



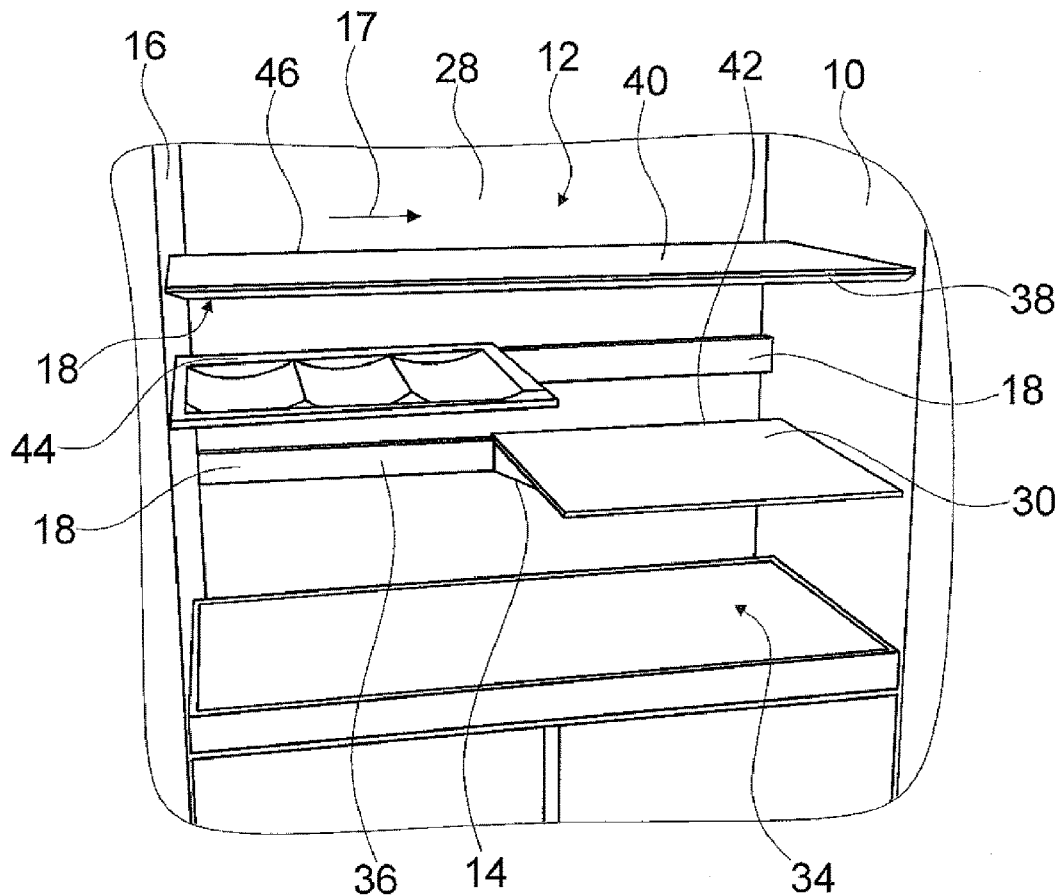
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EICHER et al.(10) **Pub. No.: US 2017/0234604 A1**(43) **Pub. Date: Aug. 17, 2017**(54) **DOMESTIC APPLIANCE APPARATUS****Publication Classification**(71) Applicant: **BSH HAUSGERAETE GMBH,**
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96/027 (2013.01)(57) **ABSTRACT**

A domestic appliance apparatus, in particular a domestic refrigeration appliance apparatus, has at least one storage unit and at least one retaining unit. The retaining unit has at least one vertical rail element and at least one retaining element connected to the rail element and retaining the storage unit. In order to provide a generic apparatus with improved characteristics in respect of an advantageous mounting of storage units, the retaining element is supported on the rail element in such a manner that its height can be adjusted in an at least essentially vertical direction.

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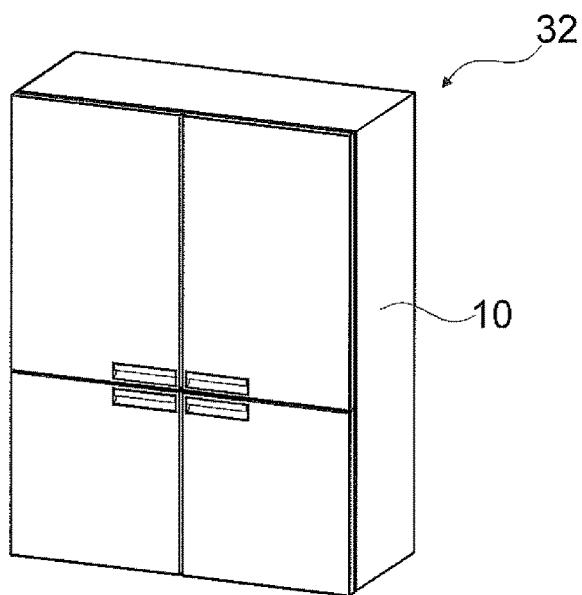


