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(54) **SHELF SYSTEM**

(57) Described is a shelf system for supporting objects and/or articles of furnishing (2), comprising a main metal body (3) having a main longitudinal extension according to a predetermined axis (D) and a quadrangular cross-section.

FIG. 1

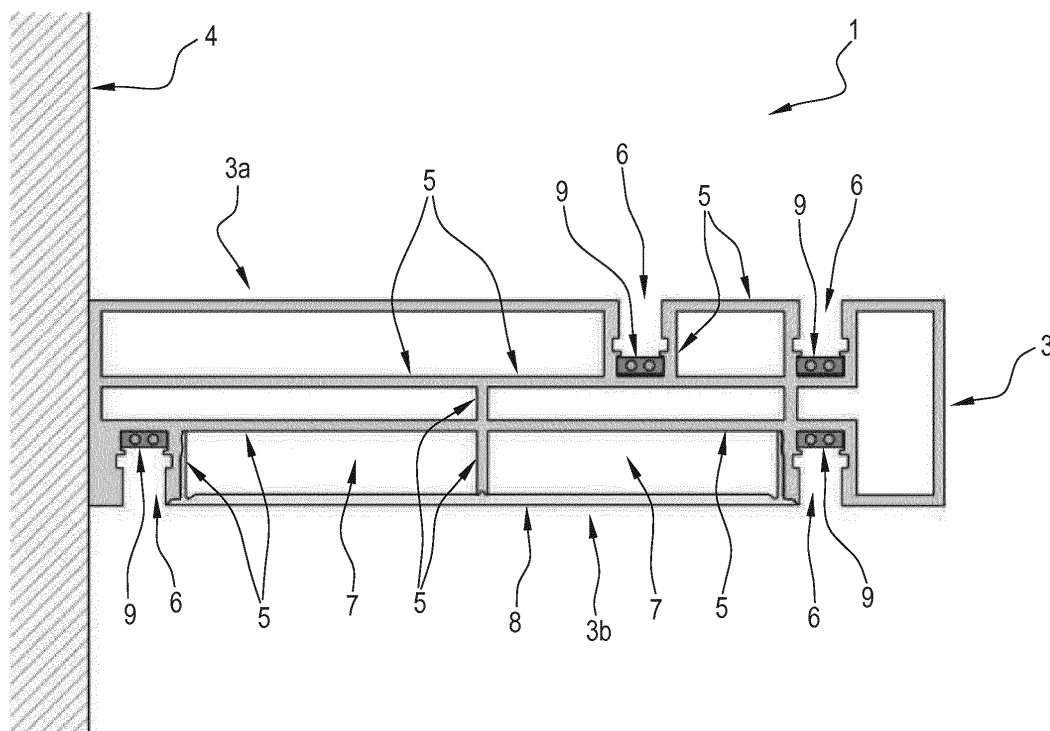
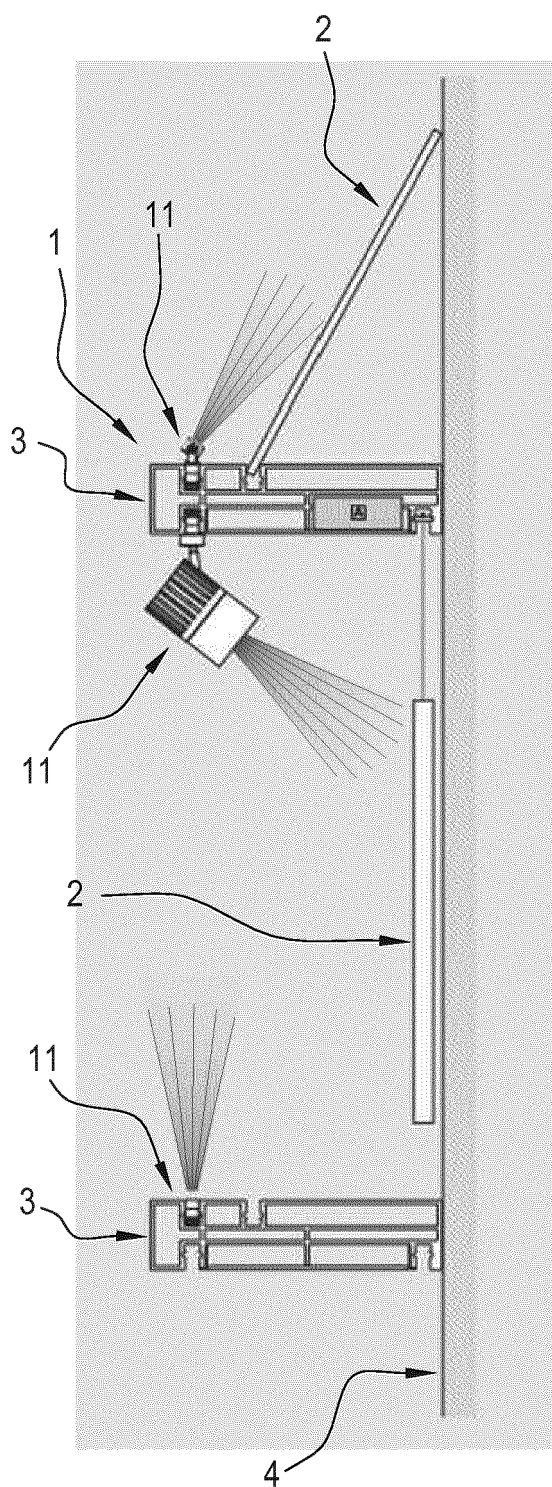


FIG. 5



Description

[0001] This invention relates to a supporting system.

[0002] More specifically, this invention relates to a shelf system for supporting objects and/or furnishing elements.

[0003] Yet more specifically, this invention relates to a shelf system having an electrical connection.

