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(54) **Technical cabinet for hospital furniture, with sides covered by modular and removable panels which integrate supporting and guiding means for equipped shelves**

(57) Technical cabinet for hospital furniture, with sides covered by modular and removable panels which integrate supporting and guiding means for equipped surfaces configured to contain drugs, solutions, clothes and small equipment, sanitary medical material, waste and other things in a tidy way, comprising one base, two symmetrical and parallel sides, one back and one top, whose forepart is of the type closed by at least one hinged door or a retractable shutter; in which, each side in corre-

spondence of the face facing the inside of the cabinet, is provided with hooking devices for modular panels, the one after the other and aligned to each other, each panel being shaped in correspondence of the coupling interface with the side to receive at least one corresponding hooking device with a rigid joint, and furthermore in which in correspondence of the visible face of at least one panel, guides are obtained, horizontally aligned and parallel.

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Description

[0001] This invention relates to a technical cabinet for hospital furniture, with sides covered by modular and removable panels, which integrate supporting and guiding means for equipped shelves.

Field of the invention

[0002] In the field of the hospital division, there is often the need to easily have cabinets, being slidable, therefore on swivelling wheels, fixed hanging from the wall or lying on the floor, which are specially configured to contain, drugs, solutions, clothes and small equipments, sanitary medical material, waste and other things in a tidy way. The main characteristics that said cabinets must have are, in good substance, the possibility, on the one hand, of having of a multitude of shelves or basins if necessary slidable, if necessary with the concurrence of specially arranged zones to house drawer, on the other hand, due to the expected particular destination of the furniture, they must be easily hygienizable too. This latter requisite is particularly required, considering the fact that due to the possible contact at any time with organic material of the patients, it is not infrequent to contaminate the surfaces that are later thus handled by the healthcare professional.

[0003] If, on the one hand, there is multitude of cabinets satisfying the first requisite, depending on the configuration of the internal part, and in any case being an easily achievable result in a common tidy product, on the other hand the main difficulties are at present noticeable in the case in which it is necessary to have cabinets that can be easily dismantled at the same time to allow radical cleaning, such as that required in the field of the equipment for hospitals and retirement homes.

Prior art

[0004] For example Allibert Medical, on the website www.allibert-backhorn.com, proposes a tidy cabinet, of the sliding type, fixable to a wall or with a floor support base, whose characteristic is to provide two sides, a base, a back and a top. The forepart can be closed, in the models M21002, M21012, M 21085, by a retractable shutter or with a traditional door hingeable with a book-type hinge.

[0005] GB1285814 (Davies) describes a cabinet provided in the forepart with a retractable shutter that integrates one or more movement handles at different heights.

[0006] JP10201544 (Yamada) describes a night-table with a side table for hospital furniture, which is closed on its underside by a retractable shutter with a side sliding.

[0007] US2003/0127955 (Johnson) proposes a panel to be joined to a wall of a chassis, where the panel, which has a receiving cavity, is structured to be hooked to the chassis and at the same time it is provided with guides or accessories to support objects, e.g., CD compact

discs.

[0008] It is therefore reasonable to consider as known:

- a sliding cabinet on pirouetting wheels, hung to a wall or lying on the floor, intended for hospital divisions to contain drugs, solutions, clothes and small equipments, sanitary medical material, waste and other things in a tidy way;
- in which the cabinet consists of a base, two sides, a back and a top, frontally closed by a retractable shutter or by a door;
- in which the cabinet is internally equipped to support shelves, if necessary extractable shelves, basins or trays, if necessary with the concurrence of drawer zones;
- a plastic material shaped panel which is able to support objects, where said panel is hookable to a cabinet chassis by means of retaining clips.

Drawbacks

[0009] Notwithstanding the suggested solutions being used in the sector in a somewhat diffused way, they, according to the applicant, look to be inadequate.

[0010] In particular, due to the configuration of the structure of the cabinet, therefore, both due to the material used in the realization of the space of the cabinet, and due to the objective impossibility to dismount the same in an easy way and in a short time, the user is not enabled to carry out accurate cleaning and even less the requirement of hygienization. It follows that the cabinets existing at present, even if submitted to hygienizing treatments of the surfaces, are never treated in an adequate manner, offering receptacles, for example due to the used material, where bacteria can easily nest to the detriment of the patients.

