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(54) **A HOLDING STRUCTURE FOR A FIRST SHEET-LIKE ELEMENT AND METHOD OF ASSEMBLING THEREOF**

EINE HALTESTRUKTUR FÜR EIN ERSTES FOLIENARTIGES ELEMENT UND VERFAHREN ZUR MONTAGE DERSELBEN

UNE STRUCTURE DE SUPPORT POUR UN PREMIER ÉLÉMENT EN FORME DE FEUILLE ET PROCÉDÉ D'ASSEMBLAGE DE CELUI-CI

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Description

[0001] The present invention relates to a holding structure for a first sheet-like element, a kitchen appliance and/or a part thereof comprising said holding structure for a first sheet like element, and a method for assembling a holding structure for a first sheet like element.

[0002] In an appliance, particularly in a kitchen appliance, e.g. an oven or a CERAN cooking surface, sheet-like elements are used freguently. For example, a planar glass plate is used being part of an oven door, a CERAN plate is used as a cooking surface or a metal plate is used in a refrigerator or microwave. Such sheet-like elements are usually subject to variations in temperature, in that, for example, a glass door element of an oven is subject to high temperatures during a cooking process, or, more particularly, during a pyrolytic cleaning process.

[0003] On the other hand the sheet-like element has in most cases to be fixed to the appliance. For example, to avoid a glass rattling during a door opening/closing cycle, oven door glasses have to be fixed on the door mechanical structure.

[0004] This causes problems in that said variations in temperature result in expansion and/or contraction of the sheet-like element, whereby, at the same time, the glasses have to be free movable to withstand the temperature-induced expansion and/or contraction, e.g. during a cooking process. Moreover, and especially after a pyrolytic cleaning process, the surfaces of inside glasses of an oven even are bent. Especially, the repetition of such stress results in excessive wear out of the sheet-like elements as such, and/or the fixation and/or fixation means used to fix the sheet-like element to the appliance, i.e. especially glass plates tend to brake or crack, or a disturbing sound indi cates the wear out of the fixed glass plate and/or fixation thereof, in that, e.g. a rattling of the glass plate occurs with each opening or closing of a door comprising the glass plate.

[0005] Current fixation systems for sheet-like elements, such as glass plate fixation systems do not solve the above problems.

[0006] Moreover, in many cases an easy assembling or disassembling of the sheet-like element, for example as part of a manufacturing process or for cleaning the sheet-like element is not possible.

[0007] A still further problem consists in that current fixation systems for sheet-like elements, such as glass plate fixation systems, permit the fixation of a sheet-like element having only very narrow ranges of distinct parameters in size, e.g. are for glass-plates of a distinct thickness only. In other words, said current fixation systems are not flexible as glass-plates of only very distinct dimensions, such as thickness, size, length, width, deflection or the like, can be fixed.

[0008] The document DE 43 11 758 A1 discloses a transport protection for fragile, scratch and breakage sensitive glass plates for a cooking appliance. The transport protection is made out of silicone and is glued to the glass plate.

[0009] The document DE 196 22 581 A1 discloses a baking and bread oven comprising a door, having a front side formed of glass or glass material, with a window, wherein the door has U-shaped profile elements as holding parts, which are bonded to the door.

[0010] The document DE 199 06 905 A1 discloses an oven door having at least three glass panes, whereby a retainer profile, which surrounds the whole glass pane and is made out of heat resistant elastic material is inserted in between the outer glass panes and that the retainer profile holds a middle glass pane.

[0011] The document US 3 219 026 A1 discloses a window unit for an oven door comprising a pair of spaced glass panels, a continuous spacer between said panels and a seal ring made of silicone rubber.

[0012] The document US 2 580 957 discloses a cookstove oven door of the type having windows fitted with dual glass panels.

[0013] The document EP 2 649 178 A1 discloses a cooking oven with an oven muffle, with a loading opening closable by an oven door, the loading opening bounded by a furnace flange.

[0014] The document EP 0 857 918 A1 discloses a baking oven door for a baking oven with a baking oven chamber.

[0015] The document GB 461 018 A discloses an oven door.

[0016] Documents EP 2 386 800 A1 and DE 10 2010 041 027 A1 disclose oven doors with a removable upper frame parts to provide access to the inner glass.

[0017] However, each of said documents discloses a more or less fixed and tight holding function of the glass panels for glass plates of very distinct dimensions only, and, does not disclose a holding structure which is flexible enough to absorb temperature-induced expansion and/or contraction, and/or to adapt to different dimensions of the sheet-like elements, such as different glass thickness.

[0018] It is an object of the present invention to provide methods and means for holding sheet-like elements, particularly in a kitchen appliance, wherein after being subjected to variations in temperature, signs of wear out of exhaustion, such as glass breakage or cracking after transport, impact or during overheating, are prevented and/or a disturbing sound, such as glass rattling, e.g. during open/closing cycles of a door is prevented, i.e. a better sound during door closing or opening cycle is achieved.

[0019] It is a further object of the present invention to provide a holding system for sheet-like elements, such as glass pane, which is more flexible, in that the holding of a sheet-like elements of varying ranges of parameters, such as sheet-like elements of varying thickness is permitted.

[0020] It is a still further object of the present invention to provide methods and means for an easier assembling and/or disassembling of the sheet-like element.

[0021] The above objects of the invention are achieved by a holding structure for a first sheet-like element, preferably, for use in a kitchen appliance and/or a part thereof, according to claim 1, a kitchen appliance and/or a part thereof comprising said holding structure for a first sheet like element, according to claim 12, and a method for assembling a holding structure for a first sheet like element, according to claim 13.

[0022] Such a holding structure provides a holding structure for sheet-like elements, which is smooth and flexible in that it fits and follows automatically varying ranges of parameters, such as thickness, width and/or length, extension or bending at any direction of said sheet-like element. Thus, such holding structure is advantageous in preventing signs of wear out or exhaustion, such as breakage or cracking after/or while transport, impact or during overheating of the sheet-like element. Moreover, a disturbing sound, such as rattling of the sheet-like element, e.g. during open/closing cycles of a door is prevented, i.e. a better sound during door closing or opening cycle is achieved.

[0023] Furthermore, such holding structure allows the controlled positioning of the sheet-like element in the holding structure and, preferably in the kitchen appliance and/or a part thereof. It is particularly advantageous that the holding structure according to the present invention allows the assembling and/or disassembling of the sheet-like element without the need to remove or apply any additional parts or fixation means, such as screws, bolts, pins or the like. Additionally, it is preferred that also the at least one spring body is mounted to/into the holding structure, preferably the holding profile, without applying any additional parts or fixation means, such as screws, bolts, pins or the like.

[0024] Holding structure as used herein preferably means an element or part of an appliance such as a door or a door element, the sheet-like element is a part thereof. As the holding structure is preferably configured such, that the at least one first holding profile element is detachable, e.g. as it is mounted to the holding profile via a plug or slide connection, access to the sheet-like element is facilitated and thus, an easy assembling and/or disassembling of the sheet-like element is provided. The holding structure of the present invention comprises a holding profile which further comprises at least one holding profile element. In connection therewith, it is important to understand that as used herein holding profile preferably means a profile, such as a frame or frame elements, supporting structures or the like which, more preferably, mediate the holding of the sheet-like element in their entirety. A holding profile element as used herein preferably is part of the holding profile. More preferably the entirety of holding profile elements forms the holding profile. Thereby, a holding profile element preferably exerts the function of fixing the sheet-like element and/or fixing the sheet-like element by accommodating the pressure supplied by the spring body. Thus, the holding profile element(s) ensure that the sheet-like element is positioned within the holding structure and that said positioning is kept.

[0025] A holding profile element thus may be a or a part of a frame, brace, retaining bracket, cover or the like. The person skilled in the art will immediately acknowledge that various structures may be thus used as holding profile element. For example the first holding profile element may simply be a planar part of a frame or column. As a further example, a holding profile element may have a base portion and two side portions forming a U-shaped receptacle for an edge portion of the sheet-like element.

[0026] In way of example a holding structure of the present invention may be for a rectangular sheet-like element and comprise a rectangular holding profile, wherein at each edge of the rectangular holding profile a spring body is arranged which each presses a rectangular sheet-like element against one first holding profile element. Thus at each edge of the holding profile such first holding profile element is arranged. In said example, the holding profile could be a rectangular frame, which at each edge comprises a stiffening which serves as the first holding profile element.

