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(54) **A COOKING DEVICE**

GARGERÄT

DISPOSITIF DE CUISSON

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## Description

**[0001]** The present invention relates to a cooking device to which the cook top is mounted whereon cooking processes are performed.

**[0002]** The cook top disposed on the top surface of cooking devices including burners thereon for performing the cooking process is produced of steel sheet and coated with enamel. During production, while the enamel coated cook top is being mounted on the frame, it can be subjected to tensions and impacts and this may result in damaging the enamel, which is a fragile material. In state of the art, connection springs are used to resiliently mount the cook top on the frame; however, enamel cracking cannot be avoided while mounting the cook top particularly on the frame.

**[0003]** In state of the art German Patent Document No DE19613320, a work surface fixing system used in household appliances is explained. The fixing system comprises a pair of spring sockets at opposite ends of the switch panel extending across the top front edge of the household appliance.

**[0004]** In document GB 430 829 A a fixing system with a hook is disclosed for fixing a cooktop on an oven frame.

**[0005]** The aim of the present invention is to the realization of a cooking device wherein the cook top can be mounted easily.

**[0006]** The cooking device realized in order to attain the aim of the present invention is explicated in the claims.

**[0007]** While the cooking device of the present invention is manufactured, the cook top is mounted by pressing down on the connection springs that are previously fastened to the upper surface of the frame which forms the skeleton of the body or to the front panel. By means of the connection springs, the impacts that may affect the cook top during assembly or use are attenuated and thus the enamel coated on the cook top is prevented from cracking.

**[0008]** The connection spring comprises a fixing extension for assembling thereof to the frame and a resilient extension for attenuating the impacts by leaning on the bent side of the cook top, shaped as an inverted V, one arm of the V shape connected to the fixing extension and the other arm bearing on the front or lateral side of the cook top. The resilient extension comprises a continuous forehead surface that stretches the cook top backwards by the bent sides of the cook top pushing while the cook top is mounted by pressing downwards and a pressing extension that curves inwards by bending the forehead surface concavely that compresses the cook top by leaning on the side of the cook top seated on the frame or the front panel.

**[0009]** In an embodiment of the present invention, a supporting protrusion is provided on the frame or the front panel that restricts the forwards, backwards motion of the connection spring and the connection spring is assembled by being seated on the supporting protrusion

by means of a depression disposed on the fixing extension.

**[0010]** In another embodiment of the present invention, a channel is arranged on the fixing extension and the connection spring is assembled on the frame allowing thereof to slide along the channel.

**[0011]** In another embodiment of the present invention, a resilient extension is situated on the rear side of the connection spring and this extension increases stretching of the spring by leaning on a supporting protrusion arranged at the rear.

**[0012]** In another embodiment of the present invention, stoppers are provided on the cook top that prevent the sideways movement of the cook top by leaning on the connection springs.

**[0013]** In another embodiment of the present invention, the front side of the cook top is in the curved form and the connection springs are positioned angularly with respect to each other and in the vertical direction to the curved front side of the cook top such that the cook top is mounted on the frame by pressing down thereon.

**[0014]** The cooking device realized in order to attain the aim of the present invention is illustrated in the attached figures, where:

Figure 1 - is the perspective view of a cooking device body and a cook top.

Figure 2 - is the perspective view of a cooking device after the cook top is mounted thereon.

Figure 3 - is the view of detail D in Figure 2.

Figure 4 - is the perspective view of a connection spring.

Figure 5 - is the cross-sectional view of a connection spring.

Figure 6 - is the perspective view of a connection spring including a channel at the center.

Figures 7, 8 - are the perspective views of connection springs including additional resilient elements.

Figure 9 - is the schematic view of a cook top with a curved front side and the connection springs positioned angularly with respect to one another.

**[0015]** The elements illustrated in the figures are numbered as follows:

1. Cooking device
2. Front panel
3. Cook top
4. Frame
5. Connection spring
6. Fixing extension
7. Resilient extension
8. Supporting protrusion
9. Depression
10. Channel
11. Stopper
12. Side

**[0016]** The cooking device (1) comprises a body wherein the cooking process is performed on the upper surface and/or the interior volume, a front panel (2) including the elements such as knobs and displays thereon, a cook top (3) mounted on the body, containing the gas burners and/or electrical heating plates for heating and/or cooking and a frame (4) to which the walls forming the body, the front panel (2) and the cook top (3) are fastened (Figures 1, 2).

