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(54) **Safety container for modular furniture units**

(57) A safety container being a modular element of a furniture unit (9, 19, 20, 21, 22). The safety container comprises one or more plate-like support element5 (5),

anchoring members (14, 14a) for locking in position each plate-like support element (5), and fixing elements (15, 16, 18) to each plate-like support element (5).

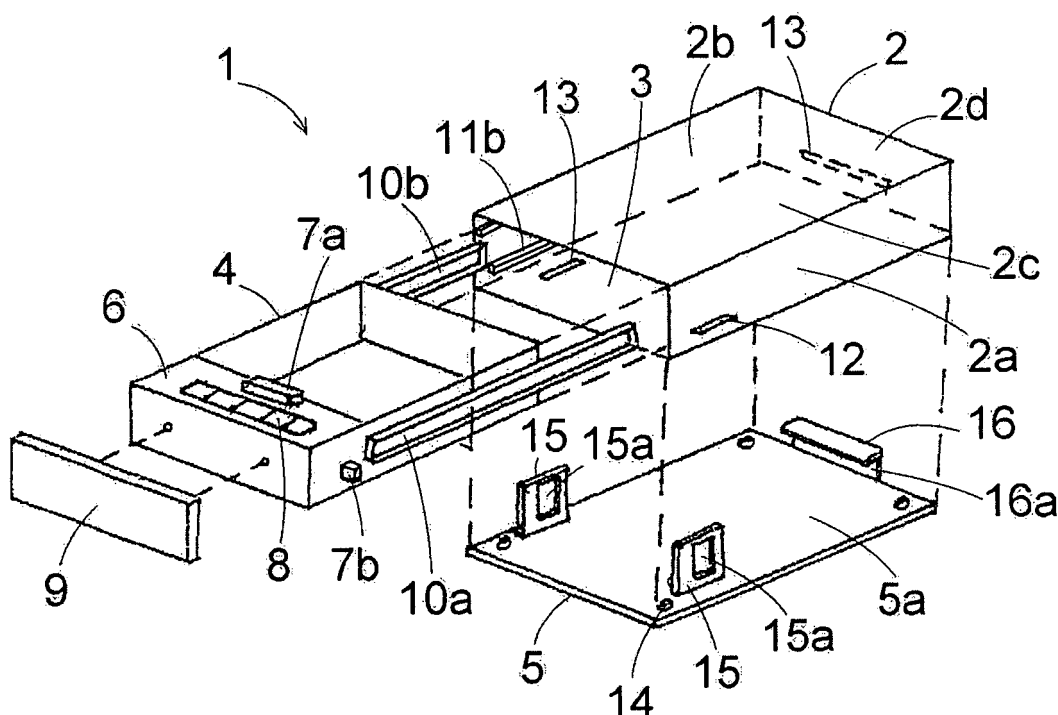


Fig. 1

Description

[0001] The present invention refers to a safety container or safe for modular furniture units, in particular modular furniture units for kitchens, bathrooms and the like.

[0002] Various types of safety containers for the custody of valuables in general, such as money, jewels and documents, are available on the market and are by now present in many offices and homes. They are traditionally installed in so-called "hidden" points of rooms, e. g. embedded in walls, or in the bottom of cabinets or even fixed to the floor, so as to be a not-immediately accessible to unauthorized personnel. Due to this "hidden" position, the safe is often inconveniently accessed even by the legitimate user. It occurs, in fact, that valuable goods such as gems or necklaces are left lying around the home, typically in the bedroom, kitchen or bathroom, and are thus exposed to the risk of being easily stolen by people going around the home and/or intruders.

[0003] Typically, the furniture which composes the domestic furnishing, for example of a kitchen or bathroom, are modular furniture units, i.e. made by elements with standardized dimensions or modules which can be assembled together according to needs. In the specific case of kitchen units, such modules comprise a part acting as base, composed for example of modules with door or doors and of drawers, cooking surface, etc., and a part acting as shelf formed by cabinets, open shelving or glass cupboards and the like.

[0004] Main object of the present invention is that of providing a safety container or safe of dimensions compatible with the modules of a furniture unit such that it can form a component of the same modular furniture unit, being hence easily and immediately accessible by the user since it can be placed in the most frequented rooms of the house, such as the kitchen, bathroom, etc.