[0027] The first holding profile element preferably is an element of the holding profile which is at least partially in contact with the sheet-like element. More particularly, if the sheet-like element is mounted the first holding profile element is in contact with a second surface of the sheet-like element. Said second surface of the sheet like element is the surface which is opposing the first surface of the sheet-like element. The first surface of the sheet-like element is supplied with pressure from the spring body and, thus the second surface of the sheet like element is pressed against the first profile element. It has to be understood that a spring body can be arranged in various ways in order to supply a first surface of the sheet-like element with contact pressure. A spring body can be arranged, for example, such that the pressure is directed on the planar surface of the sheet-like element or on the surface of a lateral edge of the sheet-like element. Thus, a planar surface of the sheet-like element may serve as the first surface of said first sheet-like element with regard to a first spring body, wherein the surface of a lateral edge of the sheet-like element may serve as the first surface of said first sheet-like element with regard to a second spring body. In an embodiment at least one first spring body is arranged such that the pressure is directed on the planar surface of the sheet-like element and/or at least one second spring body is arranged such that the pressure is directed on a first lateral edge of the sheet-like element, and/or at least one third spring body is directed on a second lateral edge of the sheet-like element. It is important to understand that a spring body supplies a contact pressure to a first surface of said first sheet-like element and thus mediates pressing the sheet-like element with its second surface which is opposing its first surface on the at least one first holding profile element. In connection therewith, the person skilled in the art will know how to position the at least one spring body in order

to press the sheet-like element against the at least one first holding profile element according to the invention. For example, the at least one spring body may be placed beside and/or behind the sheet-like element, e.g. facing a lateral edge or a planar surface of the sheet-like element. In an embodiment of the holding structure of the present invention the at least one spring body is positioned inside of the holding structure, preferably inside of a door or a door structure, more preferably a mechanical door structure.

[0028] In an advantageous embodiment of the inventive holding structure said kitchen appliance is selected from the group comprising an oven, a microwave, a refrigerator and a stove.

[0029] In connection therewith, the person skilled in the art will acknowledge that various types and forms of sheet-like elements are used in different appliances, particularly, kitchen appliances. For example, a planar glass plate is used being part of an oven door, a CERAN plate is used as a cooking surface or a metal plate is used in a refrigerator or microwave.

[0030] In a further advantageous embodiment of the inventive holding structure said holding structure is part of or is a door element.

[0031] Thus, a holding structure may be part of or be a door or a door mechanical structure, preferably of a kitchen appliance. A spring body may be integrated into the door or door structure, particularly if the door or door structure is a plastic door or door structure. In accordance with the present invention, an at least one spring body may thus be extra assembled, if needed, into the door structure, e.g. a plastic door column, or could be molded and/or overmolded during a production of the plastic door or door structure. In an embodiment of the present invention the spring body is made of silicon and/or "2K" molded. In accordance therewith in said plastic door or door structure a spring body can be arranged, particularly if molded, during a production of the plastic door or door structure without the need of any additional parts or fixing means, such as screws or the like.

[0032] In a further advantageous embodiment of the inventive holding structure said first sheet-like element comprises a material selected from the group comprising glass, metal and plastic.

[0033] As already outlined above various sheet-like elements are used, particularly as parts of kitchen appliances. Thereby, the material comprised in a sheet-like element is selected according to the desired function of the sheet-like element in the appliance. For example, a sheet-like element a glass pane for an oven door, a metal plate, e.g. a perforated metal plate for a microwave, a a CERAN cooking surface, or the like.

[0034] In a further advantageous embodiment of the inventive holding structure said first sheet-like element consists of a material selected from the group comprising glass, metal and plastic.

[0035] In a further advantageous embodiment of the inventive holding structure said the holding structure comprises an at least one second holding profile element for mounting the first sheet-like element.

[0036] Such at least one second holding profile element forms also a part of the holding profile. Thereby, the second holding profile element is not directly subjected to the contact pressure mediated by the spring body. In other words, the second holding profile element is not arranged at the site of the second surface of the sheet-like element opposing the site where the spring body mediates its pressure against the first surface of the sheet-like element. More particularly, the at least one second holding profile element for holding the sheet-like element in position, for example the second holding profile element fixes the sheet-like element against lateral movements in the direction of a lateral edge, whereas the at least one spring body mediates the pressure directed orthogonal onto the planar surface. Nevertheless, a first holding profile element may also be configured such that the sheet-like element is fixed against lateral movements.

[0037] In a further advantageous embodiment of the inventive holding structure said holding structure is a door structure, according to any one of claims 1 to 5, wherein the at least one spring body is integrated into the door structure, and wherein, preferably, the kitchen appliance is an oven.

[0038] It will be understood that in an embodiment of the inventive holding structure, wherein the kitchen appliance is an oven, one or more than one sheet-like elements may be arranged. A front glass serving as a door panel may be fixed by conventional means and may comprise a handle. The first sheet like element may thus be an inside glass which may be arranged parallel to the front glass with a space in between. Optionally, a second sheet like element may be arranged parallel to the front glass and the second sheet-like element in between them. Thus the second sheet-like element forms a centre glass. In such configuration spring bodies can be arranged in various ways according to the present invention. For example, the holding profile may be configured such that the planar surface of the first sheet-like element is pressed against an at least one first holding profile element by an at least one first spring body, and wherein the planar surface of the second sheet-like element is pressed against another at least one first holding profile element by an at least one second spring body. Alternatively or additionally a spring body may be arranged such that the lateral edge surface of the first and the second sheet-like element is pressed by the same spring body, preferably if said spring body is a leaf spring.

[0039] In a further advantageous embodiment of the inventive holding structure said at least one spring body comprises a material selected from the group comprising metal, preferably steel, more preferably spring steel, and elastic synthetic material, preferably silicon.

[0040] In a further advantageous embodiment of the inventive holding structure said at least one spring body consists of a material selected from the group comprising metal, preferably steel, more preferably spring steel, and

elastic synthetic material, preferably silicon.

[0041] In connection therewith, it is important to understand that a person skilled in the art will select the material of the spring body depended on the form and type of the spring body and/or the spring properties of the material and/or form.

Here, in an embodiment where the spring body consists of elastic synthetic material, more preferably, silicon, this material is not used merely because of its sealing properties, rather than its elastic properties. Alternatively the spring body comprises or consist of, for example, polyurethane.

Depending of the chosen material the use of different dimensions, thickness, form, etc. allows the spring body to be configured such that the desired spring properties are achieved.

[0042] In a further advantageous embodiment of the inventive holding structure said at least one spring body is selected from the group comprising flat spiral spring, leaf spring, laminated spring, coil, helical or spiral spring, disc spring, conical or conical helical spring, torsion spring, elastomer spring, rubber spring, and evolut or buffer spring.

[0043] As already outlined above the form and design of the spring body may be chosen dependent on the desired properties of the spring body. Thereby it is important to understand that the spring body, primarily, serves as a spring which supplies a contact pressure directed against the first surface of said first sheet-like element such that the a second surface of said first sheet-like element is pressed against the at least one first holding profile element. Secondarily, the spring body is configured such that as a flexible component, it allows to fit and follow varying ranges of parameters of the sheet-like element, such as thickness, width and/or length, extension or bending at any direction of said sheet-like element.

A spring body as used herein, preferably is a component which is capable of elastic yielding under the variations of pressure, and which recovers to its initial dimension after pressure relief

As long as they are not stretched or compressed beyond their elastic limit, most springs obey Hooke's law, which states that the force mediating the contact pressure with which the spring body presses the sheet-like element is linearly proportional to the distance from its equilibrium length according to the following formula I.

$$F = kx \quad \text{(formula I)}$$

where

x is the displacement vector - the distance and direction the spring body is deformed from its equilibrium length;

F is the resulting force vector - the magnitude and direction of the restoring force the spring exerts;

k is the rate, spring constant or force constant of the spring, a constant that depends on the spring's material and construction. The negative sign indicates that the force the spring exerts is in the opposite direction from its displacement.

[0044] In an embodiment of the present invention the spring body is a Hooke's law obeying spring body. In a further embodiment of the present invention the spring body is a spring body not obeying Hooke's law.

In an embodiment of the present invention the spring body may be pre-stressed. In a preferred embodiment of the present invention the spring body is a leaf spring. In connection therewith, it will be understood that a leaf spring is made out of a flat metal strip. Said flat metal strip is pre-stressed in an arch-shaped form. In a particularly preferred embodiment the leaf spring is configured such that it comprises several leaf springs which can be layered in parallel as a spring packet, which is preferably held together by a heart bold and spring bands. The leaf spring also may be omega-shaped.

[0045] In a further advantageous embodiment of the inventive holding structure said at least one spring body consists of a material having a temperature resistance of up to 200°C, 250°C, 275°C, and preferably 300°C.

[0046] Where the holding structure is subject to higher or lower temperatures and/or cycles of heating and cooling, the material of the spring body has to withstand such temperature variations without changing its properties. For example, in an oven where a pyrolytic cleaning cycle is performed the spring body is subject to higher temperatures. Therefore, the spring body has to be made out of a high-temperature resistant material. A spring body made, for example, out of elastic synthetic material, such as silicone is resistant to much higher temperatures without negatively changing its spring properties and/or lifetime, compared to a spring body, e.g. made out of ethylene-propylene-(diene) rubber. Using silicone as a material for the spring body the spring body resists temperatures in the range of up to 200°C, 250°C, 275°C, and preferably 300°C.

