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(54) AN OVEN WITH TELESCOPIC RAILS

BACKOFEN MIT TELESKOPSCHIENE

FOUR AVEC RAILS TÉLESCOPIQUES

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Description

[0001] The present invention relates to an oven that comprises telescopic rails whereon the trays are placed.

[0002] In ovens, the trays, whereon the foods to be cooked are placed, are supported by various methods inside the oven casing surrounding the cooking cavity. For example, the trays are carried by being placed on protrusions on the casing side walls that extend inwards or on tray carrying units mounted on the side walls of the casing. Moreover, in the known state of the art, telescopic rails (6') are used in the tray carrying units mounted on the side walls of the oven casing for convenience of the user. The trays (2') placed on the telescopic rails (6') should not slide on the rails (6') and therefore stopper pins (12') are used at the front and back sides of the rail (Figure 1). The stopper pins (12') prevent the tray (2') from sliding on the rails (6') backward and forward and sideways. In order to prevent the tray (2') from sliding on the rails (6'), holes (P) are drilled on the edges of the tray (2') whereto the stopper pins (12') on the rails (6') are fitted and thus the trays (2') are prevented from sliding on the rails (6'). Drilling holes on the tray (2') is an unwanted situation and enamel peelings, burrs and accumulations of oil, dust are seen particularly on the sides of the holes (P) since the trays (2') are coated with enamel, moreover ease of usage cannot be provided since the user has to place the tray (2') on the rail (6') by aligning oppositely the hole (P) and the stopper pin (12') on the rail (6').

[0003] In the state of the art international patent application no WO2005003636, a sliding shelf system in an oven is explained. The tray is prevented from sliding on the rail by means of pin fitted to an opening on the side of the oven tray.

[0004] European Patent Application EP 1 344 985 A1 describes an oven that comprises two baking trays having lateral regions, a cooking cavity wherein the trays are placed and more than one rail whereon the trays are disposed, enabling the trays to be taken out by being pulled. There are stoppers fixed to the rails that remain under the lateral region when the tray is placed on the rail, wherein the lateral regions are supported by the stoppers.

[0005] The aim of the present invention is the realization of an oven wherein the trays can be easily placed on the telescopic rails.

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

[0007] In the oven of the present invention the trays are carried by telescopic rails, and stoppers such as cylindrical pins secured on the rails are used so that the trays do not slide on the telescopic rail, especially when the rails are pulled out from the oven.

[0008] A bent portion rounded in cross section is provided on the lateral edges of the tray seated on the rails and when the tray is placed on the rail, the stopper pin bears against at least some portion of the edge end of the bent portion thereby preventing the tray from sliding. The stopper is concealed under the lateral edge of the tray and cannot be seen by the user when the tray is placed on the rail. Drilling a hole on the lateral edge of the tray for the pin to pass therethrough is not necessary by means of the pin concealed under the tray edge and leaning against the bent portion.

[0009] In an embodiment of the present invention, the bent portion of the tray is shaped semi-circularly in cross section and the height of the stopper is smaller than the diameter of the bent portion.

[0010] In another embodiment of the present invention, stopper housings are provided in the tray, formed by partially cutting-out the edge end of the bent portion with the sides thereof leaning against the stopper. The sides of the stopper housings serve as a guide for the user while placing the tray on the rail, making it easier for the user to align the tray with the stoppers.

[0011] In another embodiment of the present invention, four curvilinear sided stopper housings are provided in the tray, formed on the bent portions at the front and back sides of the two lateral edges which extend to the stoppers from the front and back sides of the tray and partially surround the stoppers from the inside when the tray is placed on the rail. In this embodiment, the centering of the tray on the rails at the right and left sides are improved, and the sliding of the tray on the rails in the sideways and backwards, forwards directions is almost entirely prevented.