Fig. 1

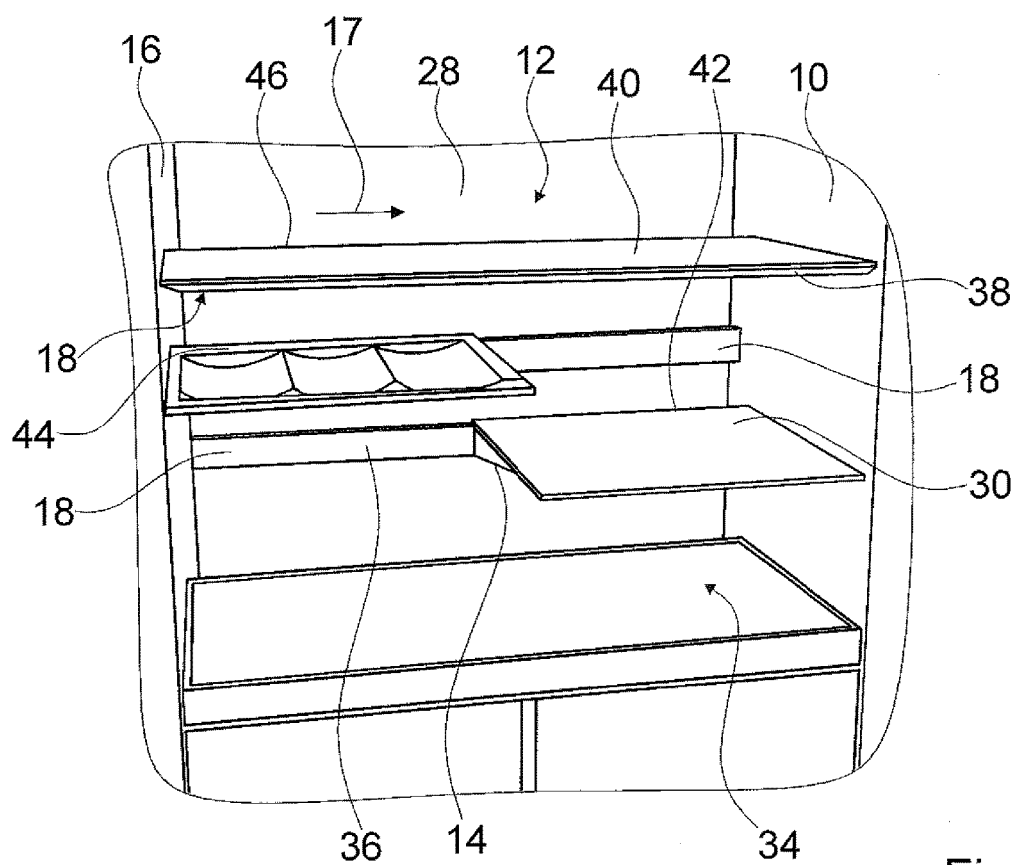


Fig. 2

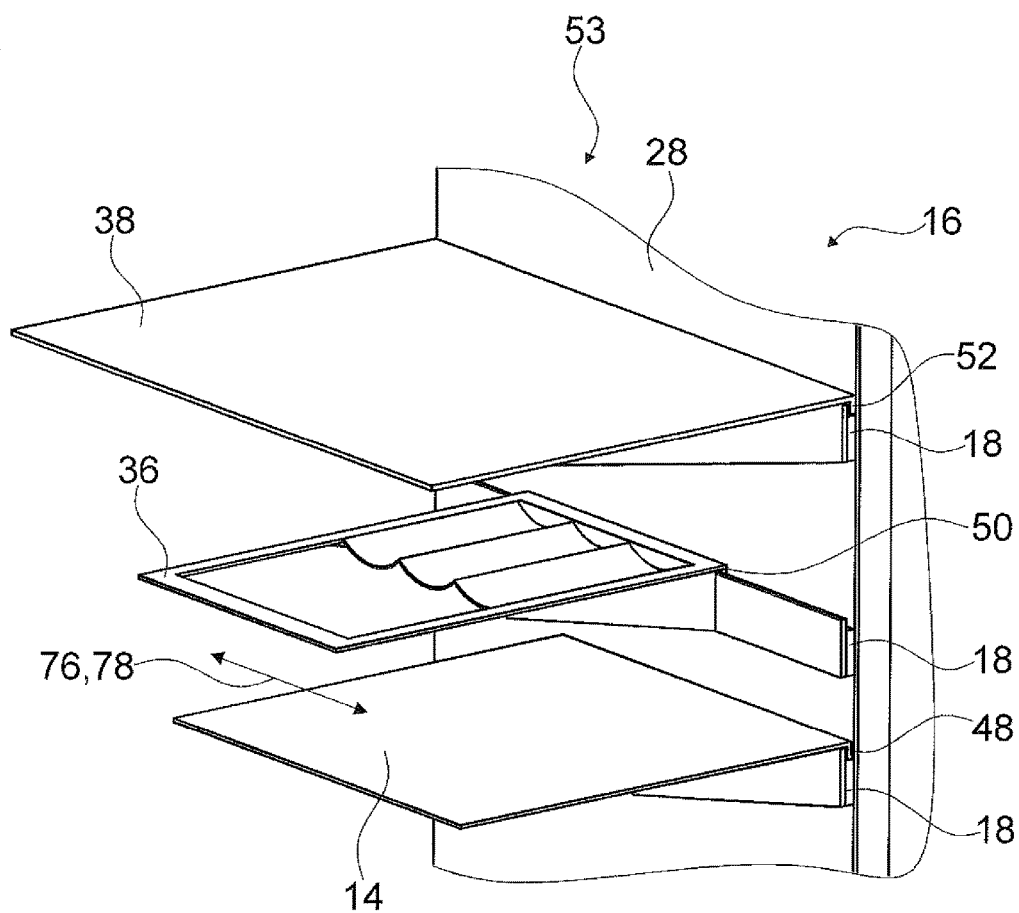


Fig. 3

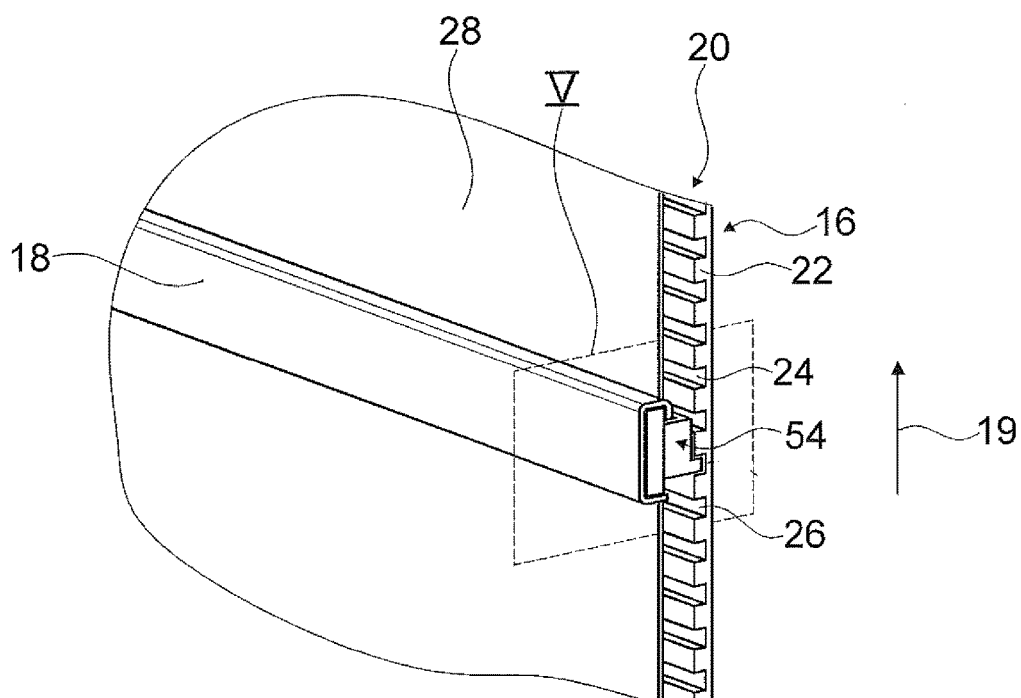


Fig. 4

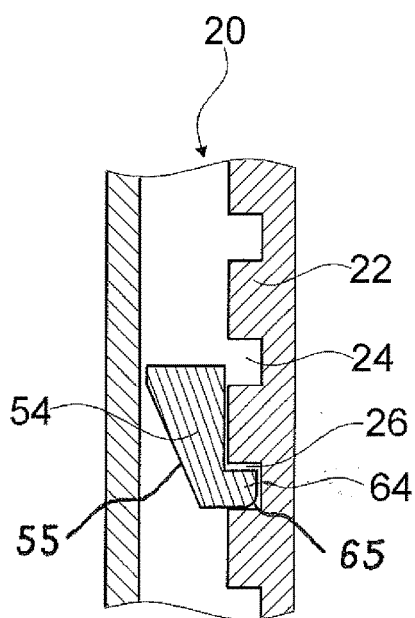


Fig. 5

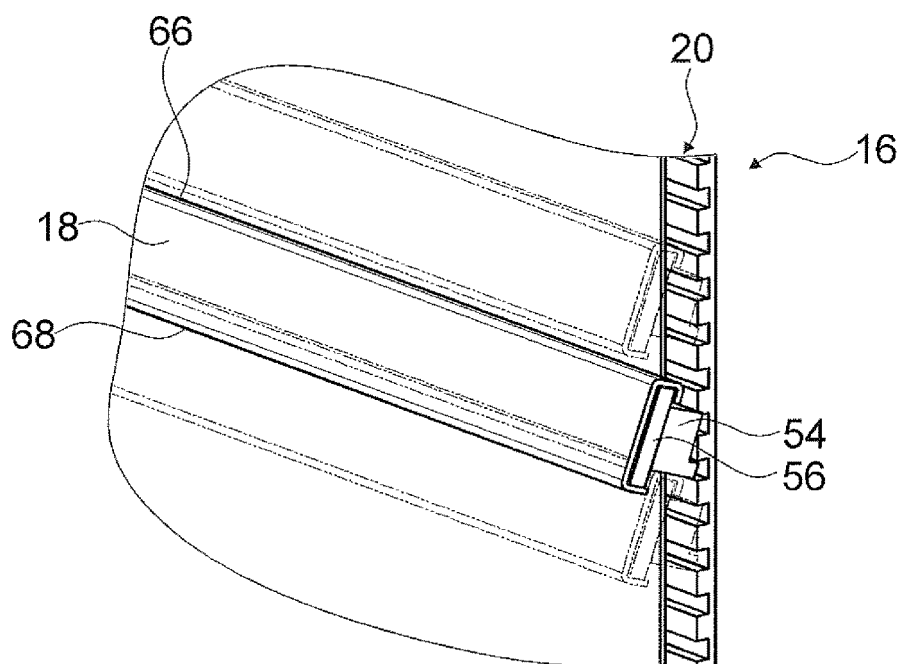


Fig. 6

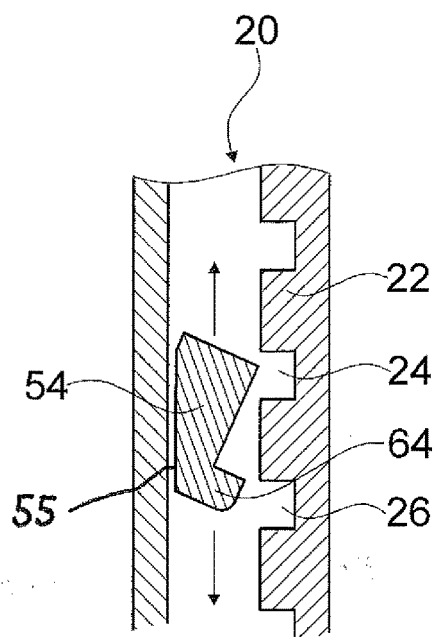


Fig. 7