[0011] A further disadvantage can be related to the fact that existing cabinets seem not to be able to offer valid modular solutions relative to the equipment available inside the cabinet space. It follows that, depending on the typology of the use, it is necessary to provide specific sides suitable, on a case-by-case basis, for the function required by the purpose of the cabinet. From a practical point of view for the company producing the furniture component, it is obliged to manage a considerable number of stock codes with complex management, significantly impacting on the production times and costs.

[0012] Hence, there is the need for the companies, particularly of this sector, to identify alternative more effective solutions with respect to solutions existing at present.

[0013] The aim of this invention is also to counter the described drawbacks.

Brief description of the invention

[0014] This and other aims are reached with this invention according to the characteristics as per the included claims solving the above mentioned problems by

means of a technical cabinet for hospital furniture, with sides covered by modular and removable panels which integrate supporting and guiding means for equipped surfaces configured to contain drugs, solutions, clothes and small equipments, sanitary medical material, waste and other things in a tidy way, comprising one base, two symmetrical and parallel sides, one back and one top, whose forepart is of the type closed by at least one hinged door or a retractable shutter; in which, each side in correspondence of the face facing the inside of the cabinet, is provided with hooking devices for modular panels, the one after the other and aligned to each other, each panel being shaped in correspondence of the coupling interface with the side to receive at least one corresponding hooking device with a rigid joint, and furthermore in which guides are obtained in correspondence of the visible face of at least one panel, horizontally aligned and parallel.

Aims

[0015] Some aims and advantages are achieved by means of the considerable creative contribution the effect of which constitutes immediate technical progress.

[0016] In particular, it is possible to obtain a cabinet, which, because of the fact that it allows the removal of the panels covering the sides, it allows an easier and more rational and accurate cleaning of the surfaces. The single panels, in fact, can be easily removed by the operator and therefore submitted to a hygienizing treatment on the whole surface, and then reinstalled. At the same time, the plastic material with which the single panels are made, is also particularly suitable to be hygienized, both for good resistance to high temperatures and to chemical agents, offering surfaces which, by means of the machining, are substantially rounded, therefore without little accessible interstices or recesses.

[0017] Consequentially, the fact of allowing the removal of the panels, allows the configuration inside the cabinet, equipping it according to the specific requirements of the customer, with the use of a few stock codes, substantially maintaining the external peripheral and base structure of the furniture unaltered.

[0018] These and other advantages will be evident from the following detailed description of a preferred solution with the aid of the enclosed schematic drawings, whose execution details are not to be considered as limitative but only illustrative.

Content of the drawings

[0019]

Figure 1 is a view of the face, inwardly facing the inside of the cabinet of a side of the cabinet which is object of this invention.

Figure 2 is an assembly view of the face of the side as in the previous figure, to which a first panel integrating guiding means have been joined;

Figure 3 is an assembly view of the face of the side as in the previous figure, to which a second panel integrating guiding means have been joined;

5 Figure 4 is also an assembly view of the face of the side as in the previous figure, with the second panel integrating guiding means in a position close to the hooking position;

Figure 5 is a view of the approaching phase of the second panel to the first panel;

10 Figure 6 is a view of the second panel hooked to the corresponding side; Finally, figure 7 is a plan view of the edge of the panel at the hooking seat of the device fixed to the side of the cabinet.

Example of an embodiment of the invention

[0020] A technical cabinet for hospital furniture, able to contain drugs, solutions, clothes and small equipment, sanitary medical material, waste and other things in a tidy way, of the sliding type, hanging from the wall or lying on the floor, consisting of two parallel sides (10), respectively joined to a back, a base and a top (Fig. 6). The front side of the technical cabinet, defining in this way the closable technical space, can be visible or even closed by at least one retractable shutter or by one or more doors hinged on the side.