[0047] The inventive holding structure further comprises an at least one fixing element for fixing the spring body to the holding structure.

[0048] It is preferred that the spring body may be assembled to the holding structure without any fixing means such as screws, bolts, pins or the like, which would tightly bind spring body to the holding structure. Nevertheless, fixing elements are concerned, which allow an easy detachable positioning of the spring body. Such fixing elements are selected from the group comprising a brace, a retaining bracket, a cover-like structure, a hole or a slot, or the like. The spring body can be attached to said fixing element. In an embodiment the ends of a leaf spring are inserted into slots provided as fixing elements. Said slots are provided in the holding structure, preferably the holding profile, and more preferably a door, door structure or part thereof. Thereby, the slots are configured such that

the leaf spring receiving a counter force from the pushed sheet-like element can extend, preferably with its ends, into the slots and back and thus may follow an extension of the sheet-like element. In a further preferred embodiment one end of the leaf spring is tightly fixed in one slot, whereas the second end of the leaf spring loosely can extend into a second slot. In a preferred embodiment the inventive holding structure said holding structure further comprises an at least one fixing element for fixing the spring body, preferably to the holding structure, wherein the at least one fixing element is a slot.

[0049] In a further advantageous embodiment of the inventive holding structure said holding structure, preferably, is a door element, more preferably, is a plastic door element, and wherein the first sheet-like element, preferably a glass pane, is arranged behind or in front of a second sheet-like element, and/or between a second and a third sheet-like element, and wherein the at least one spring body is arranged such that said at least one spring body is in direct contact with a first surface of said first sheet-like element, and,

[0050] optionally, said at least one spring body is in direct contact with a first surface of said second and/or third sheet-like element, and

wherein said at least one spring body supplies a contact pressure directed against the first surface of said first and/or second and/or third sheet-like element such that the a second surface of said first and/or second and/or third sheet-like element is pressed against the at least one first holding profile element.

[0051] As already outlined above more than one sheet-like element may be comprised in an inventive appliance. Thereby, the arrangement of sheet-like elements in parallel to each other is preferred. In particularly, the first sheet like element may be an inside glass of an appliance which may be arranged preferably parallel to the second and/or third sheet-like element with a space, i.e. a clear width, in between. Thus the first sheet-like element forms a centre glass and, if additionally a front panel is present, also the second sheet-like element forms a centre glass. In such configuration spring bodies can be arranged in various ways according to the present invention. In this particular embodiment, id at least one spring body supplies a contact pressure directed against the first surface of said first and/or second and/or third sheet-like element such that the a second surface of said first and/or second and/or third sheet-like element is pressed against the at least one first holding profile element.

The spring body may be placed beside the centre glass or centre glasses, preferably facing a lateral edge surface thereof, and holding structure, preferably a mechanical door structure, could be designed such that different widths of centre glasses may be supported, preferably simultaneously and more preferably by the same spring body. Thereby, the different extension values (e.g. glass which is closer to a appliance cavity, e.g. oven cavity, max have a higher extension than the next glass behind it. Thus, a first holding profile element may also have different areas for supporting and/or receiving different pressures of different sheet-like elements.

The inventive holding structure comprising an at least one first holding profile element, further comprises an at least one second holding profile element, wherein the at least one first holding profile element is configured such that it is moveably linked to the holding profile. Such first holding profile element may be designed as a moveable cover which is connected to the holding structure, preferably holding profile, via a guide rail. This allows placing the first holding profile element in at least two positions. Position a is an open position allowing to place the sheet-like element onto or into the holding profile, preferably onto the spring body, thereby more preferably pre-stressing the spring body, and a second closed position which is reached by moving the first holding profile element over the first sheet-like element. In said closed position the pressure is released onto the sheet-like element and the sheet-like element is pressed onto the first holding profile element.

[0052] The above described problems are also advantageously solved by a kitchen appliance and/or a part thereof according to claim 12. What has been outlined above in connection with the various embodiments of the inventive holding structure also applies mutatis mutandis to the kitchen appliance and/or a part thereof.

[0053] The above described problems are also advantageously solved by a method for assembling a holding structure for a first sheet like element according to claim 13.

[0054] What has been outlined above in connection with the various embodiments of the inventive holding structure also applies mutatis mutandis to the method for assembling a holding structure for a first sheet like element.

[0055] In a further preferred embodiment a disassembling method is concerned, which method comprises at least the following steps:

- a step a) relieving the contact pressure supplied by the at least one spring body directed against the first surface of said first sheet-like element such that the a second surface of said first sheet-like element is relieved from being pressed against the at least one first holding profile element.
- a step b) of arranging an at least one first holding profile element such that a second surface of said first sheet-like element and the at least one first holding profile element do not face each other,
- a step c) of de-mounting a first sheet-like element from the holding structure, such that the at least one spring body is not in direct contact with a first surface of said first sheet-like element, and, optionally, that the first sheet-like element is de-mounted from an at least one second holding profile element.

[0056] It is important to understand that while assembling or disassembling the sheet-like element the spring

body has not to be removed from the holding structure.

[0057] In a further advantageous embodiment of said method for assembling a holding structure for a first sheet-like element, the method comprises at least the following steps:

- a step a) of producing, preferably molding, a holding profile, comprising
- a step a') of producing, preferably molding, an at least one first holding profile element (5), and,
- a step a") of producing, preferably molding, an at least one second holding profile element (8) for mounting the first sheet-like element (2), and
- a step b) of producing, preferably molding, an at least one spring body,
- optionally, a step c) of producing, preferably molding, an at least one fixing element for fixing the spring body,
- optionally, a step d) of assembling the holding structure by assembling the at least one first holding profile element and/or the least one second holding profile element, and/or fixing an at least one spring body automatically or manually to the holding structure, preferably to the holding profile, more preferably to the fixing element produced in step c), if present,
- optionally, a step d) of overmolding the at least one spring body fixed to the holding structure;

wherein step a) and/or step b) and/or step c) are preferably performed simultaneously, and/or wherein molding preferably is injection molding or 2K molding

[0058] Thus, the spring body can be inserted into the holding structure, e.g. a plastic door structure, manually or automatically or can be "2K" molded together and/or simultaneously with the hodlding structure, e.g. door mechanical structure.

[0059] The spring body may be extra assembled to or into holding structure, e.g. a door structure, or could be overmolded during the production process, preferably of a plastic door mechanical structure. Thereby, the spring body may be made out of silicone and/or "2K" molded.

[0060] The term "2K" molding or 'two-shot' injection molding as also used herein, preferably means a molding process, wherein two different polymers or two different colors of one polymer are processed into an end product by means of one injection molding process.

[0061] All described embodiments of the invention have the advantage, that a sheet-like element is hold, particularly in a kitchen appliance, wherein after being subjected to variations in temperature, signs of wear out of exhaustion, such as glass breakage or cracking after transport, impact or during overheating, are prevented and/or a disturbing sound, such as glass rattling, e.g. during open/closing cycles of a door is prevented, i.e. a better sound during door closing or opening cycle is achieved. Moreover, all described embodiments provide a holding system for sheet-like elements, such as glass pane, which is more flexible, in that the holding of a sheet-like elements of varying ranges of parameters, such as sheet-like elements of varying thickness is permitted. Additionally, an easier assembling and/or disassembling of the sheet-like element is provided.

[0062] The present invention will be described in further detail with reference to the drawings, in which

FIG 1 illustrates a side sectional view of a holding structure showing a first inventive embodiment in an open position;

FIG 2 illustrates a perspective view of a holding structure showing a first inventive embodiment in an open position;

FIG 3 illustrates a side sectional view of a holding structure showing a first inventive embodiment in a closed position;

FIG 4 illustrates a perspective view of a holding structure showing a first inventive embodiment in an open position;

FIG 5 illustrates a perspective view of a holding structure showing a second inventive embodiment;

[0063] FIG 1 and Fig.2 show a holding structure 1, here a door element of an oven, according to the present invention. The door comprises a door column 14 being part of the holding structure and a handle 13, which is mounted onto a front glass 10. The first sheet like element 2 is a glass panel, which is to be positioned. Therefore, first surface of first sheet-like element 6 is in direct contact with a spring body 3, here a leaf spring. The leaf spring 3 is arranged such that it is in direct contact with a first surface 6 of said glass panel 2. The leaf spring 3 is prestressed when the glass panel 2 is pressed onto the holding profile 4. The leaf spring 3 is assembled to the holding structure 1 without any fixing means such as screws, bolts, pins or the like. By contrast, slots 9 are provided as fixing elements 9, which allow an easy detachable positioning of the spring body 3. The ends of the leaf spring 3 are inserted into slots 9 provided as fixing elements. Said slots 9 are provided in the holding structure 1, here in the holding profile 4. Thereby, the slots 9 are configured such that the leaf spring receiving a force or counter from the pushed glass panel 2 can extend, preferably with its ends, into the slots 9 and back and thus may follow an extension of the glass panel 2. Here one end of the leaf spring 3, here the right end in the figure, is tightly fixed in one slot 9, whereas the second end of the leaf spring, here the left end of the leaf spring 3 loosely can extend into a second slot 9. As a first holding profile element 5 here a cover 5 is provided, which is also part of the holding profile 4. Such cover 5 here is designed as a moveable cover 5 which is connected to the holding structure 1, here the holding profile 4, via a guide rail 12. This allows placing the cover 5 in at least two positions.

