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(54) **OVEN FOR COOKING FOOD**

(57) An oven (1) for cooking food has a support structure (2) comprising a casing (6); a muffle (3) arranged within the casing (6) and configured to form a cooking chamber (4) within the muffle and a cavity between the muffle and the casing (6); a frame (5) arranged around the muffle (4) and the casing (6) and attached to the muffle (3) and the casing (6); and at least one housing ar-

ranged in the cavity and comprising a guide mounted on the support structure (2) and a drawer (21, 31) sliding within the guide between an extracted position in which it protrudes from the frame (5) through an opening of the frame (5) and an inserted position in which the drawer (21, 31) is contained within the cavity.

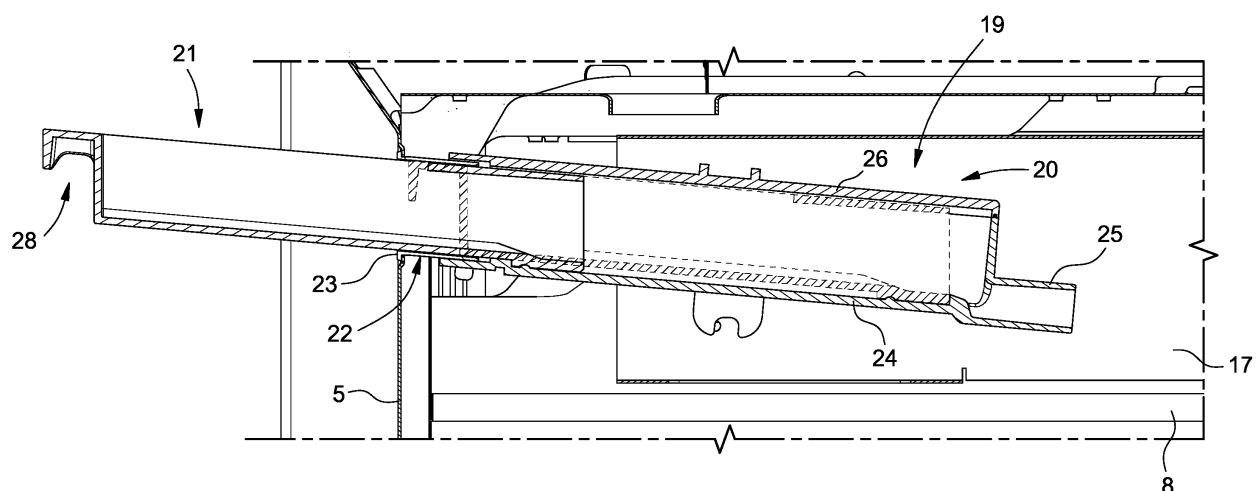


FIG. 3

Description

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This patent application claims priority from Italian patent application no. 102022000003089 filed on February 18, 2022, the entire disclosure of which is incorporated herein by reference.

TECHNICAL FIELD

[0002] The present invention relates to an oven for cooking food.

BACKGROUND

[0003] Generally, an oven for cooking food comprises a support structure, a muffle, a frame arranged around the muffle, and a drop-down door, which is hinged to the support structure at the base thereof and comprises an edge suitable to be housed in the frame and arranged in contact with the frame to produce a hermetic closure.

[0004] Ovens for cooking food have progressively evolved over the years, integrating new functions and cooking methods. On the one hand, many ovens integrate steam cooking and the so called conventional cooking. These ovens comprise a boiler that generates steam, pipes for supplying water to the boiler and further pipes for supplying steam to the muffle. The water is generally supplied from the front face of the oven through special manifolds or other supply devices that influence or compromise the aesthetic design of the oven itself.

[0005] On the other hand, ovens have been enhanced by instruments for monitoring the state of cooking, such as instruments for detecting the internal temperature of foods. An instrument of this type comprises a probe that is inserted into the food to detect the internal temperature, provided with a connector and a cable that connects the probe to the connector that is connected to the oven, which shows the temperature detected on a display. This instrument cannot be completely integrated into the oven for obvious reasons and, therefore, it is used infrequently.

SUMMARY

[0006] The object of the present invention is to overcome at least one of the aforesaid drawbacks in a simple and economical manner.

[0007] In accordance with the present invention, an oven for cooking food is provided, the oven comprising:

- a support structure comprising a casing;
- a muffle arranged within the casing and configured to form a cooking chamber within the muffle and a cavity between the muffle and the casing;
- a frame arranged around the muffle and the casing and attached to the muffle and the casing; and
- at least one housing arranged in said cavity and com-

prising a guide mounted on the support structure and a drawer sliding within said guide between an extracted position in which it protrudes from the frame through an opening of the frame and an inserted position in which the drawer is contained within the cavity.

