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- (71) **Applicant (for all designated States except US):** ARCE-
LIK ANONIM SIRKETI [TR/TR]; E5 Ankara Asfalti
Uzeri, Tuzla, 34950 Istanbul (TR).
- (72) **Inventors; and**
- (75) **Inventors/Applicants (for US only):** GOCER, Sadiye
[TR/TR]; E5 Ankara Asfalti Uzeri, Tuzla, 34950 Istanbul
(TR). KARAER, Erol [TR/TR]; E5 Ankara Asfalti Uzeri,
Tuzla, 34950 Istanbul (TR).
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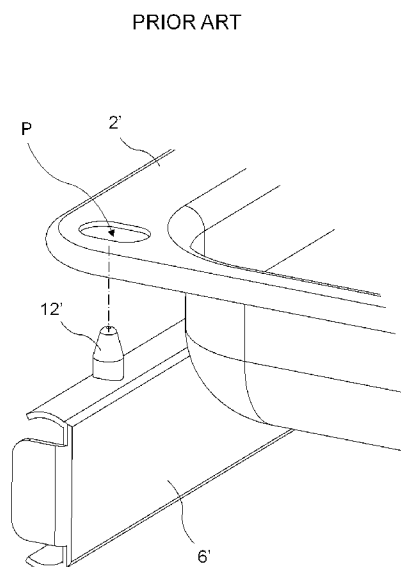
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(54) **Title:** AN OVEN WITH TELESCOPIC RAILS

Figure 1



(57) **Abstract:** The present invention relates to an oven (1) that comprises a cooking cavity (3) wherein the trays (2) are placed, a casing (5) having two side walls (4) surrounding the cooking cavity (3), more than one rail (6) with telescopic properties, 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 being pulled horizontally and stoppers (12) on the rail (6) for enabling the trays (2) not to slide on the rail (6).

Description**AN OVEN WITH TELESCOPIC RAILS**

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

[0005] The oven realized in order to attain the aim of the present invention is explicated in the claims.

[0006] 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.

- [0007] 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.
- [0008] 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.
- [0009] 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.
- [0010] 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.
- [0011] The oven realized in order to attain the aim of the present invention is illustrated in the attached figures, where:
- [0012] Figure 1 – is the detailed perspective view of an oven tray, a telescopic rail and a stopper in the prior art.
- [0013] Figure 2 – is the perspective view of an oven with a tray emplaced therein.
- [0014] Figure 3 – is the detailed cross-sectional view of an oven tray leaning

against a stopper on a telescopic rail.

[0015] Figure 4 – is the detailed perspective view of an oven tray, a telescopic rail and a stopper in the embodiment of the present invention.

[0016] 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.

[0017] 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.

[0018] 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

[0019] 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.

[0020] 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).

[0021] 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).

[0022] 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).

[0023] 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).

[0024] 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).

[0025] 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).

[0026] 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).

[0027] 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).

[0028] 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).

[0029] 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.

[0030] 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.

[0031] 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) 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 to the left and right from the upper side of the wall (8) and 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), extending below the lateral edge (9), a cooking cavity (3) wherein the trays (2) are emplaced, 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 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 being pulled horizontally, **and characterized by** 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).
2. An oven (1) as in Claim 1, **characterized by** the bent portion (10) with a cross section shaped semi-circularly and the stopper (12) the height (H) of which is smaller than the diameter (D) of the bent portion (10).
3. An 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 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).
4. An 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. An 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 that 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).