[0004] Prior art teaches the use of shelves or similar supporting elements, both in homes, for supporting books and objects of various kinds, and in shops, such as units for display of products on sale.

[0005] The prior art shelves, and also the display units used in commercial premises are not always satisfactory for several reasons.

[0006] Due also to the need, which is increasingly felt in commercial premises (but also in homes) of placing, on the display elements and/or on the shelves, electric connections for lighting or the like, they are often particularly complex in terms of construction and from the point of view simply of management.

[0007] Further, the display elements and/or the shelves of known type are sometimes not particularly versatile and adaptable to different uses and/or configurations.

[0008] The aim of this invention is provide a shelf system which is able to overcome the drawbacks of the prior art and which is at same time inexpensive to make, practical to use and simple to install.

[0009] The technical features of the invention, according to the above aims, are clearly described in the appended claims and its advantages are apparent from the detailed description which follows, with reference to the accompanying drawings which illustrate non-limiting example embodiments of it, and in which:

- Figure 1 is a schematic side view of a shelf system made in accordance with this invention;
- Figure 2 is a cross section view of a detail of the system of Figure 1;
- Figure 3 is an exploded view of the detail of Figure 2;
- Figure 4 is a schematic perspective view of the system of the preceding figures, in a configuration of use;
- Figures 5 to 8 are respective schematic side elevation views of four different configurations of use of the system according to this invention;
- Figures 9 and 10 are respective schematic side elevation views of two further different configurations of use of the system according to this invention.

[0010] As illustrated in the accompanying drawings, the reference numeral 1 denotes in its entirety a shelf system for supporting objects and/or furnishing elements made in accordance with this invention.

[0011] With reference to the accompanying drawings, in particular Figures 5 to 10, the term objects and/or furnishing elements means a plurality of different products,

comprising true furnishing elements, functional elements for the display of products and products on sale or for personal use.

[0012] The objects and/or furnishing elements are denoted generically in the accompanying drawings with the reference numeral 2.

[0013] Purely by way of a non-limiting example, in Figure 5 the objects and/or the elements 2 comprise a display panel resting on the wall and a panel (picture or the like) suspended.

[0014] In Figure 6 the objects and/or elements 2 comprise display units for precious objects.

[0015] In Figure 7 the objects and/or elements 2 comprise a display for articles of clothing, a hook and a sloping shelf for footwear or the like.

[0016] In Figure 8 the objects and/or elements 2 comprise a roll holder element and a support for bottles.

[0017] In Figure 9 the objects and/or elements 2 comprise a mirror, an apparatus for playing music or a radio, a protruding shelf and several elements for supporting containers for liquids such as bottles or glasses.

[0018] In Figure 9, which shows the furnishing of a bathroom, the objects and/or elements 2 comprise a mirror, a picture, an apparatus for playing music or a radio, two towel rails, a toilet roll holder, a toilet brush holder.

[0019] As illustrated in Figure 1, the shelf system 1 comprises a main metal body 3 having a main longitudinal extension according to a predetermined axis D perpendicular to the plane of the drawing (visible in Figures 4 and 10) and having a quadrangular cross-section.

[0020] The main body 3 is designed to be fixed to a vertical wall 4 (made of masonry or consisting of a panel) and it protrudes from the wall 4 in a cantilever fashion.

[0021] The main body 3 is fixed stably to the wall 4 by suitable fastening means not illustrated.

[0022] The main metal body 3 is made from an extruded profile section, advantageously made of an aluminium alloy or brass.

[0023] As illustrated in Figures 1 to 4, the extruded profile section which forms the main body 3 has a plurality of vertical and horizontal partitions 5 defining different spaces and concavities.

[0024] As clearly shown in particular in Figure 3, the main body 3 has a plurality of grooves 6 leading out in respective opposite flat horizontal faces 3a, 3b, and two concave portions 7 which can be closed by a removable cover 8. The grooves 6, in the same way as the concave portions 7, have a longitudinal extension parallel to the above-mentioned axis D.

[0025] The portions are designed to house, in their longitudinal extension, cables or other elements of technical plants.

[0026] The cover 8 defines, when installed on the main body 3, one 3b of its above-mentioned flat faces.

[0027] As shown in Figures 1 and 4, inside the above-mentioned longitudinal grooves 6 are housed electrical conductor tracks 9, positioned in electrical connection with the mains supply and designed to power electric

apparatuses as explained in more detail below.

[0028] Figure 1 shows respective electrical tracks 9 housed in each of the grooves 6 of the main body 3.

[0029] In contrast, Figures 5 to 8 show the presence of electrical tracks 9 only in some (or none) of the longitudinal grooves 6.

[0030] As illustrated in Figures 2 and 3, each groove 6 has rectangular cross-section with two longitudinal side walls 6a, 6b which are parallel to each other and a longitudinal bottom wall 6c.

[0031] On the longitudinal side walls 6a, 6b of the groove 6 are made respective grooves 10 extending longitudinally parallel to the above-mentioned predetermined main axis D, the grooves 10 being opposite each other and defining respective undercuts in a direction perpendicular to the flat wall 3a, 3b of the main body 3.

[0032] The system 1 also comprises electric apparatuses 11 configured to stably engage with the main body 3 using respective fastening means.

[0033] The above-mentioned fastening means are configured to allow the engagement of external elements to be fixed to the main body 3; the expression "external elements" meaning both the above-mentioned electric apparatuses 11 and the above-mentioned objects and/or elements 2.

[0034] The fastening means comprise the above-mentioned grooves 10.

[0035] The electric apparatuses 11 comprise means, not illustrated, for electrical connection with the above-mentioned conducting tracks 9.