[0012] The oven realized in order to attain the aim of the present invention is illustrated in the attached figures, where:

Figure 1 - is the detailed perspective view of an oven tray, a telescopic rail and a stopper in the prior art.
Figure 2 - is the perspective view of an oven with a tray emplaced therein.
Figure 3 - is the detailed cross-sectional view of an oven tray leaning against a stopper on a telescopic rail.
Figure 4 - is the detailed perspective view of an oven tray, a telescopic rail and a stopper in the embodiment of the present invention.
Figure 5 - is the detailed cross-sectional view of an oven tray, a stopper and a stopper housing whereof the edges partially surround the stopper in the embodiment of the present invention.
Figure 6 - is the top schematic view of an oven tray seated on the stoppers at the telescopic rails in an embodiment of the present invention.

[0013] The elements illustrated in the drawings are numbered as follows:

1. Oven
2. Tray
3. Cooking cavity
4. Side wall

5. Casing
6. Rail
7. Base
8. Wall
9. Lateral edge
10. Bent portion
11. Edge end
12. Stopper
13. Stopper housing

[0014] The oven (1) comprises one or more trays (2) whereon the foods to be cooked are placed, a cooking cavity (3) wherein the trays (2) are emplaced, a casing (5) surrounding the cooking cavity (3), having a top wall, a bottom wall, a rear wall and two side walls (4), and more than one rail (6) with telescopic features mounted on the inner side of the side wall (4) facing the cooking cavity (3), whereon the tray (2) is disposed and enabling the tray (2) to be taken out of the casing (5) by pulling horizontally.

[0015] The tray (2) comprises a base (7), a wall (8) that surrounds the base (7), two lateral edges (9) that extend horizontally to the left and right from the upper side of the wall (8) and which are seated on the rails (6), a bent portion (10) rounded in cross section, formed by bending the lateral edge (9) downwards, extending towards the wall (8) and an edge end (11) arranged at the end of the bent portion (10) and extending below the lateral edge (9) (Figure 3).

[0016] The oven (1) of the present invention comprises:

- one or more stoppers (12) fixed on the rail (6),
- which remains under the lateral edge (9) when the tray (2) is placed on the rail (6),
- extending between the bent portion (10) and the wall (8), from the upper surface of the rail (6) towards the lower surface of the lateral edge (9) and
- leaning against at least some portion of the edge end (11) of the bent portion (10) (Figure 3).

[0017] The stopper (12) is concealed by remaining under the lateral edge (9) when the tray (2) is placed on the rail (6) and is not seen by the user. The stopper (12) limits the sliding motion of the tray (2) on the rail (6) in the horizontal direction when the tray (2) is placed on the rail (6).

[0018] Preferably a cylindrical pin is used as the stopper (12) element which is mounted on the rail (6) by welding, screwing etc. methods. When the tray (2) is placed on the rail (6), the side surface of the stopper (12) bears against the edge end (11) of the bent portion (10) and thus prevents the tray (2) from sliding sideways on the rail (6).

[0019] The stopper (12) furthermore prevents the wall (8) from hitting the rail (6) and the enamel damages in the tray (2) while the user places the tray (2) in the cooking cavity (3). Moreover, the tray (2) can be produced with the wider base (7) by keeping the distance (L) between the wall (8) and the rail (6) at minimum and thereby the food carrying area of the tray (2) can be increased (Figure 3).

[0020] In an embodiment of the present invention, the cross section of the bent portion (10) is shaped semi-circularly and the height (H) of the stopper (12) is smaller than the diameter (D) of the bent portion (10) (Figure 3).

[0021] In an embodiment of the present invention, the tray (2) comprises one or more stopper housings (13), formed by partially cutting-out the edge end (11) of the bent portion (10) whereto the stopper (12) bears against and enables the edge end (11) of the bent portion (10) to bear against the stopper (12) by partially surrounding the stopper (12) (Figures 5, 6).

[0022] The edge end (11) of the bent portion (10) bears against the stopper (12) by partially surrounding the stopper (12) by means of the stopper housing (13) and thus the tray (2) is prevented from sliding on the rails (6) in both sideways and also forward and backward directions (Figures 5, 6).