**[0017]** The cook top (3) is produced by shaping the steel sheet material and coated with enamel. The cook top (3) comprises at least one side (12) formed by bending downwards the portions corresponding to above the front panel (2) and the frame (4) (Figures 1, 2, 3, 5).

**[0018]** The cooking device (1) furthermore comprises a connection spring (5) that provides attaching the cook top (3), which is mounted to the frame, to the frame (4) to be resiliently and attenuating the forces acting on the cook top (3).

**[0019]** The connection spring (5), enabling to attach the cook top (3) on the frame (4) by pressing down, used in the cooking device (1) of the present invention comprises

- a fixing extension (6) for mounting on the frame (4) or the front panel (2) by screwing etc.,
- a resilient extension (7) shaped as an inverted V, one arm of the V shape connected to one end of the fixing extension (6) and the other arm leaning on the side (12), that stretches backwards by the side (12) of the cook top (3) pushing while the cook top (3) is mounted by pressing down, that returns to its former position when the cook top (3) is properly seated on the frame (4) and exerting force on the side (12) from the inside so that the cook top (3) is attached on the frame (4) by pressing down (Figures 4, 5).

**[0020]** The resilient extension (7) comprises an continuous forehead surface (A) disposed on the front side thereof over which the side (12) slides and pushes backwards while the cook top (3) is mounted by pressing down and a pressing extension (B) that curves inwardly by bending the forehead surface (A) concavely which compresses the cook top (3) by leaning on the inside of the side (12) seated on the frame (4) (Figure 4). The continuous form of the forehead surface (A) provides the stretching of the resilient extension (7).

**[0021]** During the production of the cooking device (1), the connection spring (5) is fixed to the front panel (2) or the frame (4) by means of the fixing extension (6). The cook top (3) is brought over the frame (4) and after the burner head openings on the cook top (3) are aligned with the burners, the cook top (3) is lowered to be seated on the frame (4) (Figures 1, 2). The rear side of the cook top (3) is fixed by fastening elements such as screws or the like. The front and lateral sides (12) of the cook top (3) are bent downwards. The front or the lateral side (12) slides on the forehead surface (A) of the resilient exten-

sion (7) in front of the connection spring (5) and stretches the resilient extension (7) backwards and after passing beyond the forehead surface (A) goes under the pressing extension (B). Assembling is completed by compressing the side (12) between the pressing extension (B) and the frame (4) or the upper surface of the front panel (2). The resilient extension (7) does not stretch easily since the spring constant is high, only stretches under excessive forces, preventing cracking of the enamel coating of the cook top (3).

**[0022]** In an embodiment of the present invention, the cooking device (1) comprises a supporting protrusion (8) disposed on the frame (4) or the front panel (2) that restricts the forwards, backwards motion of the connection spring (5) (Figure 5). The motion of the connection spring (5) in the forwards, backwards directions is restricted by fixing on the supporting protrusion (8) or by bearing on the supporting protrusion (8), the movement of the cook top (3) in the forwards, backwards directions is attenuated only by the stretching of the resilient extension (7).

**[0023]** In another embodiment of the present invention, the connection spring (5) comprises a depression (9) for assembling thereof by being seated on the supporting protrusion (8), disposed on the fixing extension (6) and formed preferably by bending the fixing extension (6) (Figures 4, 5).

**[0024]** In another embodiment of the present invention, the connection spring (5) comprises a channel (10) arranged on the fixing extension (6) for assembling thereof on the frame (4) by allowing to slide along a certain distance (Figure 6). The connection spring (5) is attached to the frame (4) or the front panel (2) by a fastening element such as a screw, pin etc. that can move inside the channel (10) formed on the fixing extension (6) and attenuates the movement of the cook top (3) in the forwards, backwards directions by means of the channel (10) and also by the stretching feature of the resilient extension (7).