[0008] In this way, it is possible to produce housings integrated in the oven that are not visible from the outside and that therefore do not alter or influence the aesthetic design of the oven, exploiting the space provided by the cavity having the function of thermally insulating the muffle.

[0009] In particular, the oven comprises an annular insert partly inserted into the opening of the frame and comprising a flange arranged abutting against the outer face of the frame.

[0010] In particular, the muffle comprises a top wall and two side walls, said guide being arranged at one of said side walls and in proximity to the top wall.

[0011] In particular, said guide is inclined downwards from said frame.

[0012] This configuration is particularly useful for supplying water in a steam oven.

[0013] In particular, said guide comprises a rigid sheath that also has the function of protecting the content of the drawer.

[0014] In accordance with the present invention, the support structure comprises a bracket arranged in said cavity to support the sheath. In other words, the sheath is not supported either by the muffle or by the casing.

[0015] In particular, the sheath comprises a channel provided with a fitting for a pipe for conveying a liquid; said fitting is arranged in the lowest part of the channel, which is made of plastic material, in particular forming one piece together with the fitting.

[0016] This embodiment is particularly suitable for supplying water to a boiler for generating steam.

[0017] In accordance with a different embodiment, the sheath comprises the bracket and a profile coupled to the bracket.

[0018] In particular, the drawer is shaped as a tray, in particular the tray comprises a recess for allowing gripping to extract the drawer. In practice, the recess is obtained at the free end of the drawer and is arranged under the drawer and allows the insertion of a finger for easy extraction of the drawer from the cavity.

[0019] In particular, the oven comprises at least two housings arranged at opposite sides of the muffle.

[0020] In this way, it is possible to house both the drawer for supplying water for the boiler, and the drawer in which to place the instrument for detecting the internal temperature of foods or any other small instruments that cannot be integrated into the oven.

BRIEF DESCRIPTION OF THE DRAWINGS

[0021] Further features and advantages of the present

invention will be clear from the following description of a non-limiting example of embodiment thereof, with reference to the figures of the accompanying drawings, wherein:

- Fig. 1 is a perspective view, with parts removed for clarity, of an oven for cooking food produced in accordance with the present invention;
- Fig. 2 is a perspective view, with further parts removed for clarity, of the oven of Fig. 1;
- Fig. 3 is a sectional view, with parts removed for clarity and in an enlarged scale, of a detail of the oven of Fig. 1 according to the section lines III-III;
- Fig. 4 is a sectional view, with parts removed for clarity and in an enlarged scale, of a further detail of the oven of the Fig. 1 according to the section lines IV-IV; and
- Fig. 5 is a sectional view, with parts removed for clarity and in a further enlarged scale, of a part of the detail of Fig. 4 according to the section lines V-V.

DESCRIPTION OF EMBODIMENTS

[0022] In Fig. 1 the reference number 1 indicates an oven for cooking food. The oven 1 comprises a support structure 2, a muffle 3, which is housed in the support structure 2 and defines a cooking chamber 4, and a frame 5 arranged around the muffle 3 and connected to the support structure 2 and to the muffle 3.

[0023] The oven 1 has a drop-down door (not illustrated in the accompanying figures) hinged to the base of the support structure 2 to close the cooking chamber 4.

[0024] With reference to Fig. 2, in the present case the support structure 2 comprises an open casing 6, which comprises a top wall 7, two side walls 8 and 9, a bottom wall 10 and a back wall (not illustrated in the accompanying figures).

[0025] With reference to Fig. 2, the muffle 3 has substantially the same shape as the casing 6 but is smaller in size than the casing 6 and comprises a top wall 12, two side walls 13 and 14, a bottom wall 15, and a back wall 16.

[0026] The support structure 2 and the muffle 3 are spaced from one another so as to form a closed cavity to thermally insulate the cooking chamber 4 and the muffle 3. With reference to Fig. 1, the frame 5 is connected to the muffle 3 and to the casing 6 and closes the cavity at the front face.

[0027] The support structure 2 comprises two stiffening brackets 17 (Fig. 3) and 18 (Fig. 4) arranged in the cavity: the bracket 17 is arranged between the side walls 8 and 13 (Fig. 2), of the casing 6 and of the muffle 3 respectively, while the bracket 18 is arranged between the walls 9 and 14 (Fig. 2), of the casing 6 and of the muffle 3 respectively.