[0023] The sides of the stopper housing (13) serve as a guide for the user in aligning the tray (2) with the stoppers (12) while the tray (2) is being placed on the rail (6) and makes it easier for the user to place the tray (2) in the stoppers (12) on the rail (6).

[0024] In an embodiment of the present invention, the tray (2) comprises four curvilinear sided stopper housings (13) formed on the bent portions (10) at the front and back sides of the two lateral edges (9), which extend to the stoppers (12) from the front and back sides of the tray (2) and partially surround the stoppers (12) from the inside when the tray (2) is placed on the rail (6). In this embodiment, the centering of the tray (2) on the rails (6) at the right and left sides is improved, the sliding of the tray (2) on the rails (6) in the sideways and backwards, forwards directions is almost entirely prevented.

[0025] In the oven (1) of the present invention, when the rails (6) are pulled out of the cooking cavity (3), particularly when the tray (2) is on them, the trays (2) are prevented from falling off the rails (6) by sliding and it is not necessary to drill holes on the lateral edge (9) of the tray (2) for fitting to the stopper (12). The wall (8) is prevented from hitting the rails (6) while the tray (2) is being placed and the food carrying area of the tray (2) is enabled to be increased.

[0026] It is to be understood that the present invention is not limited by the embodiments disclosed above and a person skilled in the art can easily introduce different embodiments. These should be considered within the scope of the protection postulated by the claims of the present invention.

Claims

1. An oven (1) that comprises

- one or more trays (2);
- a cooking cavity (3) wherein the trays (2) are placed;
- a casing (5) surrounding the cooking cavity (3) and having two side walls (4);
- more than one rail (6) mounted on the inner side of the respective side walls (4) facing the cooking cavity (3), whereon said trays (2) are disposed, enabling the trays (2) to be taken out of the casing (5) by being pulled horizontally;
- one or more stoppers (12) fixed on said rails (6);

said trays having a base (7) whereon the foods to be cooked are placed, a wall (8) that surrounds the base (7), two lateral edges (9) that extend horizontally from the respective opposite upper sides of said wall (8) and a bent portion (10) rounded in cross section, formed by bending the lateral edge (9) downwards and extending towards the wall (8), and an edge end (11) at the end of the bent portion (10) extending below the lateral edge (9),
whereby said stoppers (12) remain under the respective lateral edges (9) when the tray (2) is placed on the rail (6), extending between the bent portion (10) and the wall (8), from the upper surface of the rail (6) towards the lower surface of the lateral edge (9) and bearing against at least some portion of the end (11) of the bent portion (10).

2. The oven (1) as in Claim 1, **characterized by** the bent portion (10) having a semi-circular cross section and the height (H) of the stopper (12) being smaller than the diameter (D) of the bent portion (10).

3. The oven (1) as in Claims 1 or 2, **characterized by** the tray (2) comprising one or more stopper housings (13), formed by partially cutting-out the end (11) of the bent portion (10) whereto the stopper (12) bears against and enabling the end (11) of the bent portion (10) to bear against the stopper (12) by partially surrounding the stopper (12).

4. The oven (1) as in Claim 3, **characterized by** the tray (2) comprising the stopper housing (13), whereof the sides serve as a guide for the user in aligning the tray (2) with the stoppers (12) while the tray (2) is being placed on the rail (6).

5. The oven (1) as in Claims 3 or 4, **characterized by** the tray (2) comprising four curvilinear sided stopper housings (13) formed on the bent portions (10) at the front side and back side of the two lateral edges (9) and extending to the stoppers (12) from the front and back sides of the tray (2) and partially surrounding the stoppers (12) from the inside when the tray (2) is placed on the rail (6).