[0005] Another object of the present invention is that providing a rapid anchoring-in-position system of a safety container or safe, typically at a door or drawer of a modular furniture unit, so to be hidden or camouflaged from sight by the paneling or mirrors of the furniture itself.

[0006] Not least object of the present invention is that of providing a safety container acting as module for a furniture unit which can be installed at competitive costs.

[0007] According to a first aspect of the present invention, a safety container is provided characterized in that it comprises a modular element of a furniture unit.

[0008] According to another aspect of the present invention, a safety container is provided characterized in that it comprises at least one plate-like support element, at least one anchoring means for locking in position at least one plate-like element in a modular kitchen unit and rapid fixing means to said at least one plate-like support element.

[0009] Further aspects and advantages of the present invention will better appear from the following detailed description of its currently preferred embodiments, provided by way of mere non-limiting embodiments thereof

with reference to the accompanying drawings, in which:

Figure 1 is a perspective exploded view of a safety container for a modular furniture unit according to a first preferred embodiment of the invention;

Figure 2 illustrates a perspective view of another embodiment of a safety container according to the present invention;

Figure 3 shows a perspective view of another embodiment of a plate-like support element for rapid locking-in-position of the safety container of Figure 2; Figure 4 is a front elevation schematic view of a kitchen with modular units in which various positions are indicated for the placement of a safety container acting as a modular unit for the kitchen itself;

Figure 5 is a vertical section view taken along the line V-V of Figure 4;

Figure 6 is vertical section taken along the line VI-VI of Figure 4;

Figure 7 shows a vertical section view taken along the line VII-VII of Figure 4; and

Figure 8 is a vertical section view taken along the line VIII-VIII of Figure 4.

[0010] In the set of drawings, the same or similar parts or components are indicated with the same reference numerals.

[0011] With reference to Figure 1, a safety container for a modular furniture unit generically indicated with 1, is formed according to the present invention by a shell or casing 2, preferably made of high strength steel, having a front access opening 3, and by opening/closing means, e. g. a drawer 4 intended to slide inside the casing 2. For the anchoring in position of the safety container 1, a plate-like support element 5 is provided, it too preferably made of hard steel.

[0012] The drawer 4 has a blind front portion 6 intended to receive locking/unlocking means, typically a system of bolts or latches of any suitable type, preferably controlled by an electric motor or by a mechanical device. The system of bolts is preferably formed by three bolts: one upper 7a with vertical movement, and two lateral 7b with transverse movement.

[0013] The electric motor or the mechanical device is, in turn, connected to a suitable lock 8, e. g. a mechanical key lock or electronic key lock (Dallas key) of any suitable type, or an infrared or similar system, as well as with biometric (digital, vocal) or telephonic input.

[0014] Advantageously, in place of a lock it is possible to use a remote control, e. g. an infrared remote control, of a type commonly used for operating a television or video-recorder, which cooperates with a learning receiver device of any one suitable type installed inside or near to the safety container 1. This makes the access to the safety container still more convenient and immediate for the user, in particular when it is anchored to the floor, typically at a base 9 of the modular kitchen unit, of which the safety container 1 is an integral part.

[0015] The drawer 4 is moreover equipped with a lateral and external guide 10a, 10b at its two non-adjacent flanks, each guide 10a, 10b extending substantially parallel to the other for at least part of the length of the respective flank and being intended to slide, in use, within a respective sliding seat 11a, 11b each provided at a respective inner surface 2a, 2b of the casing 2. Preferably, the container body 4 also has dividing walls P (see Figure 2) and/or secret interiors and can be illuminated in any suitable manner.

[0016] The casing 2 can moreover have a bottom wall 2c formed with at least two openings 12 with substantially longitudinal extension and a rear or back wall 2d with at least one opening 13 with substantially transverse extension.

[0017] The plate-like support element 5 is composed of a main plate-like body 5a having at least one anchoring through hole, preferably four through holes 14, for anchoring a modular furniture unit to the floor or to a bottom panel (as will be described below). Fixing means rise from the main body 5a, preferably two lateral opposing tabs 15, each formed with a through hole 15a and intended to be inserted in a respective longitudinal opening 12, and an overturned L-shaped tab 16 with tab directed towards the interior of the main body 5a and intended to engage the rear transverse opening 13. Preferably, the tab 16 has an resiliently yielding stem 16a.

