An external tray arrangement for a refrigerator or freezer cabinet, of the type presenting a horizontal upper wall (10). According to the invention, the upper wall (10) is provided with a plurality of holes (12), each lodging and retaining an internally threaded tubular retaining means (20); a tray (30) inferiorly incorporating tubular projections (31), each having a lower end seated on the upper wall (10) of the cabinet (G) in alignment with a respective tubular retaining means (20); and a screw (40) seated on the tray (30), passing through each tubular projection (31) and presenting a threaded portion engaged with the thread of the respective tubular retaining means (20), retaining the tray (30) seated on the upper wall (10) of the cabinet (G).
EXTERNAL TRAY ARRANGEMENT FOR A REFRIGERATOR OR FREEZER CABINET

FIELD OF THE INVENTION

[0001] The present invention refers to a removable tray to be mounted externally to a refrigerator or freezer cabinet, specifically on the upper wall of said cabinet, in order to define thereon a region for supporting several kinds of products or appliances.

PRIOR ART

[0002] The upper wall of a refrigerator or freezer cabinet is often used as a support surface for trays and other utensils or objects, and thus being one of the several support structures in the ambient where the cabinet is installed and which is generally defined by the kitchen, pantry, or even by the service area.

[0003] Using the upper wall of the refrigerator cabinet as a support surface is a very natural resource in small places in which there are not enough support surfaces available, such as counters, shelves and closets.

[0004] Thus, the utilization of the cabinet as a support surface assumes great importance in the dwellings with a small useful area, for example in the apartments having a combined room and living room, such as those found in university campuses and in certain buildings in which the units are designed to individual dwellers. In these cases, the refrigeration cabinet is integrated to the ambient, with its upper wall being invariably used as an important surface for supporting trays or other household appliances, such as electric ovens and microwaves.

[0005] The known refrigeration cabinets present their upper wall constructed to define only one support surface, which is suppressed from the ambient when other household appliance is placed thereon.

OBJECT OF THE INVENTION

[0006] By reason of the exposed above, it is a generic object of the present invention to provide an external tray arrangement for a refrigerator or freezer cabinet, which allows placing other household appliance on the cabinet, without preventing the upper wall of the latter from continuing to be used as a support surface for several objects.

DISCLOSURE OF THE INVENTION

[0007] In order to comply with the object above, the upper wall of the cabinet is provided with a plurality of holes, each hole lodging and retaining an internally threaded tubular retaining means, a tray being provided incorporating lower tubular projections to be seated and affixed onto the upper wall in alignment with a respective tubular retaining means, with the aid of screws passing through the tubular projections and having the threaded portions thereof engaged with the internal thread of the respective tubular retaining means.

[0008] The above construction allows the tray to be mounted spaced from the upper wall of the cabinet, remaining free to be used as a support surface for several products, even when other household appliance smaller than the cabinet is placed on the tray.

[0009] In case the tray is not used as a base onto which other appliance or device can be installed, it will serve as an additional support surface besides that defined by the upper wall of the cabinet.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] The invention will be described below, with reference to the enclosed drawings given by way of example of an embodiment of the solution, and in which:

[0011] FIG. 1 is a top perspective view of a refrigerator or freezer cabinet provided with the tray arrangement of the present invention;

[0012] FIG. 2 is a partial and exploded perspective view of a front lateral region of the assembly illustrated in FIG. 1;

[0013] FIG. 3 is a top plan view of the upper wall of the cabinet;

[0014] FIG. 4 is a top plan view of the tray already mounted to the cabinet; and

[0015] FIG. 5 is a cross-sectional view of both the tray and the upper wall of the cabinet, taken according to line V-V of FIG. 4.

DETAILED DISCLOSURE OF THE INVENTION

[0016] As previously mentioned and illustrated in the above mentioned drawings, the present tray arrangement is applied to a cabinet G of a refrigerator or freezer of the type presenting a horizontal upper wall 10, and which in the present case is defined by an element made of injected plastic material. However, it should be understood that the upper wall 10 of the cabinet G might be constructed in metallic sheet or in any other adequate material.

[0017] According to the invention, the external tray arrangement comprises a plurality of recesses 11 provided on the upper wall 10 of the cabinet G, each recess 11 being medially provided with a hole 12, in which is lodged and retained an internally threaded tubular retaining means 20.

[0018] Each tubular retaining means 20 can be defined by a nut affixed in the hole 12 which is medially provided in each respective recess 11. Each tubular retaining means 20 can be affixed in different manners in the interior of the respective hole 12 of the upper wall 10 of the cabinet G.

[0019] The present tray arrangement further comprises a tray 30 made of any adequate material, such as plastic, presenting a contour that is preferably similar to that of the upper wall 10 of the cabinet G and inferiorly incorporating tubular projections 31, each having a lower end seated on the upper wall 10 of the cabinet G in alignment with the respective tubular retaining means 20. In the illustrated construction, each tubular projection 31, which operates as a foot for the tray 30 and which is preferably incorporated to the latter in a single piece, has its lower end received and fitted, with a small gap, inside the respective recess 11 of the upper wall 10, in whose bottom wall is provided the respective hole 12 for housing the tubular retaining means 20.

