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(73) Proprietor: **Electrolux Home Products
Corporation N.V.
1130 Brussels (BE)**

(72) Inventors:
• **Löwe, Christina
91541 Rothenburg (DE)**
• **Hildner, Dietmar
90765 Fürth (DE)**

• **Dänzer, Stefan
91631 Wettringen (DE)**
• **Ivanovic, Branko
97084 Würzburg (DE)**

(74) Representative: **Electrolux Group Patents
AB Electrolux
Group Patents
105 45 Stockholm (SE)**

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Description

[0001] The invention is directed to a household appliance comprising a door latch.

[0002] Door latches in connection with household appliances are often required to disable unauthorized access to treatment chambers such as baking muffles of baking ovens, washing chambers of dishwashers and the like.

[0003] A door latch for latching the front door of an electronic oven is known for example from DE 81 37 942 U1 showing a double L-shaped bent sheet metal elastic strip with a hook for engaging a latching edge of the door.

[0004] A further latch, specifically provided for a door of a dishwasher, is known from DE 10 2006 007 328 A1. The known latch comprises a fixing portion, a latching portion in a middle section and a control lever extending from the middle section. The control lever is shifted and offset, with respect to the overall lengthwise direction of the latch, from the fixing portion and from the latching portion.

[0005] Document DE 81 37 042 U1 discloses a latch for a door of a baking oven. The latch comprises a strip-like base body with a double-L-shape structure. One end of the base body forms a fixing portion and an averted end of the base body forms a latching portion.

[0006] Document US 2 142 690 A describes a locking arrangement for windows, in which a locking element has several recesses for locking engagement into a counter-part locking element, and in which one end of the locking element has a bent section.

[0007] Document WO 03/018943 A1 describes an elastic locking element with a double bent, meandering base body.

[0008] Document US 2,794,663 discloses a latch for gates or doors, which can be bolted, and, if desired, locked, by a simple shifting operation. The known latch employs a flat latch bar which has a 90° twist at an intermediate point so as to provide a vertically disposed bolt section for engaging the catch and the bolt slot, and a horizontally disposed lever section adapted to swing vertically in a fulcrum plate, the lever section is provided with two notches for locating the latch bar in latching or bolting positions.

[0009] In spite of the known door latches there is still need for further refining latching efficiency and ensuring easy assembly in connection with doors of household appliances.

[0010] It is therefore an object of the invention to provide a household appliance with a door latch, having refined latching efficiency and allowing for easy assembly.

[0011] This object is solved by claim 1. Preferred embodiments result from respective dependent claims.

[0012] According to claim 1, a household appliance comprising a front door and a door latch adapted to latch the door in a closed state is provided.

[0013] The door latch comprises a fixing portion adapted and designed for fixing the door latch to the appliance.

The door latch can for example be fixed to the appliance by one or more screws, by rivets, by welding and similar techniques. However, detachable fixing techniques, such as screws, are preferred in cases in which the door latch shall removably and/or temporarily be attached to the appliance.

[0014] The door latch further comprises a latching portion for latching engagement with the door of the appliance, the latching portion comprising a hook-shaped latching element.

[0015] Further, the door latch is designed such that the fixing portion and latching portion are, with respect to the overall lengthwise direction of the door latch, twisted by about 90 degrees.

[0016] The twisted configuration contributes to enhanced mechanical strength and stiffness resulting in refined latching efficiency. Overstretching and decreasing resilience can at least be suppressed.

[0017] Twisted by about 90 degrees shall in particular mean, that planes defined by the latching portion and fixing portion, respectively, are twisted by 90 degrees, i. e. enclose an angle of about 90 degrees, or in other words are rotated, i. e. twisted, with respect to the overall lengthwise direction by about 90 degrees.

[0018] In general, the latching portion and fixing portion are provided at opposite ends of the door latch. The overall lengthwise direction is in particular given by a lengthwise or axial direction of an envelope of the door latch, enveloping the whole door latch, in particular the opposite ends of the door latch.

[0019] The door latch comprises a base body which at least comprises the fixing portion and the latching portion, the base body being made as a one-piece part bent sheet-type elastic body made from a flexible and elastic material such that:

- i) the latching element is held in latching position as long as no pushing force is applied to the latching portion,
- ii) if a pushing force acting essentially perpendicular to the overall length-wise direction and perpendicular to an upper surface of the latching element is applied to the latching portion, the latching portion is elastically deflected, and
- iii) the latching portion returns to the latching position again if the pushing force releases.

[0020] In the preferred embodiment, the door latch comprises a hook type latching element, preferably fixed to the latching portion, in particular to a latching tab of the latching portion. The tab may be a strap or tongue shaped section of the door latch, projecting therefrom. If the hook type latching element and latching tab are implemented as two parts, the latching element may have a slot into which the tab is or can be inserted. The dimension of the slot and tab may be adapted to one another such that the latching element is safely fixed to the tab. In a refinement, the hook type latching element and/or

tab can comprise snap or hook elements for snap-connecting the latching element and tab. The latching element may be fixed by other means, such for example by adhesive and the like.

In particular with the embodiment mentioned beforehand, the latching element may be made from plastics, whereas other parts of the door latch may be made from metal, in particular stainless steel, light metals, spring steel and the like, coated metals, in particular enamel coated metals. All or single elements of the door latch may be coated, for example by a lacquer layer, and/or plated, for example with chrome and the like.

[0021] In the preferred embodiment, the latching tab projects parallel to the overall lengthwise direction from a, preferably strip shaped, intermediate section which is oriented transversally, in particular in an angle of 90 degrees, to the overall lengthwise direction. The latching tab and intermediate section preferably enclose an angle of about 90 degrees. In particular in this configuration, the door latch, in particular a base body of the door latch can be formed or bent from a single sheet metal strip. This allows easy and cheap manufacture of the door latch. Further, with a transversal intermediate section favorable mechanical strength and stability can be obtained, guaranteeing long-term efficient latching.

