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(54) **Fridge with multiple improved independent compartments**

(57) Fridge with multiple independent compartments, **characterised in that** it is a fridge that includes multiple independent compartments, of which at least one (1), is devised to preserve food and beverages, or any other type of organic matter at room temperature (like a cooling cabinet and wine cellar compartment), this being the most distinctive element of these fridges. These fridges may contain from one or two compartments and up to three or four (or even more), all of them independent, being spaces that can be opened and closed with doors, or in the form of a drawer. Furthermore, the fact of having multiple independent compartments allows a greater energy optimization. It is also characterised by its avant-garde designs unlike traditional fridges.

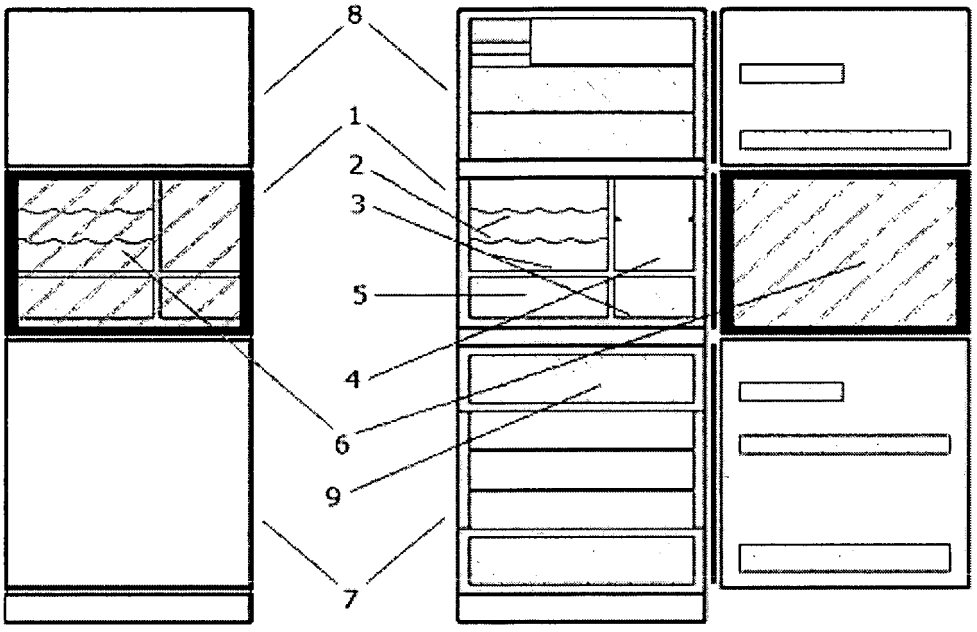

FIG.- 1

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Description

PURPOSE OF THE INVENTION

[0001] This invention, as expressed in the title of this descriptive report, refers to a fridge which has multiple improved independent compartments (almost all of them external), which can house or incorporate one, two or even more compartments of those described. However, all compartments are independent, as these are spaces which can be opened and closed with doors, or can also be areas to be opened and closed in the form of a drawer (by pulling or pushing).

[0002] The main purpose of this invention is that at least one of the described compartments, in which the fridge is divided, is equipped or prepared for the conservation of food and beverages, or any other kind of organic matter at room temperature.

[0003] This invention has as prominent feature the creation of a chamber or compartment, called "wine cellar", which allows the correct storing (horizontal position of bottles), as well as a perfect conservation of the beverages which, due to their special features, require specific cold temperatures or values, and also improves the aesthetic aspect of the cooling chamber by means of dark transparencies. Its access may be independent by means of an access door solely for this compartment.

[0004] Furthermore, the fridge with multiple improved independent compartments has the advantage that it allows a greater optimisation of energy thanks to its multiple compartments; when one of them is opened, the rest remain closed, therefore, hardly any coldness is lost in each of the compartments.

[0005] Furthermore, the different refrigeration options allow each product to be preserved at the most appropriate temperatures and at its best.

[0006] Likewise, this invention also has as a technical advantage the achievement of a greater variety of isolated thermal atmospheres, which may also be regulated independently.

[0007] Likewise, the logical consequence of having several compartments within the cooling cabinet itself, implies greater energy saving, as one of the compartments may be at room temperature, therefore energy consumption is zero.

[0008] Another of the technical advantages pursued with this invention is to achieve a greater saving in the inside part of the fridge, because the fact that the total space is subdivided in smaller spaces enables to make a better use of the available space.