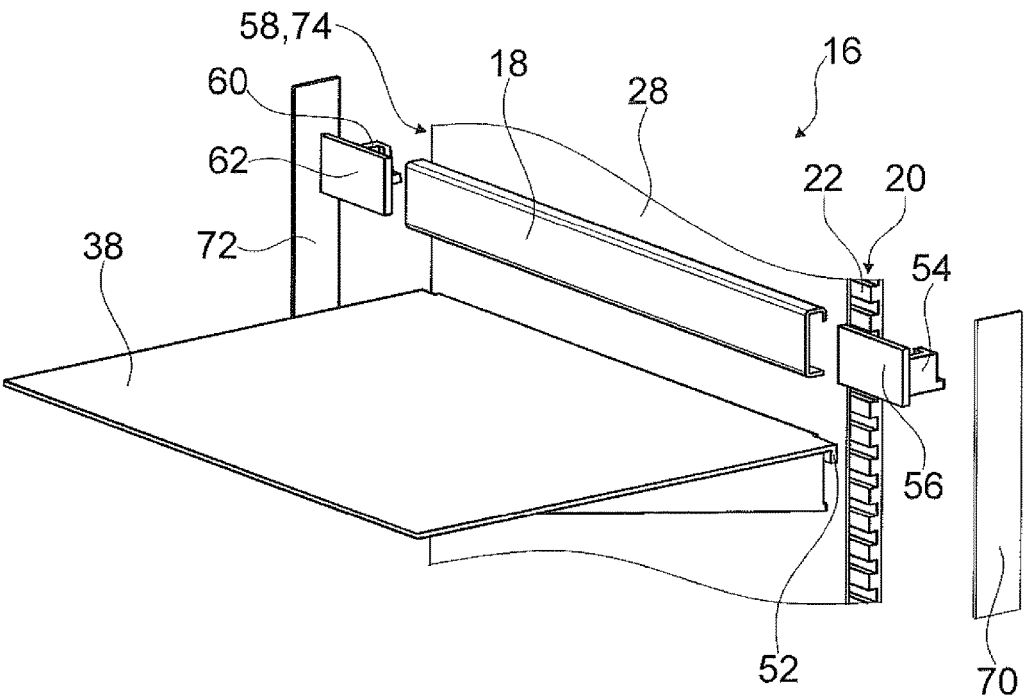


Fig. 8

DOMESTIC APPLIANCE APPARATUS

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This application claims the priority, under 35 U.S.C. § 119, of German application DE 10 2016 202 190.7, filed Feb. 12, 2016; the prior application is herewith incorporated by reference in its entirety.