In a further embodiment, the intermediate section comprises a U-section, i.e. a U-shaped section, wherein a section opening of the U-shaped section is oriented transversally to the overall lengthwise direction. Further, with this embodiment, the latching portion extends from one of the legs of the U-shaped section and the fixing portion extends from the other one of the legs of the U-shaped section in opposite direction to the latching portion. This configuration has excellent stability and elasticity, and further, wear stretch can be greatly reduced. In a yet further embodiment, the base body is made from metal, in particular metal alloys, and/or plastics. Such a base body can, as already mentioned, be formed as a single sheet metal strip. Such base bodies can be produced in a relative simple and cost efficient way, and the final assembly of the door latch can be greatly simplified. In a further embodiment, the fixing portion has a planar s-type end section preferably having an oblong screw hole for fixing the door latch to the appliance. S-type end section in particular shall mean that two sections in the end region of the door latch are offset from each other in a plane defined by the fixing portion itself, and are connected by a curved connector section. The S-type end section therefore has an s-bend like geometry. With such design and geometry, in particular of the screw hole, the mounting position and orientation of the door latch can be fine-tuned, which in turn simplifies mounting and secures proper function of the door latch.

[0022] In a further embodiment a wedge shaped element is attached to the latching tab, in combination making up or resulting in a latching tooth for latching engagement with the door. The wedge shaped element can be made from plastics or other suitable materials, in partic-

ular by casting or other techniques. Further, the design of the wedge shaped element can be such that it can be snap-connected and/or locked to the latching tab. In particular, the wedge shaped element and the tab, and therefore in particular the base body, are interconnected or interlocked by respective connecting or locking elements.

[0023] The household appliance may be a baking oven.

[0024] In embodiments, the door latch may be mounted and fixed to the appliance and adapted to latch the door in a closed state at an upper or lateral edge of the door. The door latch, in particular the latching section, in particular the wedge shaped element, can engage a glass and/or decorative element, plate or cover of the door. It is also conceivable that the door latch, in particular the latching section, in particular the wedge shaped element engages a recess provided in the door.

[0025] In an embodiment, the door latch is attached to a side-wall of the household appliance, and, in the closed state of the door, the latching portion at least partially projects from a front face of the appliance. The latching portion preferably projects through a gap between a lower edge of an upper cover plate and an upper edge of the door. In this configuration, the door latch can easily be mounted and removed from the appliance. Further, it is possible to design the mounting position and mounting space for the door latch in such a way that no extra cover elements are required if the door latch is removed or detached from the appliance. Beyond that, door latch projecting slightly from the appliance is not disruptive to the general handling and to the outer appearance of the appliance, and can easily be operated.

[0026] In a yet further embodiment of the household appliance the U-shaped section, preferably loosely, engages a respective vertical bar of the appliance. The vertical bar may be a protrusion provided at the upper or lateral face side of the appliance, in particular of a casing of the appliance. Such an additional engagement improves latching efficiency and latching strength.

[0027] As to further advantages and advantageous effects, reference is made to the description further above, in particular related to the door latch and embodiments thereof.

[0028] Example embodiments will now be described in connection with the annexed figures, in which:

Fig. 1 shows a sectional view of a baking oven with a door latch mounted thereto;

Fig. 2 shows a single door latch;

Fig. 3 shows an enlarged section of the baking oven of Fig. 1;

Fig. 4 shows an enlarged side view of the baking oven; and

Fig. 5 shows an enlarged front view of a section of the baking oven.

[0029] Fig. 1 shows a sectional view of a baking oven 1 with a door latch 2 mounted thereto. Note that the baking oven 1, which is just an example of a household appliance, will be described only in so far as is necessary for fully understanding the invention. Further, the figures are not necessarily true to scale and scales between figures may vary. Throughout the text, like reference signs are used for like elements.

[0030] The baking oven 1 comprises a casing 3, a baking chamber or muffle (not shown) and a front door 4 for closing a front opening of the baking chamber. With the situation in Fig. 1, the door 4 is in a closed state. Above the door 4, an upper cover plate 5 is provided to which one or several control elements are mounted.

[0031] In some situations it is desirable to latch the door 4 in order to prevent unauthorized opening of the door 4, i. e. access to the baking chamber. In particular it is desirable to latch the door 4 to prevent little children from opening the door 4 during operation of the baking oven 1.

[0032] In connection with door latches 2 it is desirable that they have adequate latching efficiency and can be easily and flexibly attached and detached to the baking oven 1.

[0033] From Fig. 1 it can be seen, and it will be described in more detail below, that the door 4 in its closed state is latched by the door latch 2. In this way, unauthorized opening of the door 4 can at least to some extent be blocked and access to the baking chamber can at least be handicapped.

[0034] A detailed view of the door latch 2 is given in Fig. 2. As can be seen, the door latch 2 comprises a fixing portion 6 adapted and designed for fixing the door latch 2 to the baking oven 1. The door latch 2 further comprises a latching portion 7 for latching the door 4.

[0035] As becomes obvious from Fig. 2, the fixing portion 6 and latching portion 7 are, with respect to the overall lengthwise direction D or overall longitudinal axis D of the door latch 2, twisted by about 90 degrees. In other words, a plane defined by the sheet-like fixing portion 6 and a plane defined by the latching portion 7 enclose an angle of about 90 degrees.

[0036] The twisted configuration of the door latch 2 on the one hand allows simple and flexible attachment to a side wall 8 of the baking oven 1 or casing 3, and on the other hand leads to enhanced operability, latching efficiency and latching strength.

[0037] With respect to Fig. 2, the door latch 2 comprises a hook type latching element 9 which is plugged on a latching tab 10 of the door latch 2. The latching element 9 therefore may have a slot having inner dimensions adapted to the outer dimensions of the latching tab 10 and configured such that the latching tab 10 can be fixedly plugged into the slot. If required, the latching element 9 can be secured to the latching tab 10 additionally by snap

or latch elements engaging each other upon plugging the latching element 9 on the latching tab 10. Snap or latch elements may for example be provided within the slot and on the surface of the latching tab 10. As an alternative or in addition, it is possible to secure the latching element 10 on the latching tab 10 by adhesive.