Figure 1

PRIOR ART

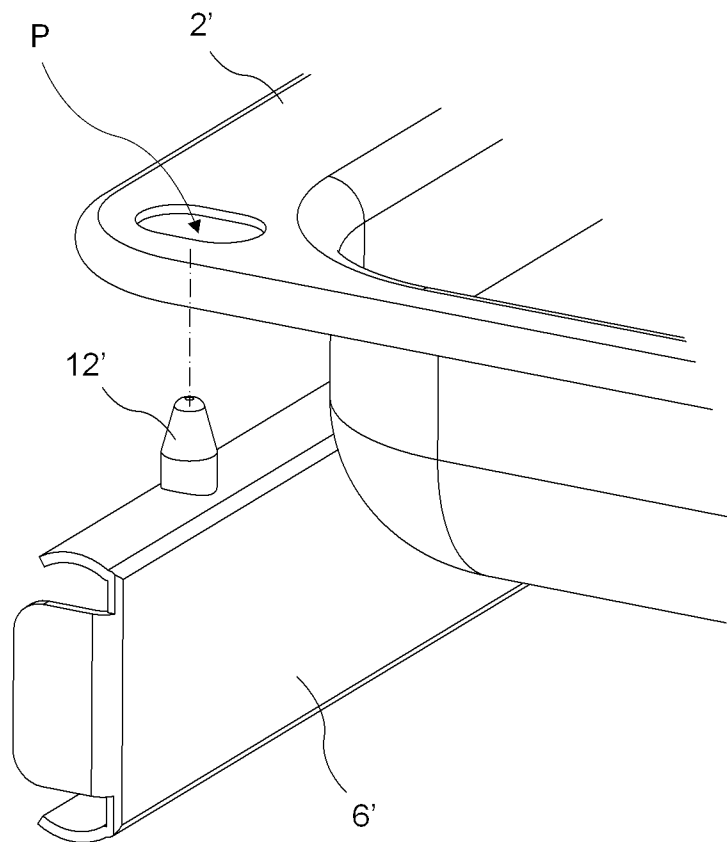


Figure 2

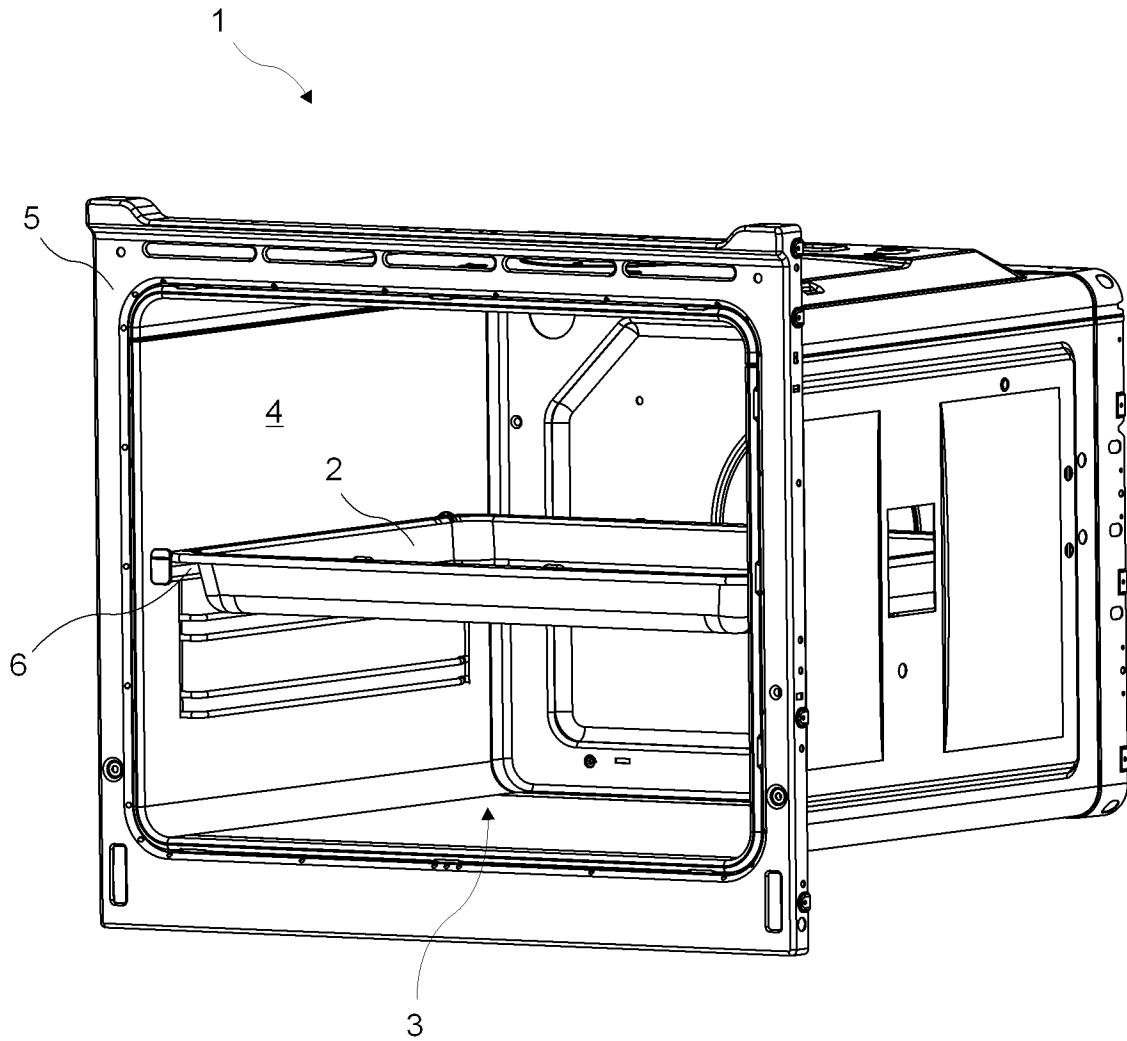


Figure 3