BACKGROUND OF THE INVENTION

[0002] Field of the Invention

[0003] The invention relates to a domestic appliance apparatus, in particular a domestic refrigeration appliance apparatus and a method involving a domestic appliance apparatus.

[0004] Refrigerators with retaining profiles are already known from the prior art, in which shelves can be inserted in a latching position of the retaining profile. To adjust the height of the shelves, the shelves can be taken out and re-inserted in a different latching position of the retaining profile.

SUMMARY OF THE INVENTION

[0005] The object of the invention is in particular to provide a generic apparatus with improved characteristics in respect of the mounting of storage units. The object is achieved according to the invention by the characterizing features of the main apparatus claim and the main method claim, while advantageous embodiments and developments of the invention will emerge from the subclaims.

[0006] The invention is based on a domestic appliance apparatus, in particular a domestic refrigeration appliance apparatus, with at least one storage unit and with at least one retaining unit, which has at least one vertical rail element and at least one retaining element connected to the rail element and provided to retain the storage unit.

[0007] It is proposed that the retaining element is supported on the rail element in such a manner that its height can be adjusted in an at least essentially vertical direction.

[0008] The term “provided” here means in particular specifically designed and/or equipped. That an object is provided for a defined function here means in particular that the object fulfils and/or performs the defined function in at least one state of use and/or operation. A “domestic appliance apparatus” in this context refers in particular to at least one part, in particular a sub-assembly, of a domestic refrigeration appliance, in particular a domestic refrigeration appliance. The domestic appliance apparatus can in particular also comprise the entire domestic appliance, in particular the entire domestic refrigeration appliance. The domestic appliance is particularly preferably configured as a refrigeration and/or freezer appliance, in particular for example a refrigeration cabinet, a refrigerator, a freezer cabinet, a chest freezer, a combined refrigeration/freezer appliance and/or a wine storage cabinet.

[0009] A “storage unit” refers in particular to a unit provided for holding or storing items, in particular food. In particular the storage unit can be configured at least essentially in the manner of a plate and/or can have at least one element configured at least essentially in the manner of a plate. A “plate-type” object refers in particular to an object that has a significantly larger extension along a first spatial direction and a second spatial direction than along a third

spatial direction, preferably an extension that is larger by at least a factor 5, advantageously by at least a factor 10 and particularly advantageously by at least a factor 20, with pairs of the three spatial extensions being positioned perpendicular to one another. An “extension along a direction” of an object in this context refers in particular to a maximum distance between two points of a perpendicular projection of the object onto a plane, which is parallel to the direction.

[0010] The retaining element preferably has an at least essentially rectangular cross section. An “at least essentially rectangular cross section” of an object here means in particular that for at least 80% of all the cross sections of the object along at least one direction a surface area of a difference in area between the cross section and a smallest rectangle containing the cross section amounts to maximum 20%, advantageously maximum 10% and particularly advantageously maximum 5% of the surface area of the rectangle. In particular the retaining element is configured as a rectangular retaining strip, advantageously as a retaining strip that can be produced by extrusion. In particular the retaining element can be made essentially of a metal and/or a plastic material. The retaining element is preferably configured as a hollow profile. “At least essentially” in this context means in particular at least 75%, preferably at least 85% and particularly preferably at least 95%.

[0011] The inventive embodiment in particular allows an advantageous mounting of storage units. Simple and reliable adjustment of the height of storage units can advantageously be achieved. In particular a vertical position of storage units can easily be adjusted based on the size of items standing therein, in particular food. A high level of flexibility in particular can be achieved. An interior compartment can advantageously be adjusted easily to the needs of an operator and/or user. Ease of use in particular can also be achieved. In particular a retaining system can advantageously be provided for differently configured storage units. Also the use of largely flat interior walls is possible, these being in particular easy to clean. In particular a novel, extremely high quality appearance can be achieved.

[0012] In one advantageous embodiment of the invention it is proposed that the retaining element is supported on the rail element such that it can be moved in a guided manner in the direction.

[0013] That an object is “supported such that it can be moved in a guided manner” here means in particular that the object can be moved relative to the second object in at least one normal operating state, in particular along a trajectory predefined by the second object, in particular subject to the influence of forces which average humans can apply without significant effort, for example using a hand and/or arm and/or one or more fingers. The retaining unit advantageously has at least one slide element that is supported such that it can be moved in a guided manner along a main extension direction of the rail element and to which the retaining element is fastened in at least one mounted state. A “main extension direction” of an object here refers in particular to a direction that runs parallel to a longest edge of a smallest notional square that just encloses the object completely. The retaining unit advantageously has at least one fastening element, which connects the retaining element in at least one mounted state to the slide element. Two fastening elements are particularly advantageously assigned to each retaining element, holding the retaining element on two opposing sides, in particular at a distance that corre-

sponds at least essentially to a length of the retaining element along a main extension direction of the retaining element. The fastening element is advantageously connected as a single piece to the retaining element. "As a single piece" means in particular connected at least with a material fit, for example by a welding process, a bonding process, a spraying process and/or another process that appears expedient to the person skilled in the art, and/or advantageously molded in one piece, for example by being produced from one casting and/or by being produced using a single or multiple component injection method and advantageously from a single workpiece. In particular the retaining element is guided by the slide element, in particular during displacement of the retaining element in a vertical direction. In particular the slide element is connected to the fastening element, in particular as a single piece.

