



- (51) **International Patent Classification:**  
*F25D 23/04* (2006.01)
- (21) **International Application Number:**  
PCT/EP2012/053456
- (22) **International Filing Date:**  
29 February 2012 (29.02.2012)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**  
2011/02790 24 March 2011 (24.03.2011) TR
- (71) **Applicant (for all designated States except US):** **BSH BOSCH UND SIEMENS HAUSGERÄTE GMBH** [DE/DE]; Carl-Wery-Str. 34, 81739 München (DE).
- (72) **Inventors; and**
- (75) **Inventors/Applicants (for US only):** **FERCAN, Ahmet** [TR/TR]; Zeytinlik Mh. Yakut Sk. No:50/6 Bakirköy, 34158 Istanbul (TR). **AYVA, Ercan** [TR/TR]; Tepe Emlak
- Konutlari A11 D:28 Cerkezköy, 59501 Tekirdag (TR). **KABILOGLU, Sezgin** [TR/TR]; Cobancesme Mah. Celal Atik Sok.11/1 Corlu, 59580 Tekirdag (TR).
- (74) **Common Representative:** **BSH BOSCH UND SIEMENS HAUSGERÄTE GMBH**; 83 01 01, 81701 München (DE).
- (81) **Designated States (unless otherwise indicated, for every kind of national protection available):** AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.
- (84) **Designated States (unless otherwise indicated, for every kind of regional protection available):** ARIPO (BW, GH,

[Continued on next page]

(54) **Title:** REFRIGERATOR COMPRISING A SLIDING STORAGE BOX

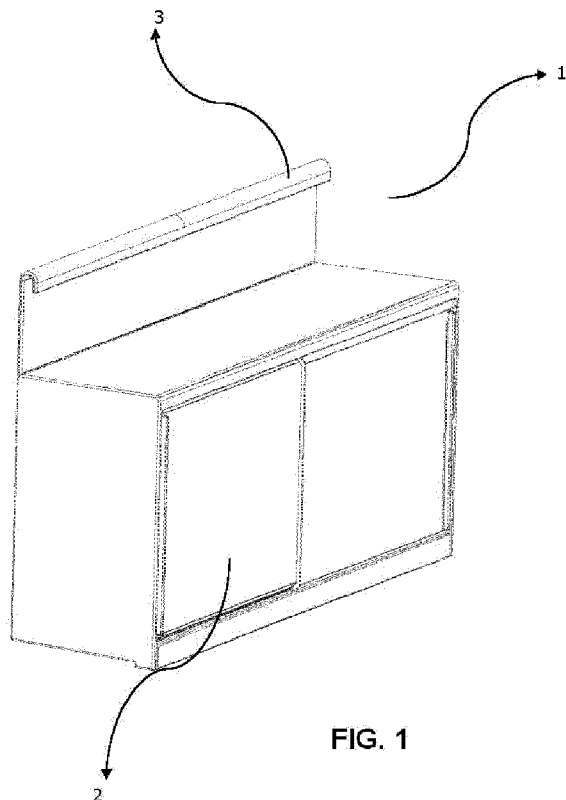


FIG. 1

(57) **Abstract:** The present invention relates to a refrigerator comprising at least one storage box which is affixed to an inner side of a refrigerator door, including a hanger unit which has a "n" shaped upper portion and lids designed to slide along the front panel of the said storage box.



GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**

— *without international search report and to be republished upon receipt of that report (Rule 48.2(g))*

## REFRIGERATOR COMPRISING A SLIDING STORAGE BOX

### Field of the Invention

The present invention relates to a refrigerator comprising at least one storage box for the inside door of a refrigerator, and more particularly the invention is pertaining to a refrigerator having a storage box which is designed with sliding lids and removably affixed to a storage unit on an inner surface of the refrigerator door.

### Background of the Invention

Storage units such as shelves or trays for storing food and beverage containers used in the refrigerator cabinets and/or at the inner side of the refrigerator doors are well known in the prior art. On the inside of the door of a refrigerator, stationary shelves are located extending along the width of the door and generally shaped for the foodstuff to be contained, such as egg containers, container for bottles etc. However, effective volume around the interior of a refrigerator door is limited and cannot be flexibly used due to various shapes of the foodstuff contained in the refrigerator.

The volume between the shelves must be sufficient to store the foodstuffs of various size and shape, preferably with a uniform distribution. This limits the number of shelves which can be provided and therefore the amount of available shelf area. To this end, stationary shelves limit effective use volume in the interior of a door and result in less amount of foodstuff to be contained and cooled.

On the other hand, some sensitive cosmetics, decomposable bathroom items and medicines are designed to be stored only at refrigerated temperatures. However, it is not healthy and desirable to place a foodstuff and a sensitive or harmful item at the same shelf. Accordingly, a separate closed storage area may become a necessity for the refrigerators.