**[0025]** In an embodiment of the present invention, the cooking device (1) comprises one or more stoppers (11) situated on the cook top (3) that prevent the sideways movement of the cook top (3) by contacting to the connection spring (5) from the side (Figure 9).

**[0026]** In an embodiment of the present invention, the cooking device (1) comprises a cook top (3), the front side configured to be curved that is mounted on connection springs (5) by pressing down and connection springs (5) fixed on the frame (4) or the front panel (2), positioned angularly with respect to each other and in the vertical direction to the curved front side of the cook top (3) such that the cook top (3) is mounted on the frame (4) by pressing downwards (Figure 9).

**[0027]** The connection spring (5) furthermore comprises additional resilient elements that extend along the rear and lateral sides thereof that increase the attenuation of impacts acting on the cook top (3) (Figures 7, 8). The movement of the cook top (3) both in the forwards, backwards and right and left directions is attenuated by means

of the additional resilient elements.

[0028] During the production of the cooking device (1) of the present invention, while the enamel coated cook top (3) is mounted on the frame (4) or the front panel (2), the impacts acting thereon are attenuated by means of the connection springs (5) and cracking hence damaging of the enamel is prevented. The front side curved cook top (3) is mounted easily by pressing down and fitting to the connection springs (5), moreover since the cook top (3) is mounted from the top by aligning the burner openings thereon with the burners, the cook top (3) is prevented from bumping to the burners and being damaged during assembling.

### Claims

1. A cooking device (1) comprising walls, forming a body, a front panel (2) including elements in particular knobs and displays thereon, a cook top (3) mounted on the body and having at least one side (12) bent downwards, and a frame (4) to which the walls, the front panel (2) and the cook top (3) are fastened, and the at least one side (12) bent downwards having a portion placed above the front panel (2) and/or the frame (4) **characterized in that** the cooking device further comprises a connection spring (5)

- for attaching the cook top (3) on the frame (4) by pressing down,
- having a fixing extension (6) for mounting on the frame (4) or the front panel (2), and
- a resilient extension (7) shaped as an inverted V, one arm of the V shape connected to one end of the fixing extension (6) and the other arm leaning on said portion of the side (12) placed above the front panel (2) and/or the frame (4) so that it is stretched backwards by the at least one side (12) of the cook top (3) while the cook top (3) is mounted by pressing down, and so that it returns to its former position when the cook top (3) is properly seated on the frame (4), thus exerting force on the side (12) from the inside.

2. A cooking device (1) as in Claim 1, **characterized by** the connection spring (5) comprising the resilient extension (7) having a continuous forehead surface (A) disposed on the front side thereof over which the at least one side (12) slides and pushes backwards while the cook top (3) is mounted by pressing down and a pressing extension (B) that curves inwardly by bending the forehead surface (A) concavely which compresses the cook top (3) by leaning on the inside of the at least one side (12) seated on the frame (4).

3. A cooking device (1) as in Claim 1, **characterized by** a supporting protrusion (8) disposed on the frame

(4) or the front panel (2) that restricts the movement of the connection spring (5) in the forward and backward directions.

4. A cooking device (1) as in Claim 3, **characterized by** the connection spring (5) comprising a depression (9) disposed on the fixing extension (6) for assembling thereof by being seated on the supporting protrusion (8).

5. A cooking device (1) as in Claim 1, **characterized by** the connection spring (5) comprising a channel (10) arranged on the fixing extension (6) for assembling thereof on the frame (4) by allowing to slide along a certain distance.

6. A cooking device (1) as in any one of the above claims, **characterized by** one or more stoppers (11) situated on the cook top (3) that prevent the sideways movement of the cook top (3) by contacting to the connection spring (5) from the side.

7. A cooking device (1) as in any one of the above claims, **characterized by** the cook top (3), the front side configured to be curved, that is mounted on the connection springs (5) by pressing down and the connection springs (5) fixed on the frame (4) or the front panel (2), positioned angularly with respect to each other and in the vertical direction to the curved front side of the cook top (3) such that the cook top (3) is mounted on the frame (4) by pressing downwards.