[0014] The domestic appliance apparatus advantageously contains at least one appliance carcass with at least one rear wall, in proximity to which the retaining unit is arranged. In particular the appliance carcass of the domestic appliance apparatus delimits and/or defines in particular an interior compartment, preferably at least one useful space, and has in particular an access opening. In particular a door of the domestic appliance apparatus arranged on a front face of the appliance carcass is configured differently from the appliance carcass. "Proximity" in this context refers in particular to a spatial region, the points of which are located at most 20 cm, advantageously at most 15 cm, particularly advantageously at most 10 cm and preferably at most 7 cm from the rear wall. The retaining unit is advantageously connected to the rear wall. The rail element of the retaining unit is particularly advantageously connected to the rear wall. This in particular allows advantageous utilization of the interior compartment. It also allows advantageous characteristics to be achieved in respect of the cleaning of storage units retained at the rear.

[0015] It is further proposed that the domestic appliance apparatus has at least one panel element, which is arranged at least partially on a face of the retaining unit facing away from the rear wall. In particular at least 70%, advantageously at least 80%, particularly advantageously at least 90% and particularly preferably at least 95% of all points of the panel element on a respective straight line perpendicular to the rear wall through the corresponding point are located further from the rear wall than the point of the retaining unit on the respective straight line furthest from the rear wall. In particular the panel element is connected to the retaining unit. The panel element is advantageously connected as a single piece to the retaining unit. In particular the panel element in a mounted state forms a rear wall element arranged in front of the rear wall of the appliance carcass. The panel element advantageously has a height and width which correspond at least essentially to a height and width of the rear wall of the appliance carcass. "At least essentially" in this context means in particular a deviation of the height/width of the panel element from the height/width of the rear wall of maximum 20%, advantageously maximum 10% and particularly advantageously maximum 5%. This advantageously provides an interior compartment that is easy to clean. It can also advantageously prevent damage to and/or soiling of the retaining unit. It can also advantageously allow the provision of a rear wall element with

specific material and/or lighting options, which can be produced independently of a rear wall of a domestic appliance carcass.

[0016] It is advantageously proposed that the retaining element is arranged at least partially on a face of the panel element facing away from the rear wall. In particular at least 70%, advantageously at least 80%, particularly advantageously at least 90% and particularly preferably at least 95% of all the points of the retaining element on a respective straight line perpendicular to the rear wall through the corresponding point are located further from the rear wall than the point of the panel element on the respective straight line furthest from the rear wall. Two fastening elements of the retaining unit are advantageously assigned to each retaining element. The two fastening elements of the retaining unit particularly advantageously project past the panel element in the direction of the face of the panel element facing away from the rear wall on each side of the panel element and retain the retaining element on the face of the panel element facing away from the rear wall. The panel element is preferably connected to the rail element. The panel element particularly preferably covers the retaining unit at least partially in the direction of a face of the retaining unit facing away from the rear wall. In particular the panel element covers all parts of the retaining unit apart from the retaining elements and the fastening elements in the direction of the face of the retaining unit facing away from the rear wall. This advantageously prevents soiling of the retaining unit. It also advantageously allows the use of a panel element that is cheap and easy to produce.

[0017] In one advantageous embodiment of the invention it is proposed that a main extension direction of the retaining element in at least one mounted state runs in an at least essentially horizontal direction. An "at least essentially horizontal direction" here means in particular an alignment relative to a surface normal of the ground, in particular of a surface of the earth, in particular in at least one normal operating state of the domestic appliance apparatus, the direction having a deviation in particular smaller than 8°, advantageously smaller than 5° and particularly advantageously smaller than 2°, from a direction perpendicular to the surface normal of the ground. The main extension direction of the retaining element advantageously runs at least essentially parallel to the rear wall of the appliance carcass. "At least essentially parallel" here means in particular an alignment of a direction relative to a reference direction, in particular in a plane, the direction having a deviation in particular smaller than 8°, advantageously smaller than 5° and particularly advantageously smaller than 2°, from the reference direction. This allows advantageous static equilibrium in particular to be achieved. It also means that the retaining elements are easy to clean.

[0018] It is further proposed that the storage unit in the mounted state is supported on the retaining unit, in particular on the retaining element, in such a manner that it can be displaced in a direction parallel to the main extension direction of the retaining element. In particular during displacement a position of the object relative to the second object remains at least essentially the same when viewed parallel to the direction, while a position of the object relative to the second object changes when viewed perpendicular to the direction. "At least essentially the same" in this context means in particular that the position of the object relative to the second object changes by less than 10 mm,

advantageously less than 5 mm and particularly advantageously less than 1 mm. In particular the storage unit is supported in such a manner that it can be displaced in a loaded state and in an unloaded state. This allows a high level of flexibility in respect of storage unit arrangement. In particular a domestic appliance apparatus can be adjusted based on an arrangement and/or size of items standing and/or lying therein, for example food. Ease of use can also advantageously be achieved.

[0019] The rail element advantageously has at least one latch, which provides at least two different latching positions for the retaining element. In particular the latch is configured as at least part of a toothed rack. The rail element preferably has at least one rail profile, in particular a rail profile that is open in the direction of its longitudinal sides. A number of latches particularly preferably form the rail profile. However it is also conceivable for the latch to be arranged within the rail profile. The rail element advantageously has a cover profile, which at least largely covers the open longitudinal side of the rail profile. The cover profile particularly advantageously at least largely covers the latch and the open longitudinal side of the rail profile. The expression “at least largely” here means in particular at least 55%, advantageously at least 65%, preferably at least 75%, particularly preferably at least 85% and particularly advantageously at least 95%. This advantageously allows a vertical position of a storage unit to be fixed. It also advantageously allows a storage unit to be retained securely.

[0020] A latching position of the retaining element can particularly advantageously be changed without tools. A latching position of the retaining element is advantageously possible with single-handed actuation, in particular for an average person, in particular without significant effort. This allows ease of use.