[0036] By way of example, the above-mentioned electric apparatuses 2 comprise lighting apparatuses (shown in Figures 5 to 8), power sockets (not illustrated), electrical switches (not illustrated), audio or radio apparatuses (visible in Figures 9 and 10).

Claims

1. A shelf system for supporting objects and/or articles of furnishing (2), comprising a main metal body (3) having a main longitudinal extension according to a predetermined axis (D) and a quadrangular cross-section, designed to be fixed to a vertical wall (4) emerging in a cantilever fashion, the main body (3) having, on at least one of its flat horizontal faces (3a, 3b), a longitudinal groove (6) parallel to the axis (D) and an electrical conductor track (9) housed in the groove (6), the groove (6) having fastening means (10) configured to allow the engagement of outer elements (2, 11) to be fixed to the main body (3).
2. The system according to claim 1, **characterised in that** it comprises at least one electric apparatus (11) configured to stably engage with the main body (3) using the fastening means (10), the electric apparatus (11) comprising means for electrical connection with the electrical conductor track (9).
3. The system according to claim 2, **characterised in that** the electric apparatus (11) comprises an illuminating apparatus.
4. The system according to claim 2 or 3, **characterised in that** the electric apparatus (11) comprises a power socket.
5. The system according to any one of claims 2 to 4, **characterised in that** the electric apparatus (11) comprises an electric switch.
6. The system according to any one of the preceding claims, wherein the groove (6) has a rectangular cross-section with two side walls (6a, 6b) which are parallel to each other and a longitudinal bottom wall (6c).
7. The system according to claim 6, **characterised in that** the fastening means comprise, on each of the longitudinal side walls (6a, 6b) of the groove (6), a respective track (10) having a longitudinal extension parallel to the main axis (D), the tracks (10) being opposite each other and defining respective undercuts in a direction perpendicular to the flat face (3a, 3b) of the main body (3).
8. The system according to claim 6 or 7, **characterised in that** the electrical conductor track (9) is housed in contact with the longitudinal bottom wall (6c) and extends parallel to the main axis (D).
9. The system according to any one of the preceding claims, **characterised in that** the main metal body (3) is made from an extruded profile section.
10. The system according to claim 9, **characterised in that** the extruded profile section is made with either an aluminium alloy or brass.
11. The system according to claim 9 or 10, wherein the extruded profile section has at least one concave portion (7), **characterised in that** it comprises a cover (8) of the at least one concave portion (7), the cover (8) defining a flat horizontal face (3b) of the main body (3).
12. The system according to any one of the preceding claims, **characterised in that** it comprises a plurality of longitudinal grooves (6) parallel to the axis.
13. The system according to claim 12, **characterised in that** the grooves (6) of the plurality are distributed on two flat horizontal opposite faces (3a, 3b) of the main body (3).
14. The system according to claim 12 or 13, **characterised in that** it comprises a plurality of electrical con-

ductor tracks (9) housed in the grooves (6).