Position a) is an open position which is shown here, allowing to place the glass panel 2 onto or into the holding profile 4, preferably onto the leaf spring 3, thereby the leaf spring 3 will be pre-stressed, and a second closed position which is shown in Fig. 3 is reached by moving the cover 5 over the glass panel 2. The second surface 7 of the glass panel 2 can be used to press down the glass panel 2 onto the holding profile 4 and thus pre-stressing the leaf spring 3. Here a second glass panel 10 is provided as a front glass of the oven door.

[0064] FIG. 3 shows the holding structure 1 shown in Fig. 1 and Fig.2 in a closed position. To reach the closed position the cover 5 is moved along the guide rail 12 and if the glass panel 2 is pressed down towards the leaf spring 3, the cover 5 can be moved over the glass panel 2. Thus the cover 5 serves as first sheet like element 5, wherein said leaf spring 3 supplies the contact pressure F directed against the first surface 6 of said glass panel 2 such that the a second surface 7 of said glass panel 2 is pressed against the at least one first holding profile element, i.e. here the cover 5. As indicated in the Figure the slots 9 provided as fixing elements 9 host the ends of the leaf spring 3 which are inserted into the slots 9 provided as fixing elements. Thereby, the slots 9 are configured such that the leaf spring receiving a force or counterforce from the pushed glass panel 2 can extend, preferably with its ends, into the slots 9 and back and thus may follow an extension of the glass panel 2. Here one end of the leaf spring 3, here the right end in the figure, is tightly fixed in one slot 9, whereas the second end of the leaf spring, here the left end of the leaf spring 3 loosely is extended into the second slot 9.

[0065] FIG.4 shows the holding structure 1 shown in Figures 1 to 3. Moreover, here second holding profile elements 8 are attached to the hodling structure 1, more particularly the holding profile 4, for mounting the glass panel 2, here being support brackets 8. Such support brackets 8 form part of the holding profile 4 to which they are attached. Thereby, the support brackets 8 are not directly subjected to the contact pressure F mediated by the leaf spring 3. Here it can be seen that two edges of the glass panel 2 are mounted onto the second holding profile element 8, i.e. here inserted into the support brackets 8, whereas the first profile element, i.e. here the cover 5 is not supplied with pressure yet. The support brackets 8 are not arranged at the site of the second surface 7 of the glass panel 2 opposing the site where the leaf spring 3 mediates its pressure against the first surface 6 of the glass panel 2. Here two leaf springs 3 are arranged at the two edges of the glass panel 2 opposite to the edges of the glass panel 2 which are inserted into the support brackets 8. More particularly, the support brackets 8 fixes the glass panel 2 against lateral movements in the direction of a lateral edge, here e.g. to the left, right or back, whereas the at leaf spring 3 mediates the pressure directed orthogonal onto the planar surface. Nevertheless, the cover 5 also is configured such that the glass panel 2 is fixed against lateral movements, here e.g. against movements in left, right or front direction.

[0066] FIG. 5 shows a holding structure 1 showing a second inventive embodiment. The holding structure 1, here is a door element 1 of an oven, wherein in addition to a first glass panel 2, a second glass panel 10 and a third glass panel 11 is arranged in parallel. Here the second glass panel 10 serves as the front glass of the oven door, wherein the first glass panel 2 is in between the the second glass panel 10 and the third glass panel 11. Thus the first glass panel 2 forms a centre glass. In this configuration a leaf spring 3 is arranged such that the lateral edge surface of the first glass panel 2 is pressed with force F' and the third glass panel 11 is pressed with force F by the leaf spring 3. Here, the leaf spring 3 is arranged such that the leaf spring 3 is in direct contact with a first surface 6 of said first glass panel 2, and, with a first surface 6 of said third glass panel 11. In this particular embodiment, the leaf spring 3 supplies the forces F and F' which mediates that the first 2 and the third 11 glass panel is pressed against the at least one first holding profile element, not shown in the figure. Here, the leaf spring 3 is placed beside the centre glass 11 and beside the inner glass 2, facing the lateral edge surfaces of said glasses. The holding structure 1, preferably the holding profile 4, here a part of the mechanical door structure is designed such that different widths of centre glasses are supported simultaneously by the same spring body. Thereby, the different extension values (e.g. glass which is closer to a appliance cavity, e.g. oven cavity, may have a higher extension than the next glass behind it.

List of reference numerals

[0067]

1	holding structure
2	first sheet-like element
3	spring body
4	holding profile
5	first holding profile element
6	first surface of first sheet-like element
7	second surface of the first sheet-like element
8	second holding profile element
9	fixing element
10	second sheet-like element
11	third sheet-like element
12	guide rail
13	handle
14	door column
F, F'	contact pressure / force

Claims

1. A holding structure (1) for a first sheet-like element (2), preferably, for use in a kitchen appliance and/or a part thereof, comprising

an at least one spring body (3),
a first sheet-like element and
a holding profile (4), comprising an at least one first holding profile element (5),
an at least one fixing element (9) for fixing the spring body (3) to the holding structure (1).
wherein said at least one spring body (3) is arranged such that said at least one spring body (3) is in direct contact with a first surface (6) of said first sheet-like element (2), and
wherein said at least one spring body (3) supplies a contact pressure directed against the first surface (6) of said first sheet-like element (2) such that the a second surface (7) of said first sheet-like element (2) is pressed against the at least one first holding profile element (5),
characterized in that
the holding profile (4) further comprises
an at least one second holding profile element (8),
wherein the at least one first holding profile element (5) is configured such that it is moveably linked to the holding profile (4) and said holding profile elements (5, 8) ensure that the first sheet-like element (2) is positioned within the holding structure and that said positioning is kept.

2. The holding structure (1) according to claim 1, wherein the kitchen appliance is selected from the group comprising an oven, a microwave, a refrigerator and a stove.

3. The holding structure (1) according to any one of claims 1 and 2, wherein the holding structure (1) is part of or is a door element.

4. The holding structure (1) according to any one of claims 1 to 3, wherein the first sheet-like element (2) comprises a material selected from the group comprising glass, metal and plastic.

5. The holding structure (1) according to any one of claims 1 to 4, wherein said at least one second holding profile element (8) is for mounting the first sheet-like element (2).

6. The holding structure (1), wherein the holding structure (1) is a door structure, according to any one of claims 1 to 5,
wherein the at least one spring body (3) is integrated into the door structure,
and wherein, preferably, the kitchen appliance is an oven.

7. The holding structure (1) according to any one of claims 1 to 6, wherein the at least one spring body (3) comprises a material selected from the group comprising metal, preferably steel, more preferably spring steel, and elastic synthetic material, preferably silicon.

8. The holding structure (1) according to any one of claims 1 to 7, wherein the at least one spring body (3) is selected from the group comprising flat spiral spring, leaf spring, laminated spring, coil, helical or spiral spring, disc spring, conical or conical helical spring, torsion spring, elastomer spring, rubber spring, and evolut or buffer spring.

9. The holding structure (1) according to any one of claims 1 to 8, wherein the at least one spring body (3) consists of a material having a temperature resistance of up to 200°C, 250°C, 275°C, and preferably 300°C.

10. The holding structure (1) according to any one of claims 1 to 9, preferably claim 6, wherein preferably, the holding structure (1) is a door element, and
wherein the first sheet-like element (2),
is arranged behind or in front of a second sheet-like element (10), and/or between a second sheet-like element (10) and a third sheet-like element (11), and
wherein the at least one spring body (3) is arranged such that said at least one spring body (3) is in direct contact with a first surface (6) of said first sheet-like element (2), and,
wherein said at least one spring body (3) supplies a contact pressure directed against the first surface (6) of said first sheet-like element (2) and/or second sheet-like element (10) and/or third sheet-like element (11), such that the a second surface (7) of said first sheet-like element (2)and/or second sheet-like element (10) and/or third sheet-like element (11) is pressed against the at least one first holding profile element (5).

11. The holding structure (1) according to claim 10, wherein said at least one spring body (3) is in direct contact with a first surface (6) of said second sheet-like element (10) and/or third sheet-like element (11).