### Patentansprüche

1. Kochvorrichtung (1), umfassend Wände, die einen Gehäusekörper bilden, eine Frontblende (2) mit Elementen, insbesondere Knöpfen und Anzeigen daran, eine Kochoberfläche (3), die am Gehäusekörper angebracht ist und wenigstens eine Seite (12) aufweist, die nach unten gebogen ist, und einen Rahmen (4), an dem die Wände, die Frontblende (2) und die Kochoberfläche (3) befestigt sind, wobei die wenigstens eine nach unten gebogene Seite (12) einen Abschnitt aufweist, der über der Frontblende (2) und/oder dem Rahmen (4) angeordnet ist, **dadurch gekennzeichnet, dass** die Kochvorrichtung ferner eine Verbindungsfeder (5) umfasst,

- um die Kochoberfläche (3) am Rahmen (4) durch Herabdrücken anzubringen,
- aufweisend eine Befestigungsverlängerung (6) zum Anbringen am Rahmen (4) oder an der Frontblende (2), und
- eine elastische Verlängerung (7), die als umgekehrtes V geformt ist, wobei ein Arm der V-Form mit einem Ende der Befestigungsverlän-

- gerung (6) verbunden ist und der andere Arm am Abschnitt der Seite (12) anliegt, der über der Frontblende (2) und/oder dem Rahmen (4) angeordnet ist, derart, dass er von wenigstens einer Seite (12) der Kochoberfläche (3) nach hinten gestreckt wird, während die Kochoberfläche (3) durch Herabdrücken angebracht ist, und derart, dass er in seine frühere Position zurückkehrt, wenn die Kochoberfläche (3) richtig auf dem Rahmen (4) sitzt, wodurch von innen Kraft auf die Seite (12) ausgeübt wird.
2. Kochvorrichtung (1) nach Anspruch 1, **dadurch gekennzeichnet, dass** die Verbindungsfeder (5), die die elastische Verlängerung (7) umfasst, eine kontinuierliche Stirnfläche (A), die an ihrer Vorderseite angeordnet ist und über die die wenigstens eine Seite (12) gleitet und nach hinten schiebt, während die Kochoberfläche (3) durch Herabdrücken angebracht ist, und eine Druckverlängerung (B) aufweist, die sich durch konkaves Biegen der Stirnfläche (A) nach innen krümmt, wodurch die Kochoberfläche (3) durch Anlage an der Innenseite der wenigstens einen Seite (12), die auf dem Rahmen (4) sitzt, zusammengedrückt wird.
3. Kochvorrichtung (1) nach Anspruch 1, **gekennzeichnet durch** einen Trägervorsprung (8), der an dem Rahmen (4) oder der Frontblende (2) angeordnet ist und die Bewegung der Verbindungsfeder (5) in Vorwärts- und Rückwärtsrichtung einschränkt.
4. Kochvorrichtung (1) nach Anspruch 3, **dadurch gekennzeichnet, dass** die Verbindungsfeder (5) eine Vertiefung (9) umfasst, die an der Befestigungsverlängerung (6) angeordnet ist, um diese zu montieren, indem sie auf dem Trägervorsprung (8) aufsitzt.
5. Kochvorrichtung (1) nach Anspruch 1, **dadurch gekennzeichnet, dass** die Verbindungsfeder (5) einen Kanal (10) umfasst, der an der Befestigungsverlängerung (6) angeordnet ist, um diese am Rahmen (4) zu montieren, indem ein Verschieben über eine bestimmte Strecke zugelassen wird.
6. Kochvorrichtung (1) nach einem der vorangehenden Ansprüche, **gekennzeichnet durch** einen oder mehrere Anschläge (11), die an der Kochoberfläche (3) angeordnet sind und die seitliche Bewegung der Kochoberfläche (3) verhindern, indem sie von der Seite mit der Verbindungsfeder (5) in Kontakt treten.
7. Kochvorrichtung (1) nach einem der vorangehenden Ansprüche, **dadurch gekennzeichnet, dass** die Vorderseite der Kochoberfläche (3) gekrümmt konfiguriert ist, wobei sie durch Herabdrücken an den Verbindungsfedern (5) angebracht ist und die Verbindungsfedern (5), die am Rahmen (4) oder an der

Frontblende (2) befestigt sind, im Verhältnis zueinander gewinkelt und in vertikaler Richtung zur gekrümmten Vorderseite der Kochoberfläche (3) angeordnet sind, derart, dass die Kochoberfläche (3) durch Herabdrücken am Rahmen (4) angebracht ist.