[0009] Finally, as another advantage, we could mention the obtaining of better standards or levels of aesthetic improvement in the fridge or cooling cabinet, thanks to the inclusion of the said compartments, which involves new designs, etc.

FIELD OF APPLICATION

[0010] The field of application for this invention is the industry of cooling or fridge cabinet manufacturing.

BACKGROUND OF THE INVENTION

[0011] Currently, in the market there are fridges which normally offer the typical features, such as: refrigeration, freezing and an internal area for conservation at 0-1 °C (called zero area). Some also offer an internal drawer or compartment to offer some other kind of refrigeration, but it is usually very limited and scant, both in terms of space and in terms of the thermal variation as regards the compartment in which said drawer is located.

[0012] This way, the fridge or cooling cabinet referred to in the previous paragraph, only has one temperature or thermal atmosphere for the whole space to be cooled, with no compartmentalised spaces within allowing the creation of different thermal atmospheres, or if there are any, they are so limited and scant that practically their function is merely representative and not really functional and operative.

[0013] As regards the storage of certain foods and beverages, which require a specific thermal atmosphere for their correct conservation, in the case of wines, as the cooling cabinet does not have these compartments, their properties are reduced and it influences their oenological characteristics.

[0014] These cooling cabinets described have or include a thermostat that regulates the inside temperature of the fridge, but globally, without distinguishing between compartments, because they are not included, or if there are any they are so limited that they do not allow an appropriate functionality.

DESCRIPTION OF THE INVENTION

[0015] In order to solve the drawbacks set out in the preceding paragraphs, a fridge with multiple improved independent compartments has been devised, which is the object of this invention, which aims at improving the features of the new fridges by including new compartments, so that they offer a greater variety of thermal atmospheres and therefore contribute to a greater quality in the conservation and enjoyment of the products, and an improvement as regards the users' health, as well as a greater optimisation of energy; and all of it, within the same cooling cabinet. This new fridge which is the object of this invention, is **characterised in that** it is a fridge that includes multiple improved independent compartments, in which at least one of them is devised to store food and beverages, or any other type of organic matter, such as medicines, to cite an example, at room temperature (or at the temperature wished in order to obtain one more cooling option). This fridge or fridges may contain one or two compartments or up to three or four (or even more), all of them independent, as they consist of spaces

that may be opened and closed with doors, or can also be areas that are opened and closed in the form of a drawer (by pulling or pushing).

[0016] Another characteristic that distinguishes the fridge the object of this invention from traditional or conventional fridges is its design, given that, as it is a fridge with multiple compartments (and almost all of them external), it forces to manufacture by thinking in the creation of designs different from the ones we are used to. Furthermore, the fact of including this new compartment for conservation at room temperature at the same time devised to be used as a cellar, invites to the creation of more avant-garde designs in terms of aesthetics, which may combine, for example, the different colour ranges in white or stainless steel, etc. with glass or transparent elements, thus giving better finish levels.

[0017] Thus, among the different compartments which can be included in the fridge with multiple improved independent compartments, the object of this invention, we find:

[0018] The wine cellar compartment (1). It is the most distinctive element of the fridge object of this invention. Unlike current refrigeration compartments, which are devised to offer temperatures ranging approximately between 2 and 6-7 °C, the wine cellar compartment is devised to cool at a higher temperature, although it can also be programmed under 7 °C approximately, in case we wanted to use it as standard refrigeration. The main idea of all this is to provide the fridges with an independent compartment serving a cooling cabinet and cellar simultaneously, with its own temperature regulation, and aimed at being able to keep certain products at room temperature. At the same time, so that such products can be stored at a stable temperature all year, whether it is summer or winter, or whether it is very cold or warm outside. The said compartment may be located within the general cooling compartment, but ideally it should be independent from the rest of compartments and have its own external door, largely because it is more practical when introducing or extracting the products, but especially due to energy saving reasons; thus, every time it is used, it is not necessary to open and close the whole refrigerating compartment as it happens with current fridges, which causes an unnecessary energy waste, especially in the summer, when opening and closing at all times, which causes a constant heating of this compartment.

[0019] This compartment may be designed in different ways depending on the use it is given:

Firstly, it can be designed to be used exclusively as wine cellar. That is, by introducing a wine cellar within the familiar fridge. That way, it would only be necessary to include some wine shelves (with a wavy or straight shape).

[0020] Another option is to design it in such a way that no only it can be used as a cellar, but is also devised as cooling cabinet. This is a mixed compartment that serves as refrigerator at room temperature to store all sorts of products; and at the same time, also serves as wine cellar.