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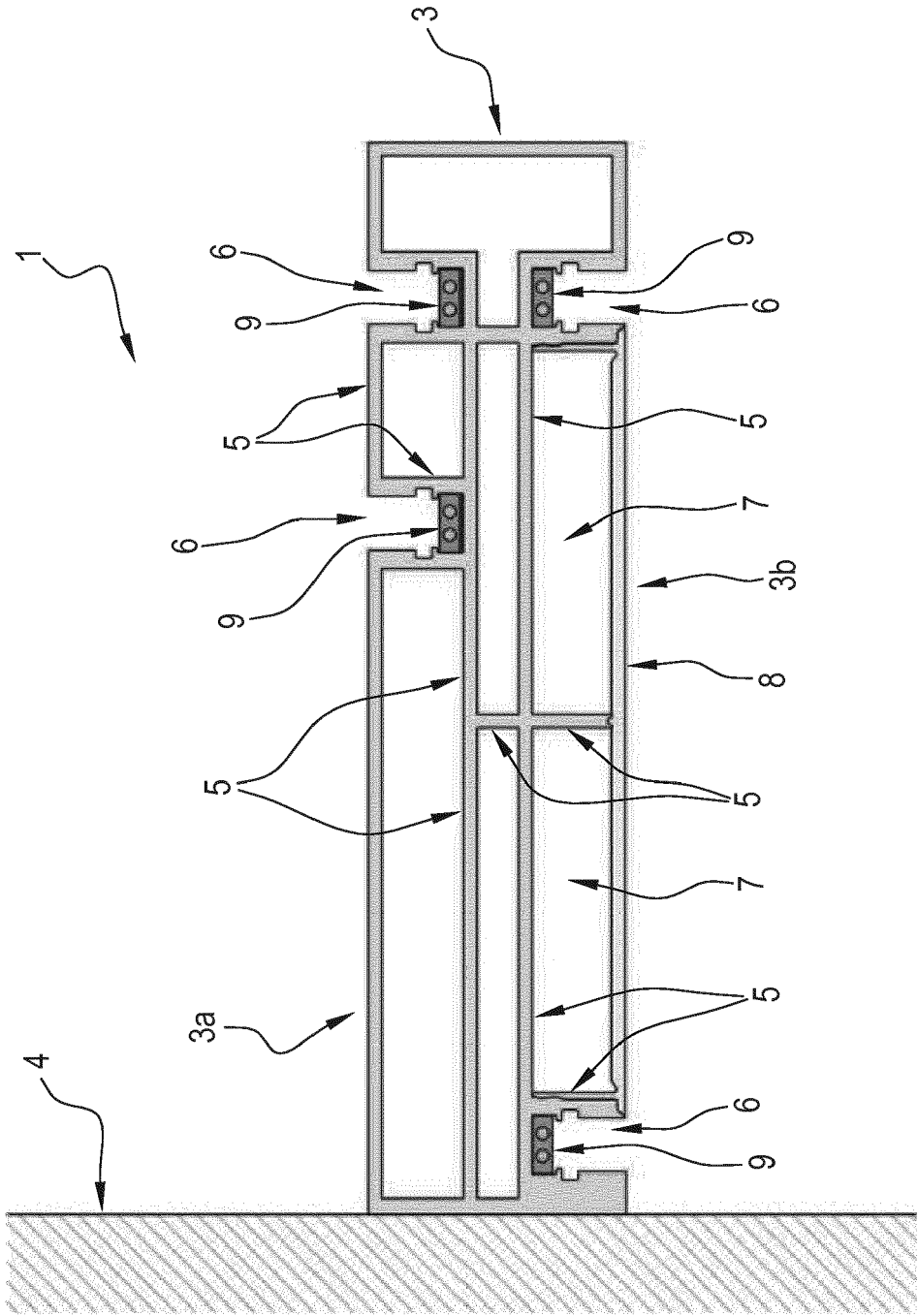
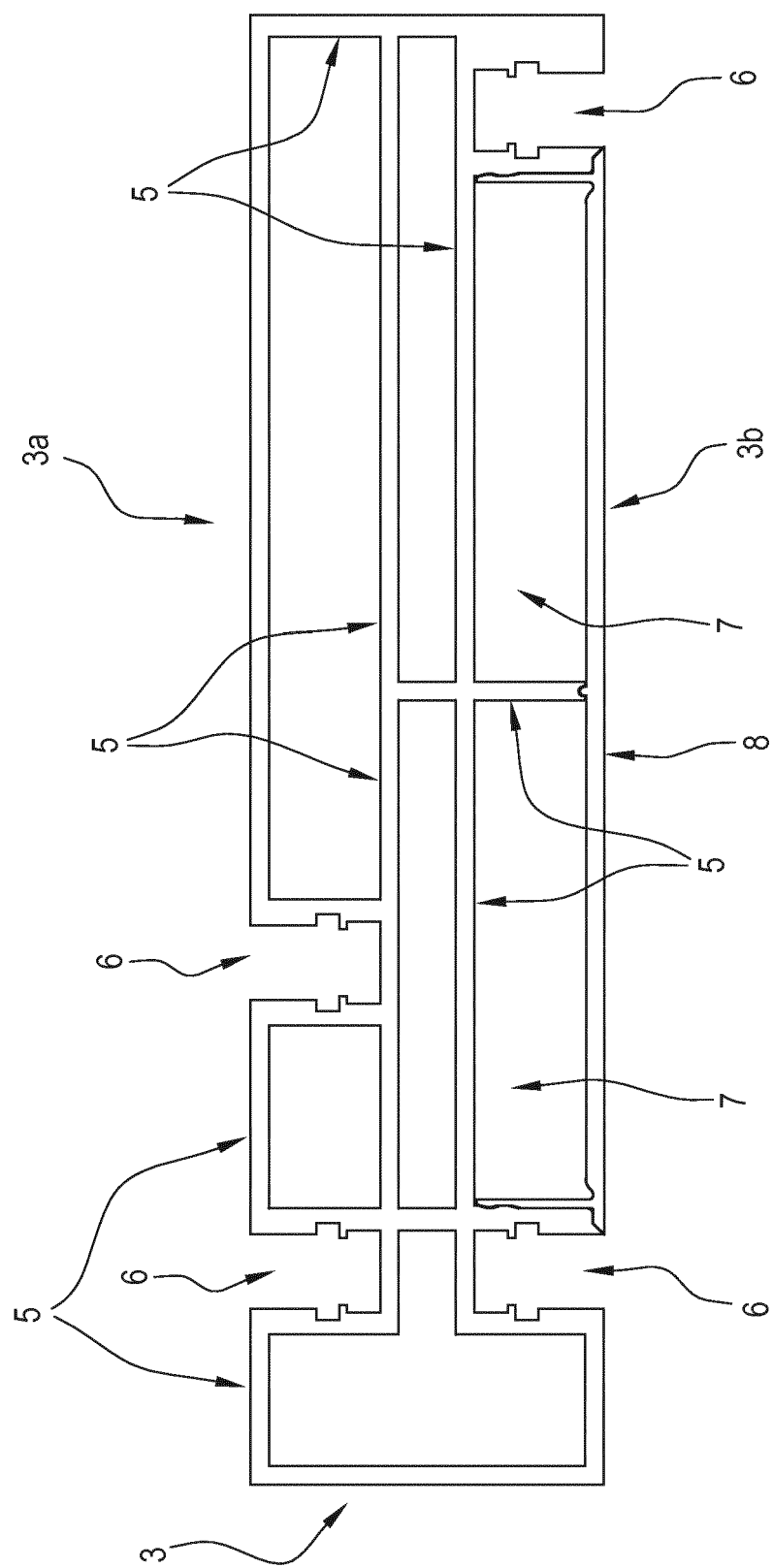