### **Objects of the Invention**

It is an object of the present invention to provide a refrigerator comprising at least one portable storage box for storing medicines and cosmetic products around the interior of a refrigerator door.

Another object of the present invention is to provide a refrigerator comprising at least one portable storage box which includes sliding lateral lids.

Yet another object of the present invention is to provide a refrigerator comprising at least one portable storage box which is removably affixed to a stationary shelf of a refrigerator door.

### **Summary of the Invention**

The present invention provides a refrigerator comprising at least one storage box including a hanger unit which is removably affixed to a stationary shelf of a refrigerator door, and lids designed as to slide along the front panel of the said storage box. Said hanger unit has a "n" shaped upper portion for mounting the storage box removably on the stationary shelf. According to a preferred embodiment of the present invention, the storage box includes more than one cabinets for storing various stuff in the same box, but in separated areas.

### **Brief Description of the Drawings**

The figures whose brief explanations are herewith provided are solely intended for providing a better understanding of the present invention and are as such not intended to define the scope of protection or the context in which said scope is interpreted in the absence of the description.

Figure 1 shows a perspective view of a portable storage box according the present invention,

Figure 2a and 2b are perspective views of inner side of a refrigerator door having a storage box which is positioned at different sides of the door according the present invention,

Figure 3a is perspective view of a storage box and a stationary shelf of a refrigerator before affixation.

Figure 3b is perspective view of a storage box and a stationary shelf of a refrigerator at the time of affixation.

Figure 3c is perspective view of a storage box and a stationary shelf of a refrigerator after fixation.

### **Detailed Description of the Invention**

Various part numbers and corresponding part names forming the embodiments of the invention as in appended drawings may be outlined as follows;

1. Storage box
2. Sliding lid
3. Hanger unit
4. Refrigerator door
5. Stationary shelf

The present invention aims to solve the aforementioned problems by provision of a storage box (1) which is affixed to an inner side of a refrigerator door (4), in particular to any one of the stationary shelves (5) that extend generally along the width of the door (4). According to the present invention, dimensions of the said storage box (1) is preferably selected smaller than the dimensions of the said stationary shelf/shelves (5).

The storage box (1) according to the present invention comprises a hanger unit (3) as shown in Figure 1. Said hanger unit (3) has a "n" shaped upper portion for affixing to any one of the stationary shelves (5) as shown in any of the Figures 3a, 3b and 3c on the interior of the refrigerator door. Furthermore, this shape of the upper portion of the

hanger unit (3) makes it possible to mount the storage box (1) removably on the stationary shelf (5). As an advantage of the system, user may himself/herself decide the horizontal location of the said storage box (1) on refrigerator door (4) and simply move the mentioned storage box (1) on the stationary shelf (5) to his or her desired position. Mobility of the unit allows flexibility to the user.

Preferably, the storage box (1) as referred above is a modular unit which may be easily installed and removed as a whole. Referring now to the Figures 3a, 3b and 3c affixation of the system is realized first by hanging the storage box (1) to the stationary shelf (5), simply by attaching the upper portion of the of the hanger unit (3) to an upper portion of the rear lateral surface of a stationary shelf (5). Then the stationary shelf (5) with said storage box (1) is mounted onto the related part of the refrigerator door (4). Once the unit is mounted on the shelf, the user may change the horizontal position of the said storage box (1) under the guidance of the rear lateral surface of the stationary shelf (5).

According to a preferred embodiment of the present invention, the lids (2) of said storage box (1) is designed so as to slide along the front panel of said storage box (1). Accordingly, the lids (2) of the box (1) do not consume usable interior volume of the refrigerator and takes up a minimum storage space within the refrigerator's inner space. Furthermore, the lids (2) of the box (1) do not hit any part of the refrigerator interior even if the users somehow forget to close the lid (2) before closing the door (4) of the refrigerator.

According to an alternative embodiment of the present invention, the storage box (1) is especially used as a cabinet for storing cosmetics items, bathroom items and/or medicines which should be kept at the refrigerated temperatures. This special usage of the storage box (1) according to the present invention provides a separate closed storage area for the cosmetics items, bathroom items and/or medicines for the users apart from the foodstuff preserved in the refrigerator.

According to another alternative embodiment of the present invention, said storage box (1) is composed of two or more partitions for storing items in the same box (1) but in spaced apart positions. As an example to this embodiment, user has flexibility to store cosmetics items in a first partition, whereas medicines in a second partition.