## Revendications

1. Un dispositif de cuisson (1) comprenant des parois, qui forment un corps, un panneau avant (2) contenant des éléments particulièrement des boutons rotatifs et des dispositifs d'affichage, une table de cuisson (3) qui est montée sur le corps et qui présente au moins un côté (12) plié vers le bas, et un cadre (4) auquel les parois, le panneau avant (2) et la table de cuisson (3) sont fixés, et l'au moins un côté (12) plié vers le bas, ayant une partie placée sur le panneau avant (2) et/ou le cadre (4), **caractérisé en ce que** le dispositif de cuisson comprend en outre un ressort de connexion (5)
- utilisé pour fixer la table de cuisson (3) sur le cadre (4) en appuyant vers le bas,
  - qui présente une extension de fixation (6) pour monter sur le cadre (4) ou le panneau avant (2) et
  - une extension élastique (7) en forme d'un V inversé, un bras de la structure en V relié à une extrémité de l'extension de fixation (6) et l'autre bras s'appuyant sur ladite partie du côté (12) placée au-dessus du panneau avant (2) et/ou du cadre (4), de telle sorte qu'elle est étirée vers l'arrière par l'au moins un côté (12) de la table de cuisson (3) tandis la table de cuisson (3) est montée en appuyant vers le bas, et de telle sorte qu'elle retourne à sa position précédente lorsque la table de cuisson (3) est correctement placée sur le cadre (4), donc exerçant une force sur le côté (12) à partir de l'intérieur.
2. Un dispositif de cuisson (1) selon la Revendication 1, **caractérisé par** le ressort de connexion (5) comprenant l'extension élastique (7) qui présente une surface de front continue (A) arrangée sur le côté avant de celle-ci sur laquelle l'au moins un côté (12) glisse et pousse vers l'arrière tandis que la table de cuisson (3) est montée en appuyant vers le bas et une extension de pression (B) qui se courbe vers l'intérieur en pliant la surface de front (A) de manière concave, qui comprime la table de cuisson (3) en s'appuyant sur l'intérieur de l'au moins un côté (12) placé sur le cadre (4).
3. Un dispositif de cuisson (1) selon la Revendication 1, **caractérisé par** une protubérance de support (8) qui est disposée sur le cadre (4) ou sur le panneau avant (2) et qui limite le mouvement du ressort de

connexion (5) dans les directions vers l'avant et vers l'arrière.

4. Un dispositif de cuisson (1) selon la Revendication 3, **caractérisé par** le ressort de connexion (5) comprenant une dépression (9) qui est arrangée sur l'extension de fixation (6) pour l'assemblage de celle-ci en étant placée sur la protubérance de support (8). 5
5. Un dispositif de cuisson (1) selon la Revendication 1, **caractérisé par** le ressort de connexion (5) comprenant un canal (10) qui est arrangé sur l'extension de fixation (6) pour l'assemblage de celle-ci sur le cadre (4) en permettant son glissement le long d'une certaine distance. 10  
15
6. Un dispositif de cuisson (1) selon l'une quelconque des revendications précédentes, **caractérisé par** une ou plusieurs butées (11) qui sont arrangées sur la table de cuisson (3) et qui empêchent le mouvement latéral de la table de cuisson (3) en touchant le ressort de connexion (5) à partir du côté. 20
7. Un dispositif de cuisson (1) selon l'une quelconque des revendications précédentes, **caractérisé par** la table de cuisson (3) dont le côté avant est courbé, qui est montée sur les ressorts de connexion (5) en appuyant sur le bas, et les ressorts de connexion (5) qui sont fixés sur le cadre (4) ou sur le panneau avant (2), positionnés angulairement par rapport l'un à l'autre dans la direction verticale au côté avant courbé de la table de cuisson (3) de telle sorte que la table de cuisson (3) est montée sur le cadre (4) en appuyant vers le bas. 25  
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Figure 1