[0038] The latching element 9 wedge shape is single sided, i. e. asymmetric with respect to the latching tab 10. More precisely, when mounted on the latching tab 10, one surface, in Fig. 2 the upper surface 11, of the latching element 9 is parallel to the latching tab 10 and the opposite surface, i.e. the lower surface 12, is slanted downwards. The lower surface 12 is slanted in such a way, that a step-like latching projection 13 is formed at the lower side of the door latch 2 in a transitional region between the latching element 9 and latching tab 10. The step size of the latching projection 13 can easily be adjusted by appropriately shaping the latching element 9 or by plugging adequate latching elements 9 on the latching tab 10. In this way, a high degree of flexibility and efficient and adequate latching engagement with different types of doors can be obtained.

[0039] As is also apparent from Fig. 2, the latching tab 10 projects in overall lengthwise direction D from an intermediate section 14. The intermediate section 14 comprises a U-section with two legs 15 and a base 16. The U-section is oriented transversally to the overall lengthwise direction D, i. e. the base 16 is oriented parallel to the overall lengthwise direction D, the legs 15 are oriented essentially perpendicular to the overall lengthwise direction D and a section opening 17 is directed transversally to the overall lengthwise direction D.

[0040] The latching tab 10 and fixing portion 6 extend from a respective leg 15 in opposite directions in overall lengthwise direction D. In the present case, the latching tab 10 and the intermediate section 14, i. e. the respective leg 15, enclose an angle of about 90 degrees. Also, the fixing portion 6 and the intermediate section 14, i. e. the respective leg 15, enclose an angle of about 90 degrees.

[0041] As becomes obvious from Fig. 2, an intersection line between the latching tab 10 and the respective leg 15 of the intermediate section 14 is oriented essentially horizontal. Due to the fact, that the latching tab 10 and fixing portion 6 are twisted by about 90 degrees an intersection line between the respective leg 15 of the intermediate section 14 and the fixing portion 6 is oriented essentially vertical. Note that the terms horizontal and vertical relate to the ordinary mounting position of the door latch 2, which in particular become obvious from Fig. 1, and 3 to 5.

[0042] The fixing portion 6 of the door latch 2 has an s-shaped end section 18. Further, the fixing portion 6 comprises an end tab 19 having an oblong screw hole 20. The oblong screw hole 20 permits adjusting the mounting position of the door latch 2 parallel to the overall lengthwise direction D, in the present case in horizontal direction. The s-shaped section 18 permits vertical offsets between screw hole 20 and latching tab 10. Such

vertical offsets, essentially defined by adequate heights of the s-shaped end section 18, may be chosen to best fit respective mounting positions and latching functionality.

[0043] Considering Fig. 2, it becomes obvious that the door latch 2, in more details the base body of the door latch 2, can be formed from a single metal strip bended accordingly. The metal strip can be made from stainless steel, standard steel and others. If required, suitable coating, plating and/or finishing can be applied to the base body, such as enamel coating, chrome plating and/or lacquers, respectively. However, it would also be possible that the base body is formed from plastics. As already indicated, the latching element 9 is preferably made from plastics. In case that the base body is also made from plastics, the base body and latching element 9 can be manufactured as a one-piece part, via injection molding for example.

[0044] The door latch 2 and its function will now be described in further details with respect to figures 3 to 5. Fig. 3 shows an enlarged section of the baking oven 1, in more detail a region to which the door latch 2 is mounted to. Fig. 4 shows an enlarged side view of the baking oven 1 in a region of the door latch 2. Fig. 5 shows an enlarged front view of the baking oven 1 in a region of the door latch 2.

[0045] As can be seen from the figures, the fixing portion 6 is attached to the side wall 8 by a screw 21 passing through the screw hole 20. The two-dimensional, i. e. areal, extent of the fixing portion 6 is parallel to the side wall 8. As already mentioned, the position of the door latch 2 can be adjusted in horizontal direction because the screw hole 20 is implemented as an oblong hole.

[0046] Movement in horizontal direction of the door latch 2 is guided by a horizontal abutment edge 22 provided on the side wall 8. The abutment edge 22 also prevents the door latch 2 from rotating around screw 21. However an abutment edge 22 is not mandatory as anti-rotation properties can also be obtained by providing two screws and/or similar engagement elements.

[0047] Latching engagement between the door 4 and the door latch 2 is obtained in the present case in an upper section, more precisely an upper edge, of a front pane of the door 4. The front pane may be a glass pane and/or any decorative pane mounted or applied to the door 4. Note that any other site of the door 4 can be used and selected for latching engagement.

[0048] The latching portion 7, in more detail the latching element 9 and a part of the latching tab 10, project from the front face of the baking oven 1. The latching tab 10 passes through a gap 23 between an upper edge of the door 4 and a lower edge of the upper cover plate 5.

[0049] The gap is dimensioned such that upon pushing the latching element 9 and latching tab 10 fully upwards, i. e. until the section of the latching tab 10 running within the gap 23 abuts the lower edge of the cover plate 5, the upper edge of the door 4 can pass below the latching projection 13, and the door can be opened. In situations

in which the latching element 9 and latching tab 10 are not pushed upwards, the latching projection 13 prevents the door 4 from passing by. In other words, if the door latch 2 is not deflected, the latching projection 13 prevents the door 4 from being opened in that an upper edge of the door 4 abuts the latching projection 13. Hence opening of the door can at least be handicapped.

[0050] The door latch 2, in particular the base body, is made from a flexible and elastic material. According to the invention, the latching element 9 is held in latching position as long as no pushing force is applied to the latching portion. If a pushing force acting essentially perpendicular to the overall lengthwise direction and perpendicular to the upper surface 11 is applied to the latching portion 7, the latching portion 7 is elastically deflected. The latching portion 7 returns to the latching position again if the pushing force releases. Note that the door latch 2 is shown in Fig. 1 to 5 in the non-deflected configuration only. If deflected, at least the latching tab 10 of the door latch shall be bent.