The "n" shaped upper portion of the hanger unit (3) fits to corresponding shape on the edge of a door shelf of the refrigerator. This edge of the hanger unit (3) may be surface treated to slide easily on the edge of a door shelf. This may be done by coating one or more of the surfaces in question with a low friction coating. Furthermore, the storage box (1) may be made of a transparent material for making the content visible without opening any of said lids (2). The material may be either glass or plastic.

Further alternatives and modifications within the scope of claim 1 shall be obvious to those skilled in the art and such modifications covered by the independent claims are to be considered within the scope and spirit of the present invention.

**CLAIMS**

1. A refrigerator comprising at least one storage box (1) including a hanger unit (3) which is removably affixed to a stationary shelf (5) located on the interior of a refrigerator door (4) and at least two lids (2) adapted to slide along the front panel of the said storage box (1).
2. A refrigerator according to claim 1 wherein the hanger unit (3) has a "n" shaped upper portion for mounting the storage box (1) removably and slidably on the stationary shelf (5).
3. A refrigerator according to claim 1 wherein the storage box (1) has more than one partitions for storing different items in the same box (1) in a spaced apart position.
4. A refrigerator according to claim 2 wherein the "n" shaped upper portion of the hanger unit (3) fits to corresponding shape on the edge of a door shelf of the refrigerator.
5. A refrigerator according to claim 4 wherein the "n" shaped upper portion of the hanger unit (3) is surface treated to slide easily on the edge of a door shelf.
6. A refrigerator according to any of the claims wherein storage box (1) is made of a transparent material for making the content visible without opening any of said lids (2).
7. A refrigerator according to Claim 6 wherein the storage box (1) is made of glass or plastic.