[0021] A third option is to design it only as cooling cabinet without specific shelves for wine.

[0022] Among the options described in the preceding paragraph, preferably the most appropriate to equip most fridges is the second or mixed type one, because its space is better used so that no storage capacity is lost due to the inclusion of the wine cellar within the cooling cabinet itself. It may seem that the fact of including this wine cellar compartment in fridges takes up the space for the rest of compartments. This is partly true, but not completely, as this compartment is not exclusively devised to store wine, but also to store a great variety of products, therefore the products that in traditional fridges are stored in a single refrigeration compartment, are now distributed in different compartments more intelligently and taking into account the most appropriate temperature. Therefore, there is hardly any space loss, but an appropriate distribution of the food and beverages in the different compartments.

[0023] The compartment to be used exclusively as cellar is devised especially to be included in the largest fridges of the market (such as for example the typical "side by side" fridges), which have enough room for general refrigeration, for freezing, and at the same time still have enough room to include a wine cellar.

[0024] In order to have a wine cellar compartment (1) that is as complete as possible, it is advisable to design it in such a way that a great variety of products can be stored within. And at the same time, so that they can be stored in different appropriate shelves or drawers depending on their nature. For that reason, a design has been devised so that it may contain, for example, two or three specific shelves for wine (2); one, two or more flat shelves (3) to store varied products, such as yoghurt, chocolate, products to be spread, or even more wine bottles, etc.; a sub-compartment to store natural water or juice (4); and some closed compartment especially for fresh fruit and vegetables (5).

[0025] As regards the door for the wine cellar compartment, it should preferably be made of glass with transparencies (6), so that it contrasts with the rest of external doors. This could be a distinctive sign of these new generation fridges compared to the rest of traditional fridges, apart from the fact that they offer a renewed and modem image due to the fact that they combine stainless steel doors, for example, with transparent ones. Furthermore, this glass door also serves to show that these fridges have a wine cellar, and at the same times helps to know at first sight which compartment is devoted to that end. It is advisable to point out that there are consumers who like fridges with transparent doors, but others do not like it when it is possible to see clearly the products stored within the fridge. For that reason, the glass of these glass doors will normally have a darker shade; although they

can be offered in a totally transparent version or with a dark, matt glass, etc., depending on the consumer's preferences.

[0026] This invention, as expressed in the title of this descriptive report, refers to a fridge which has multiple improved independent compartments (almost all of them external), which can house or incorporate one, two or even more compartments of those described. However, all compartments are independent, as these are spaces which can be opened and closed with doors, or can also be areas to be opened and closed in the form of a drawer (by pulling or pushing). That way, we specified how the fridge object of this invention is characterised, depending on whether it includes two, three, four or more compartments:

Fridge with three compartments. It is characterised by being a fridge with three doors (figure 1) which are placed one above the other, like the two-door current fridges. Each of these compartments is devised to create its own thermal atmosphere with temperature regulation independent from the rest of compartments; thus, we have: two compartments for refrigeration and one compartment for freezing. One of the compartments for refrigeration is devised for preservation at room temperature and wine cellar service (1) and the other, for general refrigeration (7), leaving the third compartment for freezing (8). Furthermore, an internal compartment for the zero area (9) can be included, which would generally be located within the general refrigeration compartment. With all of this, we would have fridges that are much more complete than the typical fridges that only offer one refrigeration possibility, by expanding refrigeration possibilities and including an independent temperature regulation, apart from the different uses and all in a single cooling cabinet; and at the same time, they are devised to occupy the same space as fridges with two doors. For that reason, it must be taken into account that they must be manufactured from a considerable size (especially as regards height) so that they are effective in terms of offering an optimum storing capacity. They are designed for those consumers who wish to have fridges with a cellar and who live in houses with a limited space kitchen not allowing the housing of large fridges or additional wine cellars. These fridges, given the fact that they occupy the same space as current two-door fridges, are the ones that can be used the most in many homes in the near future.

[0027] The distribution of the different compartments may vary depending on the preferences of each manufacturer, although the wine cellar compartment should preferably be located in the central area, mainly for mere aesthetic reasons. Figure 1 illustrates a distribution in which the freezer is above and the general refrigeration compartment below, but it can also be distributed like in fridge-freezers, with the freezer below and the general refrigerator above.