Patentansprüche

1. Ein Backofen (1) bestehend aus

- einem oder mehreren Serviertabletten (2);
- einem Kochraum (3), wo die Serviertabletten (2) hingelegt werden;
- einem Gehäuse (5), das den Kochraum (3) umgibt und zwei Seitenwände (4) besitzt;
- mehr als einer Schiene (6) einmontiert auf die Innerseite der betreffenden Seitenwände (4), die dem Kochraum (3) gegenübersteht, wo die besagten Schienen (2) angeordnet sind, ermöglicht, daß die Schienen (2) durch horizontale Ziehung aus dem Gehäuse (5) herausgenommen werden;
- einem oder mehreren Verschlüsse (12), die auf den besagten Schienen (6) befestigt sind;

besagte Schienen ein Fundament (7) haben, wo die Nahrungsmittel zum Kochen hingelegt werden, einer Wand (8), die das Fundament (7) umgibt, zwei seitliche Kanten (9), die sich horizontal von den betreffenden gegenseitigen Oberseiten der besagten Wand (8) erstrecken und ein gekrümmter Teil (10) abgerundet in Querschnitt, die geformt ist durch Krümmung der seitlichen Kanten (9) abwärts und erstreckt sich auf die Wand (8), und einem Seitenende (11) am Ende des gekrümmten Teils (10), das sich unter die seitliche Kante (9) erstreckt,
wo die besagten Verschlüsse (12) unter den betreffenden seitlichen Kanten (9) zurückbleiben, wenn das Serviertablett (2) auf die Schiene (6) hingelegt ist, erstreckt sich zwischen dem gekrümmten Teil (10) und der Wand (8), von der Oberfläche der Schiene (6) zur Unterfläche der seitlichen Kante (9) und mindestens einen bestimmten Teil vom Ende (11) des gekrümmten Teils (10) austrägt.

2. Der Backofen (1) nach Anspruch 1, **gekennzeichnet durch** gekrümmtes Teil (10) mit einem halbzirkularen Querschnitt und wobei die Höhe (H) des Verschlusses (12) kleiner als das Durchmesser (D) des gekrümmten Teil (10) ist.

3. Der Backofen (1) nach Ansprüche 1 oder 2, **gekennzeichnet durch** das Serviertablett (2) bestehend aus einem oder mehreren Verschlussgehäusen (13), geformt durch partielles Ausschneiden vom Ende (11) des gekrümmten Teils (10), wobei der Verschluss (12) presst dagegen und ermöglicht, daß das Ende (11) des gekrümmten Teils (10) gegen den Verschluss (12) presst durch partielle Umfassung des Verschlusses (12).

4. Der Backofen (1) nach Anspruch 3, **gekennzeichnet durch** das Serviertablett (2) bestehend aus Verschlussgehäuse (13), wobei die Seiten als ein Führer

für den Benutzer in Bringung das Serviertablett (2) mit Verschlüsse (12) in eine Linie bedient, wenn das Serviertablett (2) auf die Schiene (6) hingelegt ist.

5. Der Backofen (1) nach Ansprüche 3 oder 4, **gekennzeichnet durch** das Serviertablett (2) bestehend aus vier kurvenförmig seitigen Verschlussgehäusen (13), geformt auf gekrümmten Teile (10) an der Vorderseite und Hinterseite der zwei lateralen Seiten (9) und erstreckt sich zum Verschluss (12) von Vorder- und Hinterseiten des Serviertabletts (2) und partiell umfasst die Verschlüsse (12) vom Innern, wenn das Serviertablett (2) auf die Schiene (6) hingelegt ist.

Revendications

1. Un four (1) qui comprend

- un ou plusieurs plateaux (2);
- une cavité de cuisson (3) dans laquelle les plateaux (2) sont placés;
- un boîtier (5) entourant la cavité de cuisson (3) et comportant deux parois latérales (4);
- plus d'un rail (6) monté sur le côté intérieur des parois latérales respectives (4) faisant face à la cavité de cuisson (3), sur laquelle lesdits plateaux (2) sont disposés, permettant de retirer les plateaux (2) du boîtier (5) en étant tiré horizontalement;
- un ou plusieurs bouchons (12) fixés sur lesdits rails (6);