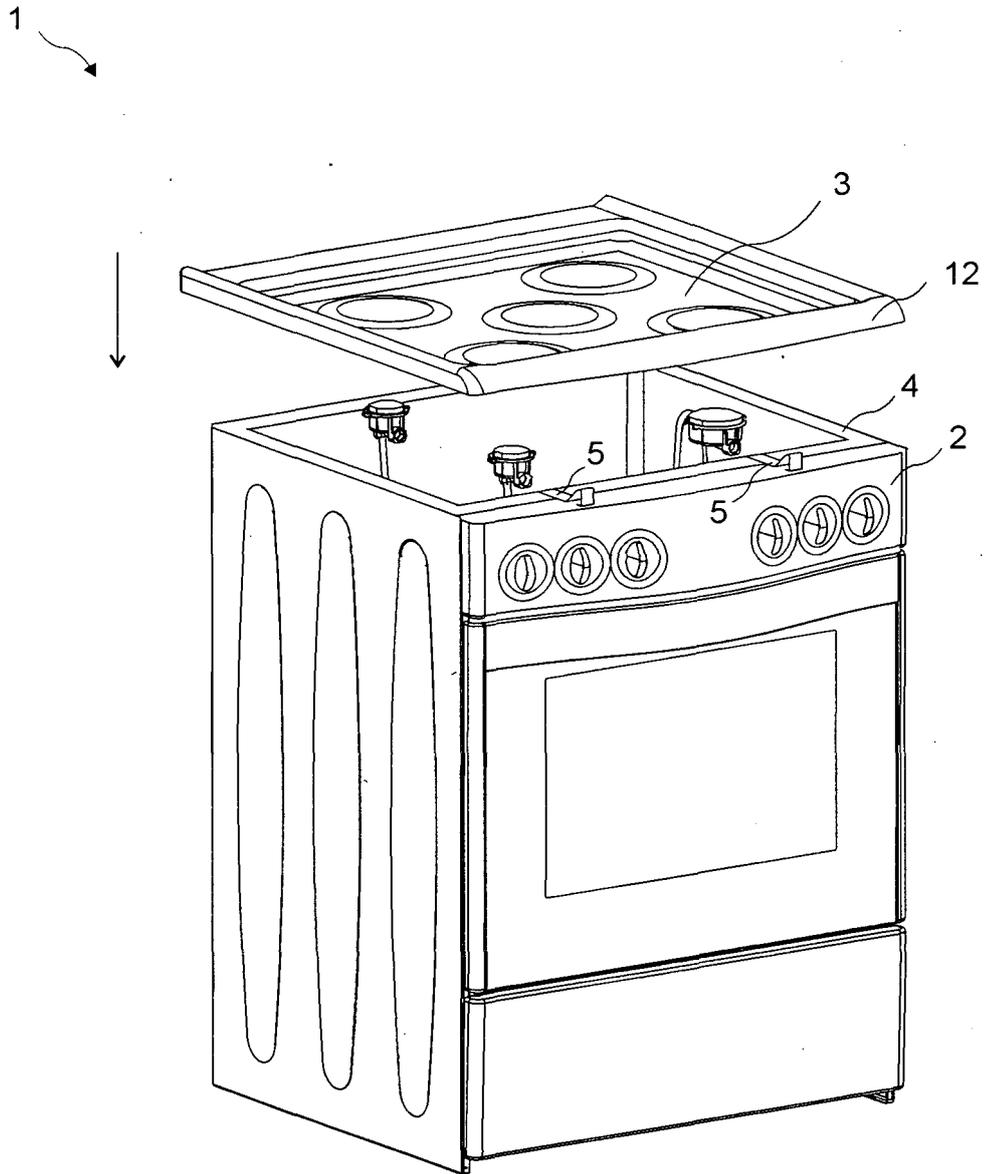


Figure 2

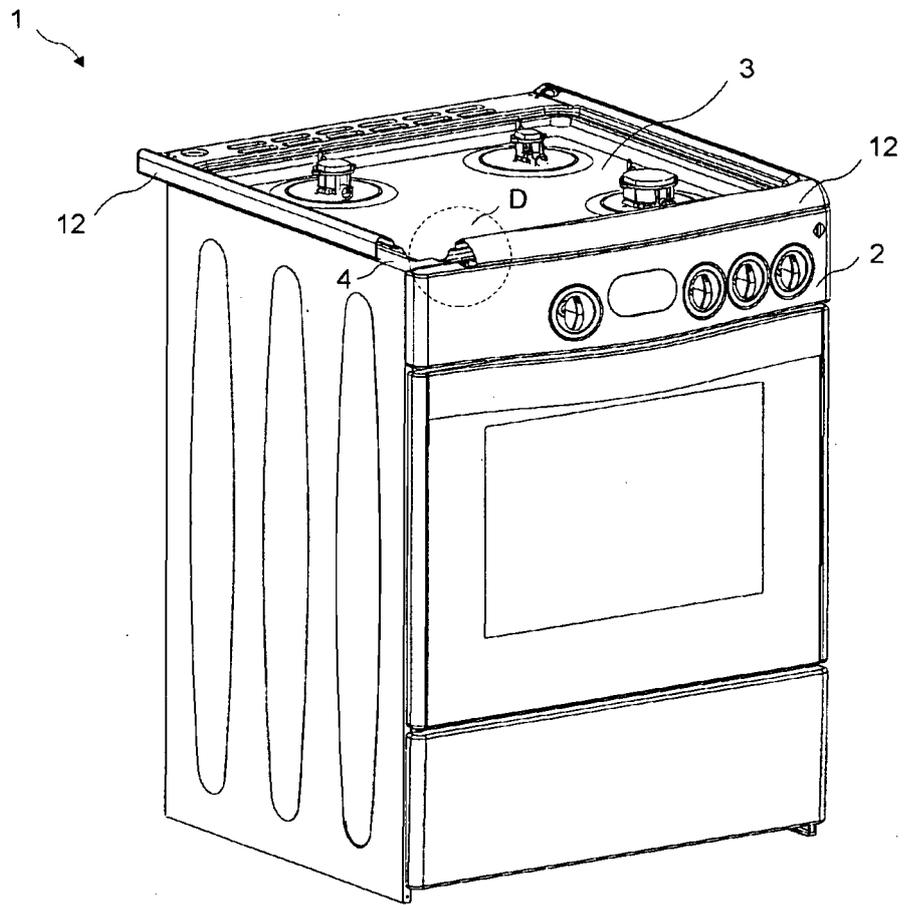


Figure 3

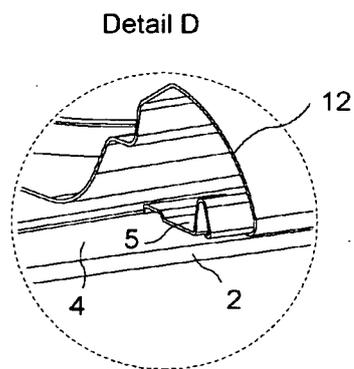


Figure 4

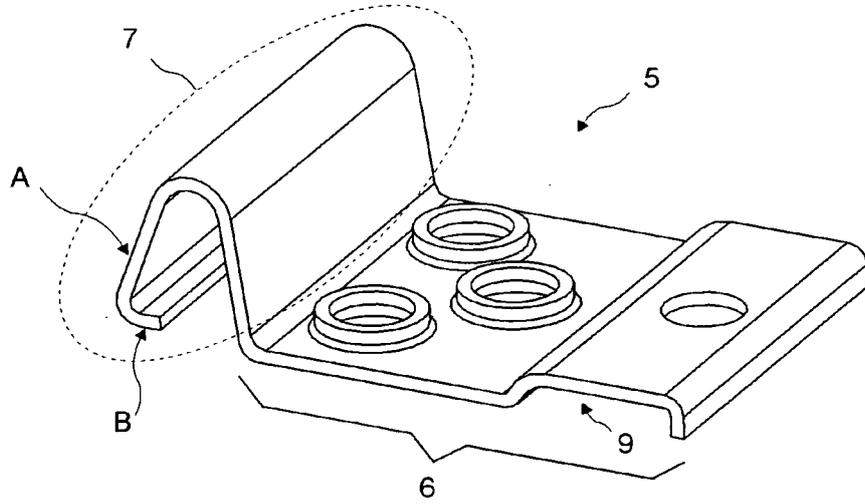