[0020] Still in accordance with the illustrated construction, each tubular projection 31 of the tray 30 incorporates an internal transversal wall 32, lowered in relation to the tray 30
and which is provided with a through hole 32a for mounting a respective screw 40, whose function will be described ahead.

[0021] The tray 30 may be formed from a basic plate 33, which is generally flat and provided with a through opening 34, coaxial to a respective tubular projection 31 and which is formed in the bottom of a respective upper recess 35 of the basic plate 33. As illustrated, each upper recess 35 of the basic plate 33 is provided with at least one radial slot 36 opened to the interior of the through opening 34 and inside which is seated and retained, by fitting, a salience 51 which is inferiorly incorporated to a cover disc 50 to be fitted in the interior of the upper recess 35, in order to define the finishing for the basic plate 33 of the tray 30 after mounting the respective screw 40 inside the tubular projection 31.

[0022] Still according to the illustrated embodiment, the basic plate 33 is configured so as to incorporate, in a single piece, a peripheral rib 37 in high relief and downwardly extending in the form of a peripheral lower skirt 38.

[0023] The tubular projections 31 have their longitudinal extension dimensioned to maintain the tray 30 spaced from the upper wall 10 of the cabinet G, allowing said upper wall to continue to define a surface for supporting several products even after the tray 30 has been installed thereon, said tubular projections being preferably incorporated in a single piece to the tray 30. In order to mount the tray 30 to the cabinet G, a screw 40 is introduced inside each tubular projection 31, with the head of each screw being seated on the internal transversal wall 32 of the respective tubular projection 31. Subsequently, the tubular projections 31, generally four, have the lower ends seated and fitted, with a small gap, inside a respective recess 11 of the upper wall 10 of the cabinet G, as better illustrated in FIG. 5.

[0024] Afterwards, the screws 40 are fitted in the internal thread of the respective tubular retaining means 20 and threaded, so as to retain the tubular projections 31 against the upper wall 10 of the cabinet G.

[0025] The tubular retaining means 20 can be retained inside the respective holes 12 of the upper wall 10 by any adequate means, such as gluing, welding, or interference fitting.

[0026] As can be noted in the figures of the drawings, the upper wall 10 of the cabinet G can have its recesses 11 provided in a portion of the upper wall which is arranged or deformed to be located in a plane which is slightly recessed in relation to the plane defined by the peripheral edge of said upper wall 10.

1. An external tray arrangement for a refrigerator or freezer cabinet of the type which presents a horizontal upper wall (10), characterized in that the upper wall (10) is provided with a plurality of holes (12), each lodging and retaining an internally threaded tubular retaining means (20); a tray (30) inferiorly incorporating tubular projections (31), each having a lower end seated on the upper wall (10) of the cabinet (G) in alignment with a respective tubular retaining means (20); and a screw (40) seated on the tray (30), passing through each tubular projection (31) and presenting a threaded portion engaged with the thread of the respective tubular retaining means (20), retaining the tray (30) seated on the upper wall (10) of the cabinet (G).

2. The arrangement as set forth in claim 1, characterized in that the tubular projections (31) have their longitudinal extension dimensioned to maintain the tray (30) spaced from the upper wall (10) of the cabinet (G).

3. The arrangement as set forth in claim 1, characterized in that each tubular projection (31) incorporates an internal transversal wall (32) which is lowered in relation to the tray (30) and provided with a through hole (32a) for mounting the respective screw (40).

4. The arrangement as set forth in claim 1, characterized in that the tubular projections (31) are incorporated in a single piece to the tray (30).

5. The arrangement as set forth in claim 4, characterized in that the tray (30) comprises a basic plate (33) provided with a through opening (34), coaxial to a respective tubular projection (31) and which is formed in the bottom of a respective lower recess (35) of the basic plate (33).

6. The arrangement as set forth in claim 5, characterized in that each upper recess (35) of the basic plate (33) is provided with at least one radial slot (36), opened to the interior of the through opening (34) and inside which is seated and retained, by fitting, a salience (51) which is inferiorly incorporated to a cover disc (50) to be fitted inside the upper recess (35).

7. The arrangement as set forth in claim 5, characterized in that the basic plate (30) incorporates, in a single piece, a peripheral rib (37) in high relief and downwardly extending in the form of a peripheral lower skirt (38).

8. The arrangement as set forth in claim 1, characterized in that each hole (12) of the upper wall (10) of the cabinet (G) is defined in an annular bottom wall of a recess (11) of said upper wall (10), which is dimensioned to receive and fit, with a small gap, the lower end of a respective tubular projection (31).

9. The arrangement as set forth in claim 1, characterized in that the tubular retaining means (20) is defined by a nut which is inserted and retained inside the hole (12) of the upper wall (10).

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