[0021] It is further proposed that the retaining element is supported in such a manner that it can be tilted in relation to the rail element to change the latching position. In particular the retaining element is supported in such a manner that an upper edge of the retaining element is tilted in a direction toward to the rear wall and/or a lower edge is tilted in a direction away from the rear wall to change the latching position. In particular the slide element has at least one latching lug, which is moved out of a latching position of the latching rail when the retaining element is tilted. The slide element can advantageously be displaced along a main extension direction of the rail element when the retaining element is tilted. In particular when the retaining element is not tilted movement of the slide element along a main extension direction of the rail element is locked, in particular by latching the latching lug in a latching position. The retaining unit preferably has at least one spring element, which is provided to tilt the retaining element automatically into a not tilted state. A minimum distance between the retaining element and the panel element is preferably smaller than a diameter of an average human finger, in particular much smaller, particularly when the retaining element is not tilted. It is however also conceivable for a minimum distance between the retaining element and the panel element to be larger, in particular much larger, than a diameter of an average human finger, particularly when the retaining element is tilted. This in particular makes height adjustment easy to perform. It advantageously allows a safe mechanism to be provided for height adjustment. It also advantageously prevents fingers being trapped.

[0022] In one preferred embodiment of the invention it is proposed that the storage unit is provided to lock at least one latching position of the retaining element in at least one mounted state. In particular the storage unit has at least one projection, which locks a tilting movement of the retaining element relative to the rear wall. The projection is advantageously configured as a hook profile, which is connected to the retaining element with a form fit in a mounted state. In a mounted state the projection is particularly advantageously connected with a form fit to a panel element of the retaining unit. This advantageously prevents inadvertent height adjustment. In particular it advantageously secures a position of a storage unit. It also allows storage units to be secured so that they cannot fall out. This advantageously provides a very stable system with little tolerance.

[0023] In one preferred embodiment of the invention it is proposed that the storage unit is provided for mounting on and/or removal from the retaining unit without tools. In particular the storage unit is configured in such a manner that it can be mounted and/or removed by a linear movement and/or a tilting movement of the storage unit relative to the retaining unit. This advantageously allows simple adjustment of the height of the storage unit. It also allows an arrangement of storage units to be easily adjusted.

[0024] The storage unit advantageously has at least one shelf. A “shelf” here refers in particular to a plate-type element, which is provided to hold items standing or lying thereon, in particular food. This advantageously allows secure storage of standing items, in particular food, on the storage unit. It advantageously means in particular that the storage unit is easy to clean.

[0025] The shelf is preferably configured to be at least partially transparent and frameless and/or at least partially translucent and frameless. At least partially “transparent” here means in particular at least partially transparent for visible light, in particular a transparency of at least 5%, preferably at least 10%, particularly preferably at least 20%, advantageously at least 50% and particularly advantageously at least 80%, with a transmitted light at least essentially parallel to an incident light. At least partially “translucent” here means in particular at least partially translucent for visible light, in particular a permeability of at least 5%, preferably at least 10%, particularly preferably at least 20%, advantageously at least 50% and particularly advantageously at least 80% for incident light, emitted light being scattered at least essentially at an angle other than 0° relative to the incident light. “Frameless” here means in particular that the entire shelf is made of one material. In particular the shelf has the same cross section toward its edges as at its edges. In particular the shelf is made at least partially of glass, advantageously at least partially of safety glass. In particular the shelf can be made at least partially of at least partially cloudy glass, in particular frosted glass. The shelf is advantageously configured as a frameless glass plate. It is however also conceivable for the shelf to be made of a plastic material. This advantageously allows items below the shelf to be visible through the shelf. This in particular enhances ease of use.

[0026] The invention is also based on a method for mounting a domestic appliance apparatus, in particular a domestic refrigeration appliance apparatus, in particular according to one of the embodiments described above. The method contains the steps of: providing at least one vertical rail element, at least one retaining element, at least one slide

element and at least one fastening element, it being possible to connect the slide element and the fastening element to one another; arranging the retaining element on the fastening element by means of a movement in a horizontal direction; and arranging the slide element on the vertical rail element by means of the movement in a horizontal direction.

[0027] The arrangement of the retaining element on the fastening element is preferably achieved by a movement in a horizontal direction by way of a connection by pushing in and/or engaging.

[0028] The arrangement of the slide element on the vertical rail element is preferably achieved by the movement in a horizontal direction by pushing, preferably laterally pushing, a latching lug of the slide element into a latching position of the vertical rail element.

[0029] The method preferably contains the further step of arranging a storage unit on the retaining element.

[0030] The arrangement is preferably achieved by suspending a hook profile of the storage unit from the retaining element.

[0031] It is proposed that the retaining element is mounted in a supported manner on the rail element so that its height can be adjusted in an at least essentially vertical direction.

[0032] This provides advantageous mounting of storage units. Simple and reliable adjustment of the height of storage units can advantageously be achieved. In particular a vertical position of storage units can be easily adjusted based on items standing therein, in particular food. In particular a high level of flexibility can be achieved. An interior compartment can advantageously be easily adjusted based on the needs of a user. Ease of use can also be achieved in particular. In particular a retaining system for differently configured storage units can advantageously be provided. Storage units can also advantageously be arranged in an appliance carcass with predominantly flat interior walls, with the result that the walls in particular are easy to clean. In particular a novel, extremely high quality appearance can be achieved.

[0033] The domestic appliance apparatus here should not be limited to the application and embodiment described above. In particular the domestic appliance apparatus can have a number of individual elements, components and units that is different from the number cited here, to fulfill a mode of operation described here.

[0034] Other features which are considered as characteristic for the invention are set forth in the appended claims.

[0035] Although the invention is illustrated and described herein as embodied in a domestic appliance apparatus, it is nevertheless not intended to be limited to the details shown, since various modifications and structural changes may be made therein without departing from the spirit of the invention and within the scope and range of equivalents of the claims.

[0036] The construction and method of operation of the invention, however, together with additional objects and advantages thereof will be best understood from the following description of specific embodiments when read in connection with the accompanying drawings.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING

[0037] FIG. 1 is a diagrammatic, perspective view of a domestic refrigeration appliance with a domestic appliance apparatus according to the invention;

[0038] FIG. 2 is a perspective view of an interior compartment of the domestic appliance apparatus;

[0039] FIG. 3 is a perspective view of a retaining unit, a panel element and a number of storage units of the domestic appliance apparatus;

[0040] FIG. 4 is a perspective view of the retaining unit;

[0041] FIG. 5 is a sectional view of the slide element and the rail element of the retaining unit taken along the section plane V shown in FIG. 4;

[0042] FIG. 6 is a perspective view of the retaining unit as the height of a retaining element of the retaining unit is adjusted;

[0043] FIG. 7 is a sectional view of the slide element and the rail element of the retaining unit as the height of the retaining element is adjusted and taken along the section plane V in FIG. 4; and

[0044] FIG. 8 is an exploded perspective view of the retaining unit, the panel element and a storage unit of the domestic appliance apparatus.