FIG. 1



2. G. F.

FIG. 3

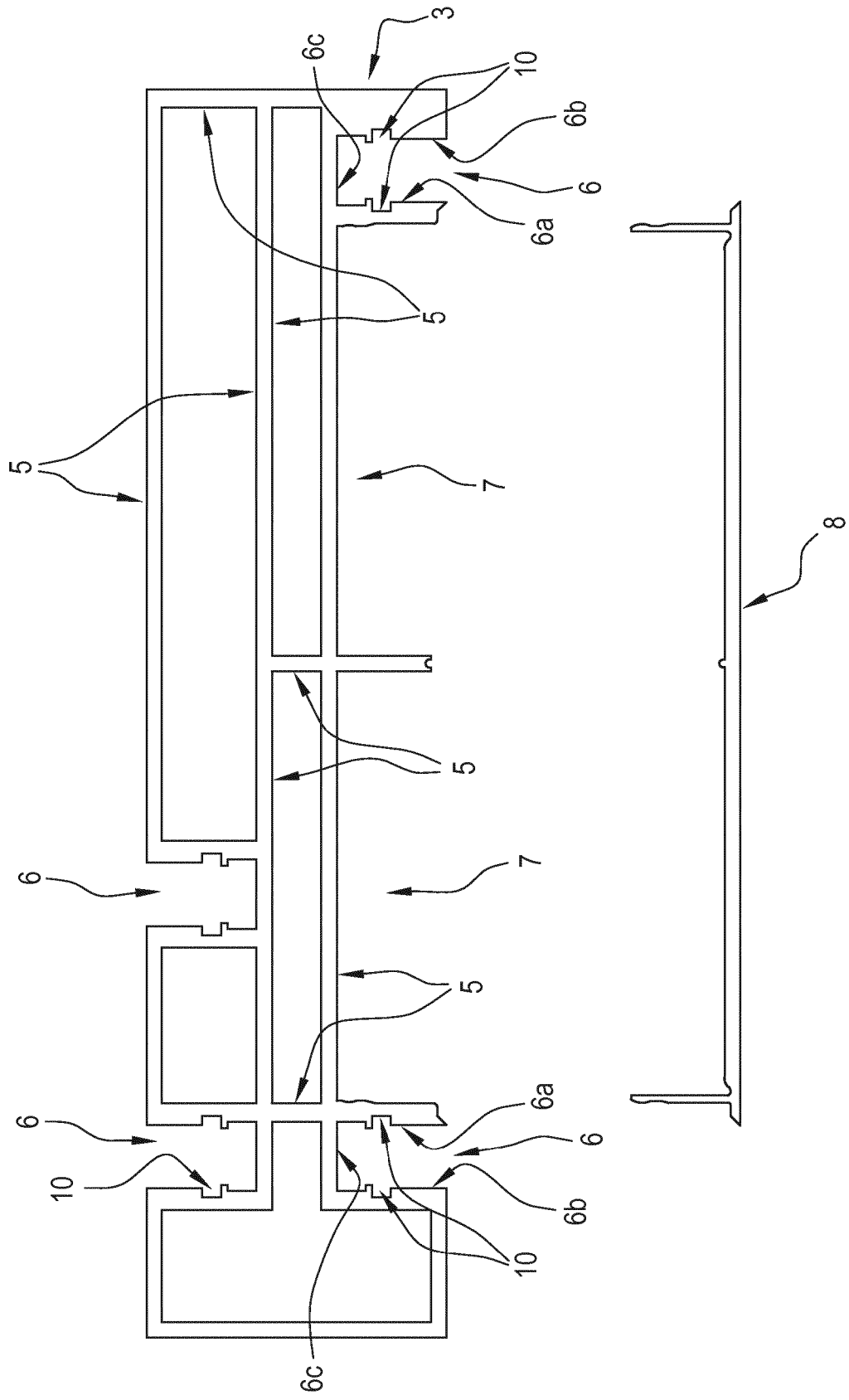


FIG. 4

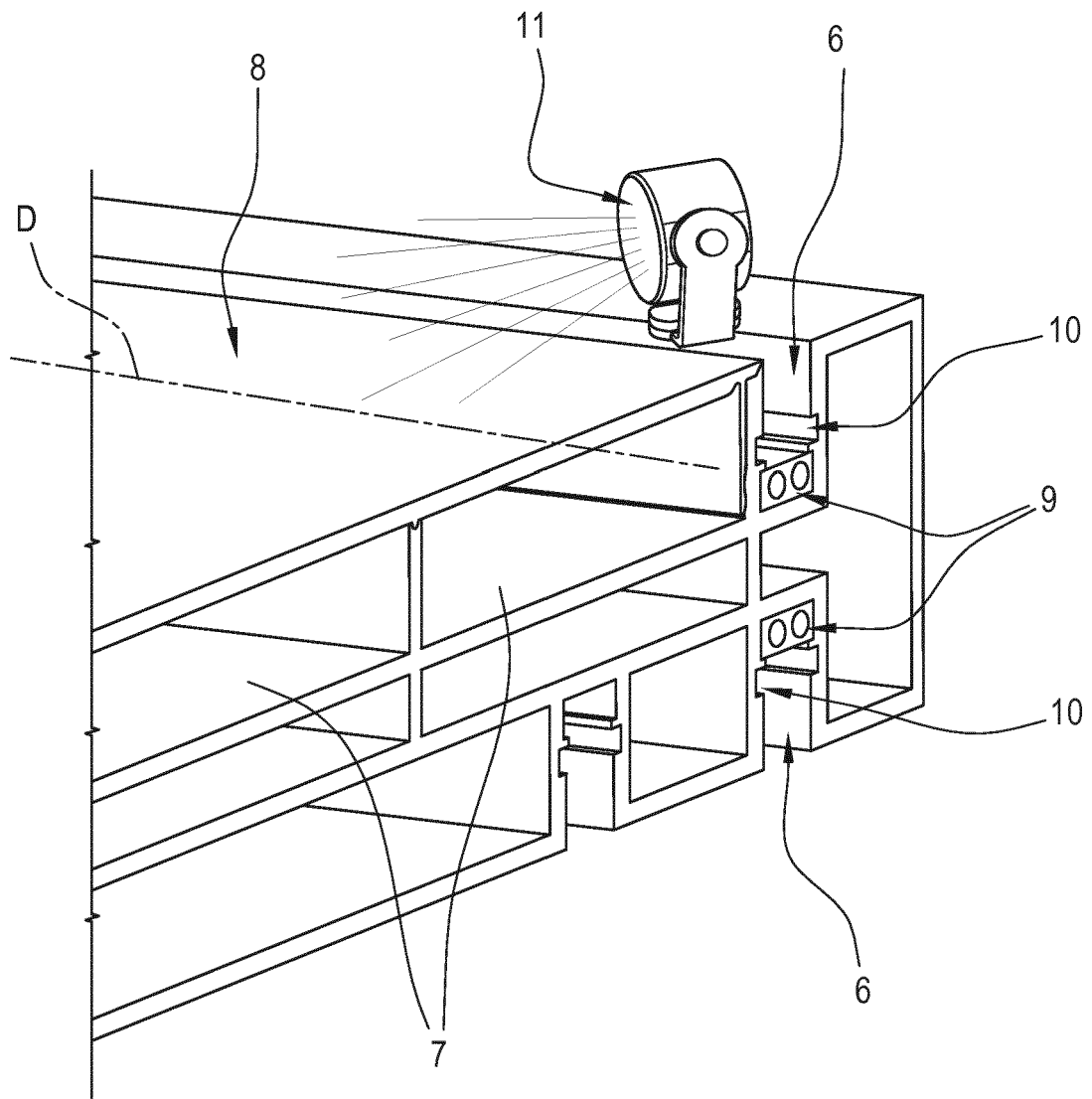


