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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**

Technischer Schrank für Krankenhausmöbel mit durch modulare und abnehmbare Tafeln abgedeckten Seiten mit Stütz- und Führungsmitteln für ausgerüstete Regale

Armoire technique pour mobilier d'hôpital, avec les bords recouverts par des panneaux modulaires et amovibles qui intègrent des moyens de support et de guidage pour des étagères équipées

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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.

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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 drawers, 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.

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[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 dismounted at the same time to allow radical cleaning, such as that required in the field of the equipment for hospitals and retirement homes.

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Prior art

[0004] For example Allibert Medical, on the website www.allibert-buckhorn.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.

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

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[0006] JP1 0201544 (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.

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[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.

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Closest prior art

[0009] EP1759611 (BHP) describe a modular interior fitting system for storage cupboard and storage cupboard provided with such a system. The system has support units formed by end panels, intermediate panels and spacers, where the panels are identical. Each of the panels comprises a front side provided with horizontal slots which are accessible from an edge of each of the panels. The slots are disposed in a regular and equidistant manner. Drawers are provided with same width, different heights and depths. The drawers are mounted in a sliding manner in the slots. The panels are fixed against an end section of a compartment between shelves.

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Drawbacks

[0010] Notwithstanding the suggested solutions being used in the sector in a somewhat diffused way, they, according to the applicant, look to be inadequate.

[0011] 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 event 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.

[0012] 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.

[0013] 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.

[0014] The aim of this invention is also to counter the described drawbacks.

Brief description of the invention

[0015] 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

[0016] Some aims and advantages are achieved by means of the considerable creative contribution the effect of which constitutes immediate technical progress.

[0017] 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.

[0018] 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.

[0019] 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

[0020]

- 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;
- 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;
 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.

5 Example of an embodiment of the invention

[0021] 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.

[0022] 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 then 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).

[0023] 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).

[0024] 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)

[0025] 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

[0026]

(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.

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Claims

- 10 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, wherein 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
- 15 in which horizontally aligned and parallel guides (220) are obtained in correspondence of the visible face (210) of at least one panel (20), **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 then followed by a second vertical portion constituting the hooking tongue (113).
- 20 2. Technical cabinet according to claim 1, **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), and in which 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
- 25 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 (110) is placed almost in contact with the lower edge circumscribing the opening (201), wherein said side ends (20a, 20b) of the panel (20) constitute
- 30 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).
- 35 3. 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, 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, equipped with the guided-introduction floor.
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Patentansprüche

- 45 1. Technischer Schrank für Krankenhausmöbel, für ausgestattete Oberflächen, die konfiguriert sind, um Medikamente zu enthalten, Lösungen, Kleidung und kleine Ausrüstungsgegenstände, medizinisches Sanitärmaterial, Abfall und andere Dinge, auf saubere Art, mit mindestens einer Basis, zwei symmetrischen und parallelen Seiten (10), einer Rück- und einer Oberseite, wobei jede Seite (10) an der Fläche (100), die zur Innenseite des Schrankes weist, Hakenvorrichtungen (110) für modulare Platten (20) aufweist, hintereinander und zueinander ausgerichtet, wobei
- 50 jede Platte (20) an der Kupplungsschnittstelle (200) zu der Seite (10) geformt ist, um mindestens eine entsprechende Hakenvorrichtung (110) mit einer steifen Verbindung zu empfangen, und in der darüberhinaus horizontal ausgerichtete parallele Führungen (220) an der sichtbaren Fläche (210) mindestens einer Platte (20) erhalten werden, **gekennzeichnet dadurch, dass** die Hakenvorrichtung (110) aus einem S-förmigen Körper besteht, mit einer ersten Abflachung (111), die mit der senkrecht ausgerichteten Fläche (100) verbunden ist, gefolgt von einem in Bezug auf die Fläche (100) senkrechten Teil, das als Falz (112) wirkt, und dann gefolgt von einem zweiten senkrechten Teil,
- 55 das die Hakenzunge (113) bildet.
2. Technischer Schrank nach Anspruch 1, **gekennzeichnet dadurch, dass** die Hakenvorrichtungen (110), die mit der Fläche (100) der Seite (10) verbunden sind, derart platziert sind, dass sie entlang einer gemeinsamen senkrechten