12. A kitchen appliance and/or a part thereof comprising a holding structure (1) for a first sheet like element (2), **characterized in that**
the holding structure (1) is configured according to any one of claims 1 to 11.

13. A method for assembling a holding structure (1) for a first sheet like element (2), preferably a holding structure (1) according to any one of claims 1 to 11, wherein
the assembly method comprises at least the following steps:

- a step a) of prestressing a spring body (3), the spring body (3) being comprised in a holding structure (1) for a first sheet like element (2),

preferably by simultaneous performing of step b),
- a step b) of mounting a first sheet-like element (2) in the holding structure (1), such that the at least one spring body (3) is in direct contact with a first surface (6) of said first sheet-like element (2), and that the first sheet-like element (2) is mounted on an at least one second holding profile element (8), wherein the at least one first holding profile element (5) is configured such that it is moveably linked to a holding profile (4), wherein said holding profile elements (5, 8) ensure that the first sheet-like element (2) is positioned within the holding structure and that said positioning is kept,
- a step c) of arranging an at least one first holding profile element (5) such that a second surface (7) of said first sheet-like element (2) and the at least one first holding profile element (5) face each other, and
- a step d) of allowing the at least one spring body (3) to supply a contact pressure directed against the first surface (6) of said first sheet-like element (2) such that the a second surface (7) of said first sheet-like element (2) is pressed against the at least one first holding profile element (5).

14. The method of claim 13, the holding structure (1) comprising a holding profile (4), wherein the method further comprises :

- a step of producing, preferably molding, a holding profile (4), comprising

  - a step of producing, preferably molding, an at least one first holding profile element (5), and,
  - a step of producing, preferably molding, an at least one second holding profile element (8) for mounting the first sheet-like element (2), and

- a step of producing, preferably molding, an at least one spring body (3).

Patentansprüche

1. Haltestruktur (1) für ein erstes tafelartiges Element (2), vorzugsweise, für eine Verwendung in einem Küchengerät und/oder einem Teil davon, umfassend
einen mindestens einen Federkörper (3),
ein erstes tafelartiges Element und
ein Halteprofil (4), umfassend ein mindestens ein erstes Halteprofilelement (5),
ein mindestens ein Fixierelement (9) zum Fixieren des Federkörpers an der Haltestruktur (1),
wobei der mindestens eine Federkörper (3) derart angeordnet ist, dass der mindestens eine Federkörper (3) in direktem Kontakt mit einer ersten Fläche (6) des ersten tafelartigen Elements (2) ist, und
wobei der mindestens eine Federkörper (3) einen Anpressdruck bereitstellt, der gegen die erste Fläche (6) des ersten tafelartigen Elements (2) derart gerichtet ist, dass die eine zweite Fläche (7) des ersten tafelartigen Elements (2) gegen das mindestens eine erste Halteprofil (5) gedrückt wird,
dadurch gekennzeichnet, dass
das Halteprofil (4) ferner umfasst
ein mindestens ein zweites Halteprofilelement (8), wobei das mindestens eine erste Halteprofilelement (5) derart ausgestaltet ist, dass es beweglich mit dem Halteprofil (4) verbunden ist und die Halteprofilelemente (5, 8) sicherstellen, dass das erste tafelartige Element (2) innerhalb der Haltestruktur positioniert ist und dass die Positionierung aufrechterhalten wird.

2. Haltestruktur (1) nach Anspruch 1, wobei das Küchengerät aus der Gruppe umfassend einen Ofen, eine Mikrowelle, einen Kühlschrank und einen Herd ausgewählt ist.

3. Haltestruktur (1) nach einem der Ansprüche 1 und 2, wobei die Haltestruktur (1) Teil von einem oder ein Türelement ist.

4. Haltestruktur (1) nach einem der Ansprüche 1 bis 3, wobei das erste tafelartige Element (2) ein Material umfasst, das ausgewählt ist aus der Gruppe umfassend Glas, Metall und Kunststoff.

5. Haltestruktur (1) nach einem der Ansprüche 1 bis 4, wobei das mindestens eine zweite Halteprofilelement (8) zum Anbringen des ersten tafelartigen Elements (2) dient.

6. Haltestruktur (1), wobei die Haltestruktur (1) eine Türstruktur ist, nach einem der Ansprüche 1 bis 5, wobei der mindestens eine Federkörper (3) in die Türstruktur integriert ist,
und wobei, vorzugsweise, das Küchengerät ein Ofen ist.

7. Haltestruktur (1) nach einem der Ansprüche 1 bis 6, wobei der mindestens eine Federkörper (3) ein Material umfasst, das ausgewählt ist aus der Gruppe umfassend Metall, vorzugsweise Stahl, noch weiter bevorzugt Federstahl, und elastisches synthetisches Material, vorzugsweise Silizium.

8. Haltestruktur (1) nach einem der Ansprüche 1 bis 7, wobei der mindestens eine Federkörper (3) ausgewählt ist aus der Gruppe umfassend flache Biegefeder, Blattfeder, Tellerfeder, Spiral-, Schrauben- oder

Biegefeder, Scheibenfeder, Konus- oder konische Schraubenfeder, Torsionsfeder, Elastomerfeder, Gummifeder und Evolut- oder Pufferfeder.

9. Haltestruktur (1) nach einem der Ansprüche 1 bis 8, wobei der mindestens eine Federkörper (3) aus einem Material besteht, das eine Temperaturbeständigkeit von bis zu 200 °C, 250 °C, 275 °C und vorzugsweise 300 °C aufweist.

10. Haltestruktur (1) nach einem der Ansprüche 1 bis 9, vorzugsweise Anspruch 6, wobei vorzugsweise die Haltestruktur (1) ein Türelement ist, und
wobei das erste tafelartige Element (2) hinter oder vor einem zweiten tafelartigen Element (10) und/oder zwischen einem zweiten tafelartigen Element (10) und einem dritten tafelartigen Element (11) angeordnet ist, und
wobei der mindestens eine Federkörper (3) derart angeordnet ist, dass der mindestens eine Federkörper (3) in direktem Kontakt mit einer ersten Fläche (6) des ersten tafelartigen Elements (2) ist, und
wobei der mindestens eine Federkörper (3) einen Anpressdruck bereitstellt, der gegen die erste Fläche (6) des ersten tafelartigen Elements (2) und/oder zweiten tafelartigen Elements (10) und/oder dritten tafelartigen Elements (11) derart gerichtet ist, dass die eine zweite Fläche (7) des ersten tafelartigen Elements (2) und/oder zweiten tafelartigen Elements (10) und/oder dritten tafelartigen Elements (11) gegen das mindestens eine erste Halteprofilelement (5) gedrückt wird.

11. Haltestruktur (1) nach Anspruch 10, wobei der mindestens eine Federkörper (3) in direktem Kontakt mit einer ersten Fläche (6) des zweiten tafelartigen Elements (10) und/oder dritten tafelartigen Elements (11) ist.

12. Küchengerät und/oder ein Teil davon, umfassend eine Haltestruktur (1) für ein erstes tafelartiges Element (2), **dadurch gekennzeichnet, dass**
die Haltestruktur (1) nach einem der Ansprüche 1 bis 11 ausgestaltet ist.

13. Verfahren zum Montieren einer Haltestruktur (1) für ein erstes tafelartiges Element (2), vorzugsweise eine Haltestruktur (1) nach einem der Ansprüche 1 bis 11, wobei
das Montageverfahren mindestens die folgenden Schritte umfasst:

- einen Schritt a) eines Vorspannens eines Federkörpers (3), wobei der Federkörper (3) in einer Haltestruktur (1) für ein erstes tafelartiges Element (2) beinhaltet ist, vorzugsweise durch gleichzeitiges Durchführen von Schritt b),
- einen Schritt b) eines Anbringens eines ersten tafelartigen Elements (2) in der Haltestruktur (1) derart, dass der mindestens eine Federkörper (3) in direktem Kontakt mit einer ersten Fläche (6) des ersten tafelartigen Elements (2) ist, und dass das erste tafelartige Element (2) an einem mindestens einen zweiten Halteprofilelement (8) angebracht ist, wobei das mindestens eine erste Halteprofilelement (5) derart ausgestaltet ist, dass es beweglich mit einem Halteprofil (4) verbunden ist, wobei die Halteprofilelemente (5, 8) sicherstellen, dass das erste tafelartige Element (2) innerhalb der Haltestruktur positioniert ist und dass die Positionierung aufrechterhalten wird,
- einen Schritt c) eines Anordnens eines mindestens einen ersten Halteprofilelements (5) derart, dass eine zweite Fläche (7) des ersten tafelartigen Elements (2) und das mindestens eine erste Halteprofilelement (5) einander zugewandt sind, und
- einen Schritt d) eines Ermöglichens, dass der mindestens eine Federkörper (3) einen Anpressdruck bereitstellt, der gegen die erste Fläche (6) des ersten tafelartigen Elements (2) derart gerichtet ist, dass die eine zweite Fläche (7) des ersten tafelartigen Elements (2) gegen das mindestens eine erste Halteprofilelement (5) gedrückt wird.