As can be seen from Fig. 3 and Fig. 4, the intermediate section 14, more precisely the U-section, engages a vertical bar 24 of the baking oven 1. Here, additional stability and in particular high latching efficiency of the door latch 2 can be obtained.

It shall be noted, that a connection between single components of the door latch 2 and connection between the door latch 2 and the baking oven can be implemented in other or alternative ways as set out beforehand. For example, connections can be established not only by screws but also by rivets, bonding techniques, in particular adhesion techniques, welding, fusing, two-component methods and the like.

As can be seen, the proposed door latch can easily be attached and detached to baking ovens, in more general terms household appliances. In addition, the proposed door latch can easily be applied to existing appliances. Further, the door latch may be composed of just a few components, which in turn can easily be manufactured and assembled. Beyond this, the door latch allows high latching efficiency and is comparatively robust.

Reference signs

[0051]

- 1 baking oven
- 2 door latch
- 3 casing
- 4 door
- 5 upper cover plate
- 6 fixing portion
- 7 latching portion
- 8 side wall
- 9 latching element
- 10 latching tab
- 11 upper surface
- 12 lower surface

- 13 latching projection
 - 14 intermediate section
 - 15 leg
 - 16 base
 - 17 section opening
 - 18 s-shaped end section
 - 19 end tab
 - 20 screw hole
 - 21 screw
 - 22 abutment edge
 - 23 gap
 - 24 vertical bar
- D overall lengthwise direction

Claims

1. Household appliance (1) comprising a front door (4) and a door latch (2) adapted to latch the door (4) in a closed state, the door latch comprising a fixing portion (6) for fixing the door latch (2) to the appliance (1) and a latching portion (7) for latching engagement with the door (4), the latching portion (7) comprising a hook-shaped latching element (9), wherein the door latch (2) comprises a base body which at least comprises the fixing portion (6) and the latching portion (7), wherein the base body is made as a one-piece part bent sheet-type elastic body made from a flexible and elastic material such that:
 - i) the latching element (9) is held in latching position as long as no pushing force is applied to the latching portion (7),
 - ii) if a pushing force acting essentially perpendicular to the overall length-wise direction and perpendicular to an upper surface (11) of the latching element (9) is applied to the latching portion (7), the latching portion (7) is elastically deflected, and
 - iii) the latching portion (7) returns to the latching position again if the pushing force releases **characterized in that** the fixing portion (6) and latching portion (7) are, with respect to the overall lengthwise direction (D) of the door latch (2), twisted by about 90 degrees.
2. Household appliance (1) according to claim 1, wherein the hook type latching element (9) is provided at, preferably fixed to, a latching tab (10) of the latching portion (7).
3. Household appliance (1) according to claim 1 or 2, wherein the latching tab (10) projects in overall lengthwise direction (D) from a, preferably strip shaped, intermediate section (14) which is oriented transversally to the overall lengthwise direction (D), wherein the latching tab (10) and intermediate sec-

tion (14) preferably enclose an angle of about 90 degrees.

4. Household appliance (1) according to any of claims 1 to 3, wherein the intermediate section (14) comprises a U-section (15, 16), wherein a section opening (17) of the U-section (15, 16) is oriented transversally to the overall lengthwise direction (D), and the latching portion (7) extends from one of the legs (15) of the U-shaped section (15, 16) and the fixing portion (6) extends from the other one of the legs (15) of the U-shaped section (15, 16) in opposite direction to the latching portion (7).
5. Household appliance (1) according to any of claims 1 to 4, wherein the base body is made from metal and/or plastics.
6. Household appliance (1) according to any of claims 1 to 5, wherein the fixing portion (6) has a planar s-shaped end section (18) preferably having an oblong screw hole (20) for fixing the door latch (2) to the appliance (1).
7. Household appliance (1) according to any of claims 1 to 6, wherein the latching element (9) comprises a wedge shaped element (9) attached to the latching tab (10), in combination making up a latching tooth (13) for latching engagement with the door (4).
8. Household appliance (1) according to one of claims 1 to 7, the household appliance (1) being a baking oven (1).
9. Household appliance (1) according to any of claims 1 to 8, wherein the door latch is adapted to latch the door at an upper or lateral edge of the door (4).
10. Household appliance (1) according to any of claims 1 to 9, wherein the door latch (2) is attached to a side wall (8) of the household appliance (1), and wherein in the closed state of the door (4), the latching portion (7) at least partially projects from a front face of the appliance (1), preferably through a gap (23) between a lower edge of an upper cover plate (5) and an upper edge of the door (4).
11. Household appliance (1) according any of claims 1 to 10, wherein the door latch (2) comprises an intermediate section (14) with a U-shaped section (15, 16) according to claim 4, wherein the U-shaped section engages a respective vertical bar (24) of the appliance (1).

Patentansprüche

1. Haushaltsgerät (1) umfassend: eine Fronttür (4) und

einen Türverschluss (2) ausgelegt zum Verrasten der Tür (4) in einem geschlossenen Zustand, wobei der Türverschluss einen Befestigungsabschnitt (6) zum Befestigen des Türverschlusses (2) am Gerät (1) und einen Verrastungsabschnitt (7) für einen Verrastungseingriff mit der Tür (4) umfasst, wobei der Verrastungsabschnitt (7) ein hakenförmiges Verrastungselement (9) umfasst, wobei der Türverschluss (2) einen Grundkörper umfasst, der mindestens den Befestigungsabschnitt (6) und den Verrastungsabschnitt (7) umfasst, wobei der Grundkörper aus einem einteiligen gebogenen ebenflächigen elastischen Körper hergestellt ist, der aus einem flexiblen und elastischen Material gefertigt ist, so dass

- i) das Verrastungselement (9) in Rastposition gehalten wird, so lange keine Druckkraft an den Verrastungsabschnitt (7) angelegt wird,
- ii) das Verrastungsabschnitt (7) elastisch abgelenkt wird, wenn an den Verrastungsabschnitt (7) eine Druckkraft angelegt wird, die im Wesentlichen senkrecht zur Gesamtlängsrichtung und senkrecht zu einer oberen Fläche (11) des Verrastungselements (9) wirkt, und
- iii) der Verrastungsabschnitt (7) in die Rastposition zurückkehrt, wenn die Druckkraft aufhört,

dadurch gekennzeichnet, dass der Befestigungsabschnitt (6) und der Verrastungsabschnitt (7) in Bezug zur Gesamtlängsrichtung (D) des Türverschlusses (2) um etwa 90 Grad verdreht sind.