DETAILED DESCRIPTION OF THE INVENTION

[0045] The exemplary embodiments described below feature various structural units and/or components a number of times. Similarly configured components and/or structural units, which are shown with the same reference characters in the drawings, are only described once in the following description of the drawings for the sake of simplicity.

[0046] Referring now to the figures of the drawings in detail and first, particularly to FIG. 1 thereof, there is shown a perspective view of a domestic appliance **32** configured as a refrigerator with a domestic appliance apparatus with an appliance carcass or frame **10**.

[0047] FIG. 2 shows an interior compartment **34** of the appliance carcass **10** of the domestic appliance apparatus. The appliance carcass **10** has a rear wall **12**, which is covered by a panel element **28** of the domestic appliance apparatus. A retaining unit **16** of the domestic appliance apparatus is arranged in a region of the rear wall **12**. The panel element **28** is at least partially arranged on a face of the retaining unit **16** facing away from the rear wall **12**. The retaining unit **16** has a number of retaining elements **18**, the main extension direction of which runs in a horizontal direction **17**. The retaining elements **18** are arranged on a face of the panel element **28** facing away from the rear wall **12**. The domestic appliance apparatus has two storage units **14**, **38**, each with a shelf **30**, **40**. In the present instance the shelves **30**, **40** are configured as frameless safety glass plates. The domestic appliance apparatus also has a storage unit **36** configured as a bottle holder. The storage units **14**, **36**, **38** are each suspended from a retaining element **18**, which retains the corresponding storage unit **14**, **36**, **38** along a rear face **42**, **44**, **46** of the storage unit **14**, **36**, **38**. The storage units **14**, **36**, **38** can be mounted on each of the retaining elements **18** without tools. The storage units **14**, **36**, **38** can be removed from the corresponding retaining element **18** without tools. In the present instance the storage units **14**, **36**, **38** can be hooked onto the retaining elements **18**. It is however also conceivable for the storage units to be configured in such a manner that they can be pushed in.

[0048] FIG. 3 shows a perspective view of the retaining unit **16**, the panel element **28** and the three storage units **14**, **36**, **38**. The storage units **14**, **36**, **38** each have a hook profile **48**, **50**, **52**, which engages at least partially around the

corresponding retaining element 18 from an upper face 53. The upper face 53 here is a face of the storage units, 14, 36, 38 facing away from a base, on which the domestic appliance 32, stands in a normal operating state. The retaining unit 16 is provided to support the storage units 14, 36 in such a manner that they can be displaced in at least one direction, which runs at least essentially parallel to the main extension axis of the respective retaining element 18. In the present instance the storage units 14, 36 have a width, which corresponds to approximately half the length of one of the retaining elements 18. Also in the present instance the storage units 14, 36 can be displaced along the corresponding retaining element 18 in a mounted state, in which the respective hook profile 48, 50 engages at least partially around the corresponding retaining element 18 from above. The storage units 14, 36 are supported in such a manner that they can be displaced in a leftward direction 76 and a rightward direction 78. The leftward direction 76 and the rightward direction 78 run parallel to the horizontal direction 17. The storage units 14, 36 are supported in such a manner that they can be displaced in a loaded state and in an unloaded state.

[0049] FIG. 4 shows a perspective view of the retaining unit 16 of the domestic appliance apparatus. The retaining unit 16 has a vertical rail element 20 on one face. The retaining element 18 is supported on the rail element 20 in such a manner that its height can be adjusted in an at least essentially vertical direction 19. The rail element 20 has a latching device 22 configured as a latching rail, providing a number of latching positions 24, 26 along a main extension direction of the rail element 20. The retaining unit 16 also has a slide element 54, which is supported such that it can be moved in a guided manner along the rail element 20. The slide element 54 is connected to a fastening element 56, which retains the retaining element 18 in front of the panel element 28. In the present instance the slide element 54 and the fastening element 56 are configured as a single part. In the present instance the retaining unit 16 has a further rail element 58 as well as a further slide element 60 and a further fastening element 62 on another face (see FIG. 8).

[0050] FIG. 5 shows the slide element 54 and the rail element 20 of the retaining unit 16 in a sectional view along the section plane V in FIG. 4. The slide element 54 has a latching lug 64, which latches into the latching positions 24, 26 of the latching device 22 in a latched state. Retaining forces that result when the storage units 14, 36, 38 are retained can thus be induced into the rail element 20 by way of the slide element 54.

[0051] As shown in FIG. 5, in one embodiment the slide element 54 can preferably have an insertion aid 65. In particular the insertion aid 65 can be provided on the latching lug 64. The insertion aid 65 advantageously facilitates latching into a latching position 24, 26 or unlatching/removal from a latching position 24, 26.

[0052] FIG. 6 shows a perspective view of the retaining unit 16 as the height of a retaining element 18 of the retaining unit 16 is adjusted. The retaining element 18 is supported on the rail element 20 in such a manner that it can be tilted. The retaining element 18 can be tilted in such a manner that an upper face 66 of the retaining element 18 in a tilted state is closer to the panel element 28 than a lower face 68 of the retaining element 18. The height of the retaining element 18 can be adjusted in the tilted state. During a height adjustment the slide element 54 is moved up

or down along the main extension direction of the rail element 20 in a vertical direction. In this process the retaining element 18 is supported by means of the fastening element 56 and the slide element 54 such that it can be moved in a guided manner along the rail element 20. Tilting of the retaining element 18 and subsequent adjustment of the height of the retaining element 18 are possible without tools.

[0053] FIG. 7 shows the slide element 54 and the rail element 20 of the retaining unit 16 as the height of the retaining element 18 is adjusted in a sectional view along the section plane V in FIG. 4. As the retaining element 18 is tilted, in particular by a user, the slide element 54 tilts. As the slide element 54 tilts, the latching lug 56 is released from the corresponding latching position 26 of the latching device 22. The slide element 54 can then be moved along the rail element 20 and can be relatched in any other latching position 26.