14. Verfahren nach Anspruch 13, wobei die Haltestruktur (1) ein Halteprofil (4) umfasst, wobei
das Verfahren ferner umfasst:

- einen Schritt eines Fertigens, vorzugsweise Formens, eines Halteprofils (4), umfassend
- einen Schritt eines Fertigens, vorzugsweise Formens, eines mindestens einen ersten Halteprofilelements (5), und
- einen Schritt eines Fertigens, vorzugsweise Formens, eines mindestens einen zweiten Halteprofilelements (8) zum Anbringen des ersten tafelartigen Elements (2), und
- einen Schritt eines Fertigens, vorzugsweise Formens, eines mindestens einen Federkörpers (3).

Revendications

1. Structure de support (1) pour un premier élément de type feuille (2), de préférence pour l'utilisation dans un appareil de cuisine et/ou un élément de celui-ci, comprenant
au moins un corps de ressort (3),
un premier élément de type feuille, et
un profil de support (4) comprenant au moins un premier élément de profil de support (5),
au moins un élément de fixation (9) pour fixer le corps

de ressort (3) à la structure de support (1),
ledit au moins un corps de ressort (3) étant disposé de telle sorte que ledit au moins un corps de ressort (3) soit en contact direct avec une première surface (6) dudit premier élément de type feuille (2), et
ledit au moins un corps de ressort (3) fournissant une pression de contact dirigée contre la première surface (6) dudit premier élément de type feuille (2) de telle sorte que la une deuxième surface (7) dudit premier élément de type feuille (2) soit pressée contre l'au moins un premier élément de profil de support (5),
caractérisée en ce que
le profil de support (4) comprend en outre au moins un deuxième élément de profil de support (8), l'au moins un premier élément de profil de support (5) étant configuré de telle sorte qu'il puisse être relié de manière mobile au profil de support (4) et lesdits éléments de profil de support (5, 8) faisant en sorte que le premier élément de type feuille (2) soit positionné à l'intérieur de la structure de support et que ledit positionnement soit maintenu.

2. Structure de support (1) selon la revendication 1, dans laquelle l'appareil de cuisine est choisi parmi le groupe comprenant un four, un four à micro-ondes, un réfrigérateur et un fourneau.

3. Structure de support (1) selon l'une quelconque des revendications 1 et 2, la structure de support (1) faisant partie d'un élément de porte ou étant un élément de porte.

4. Structure de support (1) selon l'une quelconque des revendications 1 à 3, dans laquelle le premier élément de type feuille (2) comprend un matériau choisi parmi le groupe comprenant du verre, du métal et du plastique.

5. Structure de support (1) selon l'une quelconque des revendications 1 à 4, dans laquelle ledit au moins un deuxième élément de profil de support (8) est destiné à monter le premier élément de type feuille (2).

6. Structure de support (1), la structure de support (1) étant une structure de porte, selon l'une quelconque des revendications 1 à 5, l'au moins un corps de ressort (3) étant intégré dans la structure de porte, et de préférence, l'appareil de cuisine étant un four.

7. Structure de support (1) selon l'une quelconque des revendications 1 à 6, dans laquelle l'au moins un corps de ressort (3) comprend un matériau choisi parmi le groupe comprenant du métal, de préférence de l'acier, plus préférablement de l'acier à ressort, et un matériau synthétique élastique, de préférence du silicium.

8. Structure de support (1) selon l'une quelconque des revendications 1 à 7, dans laquelle l'au moins un corps de ressort (3) est choisi parmi le groupe comprenant un ressort spiral plat, un ressort à lame, un ressort laminé, un ressort enroulé, hélicoïdal ou spiral, un ressort à disque, un ressort conique ou conique hélicoïdal, un ressort de torsion, un ressort élastomère, un ressort en caoutchouc, et un ressort Evolut ou tampon.

9. Structure de support (1) selon l'une quelconque des revendications 1 à 8, dans laquelle l'au moins un corps de ressort (3) est constitué d'un matériau ayant une résistance à la température allant jusqu'à 200°C, 250°C, 275°C, et de préférence 300°C.

10. Structure de support (1) selon l'une quelconque des revendications 1 à 9, de préférence la revendication 6, dans laquelle, de préférence, la structure de support (1) est un élément de porte et dans laquelle le premier élément de type feuille (2) est disposé derrière ou devant un deuxième élément de type feuille (10), et/ou entre un deuxième élément de type feuille (10) et un troisième élément de type feuille (11), et l'au moins un corps de ressort (3) étant disposé de telle sorte que ledit au moins un corps de ressort (3) soit en contact direct avec une première surface (6) dudit premier élément de type feuille (2), et ledit au moins un corps de ressort (3) fournissant une pression de contact dirigée contre la première surface (6) dudit premier élément de type (2) et/ou dudit deuxième élément de type feuille (10) et/ou dudit troisième élément de type feuille (11), de telle sorte que la une deuxième surface (7) dudit premier élément de type feuille (2) et/ou dudit deuxième élément de type feuille (10) et/ou dudit troisième élément de type feuille (11) soit pressée contre l'au moins un premier élément de profil de support (5).

11. Structure de support (1) selon la revendication 10, dans laquelle ledit au moins un corps de ressort (3) est en contact direct avec une première surface (6) dudit deuxième élément de type feuille (10) et/ou dudit troisième élément de type feuille (11).

12. Appareil de cuisine et/ou élément de celui-ci, comprenant une structure de support (1) pour un premier élément de type feuille (2),
caractérisé en ce que
la structure de support (1) est configurée selon l'une quelconque des revendications 1 à 11.

13. Procédé pour assembler une structure de support (1) pour un premier élément de type feuille (2), de préférence une structure de support (1) selon l'une quelconque des revendications 1 à 11, dans lequel le procédé d'assemblage comprend au moins les étapes suivantes :

- une étape a) de précontrainte d'un corps de ressort (3), le corps de ressort (3) étant compris dans une structure de support (1) pour un premier élément de type feuille (2), de préférence par mise en oeuvre simultanée de l'étape b),
- une étape b) de montage d'un premier élément de type feuille (2) dans la structure de support (1), de telle sorte que l'au moins un corps de ressort (3) soit en contact direct avec une première surface (6) dudit premier élément de type feuille (2) et que le premier élément de type feuille (2) soit monté sur au moins un deuxième élément de profil de support (8), l'au moins un premier élément de profil de support (5) étant configuré de telle sorte qu'il puisse être relié de manière mobile à un profil de support (4), lesdits éléments de profil de support (5, 8) faisant en sorte que le premier élément de type feuille (2) soit positionné à l'intérieur de la structure de support et que ledit positionnement soit maintenu,
- une étape c) de disposition d'au moins un premier élément de profil de support (5) de telle sorte qu'une deuxième surface (7) dudit premier élément de type feuille (2) et l'au moins un premier élément de profil de support (5) soient en regard l'un de l'autre, et
- une étape d) consistant à permettre l'au moins un corps de ressort (3) de fournir une pression de contact dirigée contre la première surface (6) dudit premier élément de type feuille (2) de telle sorte que la une deuxième surface (7) dudit premier élément de type feuille (2) soit pressée contre l'au moins un premier élément de profil de support (5).

14. Procédé selon la revendication 13, la structure de support (1) comprenant un profil de support (4), le procédé comprenant en outre :

- une étape de production, de préférence de moulage, d'un profil de support (4), comprenant

  - une étape de production, de préférence de moulage, d'au moins un premier élément de profil de support (5), et
  - une étape de production, de préférence de moulage, d'au moins un deuxième élément de profil de support (8) pour monter le premier élément de type feuille (2), et

- une étape de production, de préférence de moulage, d'au moins un corps de ressort (3).