Achse und nahe mindestens einem der beiden Ränder (101, 102) des Endes der Seite (100) senkrecht ausgerichtet sind, wobei mindestens eine Kunststoffplatte (20) gegen die Fläche (100) der Seite (10) des technischen Schrankes vorhanden ist, wobei die Form der Platte (20) an der Seite der Kupplungsschnittstelle (200) derart ist, dass sie eine Aufnahme (201) vorsieht, die nahe den beiden Seitenenden (20a, 20b) der Platte (20) erhalten wird, wobei die Aufnahme (201) eine Öffnung ist, die von einem Ring umschlossen ist, der die Einführung, vom Boden bis zur Spitze, und die Aufnahme der Zunge (113) der entsprechenden Hakenvorrichtung (110) gestattet, und wobei das Teil, das als Falz (112) der Hakenvorrichtung (110) wirkt, fast in Kontakt mit der Unterkante steht, die die Öffnung (201) umschreibt, wobei die Seitenenden (20a, 20b) der Platte (20) einen durchgehenden Flügel (21) an der Kante bilden, der senkrecht verläuft und fast parallel zu der Seite (10) hervorragt, so dass das erste Ende (20b) der Platte (20) an der Seite (10) festliegt, so dass der Flügel (21) in das Profil der Kante (101) der Seite (10) eintritt, die eine Aufnahme mit einem U-förmigen Abschnitt aufweist, die fähig ist, den Flügel (21) aufzunehmen.

3. Technischer Schrank nach den vorherigen Ansprüchen, **gekennzeichnet dadurch, dass** einige längliche Erhöhungen (220) an der geformten Fläche (210) vorhanden sind, horizontal zur senkrechten Seite (100) ausgerichtet, die als Führungen oder Stützen fungieren, mit abgerundeten Enden (221, 222), voneinander beabstandet, um einen Raum für die Stütz- oder Gleitvorrichtungen der Regalplatten frei zu lassen, die nützlich sind, um den so definierten Raum des Schrankes auszustatten, wobei zwei gegenüberliegende Verriegelungssitze (224, 225) entlang der Oberkante (223) jeder länglichen Erhöhung (220) nahe den Enden (221, 222) erhalten werden, für Regalplatten, ausgestattet mit dem Fußboden zur geführten Einführung.

Revendications

1. Armoire technique pour mobilier d'hôpital, pour des surfaces équipées configurées pour contenir des médicaments, des solutions, des vêtements et de petits équipements, du matériel médical sanitaire, des déchets et d'autres choses de façon propre, comprenant au moins une base, deux côtés symétriques et parallèles (10), une partie postérieure et une partie supérieure, où chaque côté (10) au niveau de la face (100) opposée à l'intérieur de l'armoire est pourvu de dispositifs d'accrochage (110) pour des panneaux modulaires (20), l'un derrière l'autre et alignés l'un à l'autre, chaque panneau (20) étant formé au niveau de l'interface d'accouplement (200) au côté (10) pour recevoir au moins un dispositif d'accrochage correspondant (110) avec un joint rigide, et en outre où des guides alignés horizontalement et parallèles (220) sont obtenus au niveau de la face visible (210) d'au moins un panneau (20), **caractérisée en ce que** le dispositif d'accrochage (110) consiste en un corps en forme de S, avec une première partie plate (111) qui est jointe à la face (100) orientée verticalement, suivie d'une partie perpendiculaire, par rapport à la face (100), laquelle sert de feuillure (112) et ensuite suivie d'une deuxième partie verticale constituant la langue d'accrochage (113).
2. Armoire technique selon la revendication 1, **caractérisée en ce que** les dispositifs d'accrochage (110) qui sont joints à la face (100) du côté (10) sont placés de façon à être alignés verticalement le long d'un axe vertical commun et près d'au moins l'un des deux bords (101, 102) de l'extrémité du côté (100), et où au moins un panneau en matière plastique (20) est présent contre la face (100) du côté (10) de l'armoire technique, où la forme du panneau (20) du côté de l'interface d'accouplement (200) est prévue de façon à fournir un logement (201) obtenu près des deux extrémités de côté (20a, 20b) du panneau (20), où ledit logement (201) est une ouverture fermée en anneau capable de permettre l'introduction, de bas en haut, et de contenir la langue (113) du dispositif d'accrochage correspondant (110), et en outre où la partie qui sert de feuillure (112) du dispositif d'accrochage (110) est placée presque en contact avec le bord inférieur circonscrivant l'ouverture (201), où lesdites extrémités de côté (20a, 20b) du panneau (20) constituent une aile continue (21) au bord, avec un développement vertical, en saillie presque parallèle au côté (10), de sorte que la première extrémité (20b) du panneau (20) est bloquée au côté (10), de sorte que ladite aile (21) entre dans le profil du bord (101) du côté (10), qui est pourvu d'un logement avec une section en forme de U capable de contenir ladite aile (21).
3. Armoire technique selon les revendications précédentes, **caractérisée en ce que** certains reliefs oblongs (220) sont présents au niveau de la face formée (210), orientés horizontalement par rapport au côté vertical (100), qui servent de guides ou supports, avec des extrémités arrondies (221, 222), espacés l'un par rapport à l'autre, de façon à laisser un espace résiduel pour les dispositifs de support ou coulissants des étagères, utiles pour équiper l'espace ainsi défini de l'armoire, et où deux logements de blocage opposés (224, 225) le long du bord supérieur (223) de chaque relief oblong (220) sont obtenus près des extrémités (221, 222), pour les étagères, équipés de la surface pour l'introduction guidée.