2. Haushaltsgerät (1) nach Anspruch 1, wobei das hakenförmige Verrastungselement (9) an der Verrastungslasche (10) des Verrastungsabschnitts (7) vorgesehen und vorzugsweise an ihr befestigt ist.
3. Haushaltsgerät (1) nach Anspruch 1 oder 2, wobei die Verrastungslasche (10) aus einem, vorzugsweise streifenförmigen, quer zur Gesamtlängsrichtung (D) ausgerichteten Zwischenabschnitt (14) in Gesamtlängsrichtung (D) vorspringt, wobei die Verrastungslasche (10) und der Zwischenabschnitt (14) vorzugsweise einen Winkel von etwa 90 Grad bilden.
4. Haushaltsgerät (1) nach einem der Ansprüche 1 bis 3, wobei der Zwischenabschnitt (14) einen U-Abschnitt (15, 16) umfasst, wobei eine Abschnittsöffnung (17) des U-Abschnitts (15, 16) quer zur Gesamtlängsrichtung (D) ausgerichtet ist und der Verrastungsabschnitt (7) sich ausgehend von einem der Schenkel (15) des U-förmigen Abschnitts (15, 16) erstreckt und der Befestigungsabschnitt (6) sich ausgehend vom anderen Schenkel (15) des U-förmigen Abschnitts (15, 16) in eine Richtung entgegengesetzt zum Verrastungsabschnitt (7) erstreckt.
5. Haushaltsgerät (1) nach einem der Ansprüche 1 bis

4, wobei der Grundkörper aus Metall und/oder Kunststoff hergestellt ist.

- 5 6. Haushaltsgerät (1) nach einem der Ansprüche 1 bis 5, wobei der Befestigungsabschnitt (6) einen planflächigen Endbereich (18) aufweist, der vorzugsweise ein längliches Schraubenloch (20) aufweist, um den Türverschluss (2) am Gerät (1) zu befestigen.
- 10 7. Haushaltsgerät (1) nach einem der Ansprüche 1 bis 6, wobei das Verrastungselement (9) ein keilförmiges Element (9) umfasst, das an der Verrastungslasche (10) angebracht ist, die in Kombination einen Rastzahn (13) zum Verrastungseingriff mit der Tür (4) bilden.
- 15 8. Haushaltsgerät (1) nach einem der Ansprüche 1 bis 7, wobei das Haushaltsgerät (1) ein Backofen (1) ist.
- 20 9. Haushaltsgerät (1) nach einem der Ansprüche 1 bis 8, wobei der Türverschluss eingerichtet ist, um die Tür an einer oberen oder seitlichen Kante der Tür (4) zu verrasten.
- 25 10. Haushaltsgerät (1) nach einem der Ansprüche 1 bis 9, wobei der Türverschluss (2) an einer Seitenwand (8) des Haushaltsgeräts (1) angebracht ist und wobei im geschlossenen Zustand der Tür (4) der Verrastungsabschnitt (7) zumindest teilweise aus einer Frontfläche des Geräts (1) vorspringt, vorzugsweise durch einen Spalt (23) zwischen einer Unterkante einer oberen Abdeckplatte (5) und einer Oberkante der Tür (4).
- 30 11. Haushaltsgerät (1) nach einem der Ansprüche 1 bis 10, wobei der Türverschluss (2) einen Zwischenabschnitt (14) mit einem U-förmigen Abschnitt (15, 16) nach Anspruch 4 umfasst, wobei der U-förmige Abschnitt einen entsprechenden vertikalen Stab (24) des Gerätes (1) umgreift.
- 35 40 45 50 55

Revendications

- 45 1. Appareil domestique (1) comprenant une porte avant (4) et un verrou de porte (2) adapté pour verrouiller la porte (4) dans un état fermé, le verrou de porte comprenant une partie de fixation (6) pour fixer le verrou de porte (2) à l'appareil (1) et une partie de verrouillage (7) pour réaliser un engagement de verrouillage avec la porte (4), la partie de verrouillage (7) comprenant un élément de verrouillage en forme de crochet (9), dans lequel le verrou de porte (2) comprend un corps de base qui comprend au moins la partie de fixation (6) et la partie de verrouillage (7), dans lequel le corps de base est constitué d'un corps élastique de type feuille pliée d'une seule pièce constitué d'un matériau souple et élastique, de telle

sorte que:

- i) l'élément de verrouillage (9) soit maintenu dans une position de verrouillage aussi longtemps qu'aucune force de poussée n'est appliquée à la partie de verrouillage (7),
 - ii) si une force de poussée qui agit essentiellement perpendiculairement au sens de longueur global et perpendiculairement à une surface supérieure (11) de l'élément de verrouillage (9) est appliquée à la partie de verrouillage (7), la partie de verrouillage (7) est élastiquement défléchie, et
 - iii) la partie de verrouillage (7) retourne à nouveau dans la position de verrouillage si la force de poussée est relâchée, **caractérisé en ce que** la partie de fixation (6) et la partie de verrouillage (7) sont, par rapport au sens de longueur global (D) du verrou de porte (2), tordues d'environ 90 degrés.
2. Appareil domestique (1) selon la revendication 1, dans lequel l'élément de verrouillage de type crochet (9) est prévu au niveau de et de préférence fixé à une languette de verrouillage (10) de la partie de verrouillage (7).
 3. Appareil domestique (1) selon la revendication 1 ou 2, dans lequel la languette de verrouillage (10) fait saillie dans le sens de longueur global (D) à partir d'une section intermédiaire de préférence en forme de bande (14) qui est orientée transversalement au sens de longueur global (D), dans lequel la languette de verrouillage (10) et la section intermédiaire (14) forment de préférence un angle d'environ 90 degrés.
 4. Appareil domestique (1) selon l'une quelconque des revendications 1 à 3, dans lequel la section intermédiaire (14) comprend une section en forme de U (15, 16), dans lequel une ouverture de section (17) de la section en forme de U (15, 16) est orientée transversalement au sens de longueur global (D), et la partie de verrouillage (7) s'étend à partir de l'une des branches (15) de la section en forme de U (15, 16) et la partie de fixation (6) s'étend à partir de l'autre des branches (15) de la section en forme de U (15, 16) dans une direction opposée à la partie de verrouillage (7).
 5. Appareil domestique (1) selon l'une quelconque des revendications 1 à 4, dans lequel le corps de base est constitué de métal et/ou de plastique.
 6. Appareil domestique (1) selon l'une quelconque des revendications 1 à 5, dans lequel la partie de fixation (6) présente une section d'extrémité plane en forme de s (18) qui comporte de préférence un trou de vis oblong (20) pour fixer le verrou de porte (2) à l'ap-