[0018] During the installation of the safety container 1, the plate-like support element 5 is fixed to the floor or on the bottom of a modular furniture unit by means of suitable holding means, such as for example screws 14a (Fig. 6), blocks and the like. Subsequently, the casing 2 is coupled to the plate-like support element 5, the lateral tabs 15 passing first through the respective openings 12, which are preferably sized to fit on the respective lateral tab 15, causing then an elastic deformation of the stem 16a of the overturned L-shaped tab 16, which, once the bottom 2c of the casing 2 has come into contact with the plate-like body 5a of the support element 5, will snap into the opening 13, thus irreversibly binding the support element 5 to the casing 2.

[0019] In the anchored position of the casing 2, the lateral tabs 15 project from the bottom within the casing 2 up to a level lower than that of the lateral guides 11a and 11b of the drawer 4, and when the drawer body 4 is found in a position of complete closure or insertion within the casing 2, the tabs 15 are found arranged on opposite sides with respect to the blind portion 6 of the drawer where the bolts 7a and 7b are found.

[0020] For locking and/or unlocking the drawer container body, the operator operates in one of the above-described manners, e. g. by typing a preestablished combination on an infrared remote control, activating in such a manner the driving means of the bolts 7a and 7b on the lock system 8.

[0021] In particular, in the locking step the bolts 7b engage an opening 15a in the respective adjacent tab 15, while in the unlocking step the bolts 7b withdraw from

the opening 15a. If desired, in addition to being engaged in locking position with a respective opening 15a, the distal ends of each bolt 7b can also be engaged between a respective pair of projections 16 (see Figure 2) provided at the inner adjacent wall of the casing 2.

[0022] With reference now to the embodiment illustrated in Figures 2 and 3, a safety container 1 is represented, compatibly-sized externally with a module of a furniture unit, and a plate-like element 5 for its fixing in position.

[0023] The safety container 1 is formed by a casing 2 intended to house a drawer 4, as in the case of the embodiment illustrated in Figure 1, while the plate-like support element 5, illustrated in Figure 3, has, unlike that illustrated in Figure 1, one or more for example T-shaped tabs 18, rising from the plate-like body 5a, each tab 18 being intended to engage a respective stop opening 17, also T-configured, made in the rear wall 2d of the casing 2. Preferably, the tab or tabs 18 each have their own resiliently yieldable stem 18a.

[0024] As described with reference to the embodiment illustrated in Figure 1, the casing 2 is coupled to the plate-like support element 5 by inserting the lateral tabs 15 through respective openings 12, which are preferably sized to fit on the respective lateral tab 15. As the casing 2 and plate-like support 5 approach each other, the lower edge of the rear wall 2d of the casing will cause, by sliding, the elastic deformation of the stem 18a of each T-shaped tab 18; once the bottom 2c of the casing 2 has come into contact with the plate-like body 5a of the support element 5, the tab 18 will snap within the respective opening 17, thus irreversibly snap-binding the support element 5 to the casing 2.

[0025] Figure 4 illustrates a modular furniture unit of kitchen C formed by modules with door 19 or doors 20, by a drawer chest 21 and by wall cupboards 22 and incorporating one or more safety container devices 1.

[0026] Figures 5-8 show various positions in the furniture unit of Figure 4, where a safety container 1 module can preferably be housed which will constitute an integral part of the furniture C and will be well-camouflaged therein. In particular, Figure 5 shows a safety container 1 having dimensions compatible with a wall cupboard module 22 of the furniture C, Figure 6 shows a safety container 1 fixed to the floor at the base 9 of the same furniture, Figure 7 shows a safety container 1 positioned at an intermediate drawer 21a of a drawer chest 21 of the furniture C, and Figure 8 shows a safety container 1 positioned at a door modular unit 19 of the furniture C.

[0027] The above-described invention is susceptible to numerous modifications and variants within the protective scope defined by the claims.

[0028] Thus, for example, even if in the shown embodiments a drawer safety container was illustrated and described, the safety container used can be of various types, for example hinged or sliding door type.

[0029] Of course, the fixing means between the support element 5 and the casing 2 can be of different type from that illustrated in the drawings. Thus the lateral tabs

15 can lack openings 15a, in which case it is necessary to provide engagement means, e. g. projections 23 on the casing for the bolts 7b.

[0030] Moreover, the snap engagement between support element 5 and casing 2 can be ensured by one or more elastically pliable tabs borne by the casing 2.