[0021] At least one of the sides (10) in correspondence of the face (100) facing the inside of the cabinet space, is provided with at least one hooking device (110), which, in this case, consists of a body, for example a metallic body obtained from a plate, and "S-shaped", with a first flat portion (111) which is joined to the face (100), vertically orientated, followed by a perpendicular portion, with respect to the face (100), which acts as rabbet (112) and than followed by a second vertical portion constituting the hooking tongue (113) (Fig. 1). In this case, the hooking devices (110) which are joined to the face (100) of the side (10) are placed in such a way as to result in being vertically aligned along a common vertical axis and close to at least one of the two edges (101, 102) of the end of the side (100).

[0022] At least one removable panel (20), made of thermoformed plastic material or obtained by a blow-moulding technique, is joined (Fig. 2) against the face (100) of the side (10) of the technical cabinet. The panel (20) has two faces, respectively a coupling interface (200) in correspondence of the face (21) able to be hooked by the hooking device (110), and a shaped face (210). The shape of the panel (20) at the side of the coupling interface (200), is such as to provide a seat (201) (Fig. 7) obtained near both side ends (20a, 20b) of the panel (20), where said seat (201) is an opening closed in a ring able to allow the introduction, from the bottom to the top, and to house the tongue (113) of the corresponding hooking device (110). The portion that acts as a rabbet (112) of the hooking device is placed almost in

contact with the lower edge circumscribing the opening (201).

[0023] Both side ends (20a, 20b) of the panel (20) constitute a continuous wing (21) at the edge, with a vertical development, which protrudes almost parallel to the side (10). The aim of the wing (21) is to allow the locking of a first end (20b) of the panel (20) to the side (10), making said wing (21) enter inside the profile of the edge (101) of the side (10), which is provided with a seat with a "U-shaped" section able to house said wing (21) (Figs. 3, 4)

[0024] Operatively, the user, in the assembly phase of each panel (20) to the side (10), (see Figs. 3 and 4), operates to engage the wing (21) at the end (20b) of the panel (20) along the "U-shaped" profile of the edge (101), then approaches the second end (20a) of the panel (20) to the face (100) of the side, then slightly lowering the panel (20), from the top towards the bottom, until the hooking device (110) intercepts the seat (201) obtained in correspondence of the coupling interface (200).

With reference to the shaped face (210), it appears with a series of oblong reliefs (220), horizontally orientated with respect to the vertical side (100), which act as guides or supports, with rounded ends (221, 222), spaced the ones with respect to the each another, in such a way as to leave a residual space for the support or sliding devices of the shelves or other equipment, useful to equip the thus defined space of the cabinet.

Along the top edge (223) of each oblong relief (220) two opposite locking seats (224, 225) are obtained close to the ends (221, 222), for shelves or other useful elements, equipped with a guided-introduction floor, to equip the space of the cabinet.

Reference

[0025]

(10) side,
(100) face,
(110) hooking device,
(111) first flat vertical portion,
(112) perpendicular rabbet portion,
(113) second vertical portion - hooking tongue,
(101, 102) end edges,
(20) panel,
(200) coupling interface,
(21) wing,
(210) shaped face,
(201) obtained seat,
(20a, 20b) side ends,
(220) oblong reliefs,
(221, 222) rounded ends,
(223) top edge,
(224, 225) opposite locking seats of the shelves.