[0028] It is also possible to build fridges with three doors in the shape of a cabinet. These would be of the "side by side" type and their distribution could have different forms: two compartments, one next to the other, and a third compartment which can be located either above or under the other two. The wine cellar compartment could be located in the above compartment or in any of the two compartments that are next to each other. Another option could be two compartments one on top of the other, and next to these, a third compartment with the same height as the other two together. And as regards measures, in general they would be lower fridges than the first ones (figure 1) but wider (as they have they shape of a cabinet and with one door next to the other).

[0029] Fridge with four or more compartments. This fridge is of the "side by side" type and is **characterised in that** it is a fridge with a large capacity (figures 2, 3). They are the larger ones (among family fridges) and are aimed at those consumers who require the maximum capacity and at the same time everything in one single unit. As regards distribution, it may contain a wine cellar compartment to store at room temperature (1) as well as the other characteristic compartments for refrigeration (7) and freezing (8). Thus, we would have a fourth independent compartment left that could be used, for example, as zero area, i.e., the area where the temperature ranges between 0 degrees and 1 degree Celsius (10). That way, this fridge would be made up of the two main compartments (refrigeration and freezing) which would, in general, have a greater capacity (although that depends on the manufacturers' criterion), and two more smaller compartments that would be devoted to different uses (wine cellar and zero area); all of them independent and with their own temperature regulation.

[0030] It would also be possible to make fridges with four or more compartments with the following distribution (figure 3): two wine cellar compartments (11) to store at room temperature, one for general refrigeration and one for freezing. The main purpose is to offer the greatest variety possible of thermal atmospheres, and at the same time to make of them the most complete fridges in the market. That way, it would be possible to adjust, for example, one of the wine cellar compartments at a temperature of 7 °C (ideal to store white, rosé, slightly sparking wines, champagne, etc.), and the other at 14-15 °C (to store red wine, among other things). The rest of compartments would be devoted to general refrigeration (designed to store between 2 and 7 °C) and for freezing. As regards the zero area, it could be located in a sub-compartment within the general refrigeration compartment or even within any of the two wine cellar compartments.

[0031] Fridge with two compartments. Apparently, this fridge is very similar to traditional two-door fridges, but it differs from them because of the different uses it offers. Unlike typical two-door fridges designed to refrigerate and freeze, these new fridges are devised so that one

compartment is used to store at room temperature and wine cellar and the other for general refrigeration. Although it is also possible to make a freezer and wine cellar version. So that these fridges with two doors can be distinguished from the rest of fridges, it would be advisable to design them with transparencies for the wine cellar compartment (although they can also be made without transparencies).

[0032] These fridges with two doors are ideal for those who prefer having a separate freezer (or separate refrigerator and freezer-wine cellar together) and have room for two cooling units. They are also ideal for company offices, where there is no need for a freezer but a fridge with two refrigeration compartments is very useful.

[0033] Fridges with two doors can also be marketed by offering two units of the same brand and with the same or a similar design (figure 4). This could come into fashion and introduce new aesthetics, and is aimed at those who have a large kitchen that can house two fridges. For example, two fridges with the same design could be marketed, containing: one a refrigerator with wine cellar compartment, and the other, freezer and wine cellar. Thus, one wine cellar compartment can be set at 7 °C (for white and rosé wines, champagne, juice, yoghurt, etc.), and the other unit wine cellar compartment, at 12 °C for example (for red wine, natural water, etc.).

[0034] Other combinations could be: a fridge with one door (refrigerator and zero area) and another with two doors (freezer and wine cellar). Or, separate freezer (8) and another unit with refrigerator (7) and wine cellar (1).

[0035] All these fridges with multiple improved independent compartments, apart from being much more complete than traditional ones and having renewed aesthetics, offer other advantages compared to other fridges, such as:

A greater optimization of energy thanks to the multiple compartments. When one of them is opened, the rest remain closed, therefore, hardly any coolness is lost in each of the compartments.

[0036] They are good to improve the consumers' health, as they contribute so that, on the one hand, fewer products are consumed that cold, so that way we can prevent more than one sore throat. Furthermore, the different refrigeration options allow each product to be stored at the most appropriate temperature and at its best. Thus the purpose of this invention is to provide a fridge with multiple improved independent compartment (almost all of them external), which may include one, two or even more compartments of those described. However, all the described compartments are spaces that may be opened and closed with doors, or may also be areas to be opened and closed in the form of a drawer (by pulling or pushing).