FIG. 5

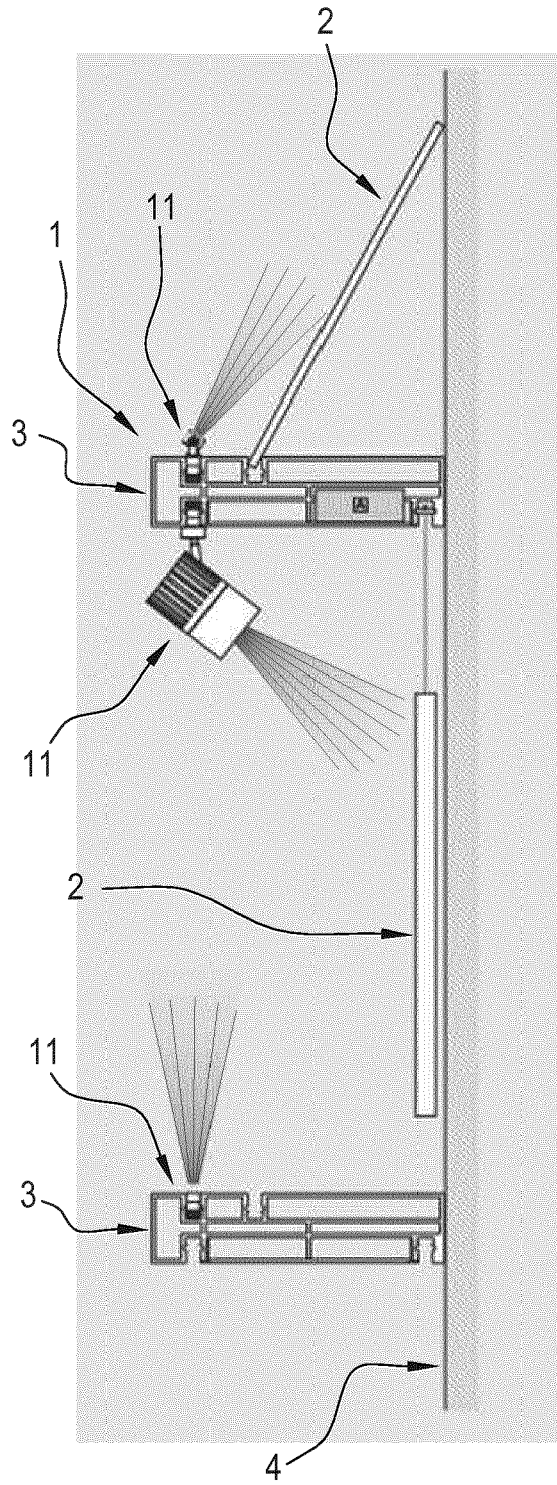


FIG. 6

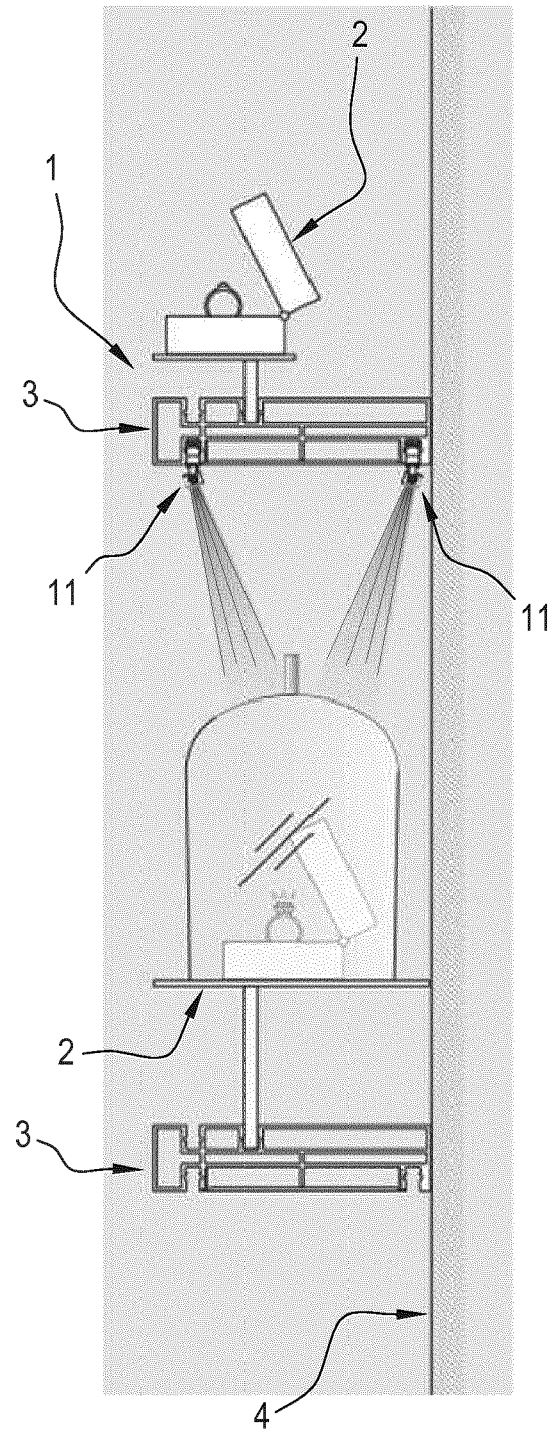