Claims

1. Technical cabinet for hospital furniture, for equipped surfaces configured to contain drugs, solutions, clothes and small equipments, sanitary medical material, waste and other things in a tidy way, comprising at least one base, two symmetrical and parallel sides (10), one back and one top, **characterised in that** each side (10) in correspondence of the face (100) facing the inside of the cabinet is provided with hooking devices (110) for modular panels (20), the one after the other and aligned to each other, each panel (20) being shaped in correspondence of the coupling interface (200) to the side (10) to receive at least one corresponding hooking device (110) with a rigid joint, and furthermore in which horizontally aligned and parallel guides (220) are obtained in correspondence of the visible face (210) of at least one panel (20).
2. Technical cabinet according to claim 1, **characterised in that** the hooking device (110), consists of an "S-shaped" body, with a first flat portion (111) which is joined to the face (100), vertically orientated, followed by a perpendicular portion, with respect to the face (100), which acts as rabbet (112) and than followed by a second vertical portion constituting the hooking tongue (113).
3. Technical cabinet according to claim 1 and 2, **characterised in that** the hooking devices (110) which are joined to the face (100) of the side (10) are placed in such a way as to result in being vertically aligned along a common vertical axis and close to at least one of the two edges (101, 102) of the end of the side (100).
4. Technical cabinet according to the previous claims, **characterised in that** at least one plastic material panel (20) is present against the face (100) of the side (10) of the technical cabinet, in which the shape of the panel (20) at the side of the coupling interface (200) is such as to provide a seat (201) obtained near both side ends (20a, 20b) of the panel (20), where said seat (201) is an opening closed in a ring able to allow the introduction, from the bottom to the top, and to house the tongue (113) of the corresponding hooking device (110), and furthermore in which the portion that acts as rabbet (112) of the hooking device is placed almost in contact with the lower edge circumscribing the opening (201).
5. Technical cabinet according to the previous claims, **characterised in that** the side ends (20a, 20b) of the panel (20) constitute a continuous wing (21) at the edge, with a vertical development, which protrudes almost parallel to the side (10), so that the first end (20b) of the panel (20) is locked to the side

(10), making said wing (21) enter inside the profile of the edge (101) of the side (10), which is provided with a seat with a "U-shaped" section able to house said wing (21).

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6. Technical cabinet according to the previous claims, **characterised in that** some oblong reliefs (220) are present in correspondence of the shaped face (210), horizontally orientated with respect to the vertical side (100), which act as guides or supports, with rounded ends (221, 222), spaced with respect to one another, in such a way as to leave a residual space for the support or sliding devices of the shelves or other equipment, useful to equip the thus defined space of the cabinet, and in which two opposite locking seats (224, 225) along the top edge (223) of each oblong relief (220) are obtained close to the ends (221, 222), for shelves or other useful elements, equipped with the guided-introduction floor, with which to equip the space of the cabinet.

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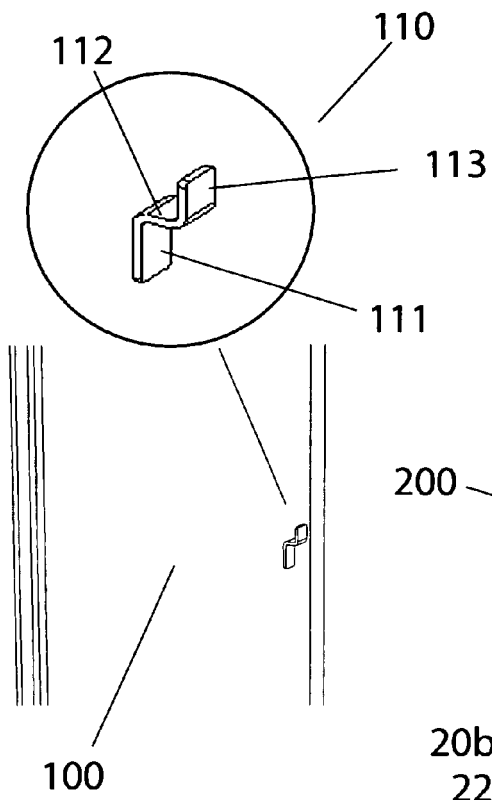