pareil (1).

7. Appareil domestique (1) selon l'une quelconque des revendications 1 à 6, dans lequel l'élément de verrouillage (9) comprend un élément en forme de coin (9) attaché à la languette de verrouillage (10), constituant en combinaison une dent de verrouillage (13) pour réaliser un engagement de verrouillage avec la porte (4).
8. Appareil domestique (1) selon l'une quelconque des revendications 1 à 7, l'appareil domestique (1) étant un four de cuisson (1).
9. Appareil domestique (1) selon l'une quelconque des revendications 1 à 8, dans lequel le verrou de porte est adapté pour verrouiller la porte au niveau d'un bord supérieur ou latéral de la porte (4).
10. Appareil domestique (1) selon l'une quelconque des revendications 1 à 9, dans lequel le verrou de porte (2) est attaché à une paroi latérale (8) de l'appareil domestique (1), et dans lequel, à l'état fermé de la porte (4), la partie de verrouillage (7) fait saillie au moins partiellement à partir d'une face avant de l'appareil (1), de préférence à travers un espace (23) entre un bord inférieur d'une plaque de recouvrement supérieure (5) et un bord supérieur de la porte (4).
11. Appareil domestique (1) selon l'une quelconque des revendications 1 à 10, dans lequel le verrou de porte (2) comprend une section intermédiaire (14) qui présente une section en forme de U (15, 16) selon la revendication 4, dans lequel la section en forme de U engage une barre verticale respective (24) de l'appareil (1).