Claims

1. A safety container **characterized in that** it constitutes a modular element of a furniture unit (9, 19, 20, 21, 22).

2. A safety container according to claim 1, **characterized in that** it comprises at least one plate-like support element (5), at least one anchoring means (14, 14a) for locking in position said at least one plate-like support element (5), and fixing means (15, 16, 18) to said at least one plate-like support element (5).

3. A safety container according to claim 2, **characterized in that** it comprises a casing (2), which is equipped with a bottom wall (2c) with at least two through openings (12), a rear wall (2d) and a front opening (3), and opening/closing means for said front opening (3).

4. A safety container according to claim 3, **characterized in that** said at least one anchoring means comprises at least one anchoring through hole (14) made in said plate-like support element (5) for the engagement by holding means (14a), and said rapid fixing means comprise two lateral tabs (15) rising from said support element (5) and designed to be engaged in a respective through opening (12) in said casing (2), and at least one resiliently yieldable tab (16; 18) for the snap engagement into a respective opening (13; 17) between said plate-like support element (5) and said casing (2).

5. A safety container according to claim 4, **characterized in that** said at least one resiliently yieldable tab (16; 18) extends from said plate-like support element (5) and is designed to be snap-engaged with a respective opening (13; 17) in said rear wall (2d) of said casing (2).

6. A safety container according to claim 4 or 5, **characterized in that** at least one opening (15a) is formed in each lateral tab (15).

7. A safety container according to claim 6, wherein said opening/closing means comprise at least one door or drawer (4), locking/unlocking means for each door or drawer having at least two opposing bolts (7b) which are laterally expandable and contractible with respect to said front opening (3) of said casing (2)

between a locking position and an unlocking position of said at least one door or drawer (4), **characterized in that** in said locking position said at least two bolts (7b) engage a respective opening (15a) of a tab (15), while in said unlocking position they are retracted from it.

8. A safety container according to claim 6 or 7, **characterized in that** said locking/unlocking means are remote controllable by means of an infrared remote control and respective learning receiver device.

9. A modular furniture unit **characterized in that** it comprises a safety container module (1) according to any one of the preceding claims.

10. A furniture unit according to claim 9, **characterized in that** said safety container module (1) is structured as a drawer intended to be installed at a lower base portion (9) of said furniture.