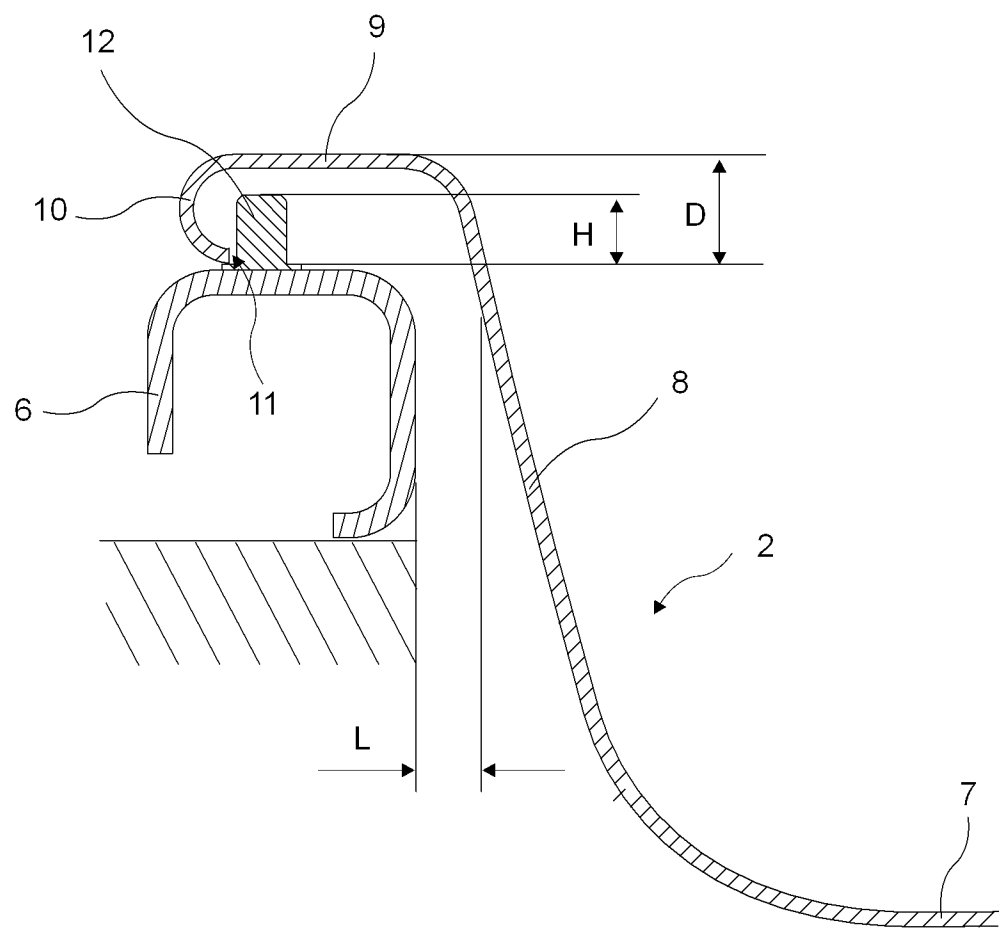


Figure 4

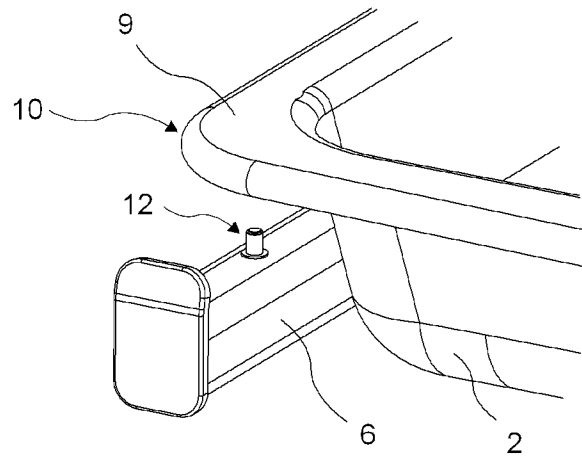


Figure 5

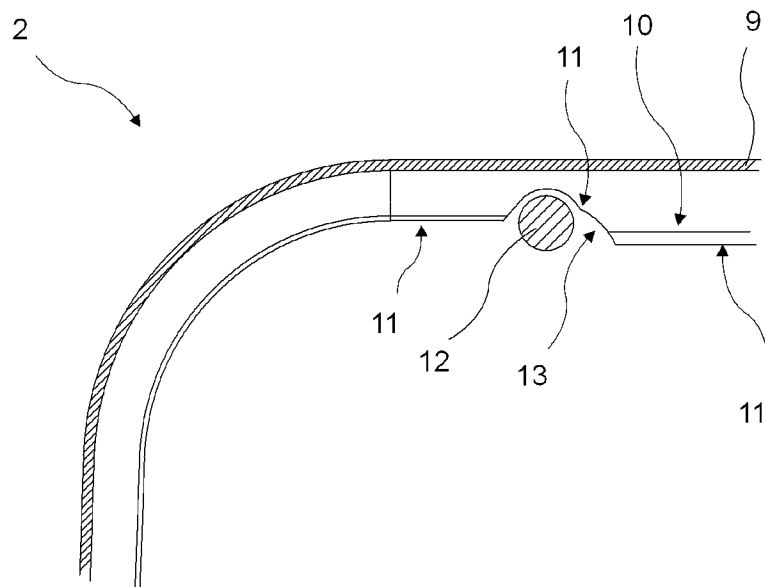


Figure 6