Figure 5

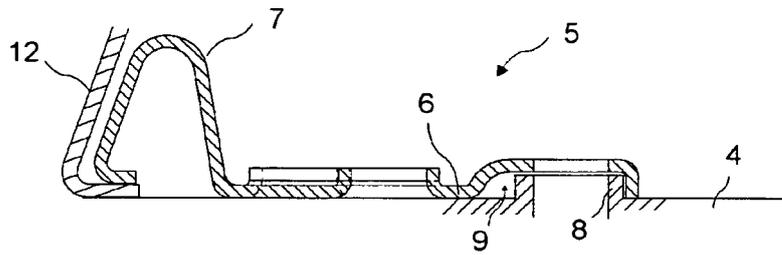


Figure 6

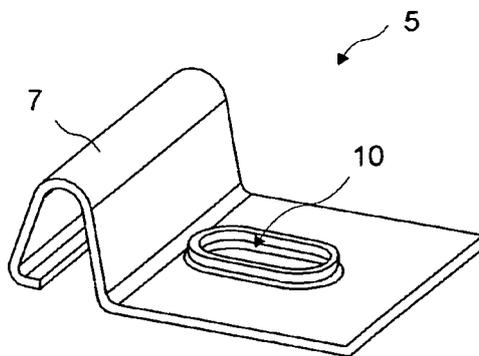


Figure 7

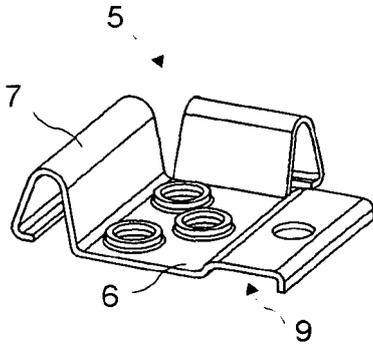


Figure 8