FIG. 7

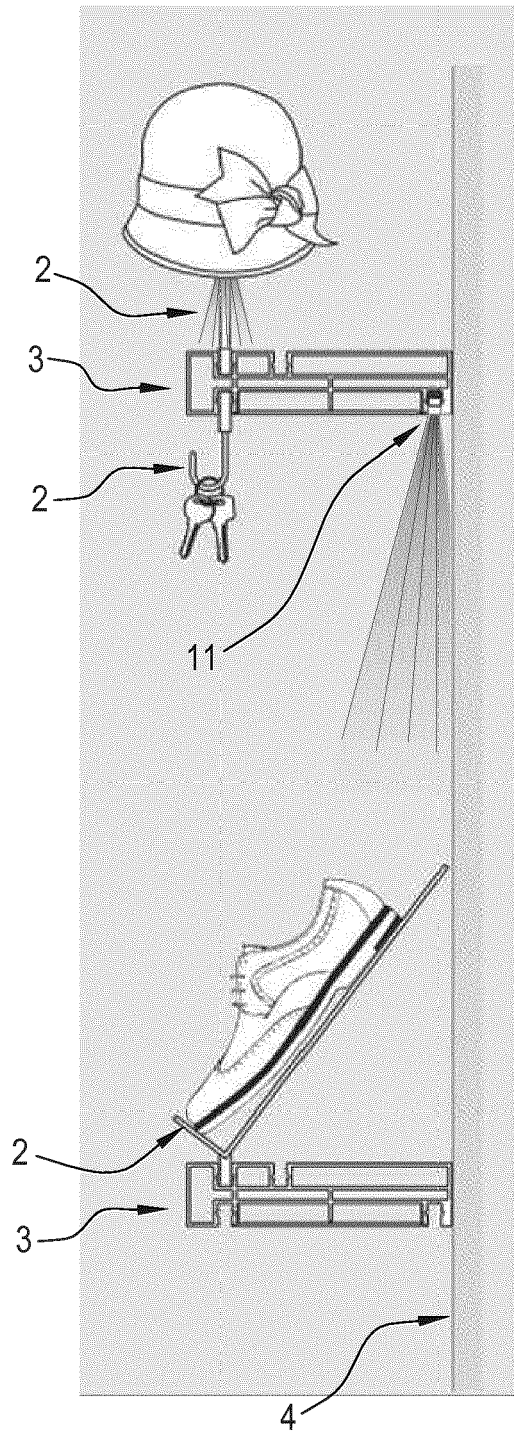
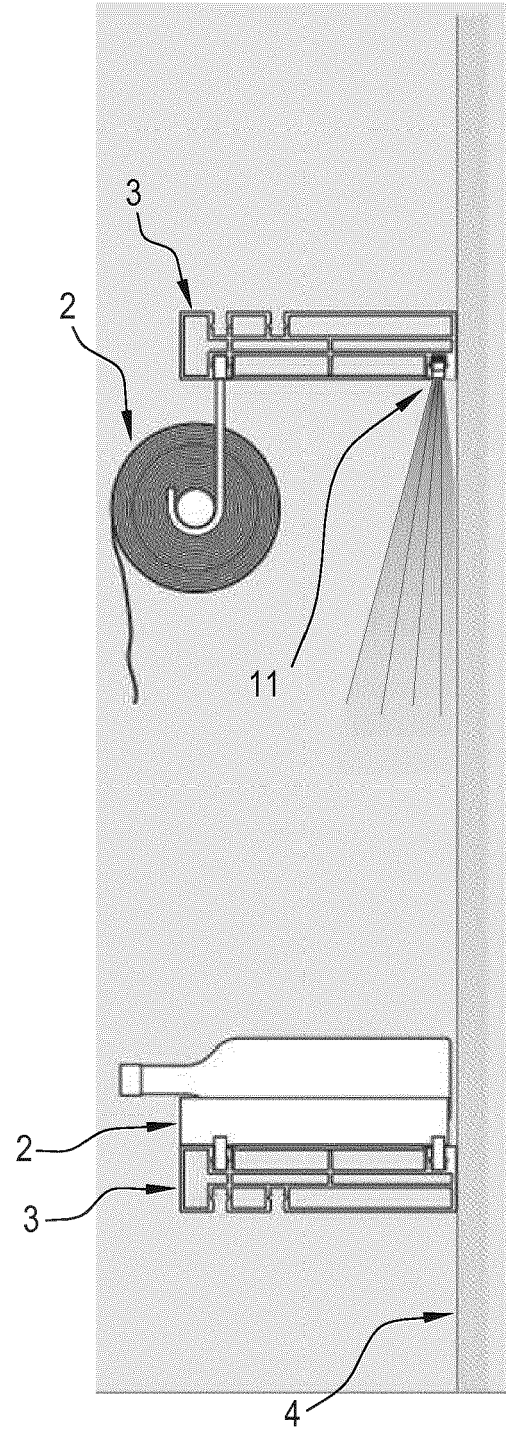