[0054] As shown in FIG. 7, in one embodiment the slide element 54 can preferably have a bearing surface 55. The bearing surface 55 preferably faces the panel element 28. In other words the bearing surface 55 is arranged on a side of the slide element 54 opposite the latching lug 64. During a height adjustment the bearing surface 55 can be brought into contact with the panel element 28. The panel element then advantageously serves as a stop so that during tilting a user knows that maximum tilt has been reached and a problem-free height adjustment can be performed.

[0055] Latching is achieved by tilting the retaining element 18 back, causing the slide element 54 to tilt back. As the slide element 54 tilts back, the latching lug 56 latches in a latching position 24, 26. In the present instance the retaining element 18 is tilted back by the force of gravity of the retaining element 18 in particular automatically, in particular as soon as the user releases the retaining element 18.

[0056] FIG. 8 shows an exploded diagram of the retaining unit 16, the panel element 28 and a storage unit 38 of the domestic appliance apparatus. The retaining unit 16 has the two rail elements 20, 58. The rail elements 20, 58 each have a cover profile 70, 72, which at least partially cover the latching device 22, 74 of the rail elements 20, 58. The slide elements 54, 60 of the retaining unit 16 are each configured as a single part with a fastening element 56, 62 of the retaining unit 16. The fastening elements 56, 62 can be pushed into the retaining element 18 laterally. The hook profile 52 of the storage unit 38 is connected with a form fit to the retaining element 18 in a mounted state. The hook profile 52 of the storage unit 38 is also connected with a form fit to the panel element 28 in a mounted state. This means that the latching position 24, 26 of the retaining element 18 is locked by the storage unit 38 in a mounted state. Before the height of a retaining element 18 can be adjusted, a storage unit 14, 36, 38 suspended from the retaining element 18 must first be removed from the retaining element 18.

[0057] The following is a summary list of reference numerals and the corresponding structure used in the above description of the invention:

- [0058] 10 Appliance carcass
- [0059] 12 Rear wall
- [0060] 14 Storage unit
- [0061] 16 Retaining unit
- [0062] 17 Direction
- [0063] 18 Retaining element
- [0064] 19 Direction

[0065] 20 Rail element
 [0066] 22 Latching means
 [0067] 24 Latching position
 [0068] 26 Latching position
 [0069] 28 Panel element
 [0070] 30 Shelf
 [0071] 32 Domestic appliance
 [0072] 34 Interior compartment
 [0073] 36 Storage unit
 [0074] 38 Storage unit
 [0075] 40 Shelf
 [0076] 42 Rear face
 [0077] 44 Rear face
 [0078] 46 Rear face
 [0079] 48 Hook profile
 [0080] 50 Hook profile
 [0081] 52 Hook profile
 [0082] 53 Face
 [0083] 54 Slide element
 [0084] 55 Bearing surface
 [0085] 56 Fastening element
 [0086] 58 Rail element
 [0087] 60 Slide element
 [0088] 62 Fastening element
 [0089] 64 Latching lug
 [0090] 65 Insertion aid
 [0091] 66 Upper face
 [0092] 68 Lower face
 [0093] 70 Cover profile
 [0094] 72 Cover profile
 [0095] 74 Latching means
 [0096] 76 Direction
 [0097] 78 Direction

1. A domestic appliance apparatus, comprising:
 at least one storage unit; and
 at least one retaining unit having at least one vertical rail element and at least one retaining element connected to said vertical rail element and retaining said storage unit, said retaining element is supported on said vertical rail element in such a manner that a height of said retaining element can be adjusted in an at least generally vertical direction.
2. The domestic appliance apparatus according to claim 1, wherein said retaining element is supported on said vertical rail element such that said retaining element can be moved in a guided manner in the vertical direction.
3. The domestic appliance apparatus according to claim 1, wherein said retaining unit has at least one slide element supported such that said slide element can be moved in a guided manner along a main extension direction of said vertical rail element and to which said retaining element is fastened in at least one mounted state.
4. The domestic appliance apparatus according to claim 1, further comprising at least one appliance carcass having at least one rear wall, in proximity to which said retaining unit is disposed.
5. The domestic appliance apparatus according to claim 4, further comprising at least one panel element, which is

disposed at least partially on a face of said retaining unit facing away from said rear wall.

6. The domestic appliance apparatus according to claim 5, wherein said retaining element is disposed at least partially on a face of said panel element facing away from said rear wall.

7. The domestic appliance apparatus according to claim 1, wherein said retaining element has a main extension direction running in an at least horizontal direction in at least one mounted state.

8. The domestic appliance apparatus according to claim 7, wherein in a mounted state, the storage unit is supported on said retaining unit in such a manner that said storage unit can be displaced in a direction parallel to the main extension direction of said retaining element.

9. The domestic appliance apparatus according to claim 1, wherein said vertical rail element has at least one latching device, which provides at least two different latching positions for said retaining element.

10. The domestic appliance apparatus according to claim 9, wherein a latching position of said retaining element can be changed without tools.

11. The domestic appliance apparatus according to claim 10, wherein said retaining element is supported in such a manner that said retaining element can be tilted in relation to said vertical rail element to change the latching position.

12. The domestic appliance apparatus according to claim 9, wherein said storage unit locks at least one latching position of said retaining element in at least one mounted state.

13. The domestic appliance apparatus according to claim 1, wherein said storage unit can be mounted on said retaining unit and/or removed from said retaining unit without tools.

14. A domestic appliance, comprising:
 a domestic appliance apparatus, containing:
 at least one storage unit; and

at least one retaining unit having at least one vertical rail element and at least one retaining element connected to said vertical rail element and retaining said storage unit, said retaining element is supported on said vertical rail element in such a manner that a height of said retaining element can be adjusted in an at least generally vertical direction.

15. A method for mounting a domestic appliance apparatus, which comprises the steps of:

providing at least one vertical rail element, at least one retaining element, at least one slide element and at least one fastening element, it being possible to connect the slide element and the fastening element to one another; disposing the retaining element on the fastening element by means of a movement in a horizontal direction; and disposing the slide element on the vertical rail element by means of a further movement in the horizontal direction.

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