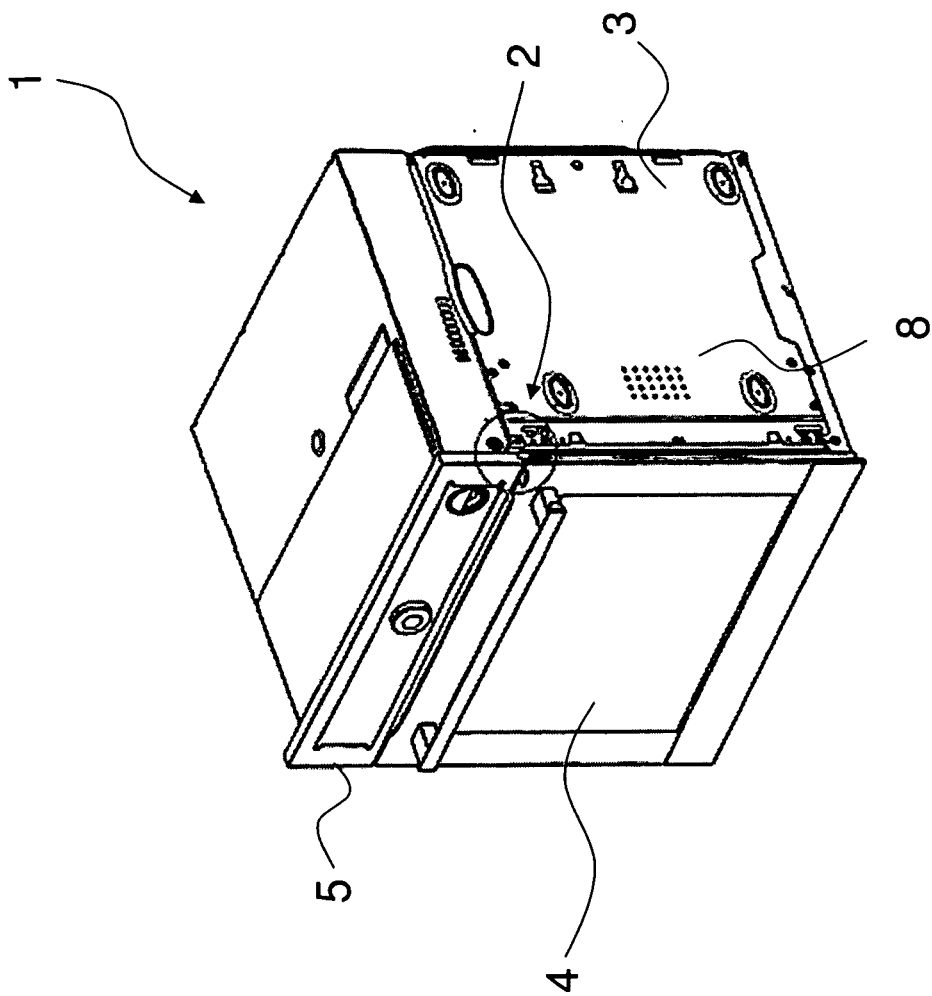


Fig. 1

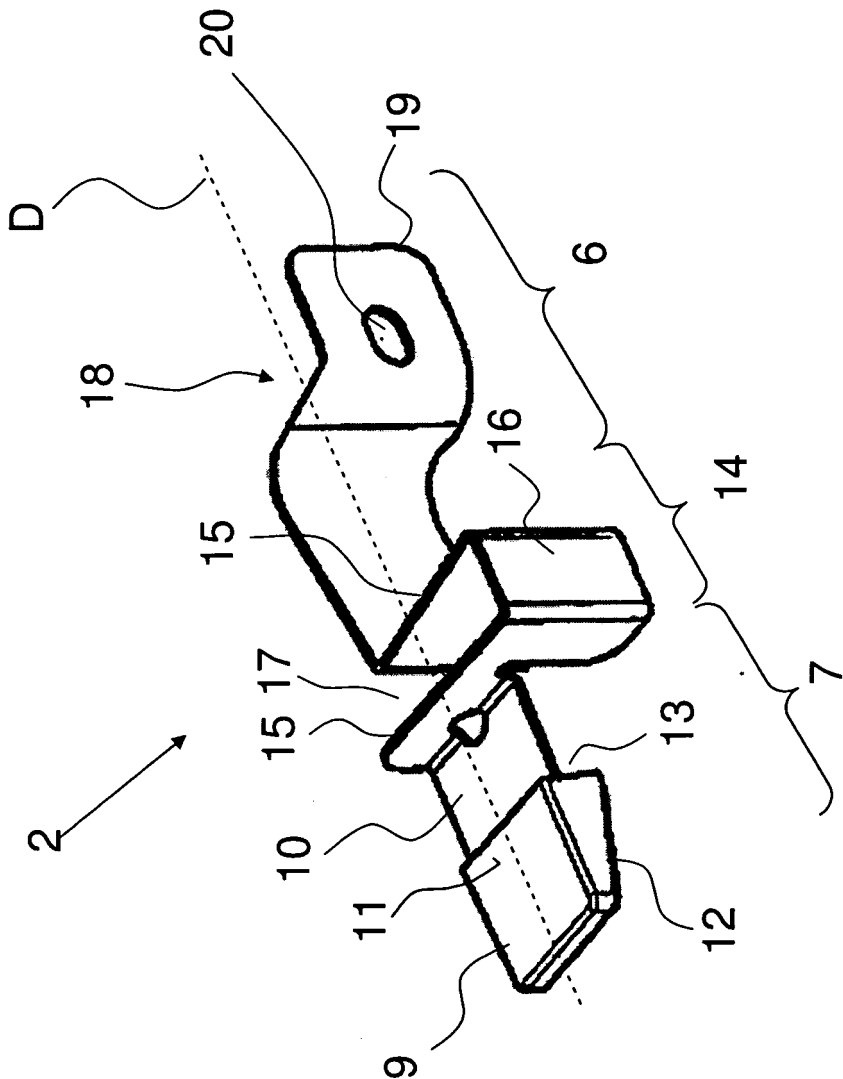


Fig. 2

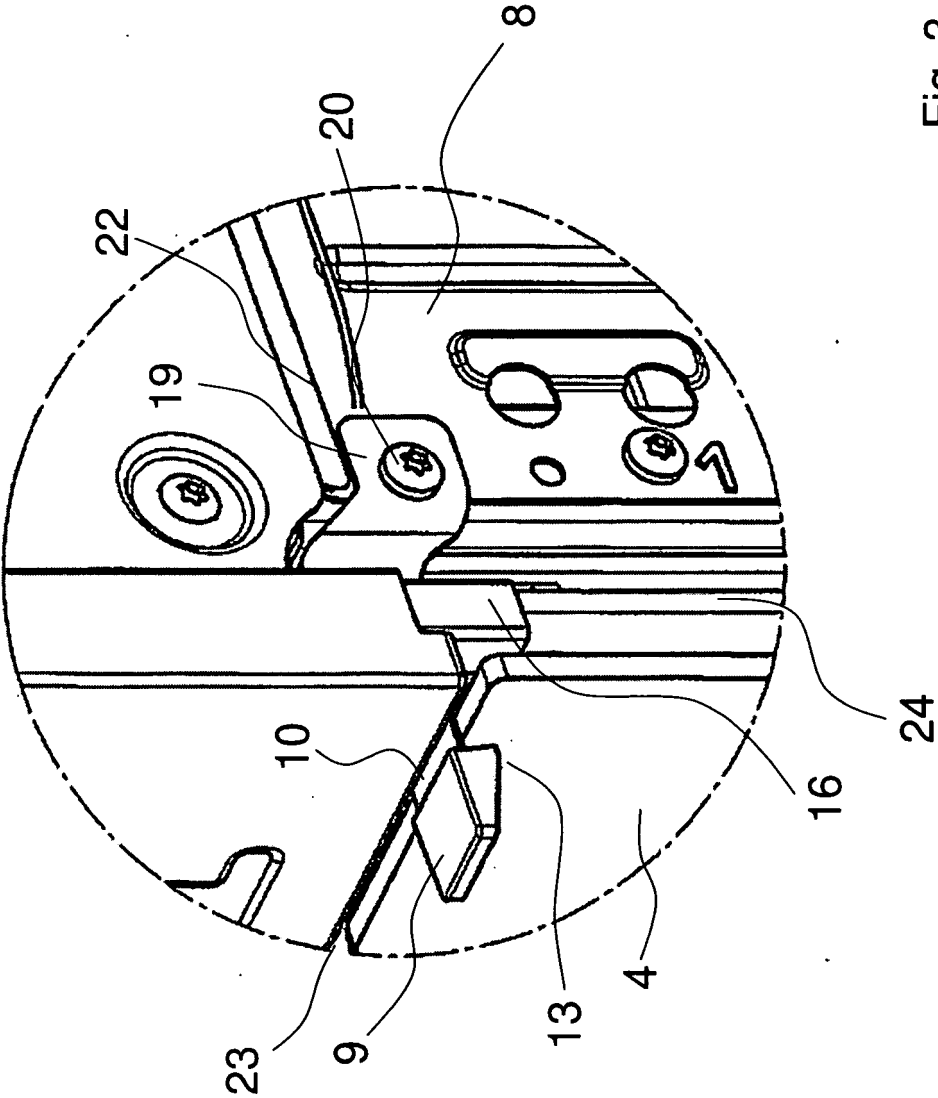


Fig. 3