[0037] That way, at least one of the described compartments in which the inside of the fridge is divided, is equipped or prepared to store food and beverages, or any other kind of organic matter at room temperature. Thus, the different refrigeration options, i.e., the variety of existing thermal atmospheres, which can be regulated independently, allow each product to be stored at the most appropriate temperature and at its best. Likewise, an important energy saving is achieved, as one of these compartments may be adjusted at room temperature, so the energy consumption is zero. The greater compartmentalisation of the fridge allows a better use of the available space.

[0038] Finally, this invention offers higher aesthetic standards or levels, thanks to the inclusion of the said compartments, which implies new designs, etc.

DESCRIPTION OF THE DRAWINGS

[0039] In order to complete the description carried out and in order to make the understanding of the invention characteristics easier, a set of drawings is enclosed to this descriptive report, in which, as a way of example, but not limited to, the following has been represented:

- Figure 1 shows a view of the fridge with multiple improved independent compartments, in the three-door version.
- Figures 2 and 3 show a view of the fridge with multiple improved independent compartments, in the four-door versions.
- Figure 4 shows a view of the fridge with multiple improved independent compartments, in the two-door version, which at the same time appears next to a one-door fridge as an example of a set of fridges.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0040] As it can be observed in the drawings mentioned, the fridge with multiple improved independent compartments has a series of improved independent compartments, such as the wine cellar compartment (1), to store at room temperature, especially beverages. This same compartment may include wavy shelves (2), making the storage of wine easier, or may include flat shelves (3), to store any food at room temperature.

[0041] The fridge object of this invention may also include a sub-compartment (4), to store water or juice. Likewise, it may also include a closed compartment (5), especially to store fruit. Likewise, the described fridge includes a glass door with transparencies (6), which distinguishes the compartment that opens and closes (wine cellar) from other compartments. Furthermore, it may also include other compartments for refrigeration (7), and compartments for freezing (8); likewise, it has one (9), or several compartments (10), for the "zero area", where the inside temperature ranges between 0° and 1° Celsius approximately. Finally, the described fridge in its different variants or versions may also include two wine cellar

compartments (11).

[0042] This invention presents as most prominent characteristics, among others, that at least one of the described compartments, in which the inside of the fridge is divided, is equipped or prepared to store food and beverages, or any other kind of organic matter at room temperature, Thus, the different refrigeration options, i.e., the variety of existing thermal atmospheres, which may be regulated independently, allow each product to be stored at the most appropriate temperature and at its best, thus also achieving an important energy saving, as one of these compartments may be adjusted at room temperature, so the energy consumption is zero. The greater compartmentalisation of the fridge allows a better use of the available space.

[0043] Finally, this invention offers higher aesthetic standards or levels, thanks to the inclusion of the said compartments, which implies new designs, etc.

[0044] After sufficiently describing the nature of the invention, as well as the manner to carry it out in practice, it must be pointed out that the aforementioned arrangements, represented in the enclosed drawings, can be modified in details as long as they do not alter the fundamental principle.

Claims

1. FRIDGE WITH MULTIPLE IMPROVED INDEPENDENT COMPARTMENTS, **characterised in that** it has multiple independent compartments, one of which is a cooling cabinet.

2. FRIDGE WITH MULTIPLE IMPROVED INDEPENDENT COMPARTMENTS, according to the previous claim, **characterised in that** it can be a fridge with three independent compartments and with three doors (although it may also have two, one for the two refrigerating compartments and another for the freezer; one of the doors could even be in the form of a drawer).

3. FRIDGE WITH MULTIPLE IMPROVED INDEPENDENT COMPARTMENTS, according to the previous claims, **characterised in that** it may also have four compartments (or more): one of them at room temperature (1), one for the zero area (10), and the remaining two for general refrigeration (7) and freezing (8), although the zero area compartment could be replaced with another compartment for room temperature.

4. FRIDGE WITH MULTIPLE IMPROVED INDEPENDENT COMPARTMENTS, according to the previous claims, **characterised in that** it is also possible to make a version with two doors and with two different compartments, different from traditional fridges **in that** one of the two typical compartments (freezer or general refrigeration) is replaced with a compartment for storage at room temperature; at the same time, it is possible to make two fridges with two doors or one door with the same design, thus offering a set of two fridges with different uses.