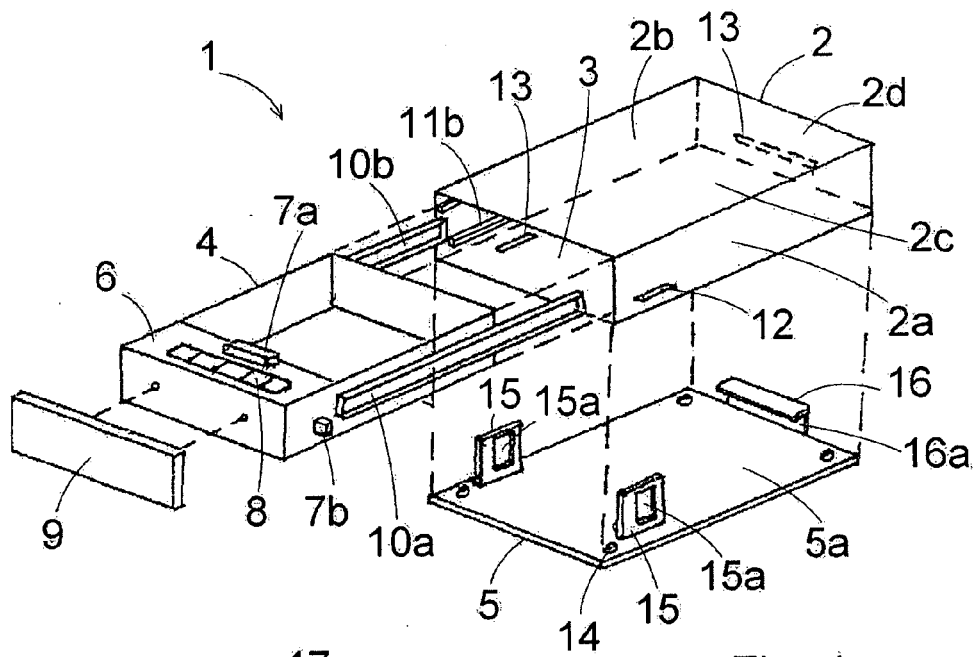


Fig. 1

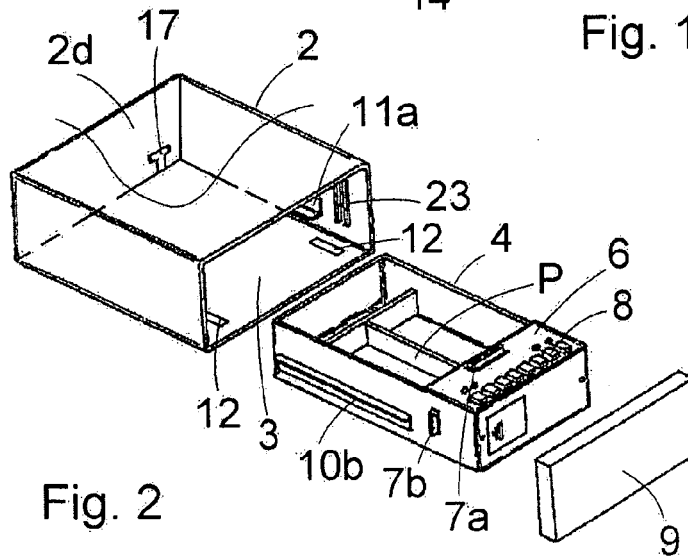


Fig. 2

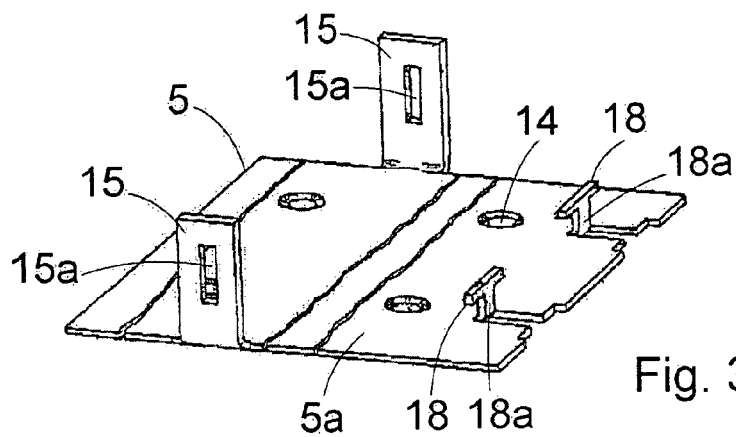


Fig. 3

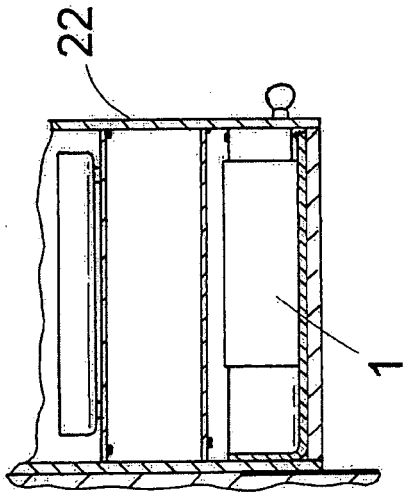


Fig. 5

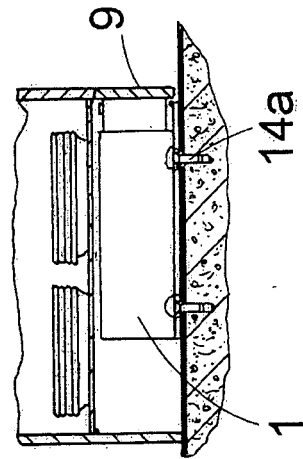


Fig. 6

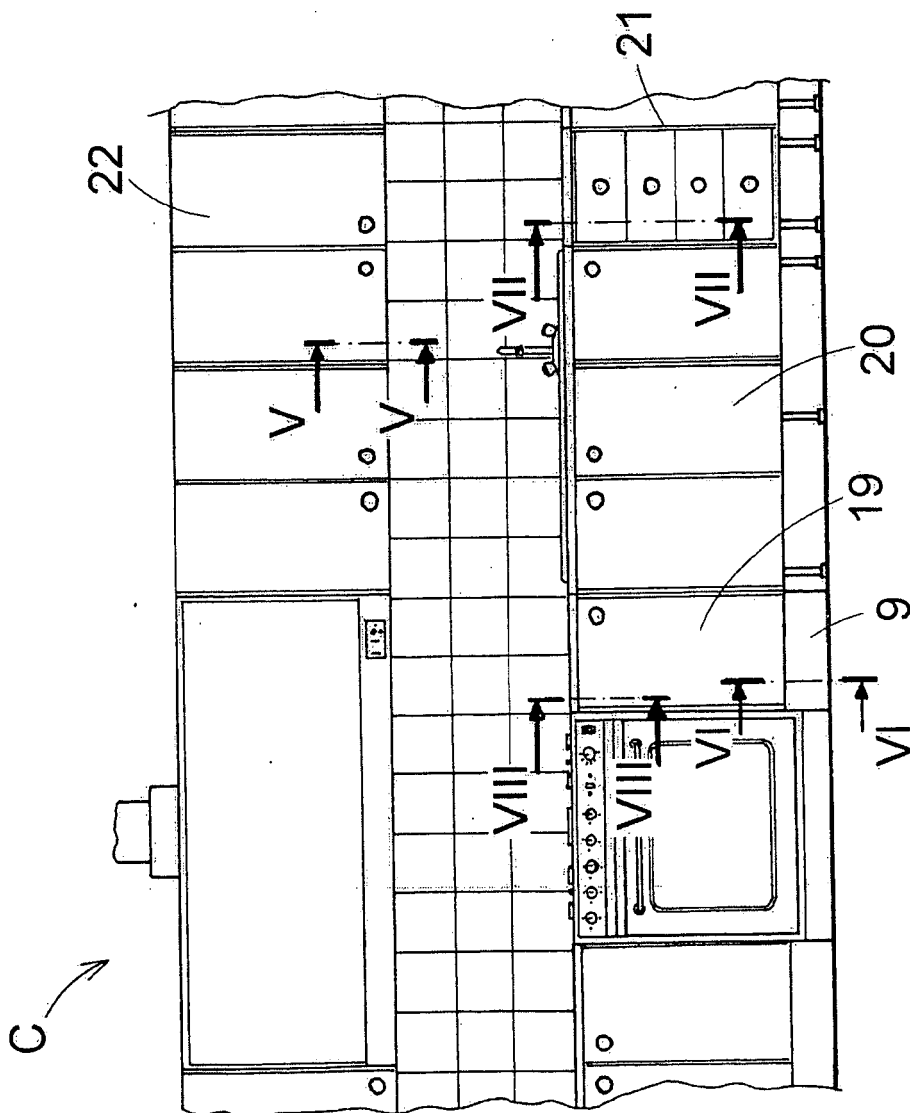


Fig. 4

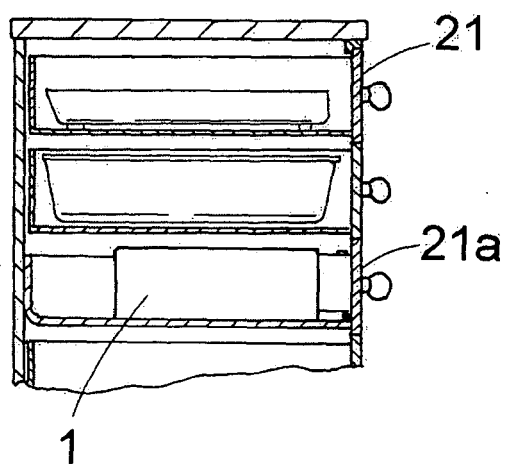


Fig. 7

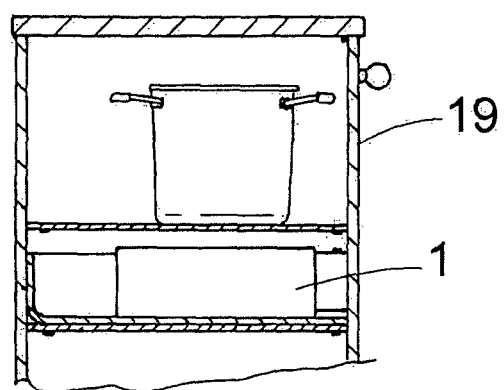


Fig. 8



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 07 00 5659

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Place of search Munich		Date of completion of the search 12 October 2007	Examiner Lassen, Steen D.
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 (P04001)

**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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