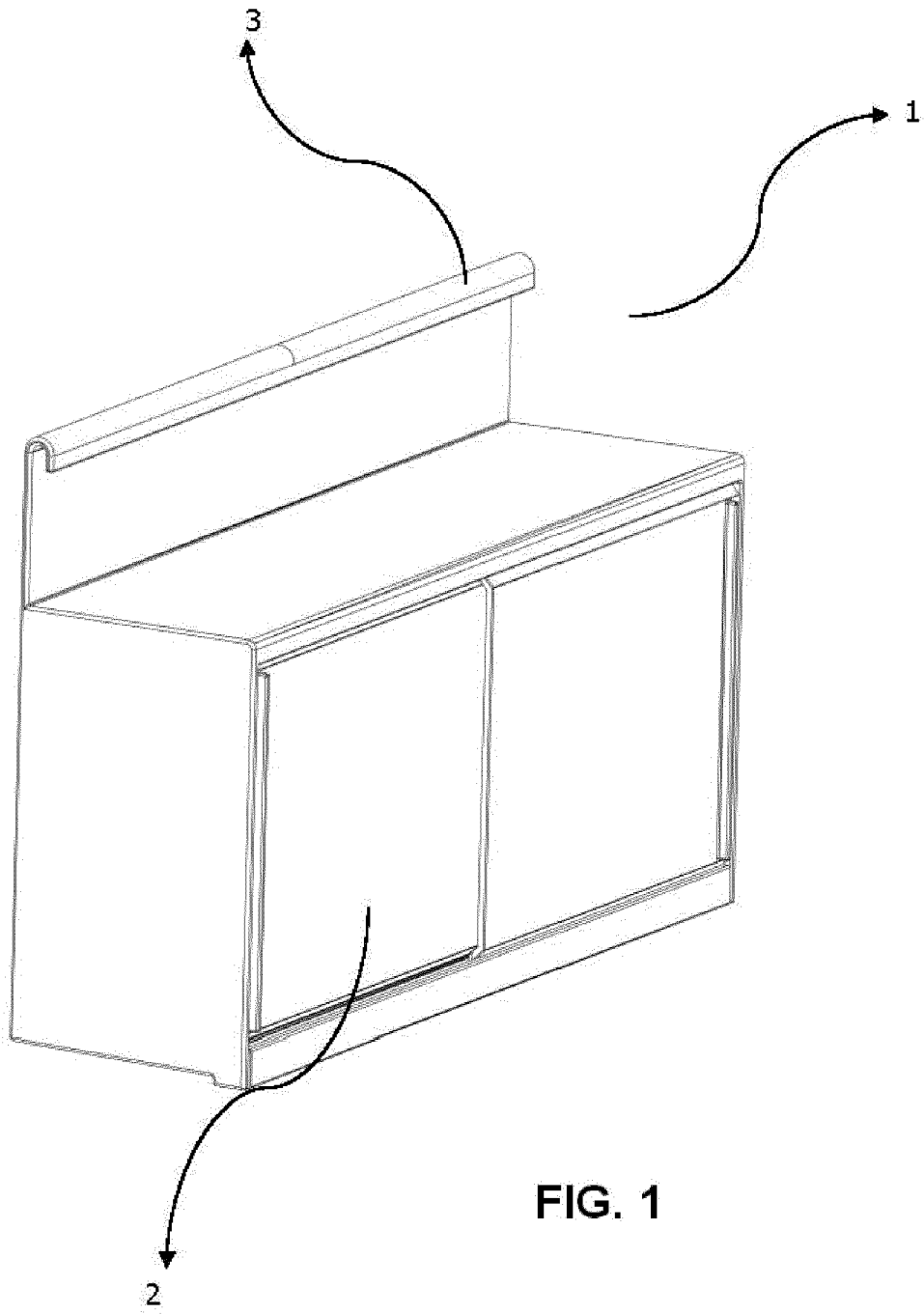


FIG. 1

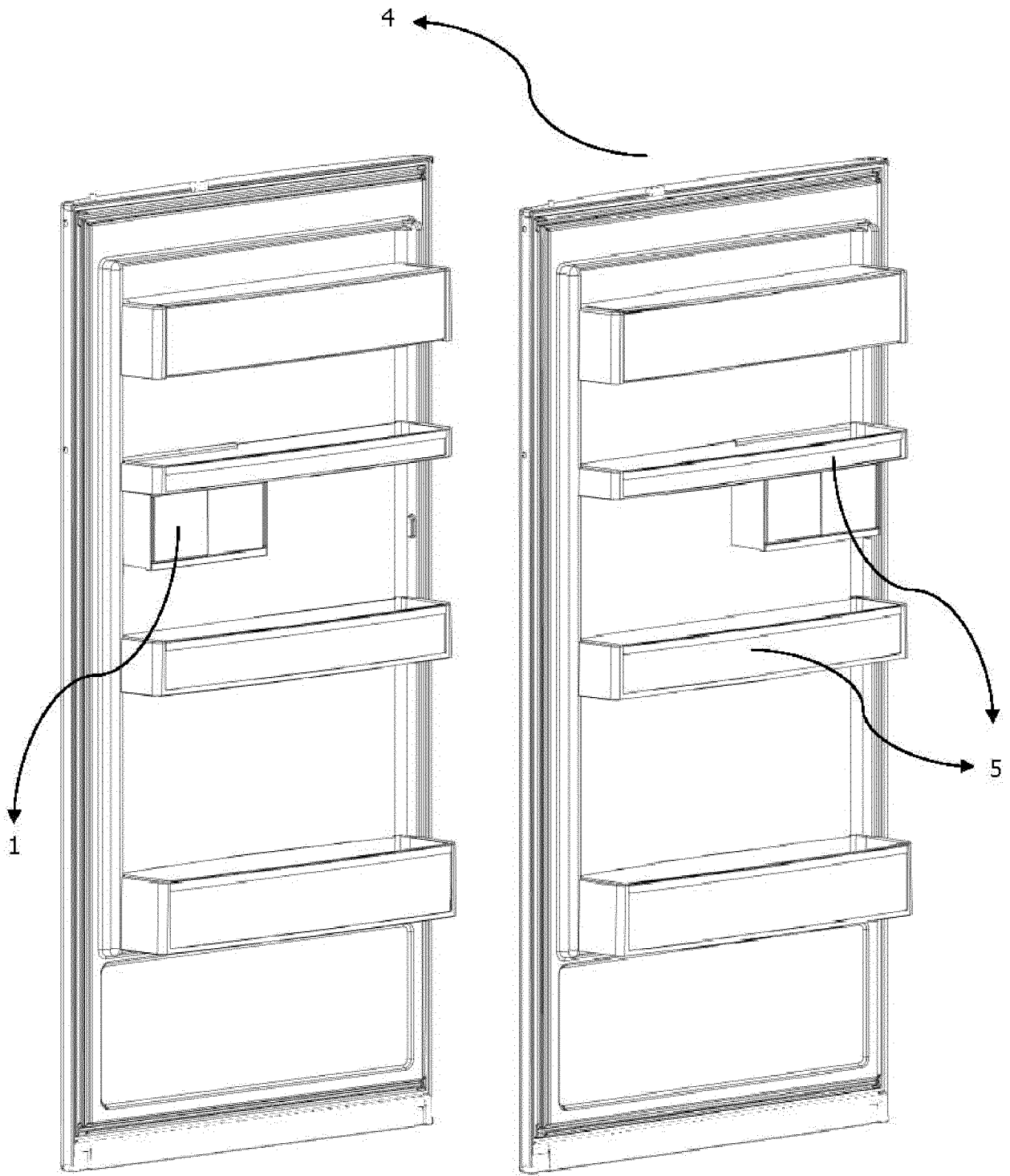


FIG. 2a

FIG. 2b