lesdits plateaux ayant une base (7) sur lesquels sont placés les aliments à cuire, une paroi (8) qui entoure la base (7), deux bords latéraux (9) qui s'étendent horizontalement à partir des côtés supérieurs opposés respectifs de ladite paroi (8) et une partie courbée (10) arrondie en coupe transversale, formée en pliant le bord latéral (9) vers le bas et allongant vers la paroi (8), et une extrémité de bord (11) à l'extrémité de la partie courbée (10) s'étendant dessous du bord latéral (9),
selon le quel lesdits bouchons (12) restent sous les bords latéraux respectifs (9) lorsque le plateau (2) est placé sur le rail (6), s'étendant entre la partie courbée (10) et la paroi (8) depuis la surface supérieure du rail (6) vers la surface inférieure du bord latéral (9) et portant contre au moins une partie de l'extrémité (11) de la partie courbée (10).

2. Four (1) selon la revendication 1, **caractérisé par** la partie courbée (10) ayant une section transversale semi-circulaire et la hauteur (H) du bouchon (12) étant inférieure au diamètre (D) de la partie courbée (10).

3. Four (1) selon la revendication 1 ou 2, **caractérisé par** le plateau (2) comprenant un ou plusieurs boîtiers de bouchon (13) formés en coupant partiellement l'extrémité (11) de la partie courbée (10) vers laquelle le bouchon (12) s'appuie et permet à l'extrémité (11) de la partie courbée (10) de venir en appui contre le bouchon (12) en entourant partiellement le bouchon (12).

4. Four (1) selon la revendication 3, **caractérisé par** le plateau (2) comprenant le boîtier de bouchon (13) dont les côtés servent de guide pour l'utilisateur en alignant le plateau (2) avec les bouchons (12) tandis que le plateau (2) est placé sur le rail (6).

5. Four (1) selon la revendication 3 ou 4, **caractérisé par** le plateau (2) comprenant quatre boîtiers de bouchon (13) à paroi curviligne formés sur les parties courbées (10) du côté avant et arrière des deux bords latéraux (9) et s'étendant vers les bouchons (12) des côtés avant et arrière du plateau (2) et entourant partiellement les bouchons (12) de l'intérieur lorsque le plateau (2) est placé sur le rail (6).