Fig. 1

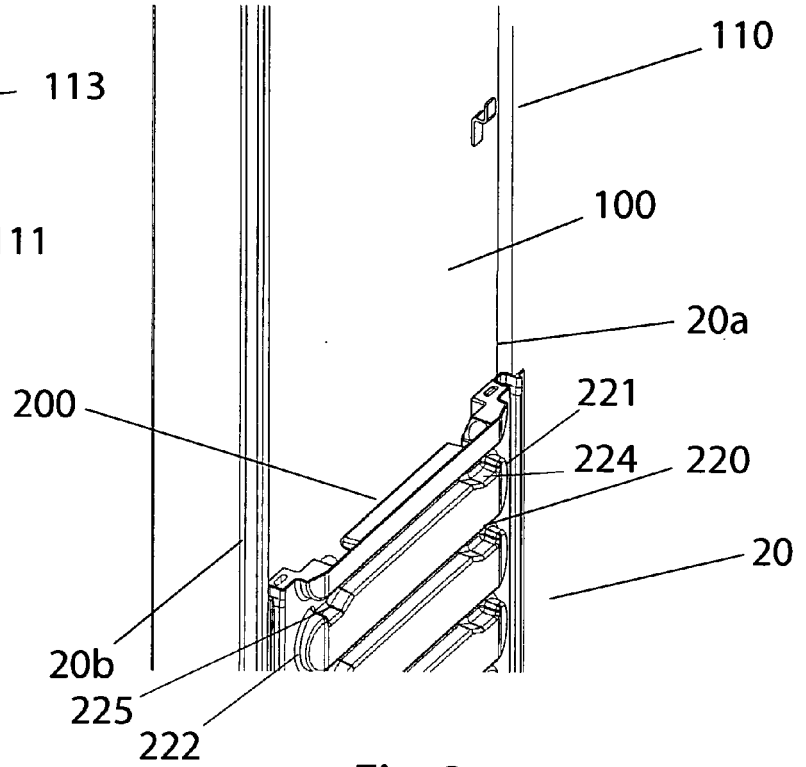


Fig. 2

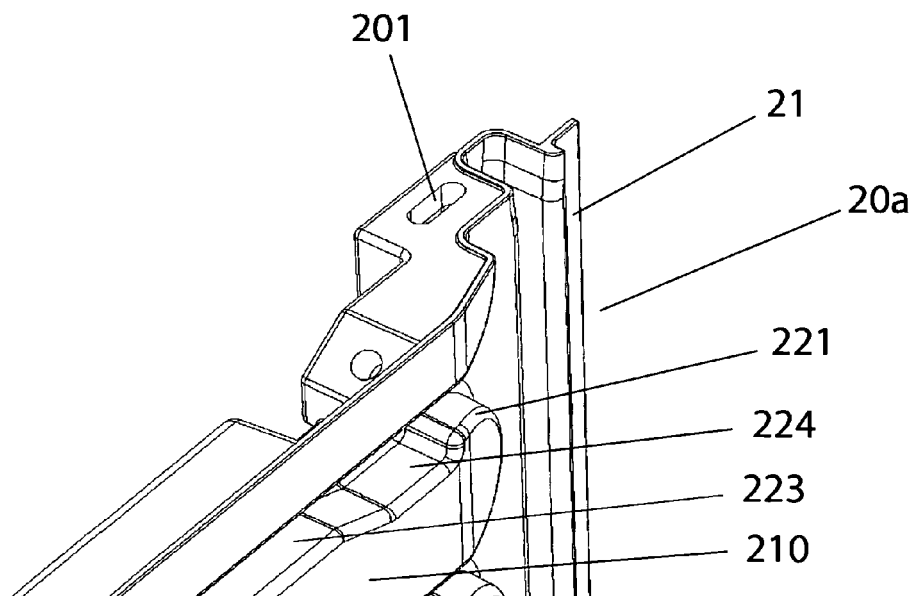