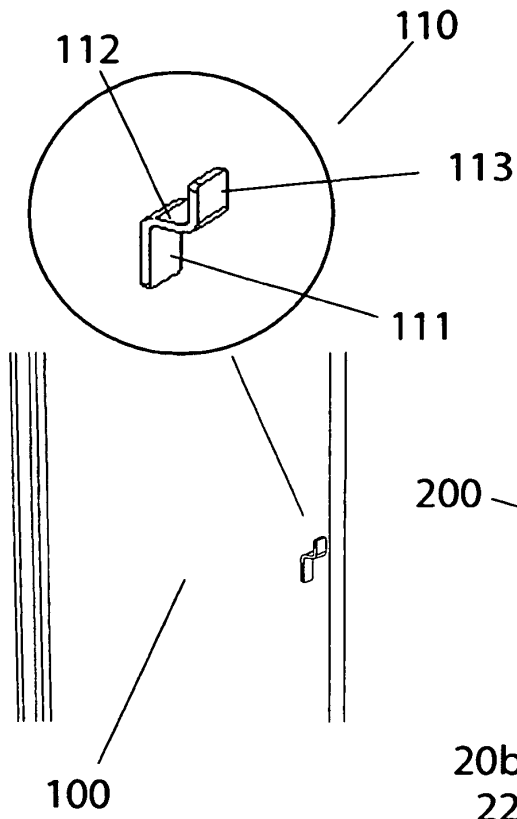


Fig. 1

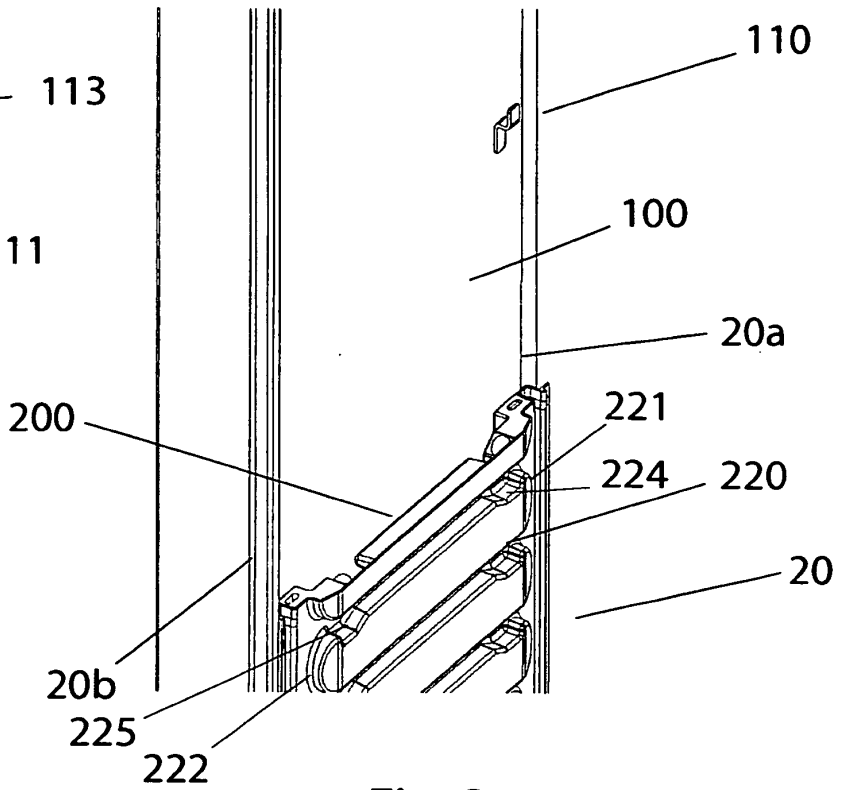


Fig. 2