Figure 1

PRIOR ART

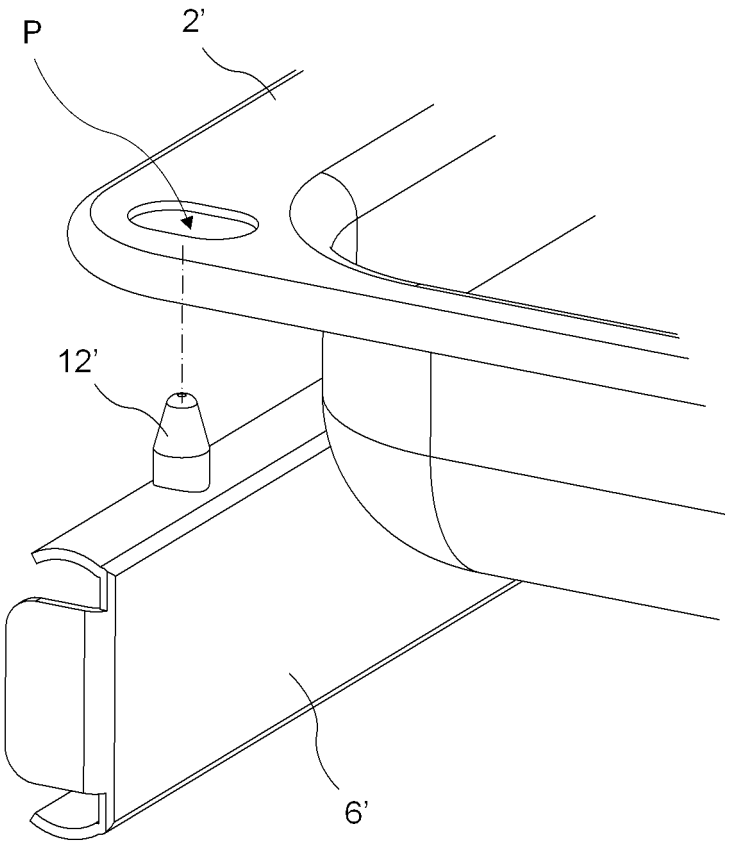


Figure 2

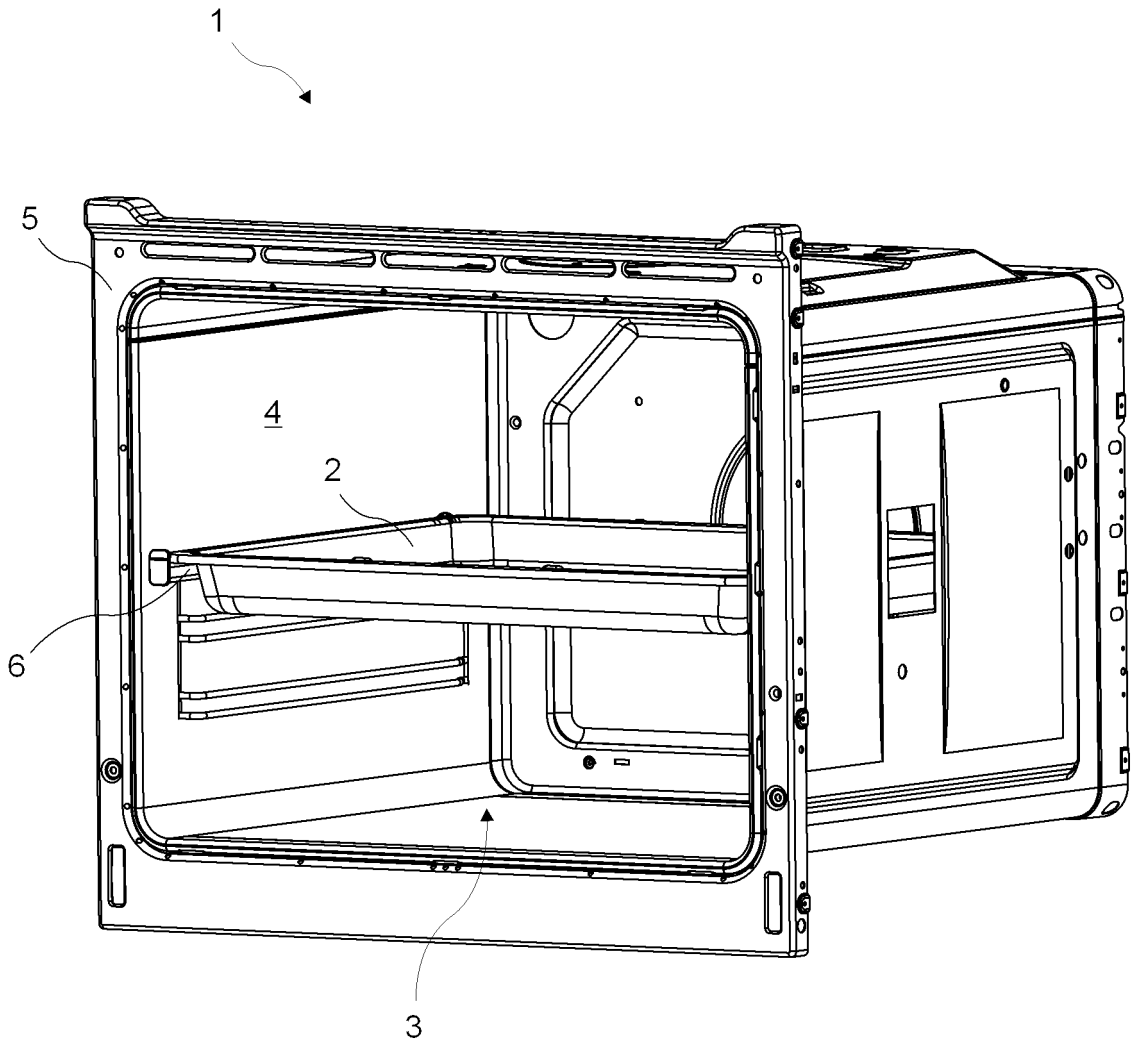


Figure 3

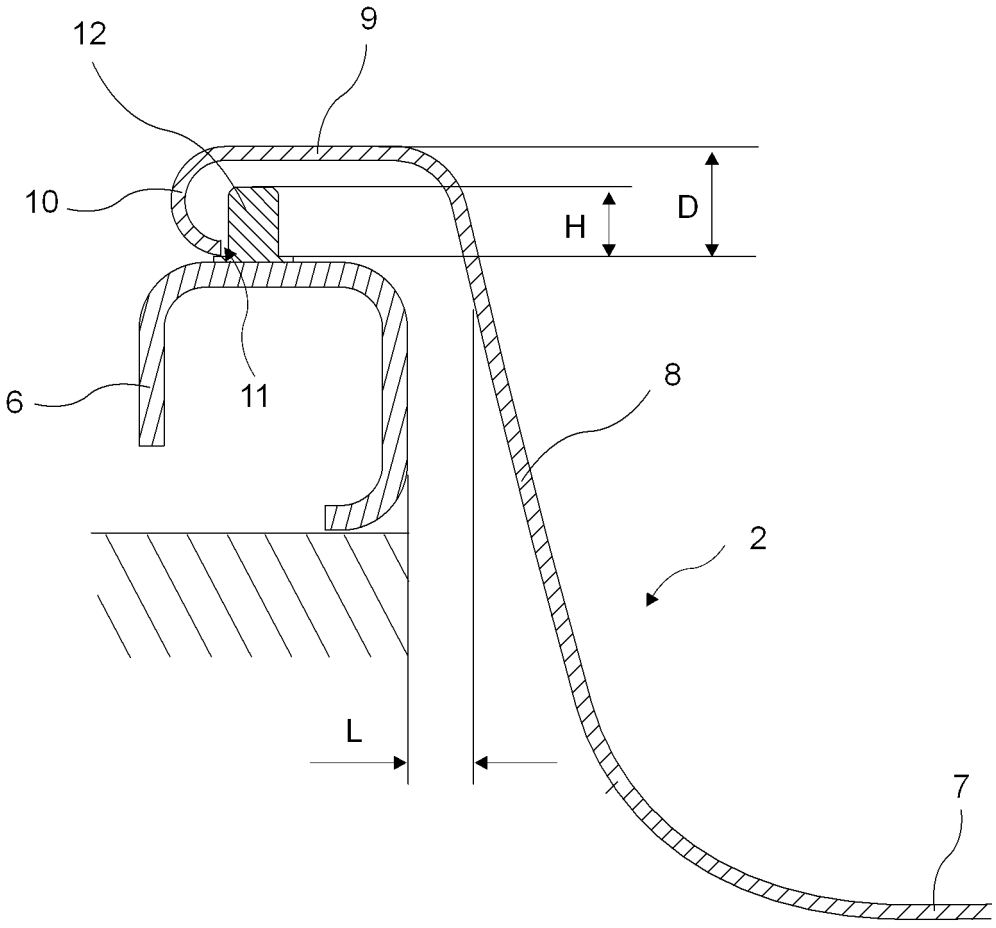