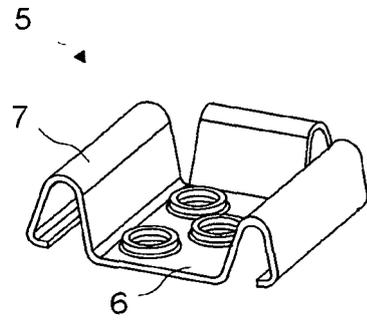
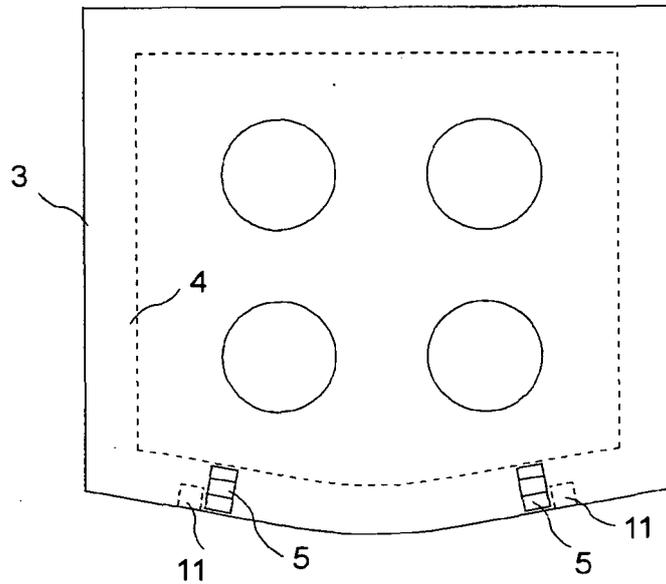


Figure 9



**REFERENCES CITED IN THE DESCRIPTION**

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