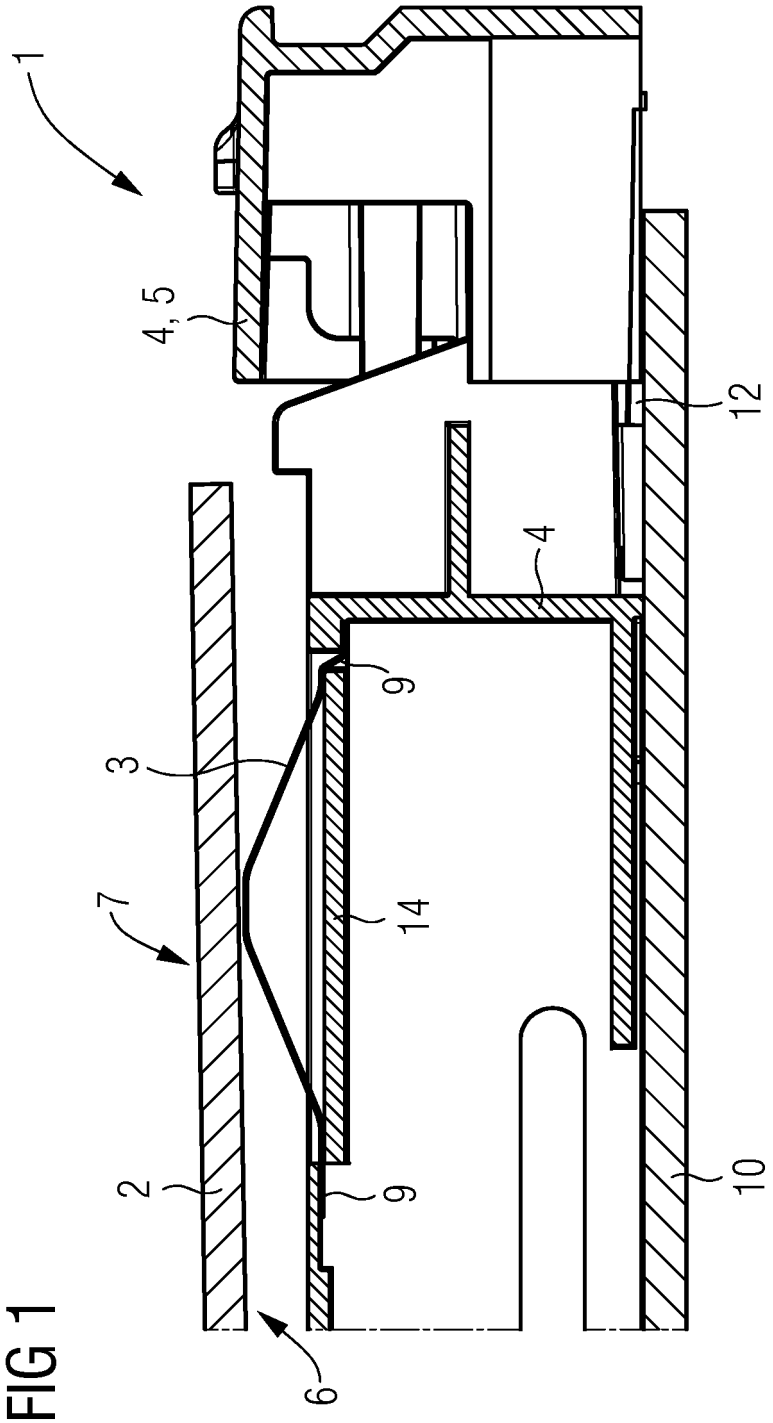

FIG 1

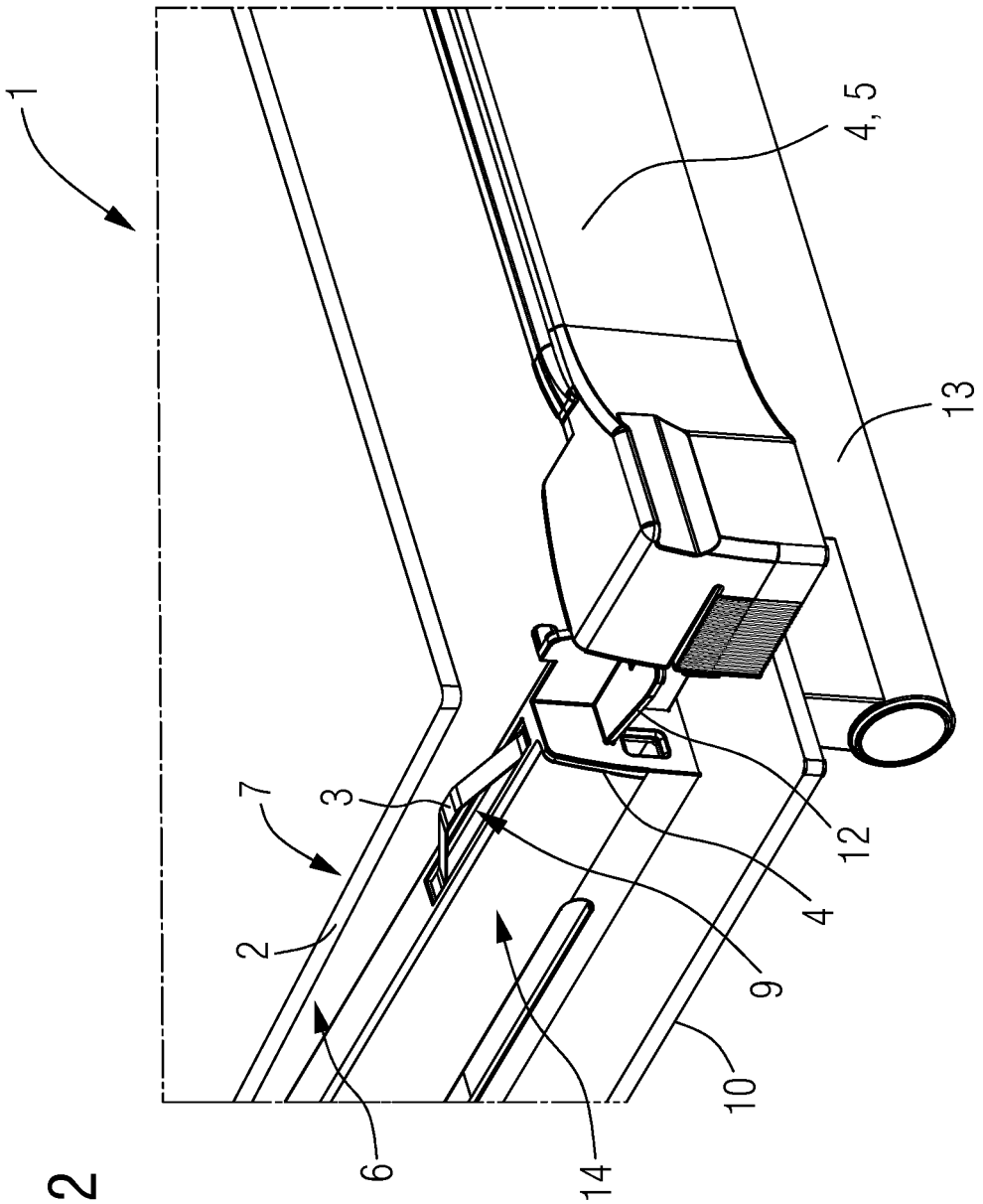

FIG 2

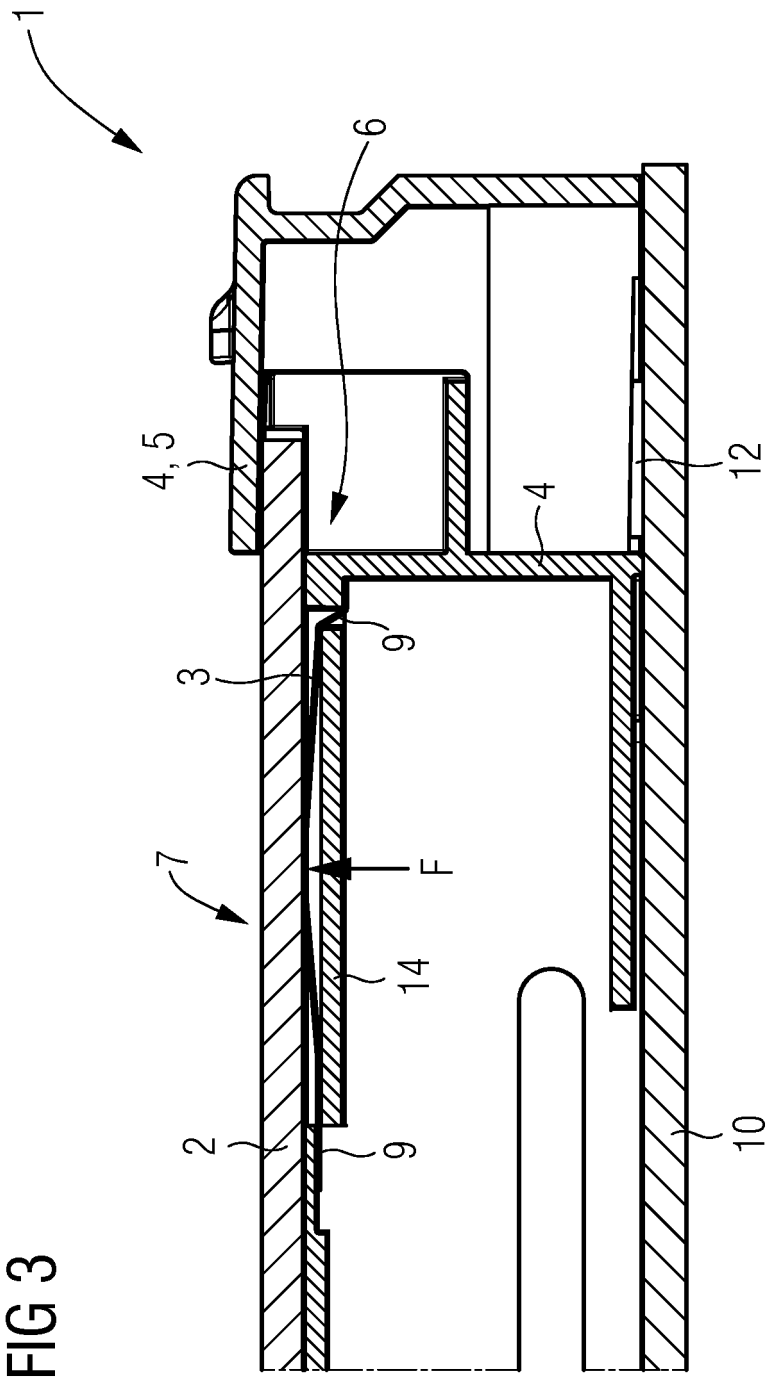

FIG 3