[0028] The oven 1 comprises a housing 19 arranged in the cavity between the side walls 8 and 13.

[0029] With reference to the figure, the housing 19

comprises a guide 20 mounted on the support structure 2, in the present case on the bracket 17, and a drawer 21 sliding within the guide 20 between an extracted position in which it protrudes from the frame 5 through an opening of the frame 5 and an inserted position (illustrated with dashed lines in Fig. 3) in which the drawer 21 is completely contained within the cavity.

[0030] The oven 1 comprises an annular insert 22 partly inserted into the opening of the frame 5 and comprising a flange 23 arranged abutting against the outer face of the frame 5.

[0031] The guide 20 is inclined downwards from the frame 5 and comprises a rigid sheath mounted on the bracket 17. The sheath comprises a channel 24 provided with a fitting 25, which is configured to be connected to a pipe, not illustrated in the accompanying figures, for conveying a liquid, and is arranged in the lowest part of the channel 24.

[0032] The sheath comprises a top portion 26 that closes the channel 24.

[0033] The drawer 21 is shaped as a tray, which is slidably coupled to the sheath and to the annular insert 22. The drawer 21 and the channel 24 are shaped so as to define a stop to prevent complete extraction of the drawer 21 and define a stable position for the inserted drawer 21 and a stable position for the extracted drawer 21. The drawer 21 comprises a recess 28 for allowing an operator to insert a finger in order to extract the drawer 21.

[0034] With reference to Fig. 4, the oven 1 comprises a housing 29 arranged in the cavity between the side walls 9 and 14 (Fig. 2). The housing 29 comprises a guide 30 mounted on the support structure 2, in the present case on the bracket 18, and a drawer 31 sliding within the guide 30 between an extracted position in which it protrudes from the frame 5 through an opening of the frame 5 and an inserted position (illustrated with dashed lines in Fig. 3) in which the drawer 31 is completely contained within the cavity.

[0035] The oven 1 comprises an annular insert 32 partly inserted into the opening of the frame 5 and comprising a flange 33 arranged abutting against the outer face of the frame 5.

[0036] The guide 30 is inclined downwards from the frame 5 and comprises a rigid sheath mounted on the bracket 18. The sheath comprises the bracket 18 and a profile 35 coupled to the bracket 18 and by a wing 36, which is a portion of the bracket 18 bent into an L-shape relative to the main face of the bracket 18.

[0037] The drawer 31 is configured to house an instrument 36 for detecting the temperature and has a recess 38 for allowing an operator to insert a finger to extract the drawer 31.

[0038] The drawer 31 and the sheath are shaped so as to define a stable position in which the drawer 31 is completely contained in the cavity and a further stable position in which a large part of the drawer 31 is beyond the frame 5.