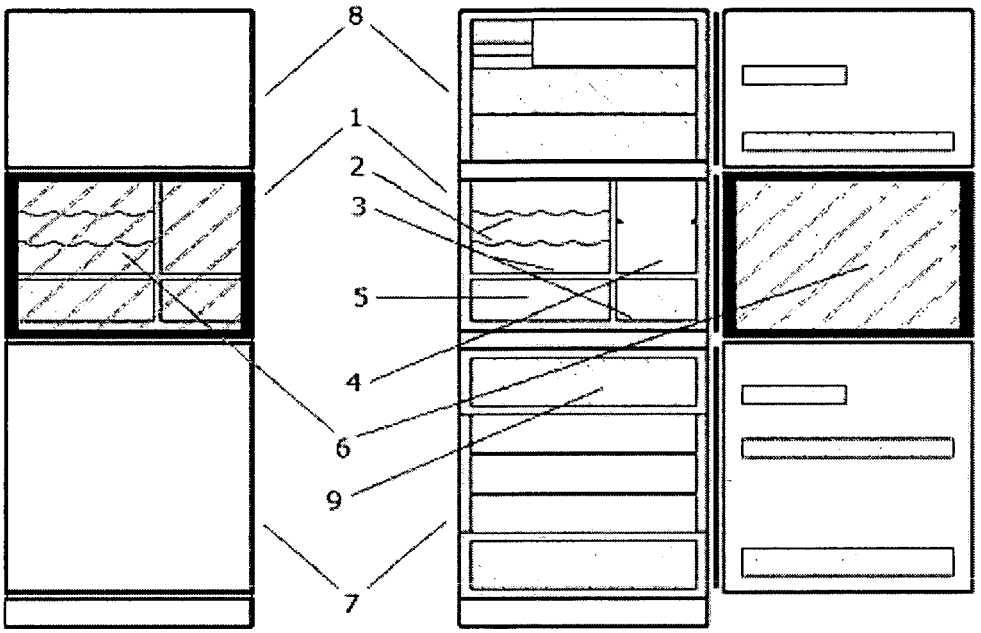

FIG.- 1

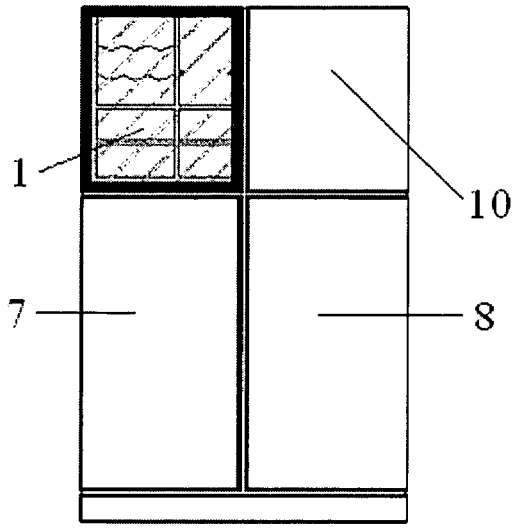

FIG.-2

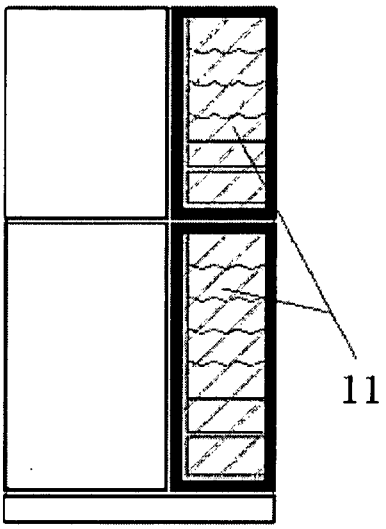

FIG.-3

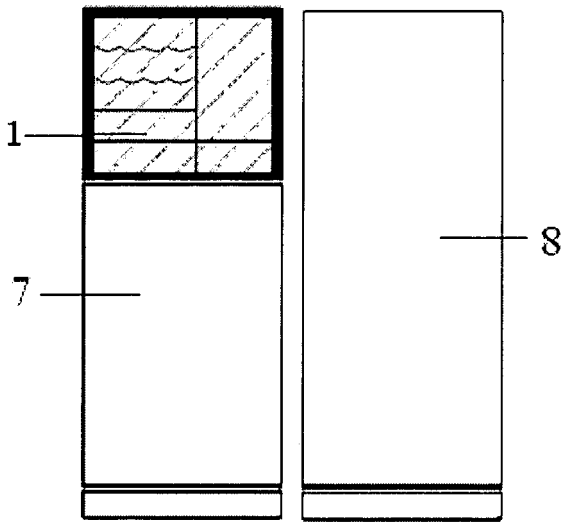

FIG.-4