Fig. 7

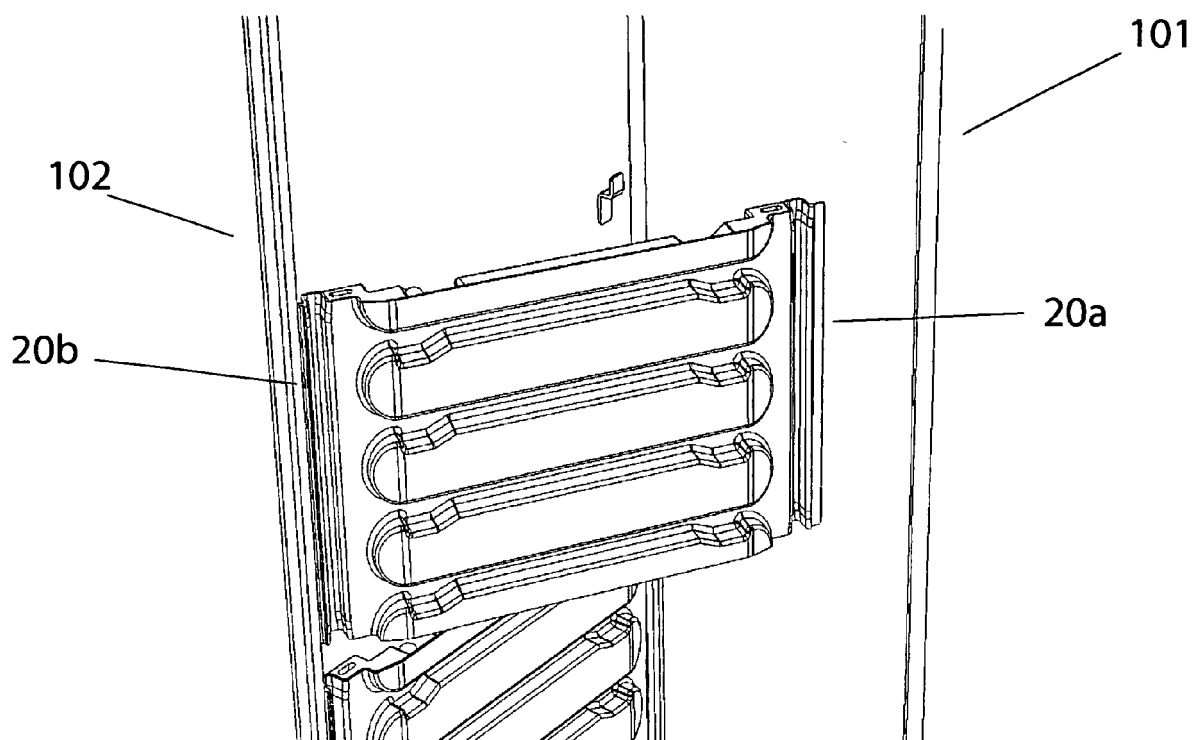
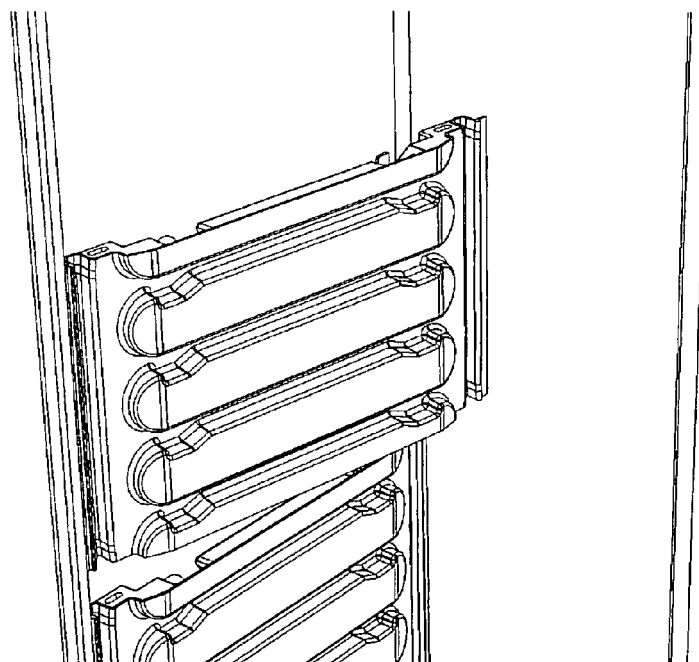