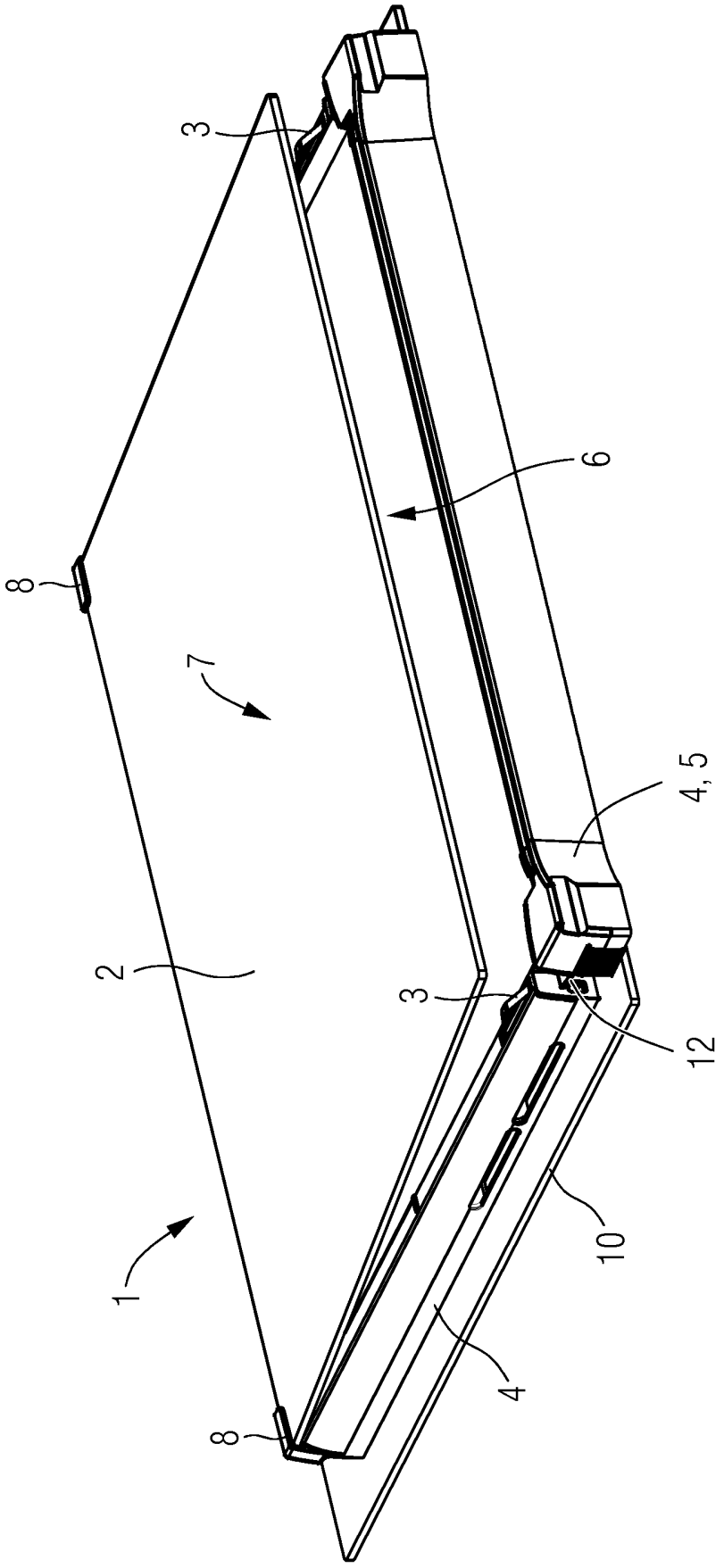

FIG 4

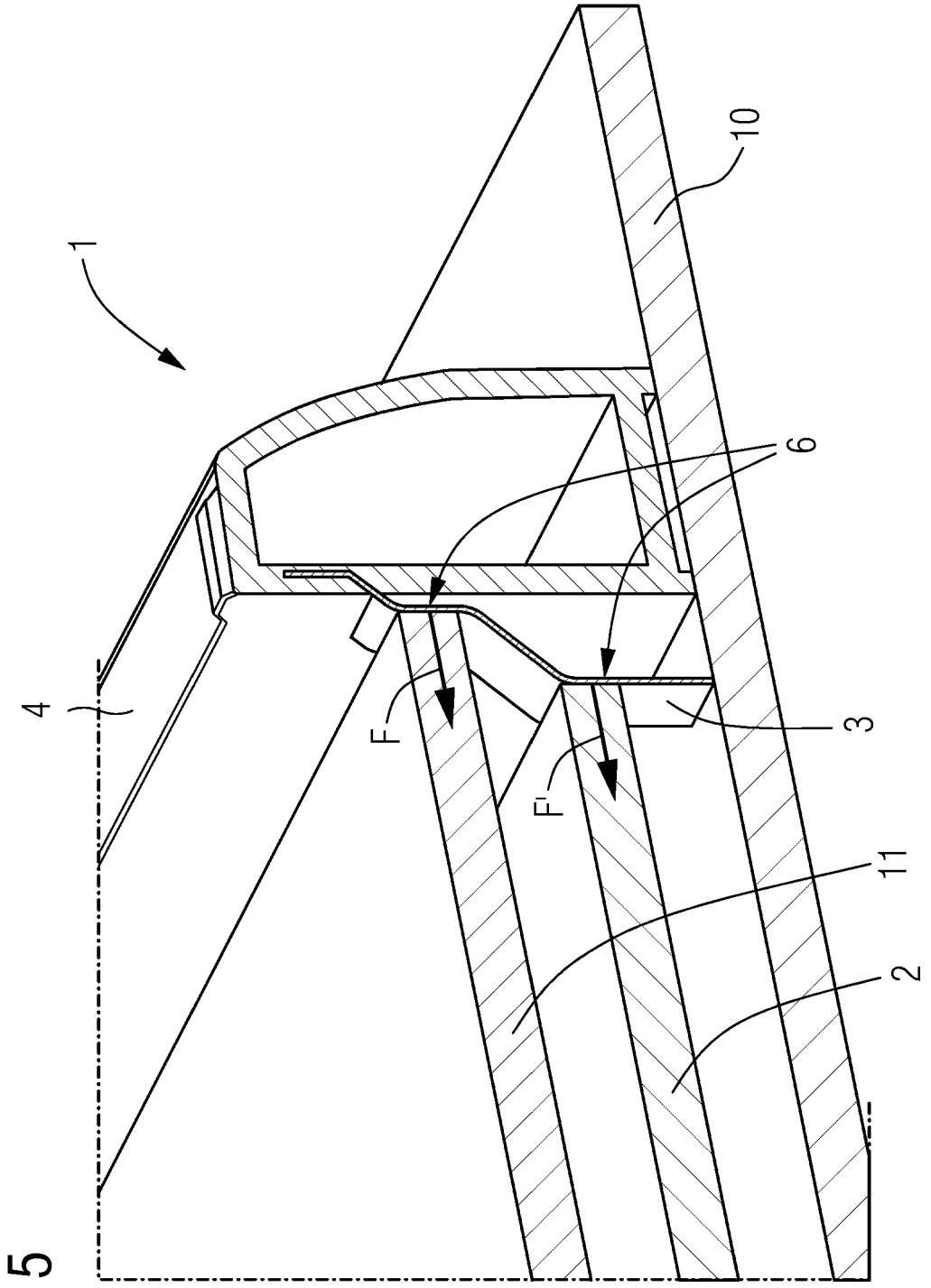

FIG 5

REFERENCES CITED IN THE DESCRIPTION

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