FIG. 8



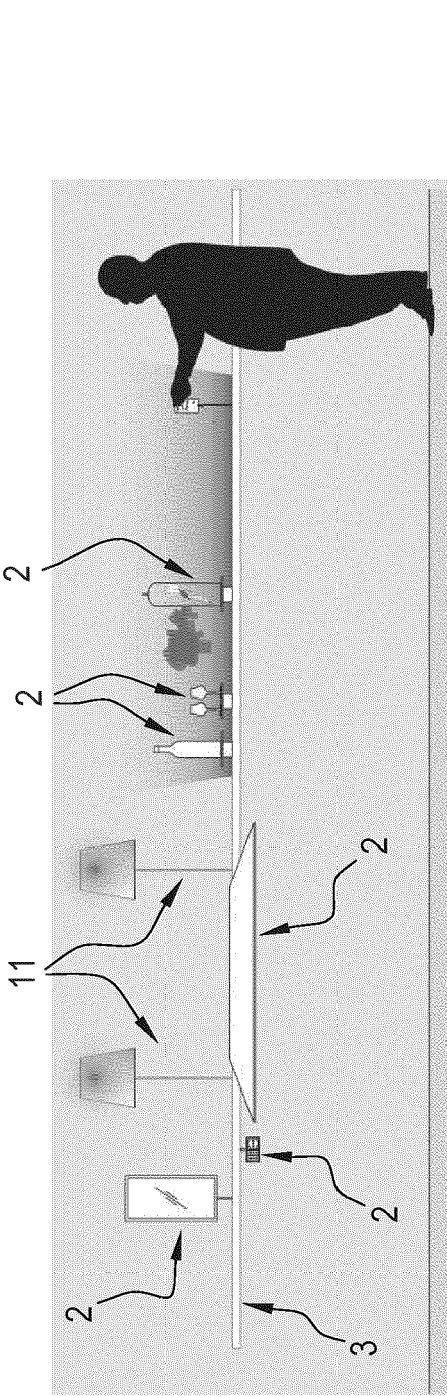


FIG. 9

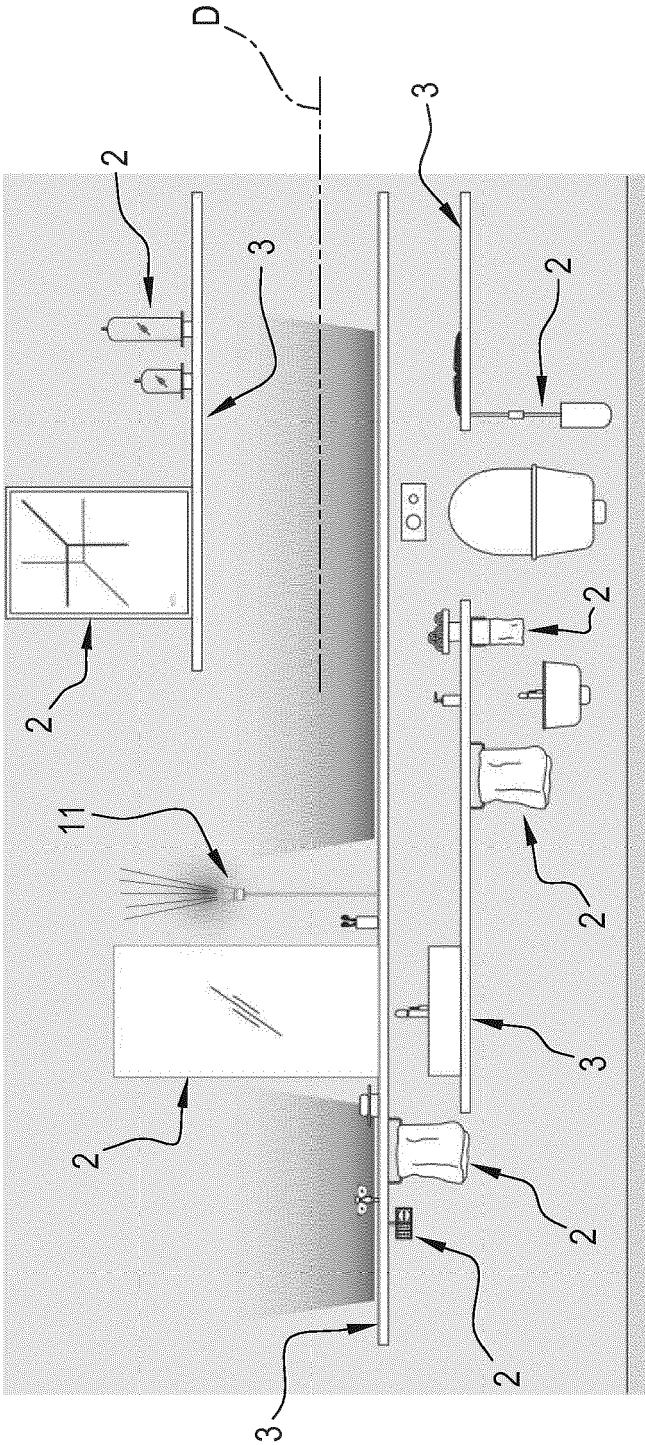


FIG. 10



EUROPEAN SEARCH REPORT

Application Number
EP 17 16 5117

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 6 231 205 B1 (SLESINGER BRUCE M [US] ET AL) 15 May 2001 (2001-05-15) * column 3, line 32 - column 5, line 19 * * figures 1-8 *	1-14	INV. A47B96/02 A47F11/10
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			TECHNICAL FIELDS SEARCHED (IPC)
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The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 19 May 2017	Examiner Sroka, Christian
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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19-05-2017

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