Figure 4

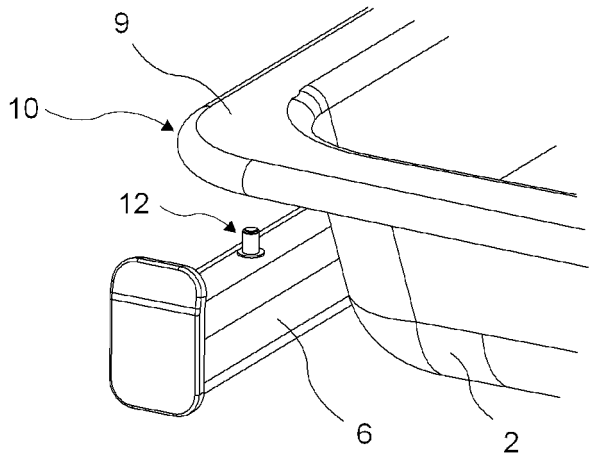


Figure 5

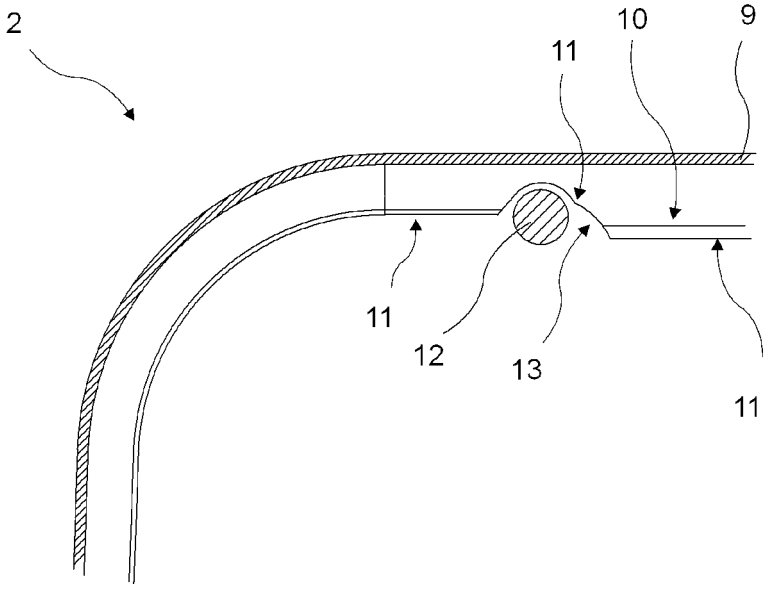
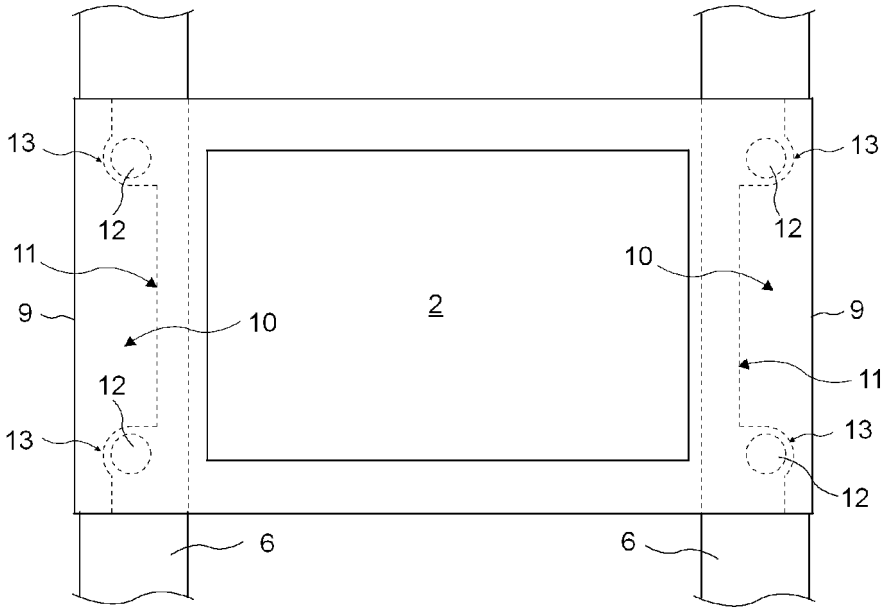


Figure 6



REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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- EP 1344985 A1 **[0004]**