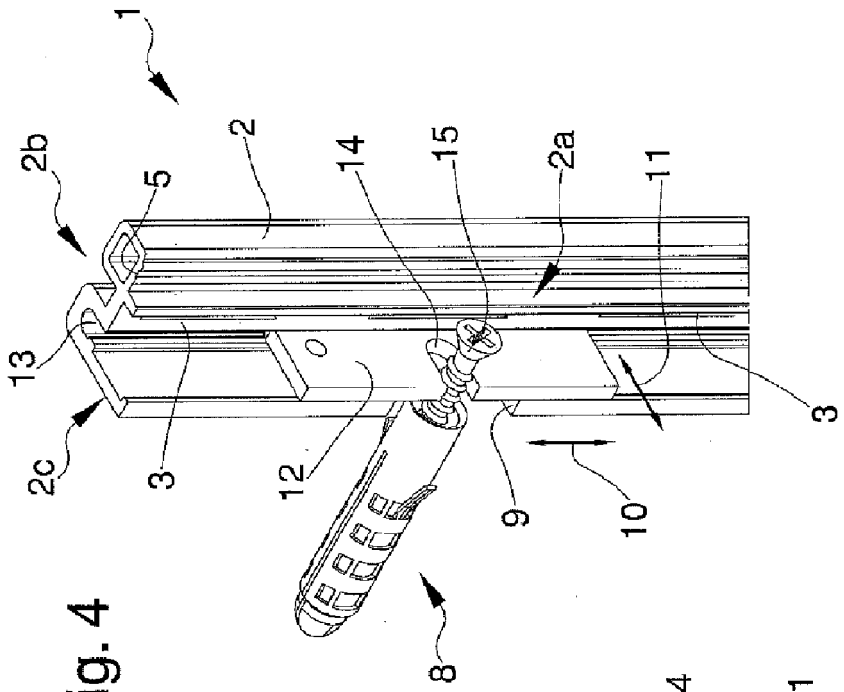

Fig. 4

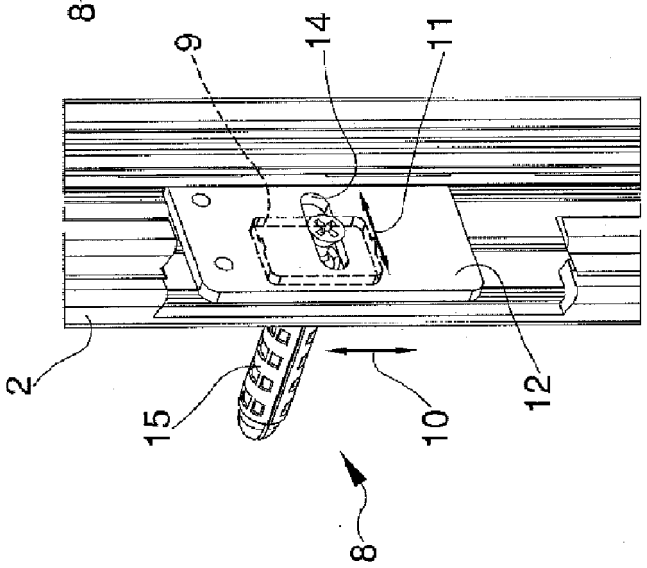

Fig. 3

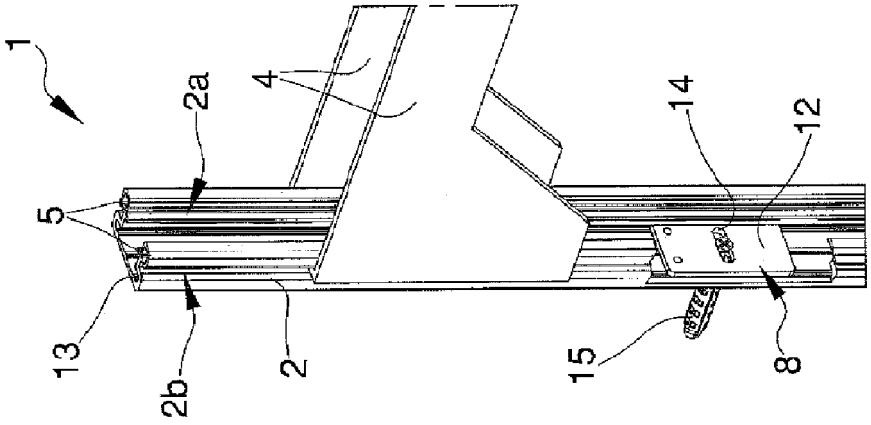

Fig. 2

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EUROPEAN SEARCH REPORT

Application Number
EP 15 15 4962

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	DE 20 2012 008355 U1 (VISPLAY INT AG) 24 October 2012 (2012-10-24) * figures 1-18 * -----	1-4	INV. A47F5/10 A47F11/10
X	DE 203 14 260 U1 (VISPLAY INTERNAT AG) 13 November 2003 (2003-11-13) * figures 1-9 * -----	1-4	
A	US 5 004 302 A (STOCKING ET AL) 2 April 1991 (1991-04-02) * figure 6 * -----	5	

TECHNICAL FIELDS SEARCHED (IPC)

A47F
A47B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	18 June 2015	Linden, Stefan

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
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EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 15 15 4962

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18-06-2015

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE 202012008355 U1	24-10-2012	DE 202012008355 U1	24-10-2012
		WO 2014032190 A1	06-03-2014
DE 20314260 U1	13-11-2003	DE 20314260 U1	13-11-2003
		EP 1665476 A1	07-06-2006
		US 2006207778 A1	21-09-2006
		WO 2005027278 A1	24-03-2005
US 5004302 A	02-04-1991	CA 1301116 C	19-05-1992
		US 5004302 A	02-04-1991

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82