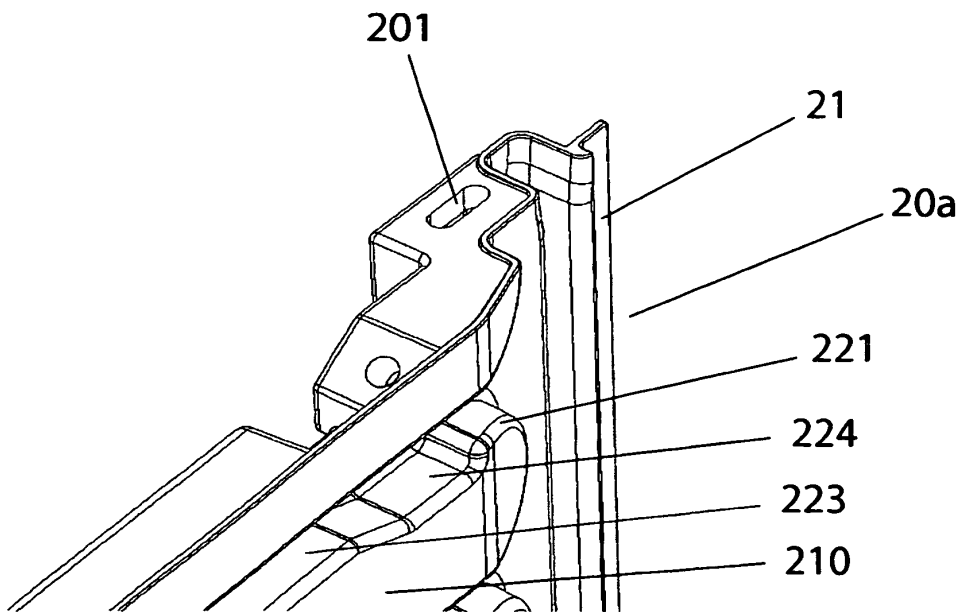


Fig. 7

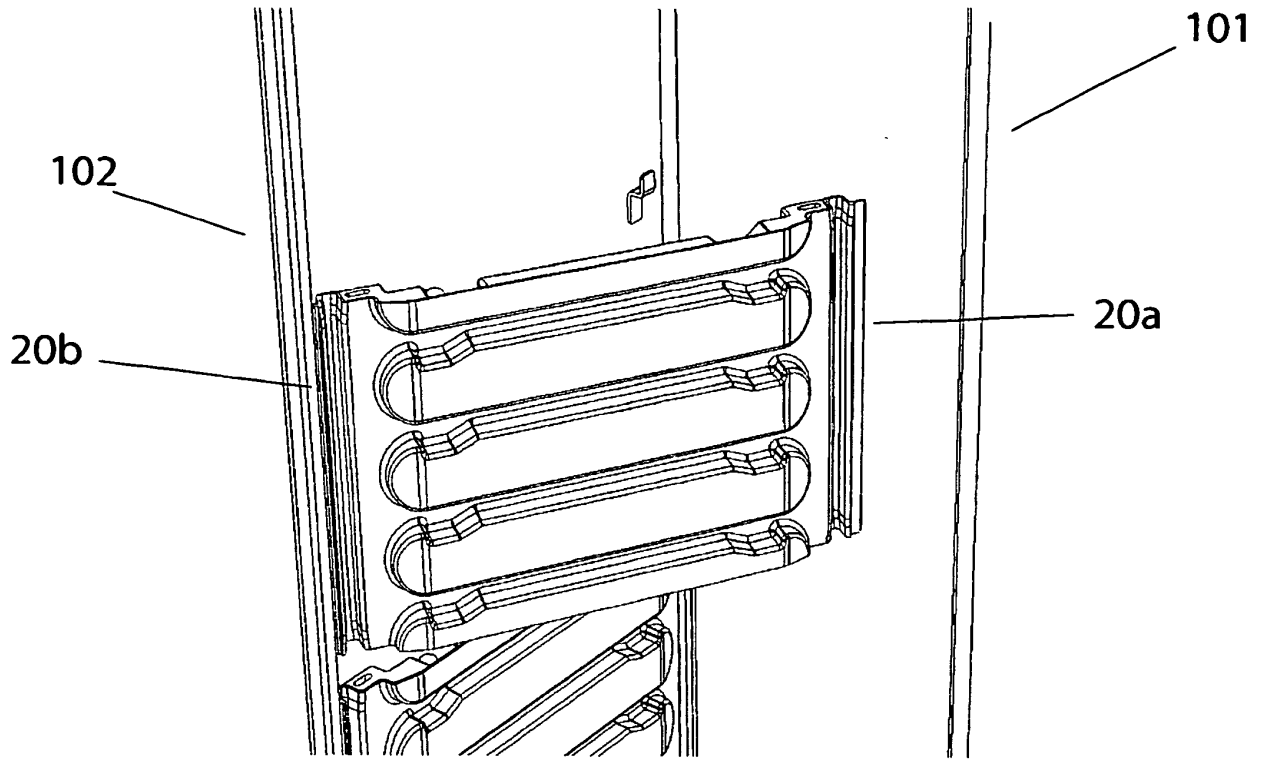


Fig. 3