Fig. 3



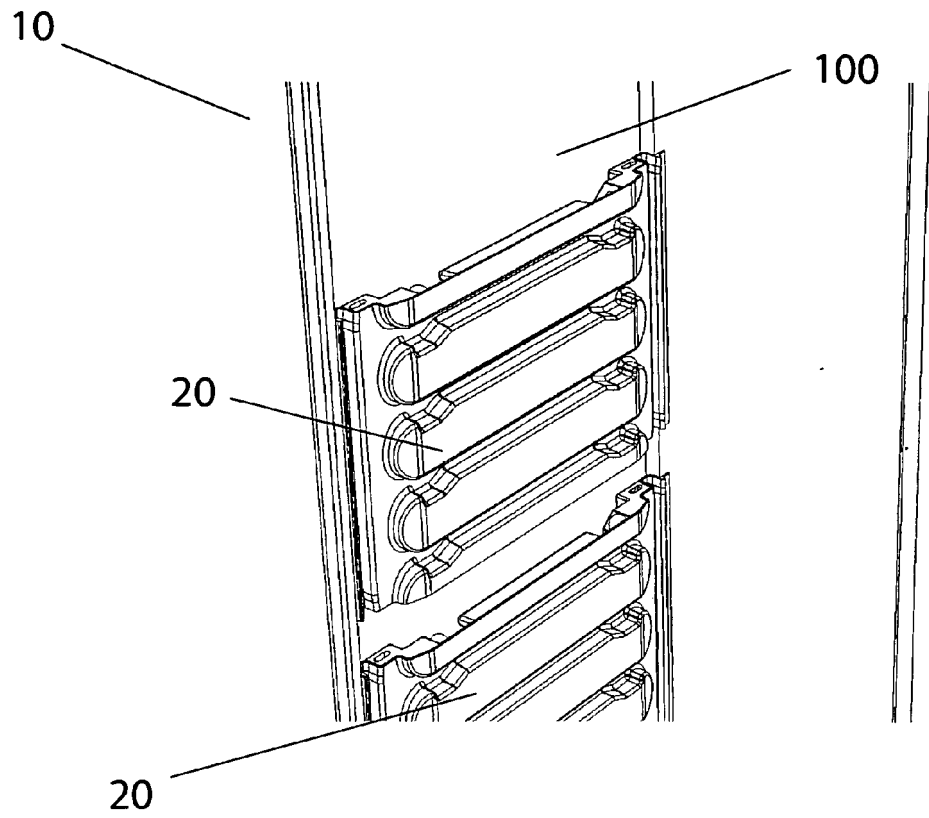
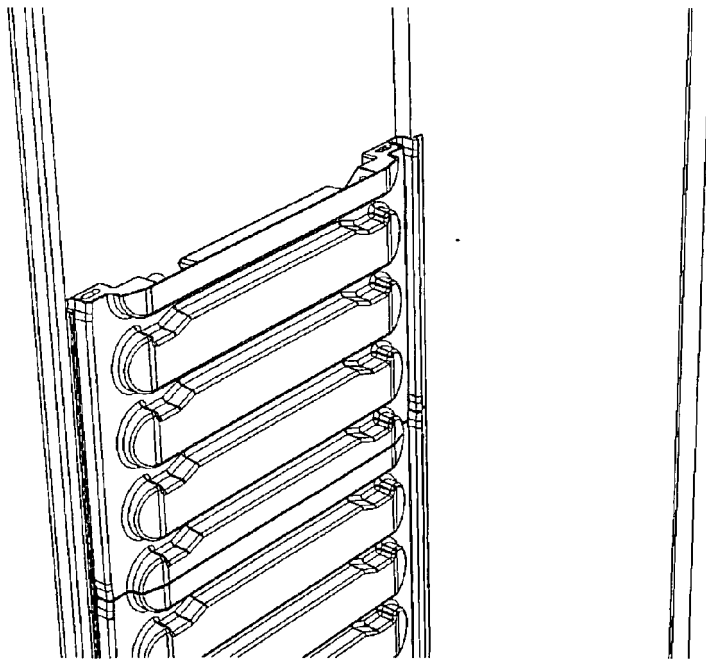


Fig. 5

Fig. 6





EUROPEAN SEARCH REPORT

Application Number
EP 09 00 3726

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 A	EP 1 759 611 A1 (BHP [FR]) 7 March 2007 (2007-03-07) * paragraph [0011] - paragraph [0021]; figures 1-3 * -----	1,3-4,6 2,5	INV. A47B67/04
			TECHNICAL FIELDS SEARCHED (IPC)
			A47B
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 11 September 2009	Examiner Klintebäck, Daniel
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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EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 09 00 3726

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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11-09-2009

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 1759611 A1	07-03-2007	FR 2890297 A1	09-03-2007

EPO FORM P0459

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

REFERENCES CITED IN THE DESCRIPTION

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