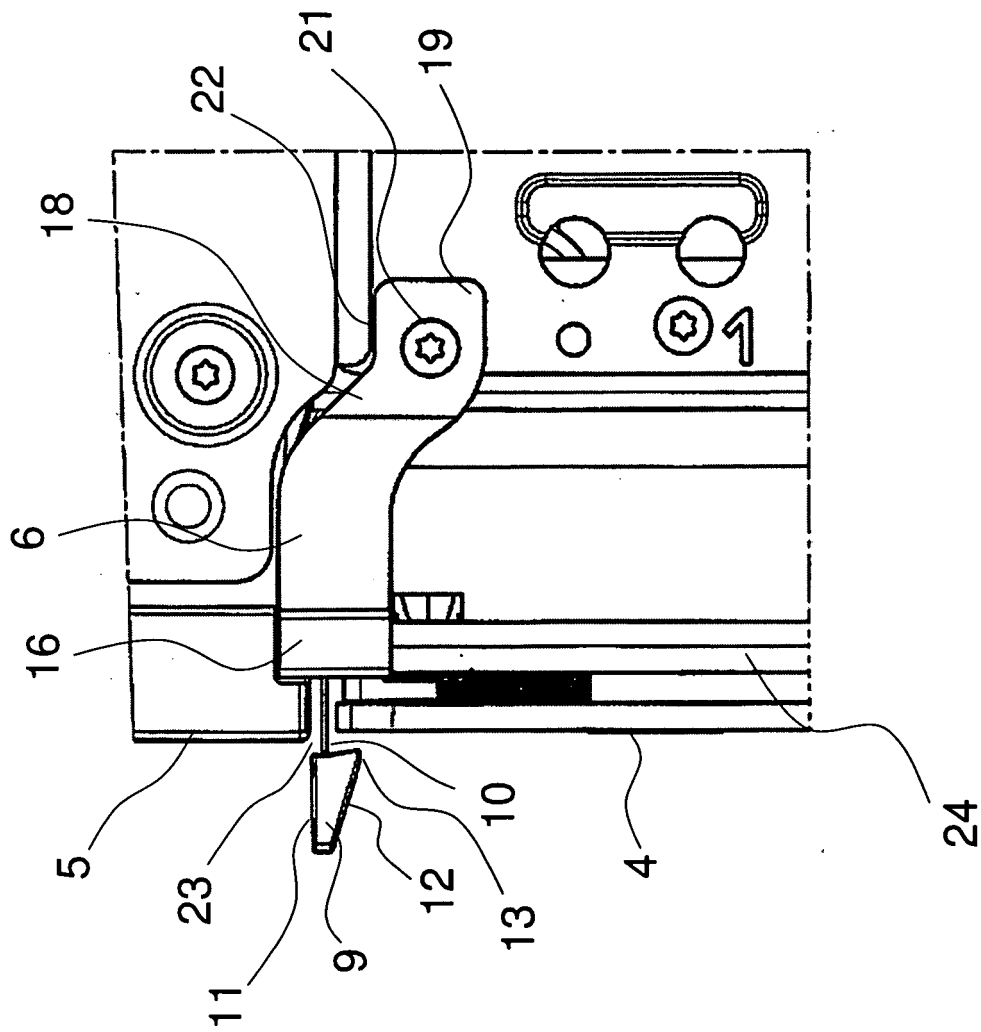


Fig. 4

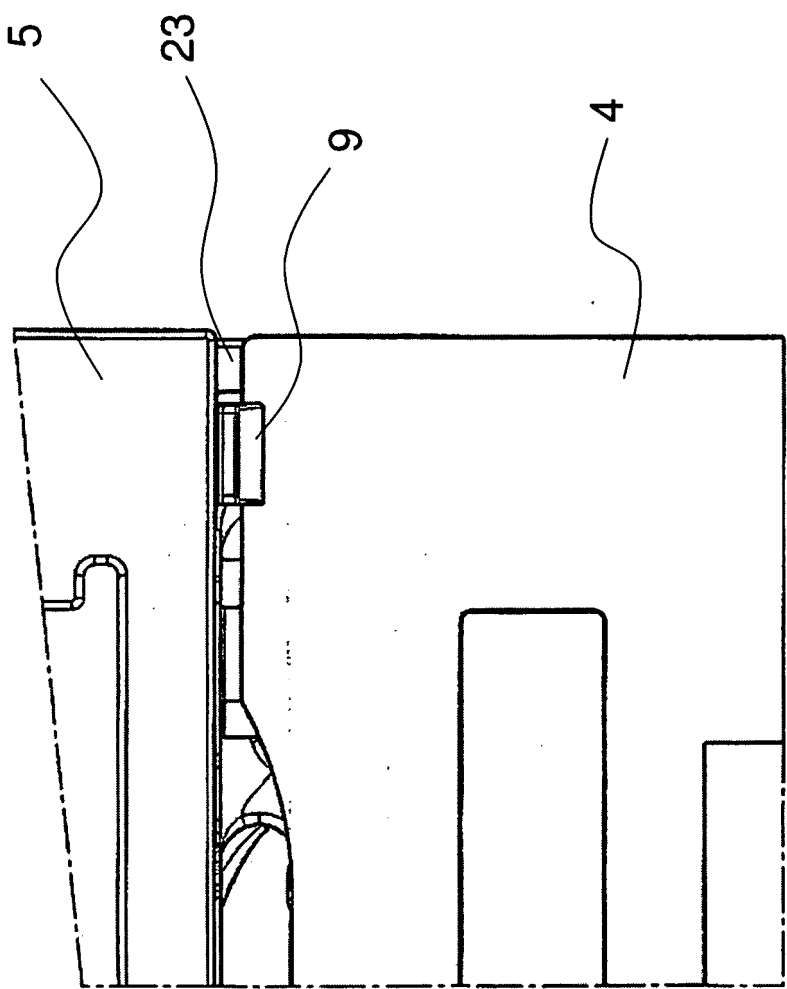


Fig. 5

REFERENCES CITED IN THE DESCRIPTION

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