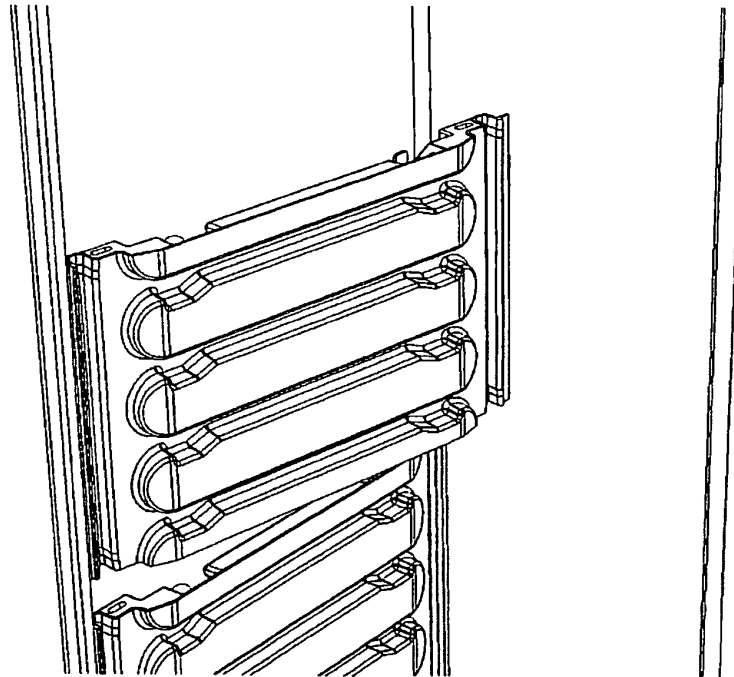


Fig. 4

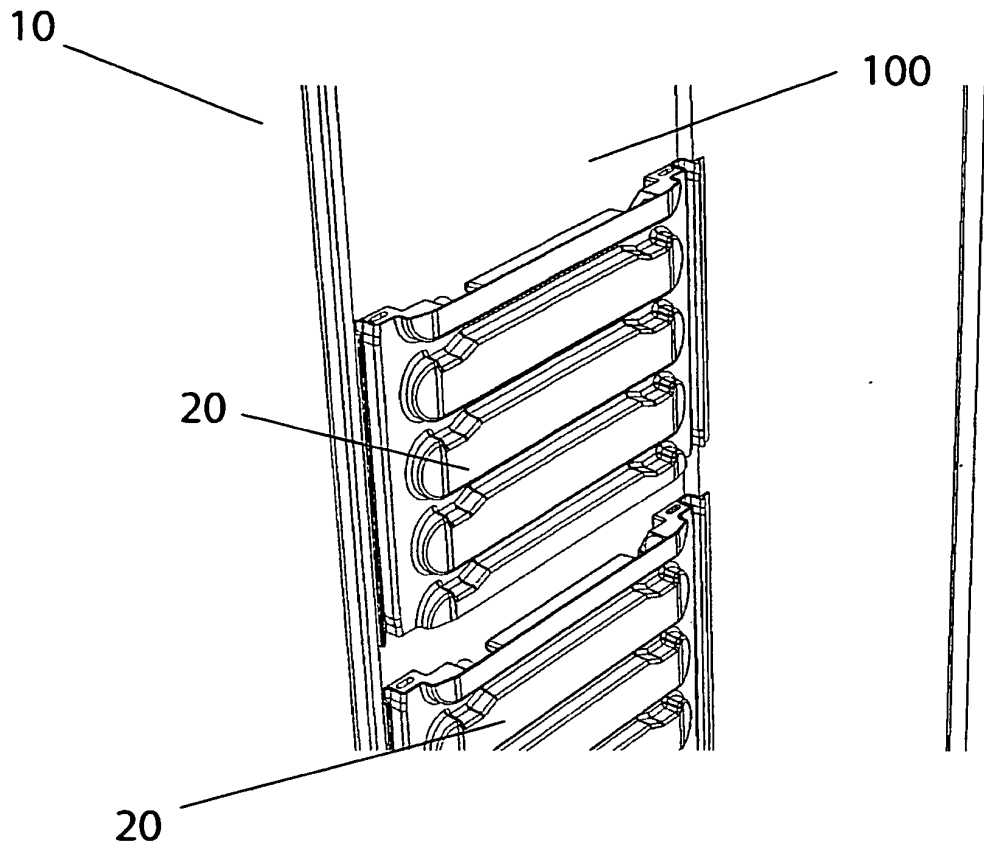
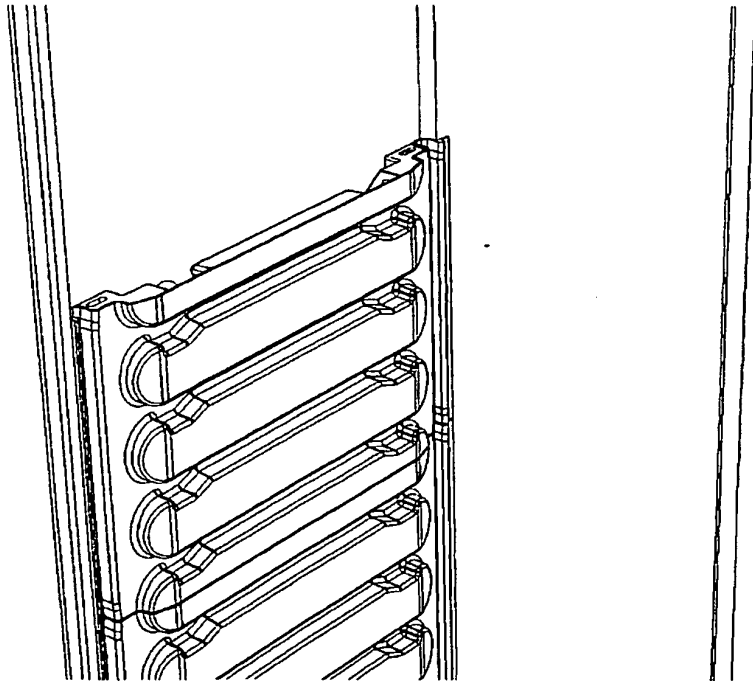


Fig. 5



REFERENCES CITED IN THE DESCRIPTION

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