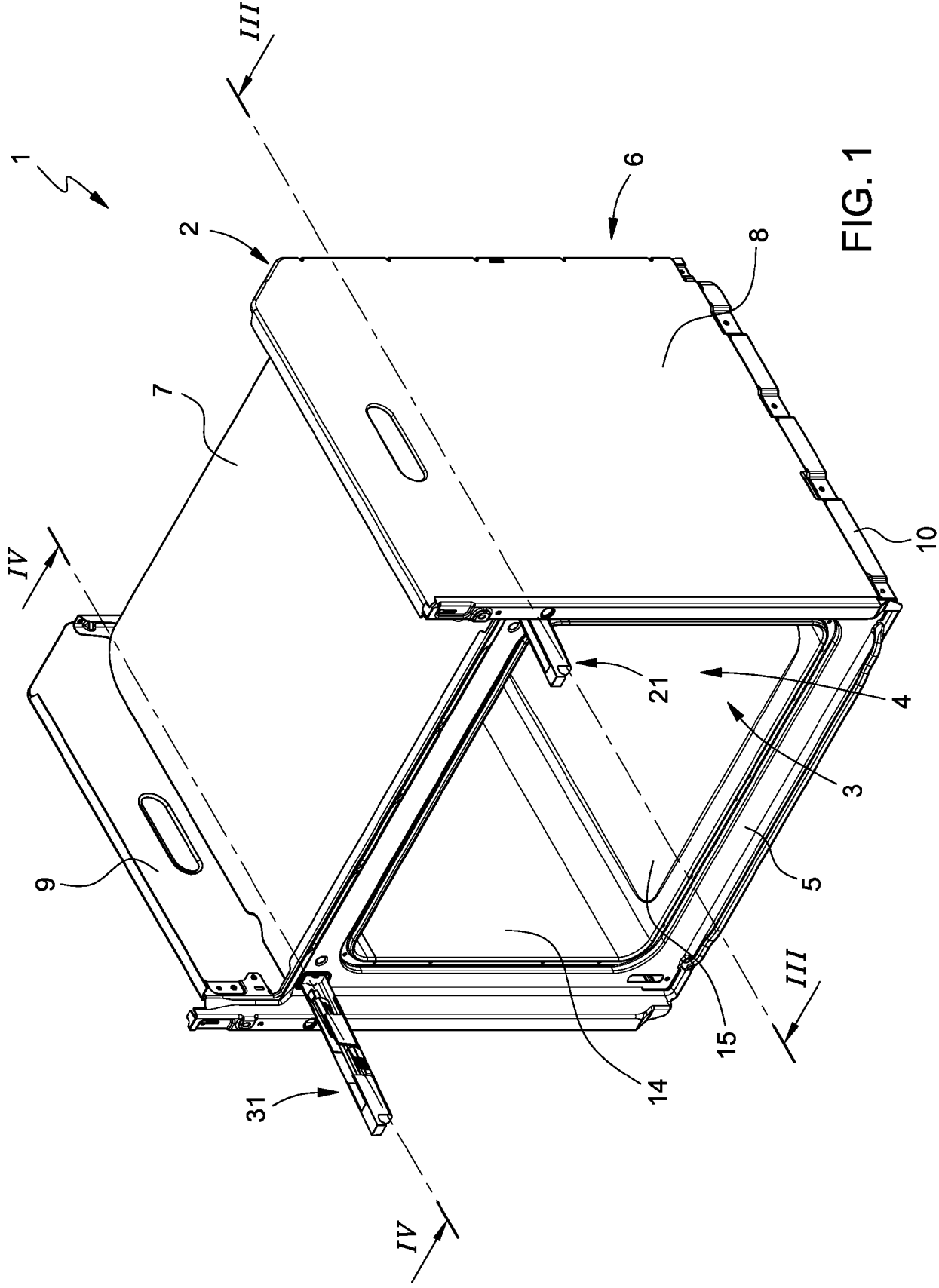
[0039] The instrument for detecting the temperature

comprises a probe 39, a fitting 40 and an electric connection cable.

[0040] Finally, it is evident that modifications and variants can be made to the oven described herein without departing from the scope of the appended claims.

Claims

1. An oven for cooking food, the oven (1) comprising:
 - a support structure (2) comprising a casing (6);
 - a muffle (3) arranged within the casing (6) and configured to form a cooking chamber (4) within the muffle (6) and a cavity between the muffle and the casing (6);
 - a frame (5) arranged around the muffle (4) and the casing (6) and attached to the muffle (3) and the casing (6); and
 - at least one housing (19; 29) arranged in said cavity and comprising a guide (20; 30) mounted on the support structure (2) and a drawer (21; 31) sliding within said guide (20; 30) between an extracted position in which it protrudes from the frame (5) through an opening of the frame (5) and an inserted position in which the drawer (21; 31) is contained within the cavity.
2. The oven as claimed in Claim 1 and comprising an annular insert (22; 32) partly inserted into the opening of the frame (5) and comprising a flange (23 33) arranged abutting against the outer face of the frame (5).
3. The oven as claimed in Claim 1 or 2, wherein the muffle (3) comprises a top wall (7) and two side walls (8, 9), said guide (20; 30) being arranged at one of said side walls (8, 9) and in proximity to the top wall (7).
4. The oven as claimed in any one of the preceding Claims, wherein said guide (20; 30) is inclined downwards from said frame (5).
5. The oven as claimed in any one of the preceding Claims, wherein said guide (20; 30) comprises a rigid sheath.
6. The oven as claimed in Claim 5, wherein the support frame (2) comprises a bracket (17; 18) arranged in said cavity to support the sheath.
7. The oven as claimed in Claim 5 or 6, wherein the sheath comprises a channel (24) provided with a fitting (25) for a pipe for conveying a liquid, said fitting (25) being arranged in the lowest part of the channel (24).
8. The oven as claimed in Claim 6, wherein the sheath comprises the bracket (18) and a profile (35) coupled to the bracket (18).
9. The oven as claimed in any one of the preceding Claims, wherein the drawer (21; 31) is shaped as a tray, the tray comprising a recess (28; 38) for allowing gripping to extract the drawer (21; 31).
10. The oven as claimed in any one of preceding Claims and comprising at least two housings (19; 29) arranged at opposite sides of the muffle (3).



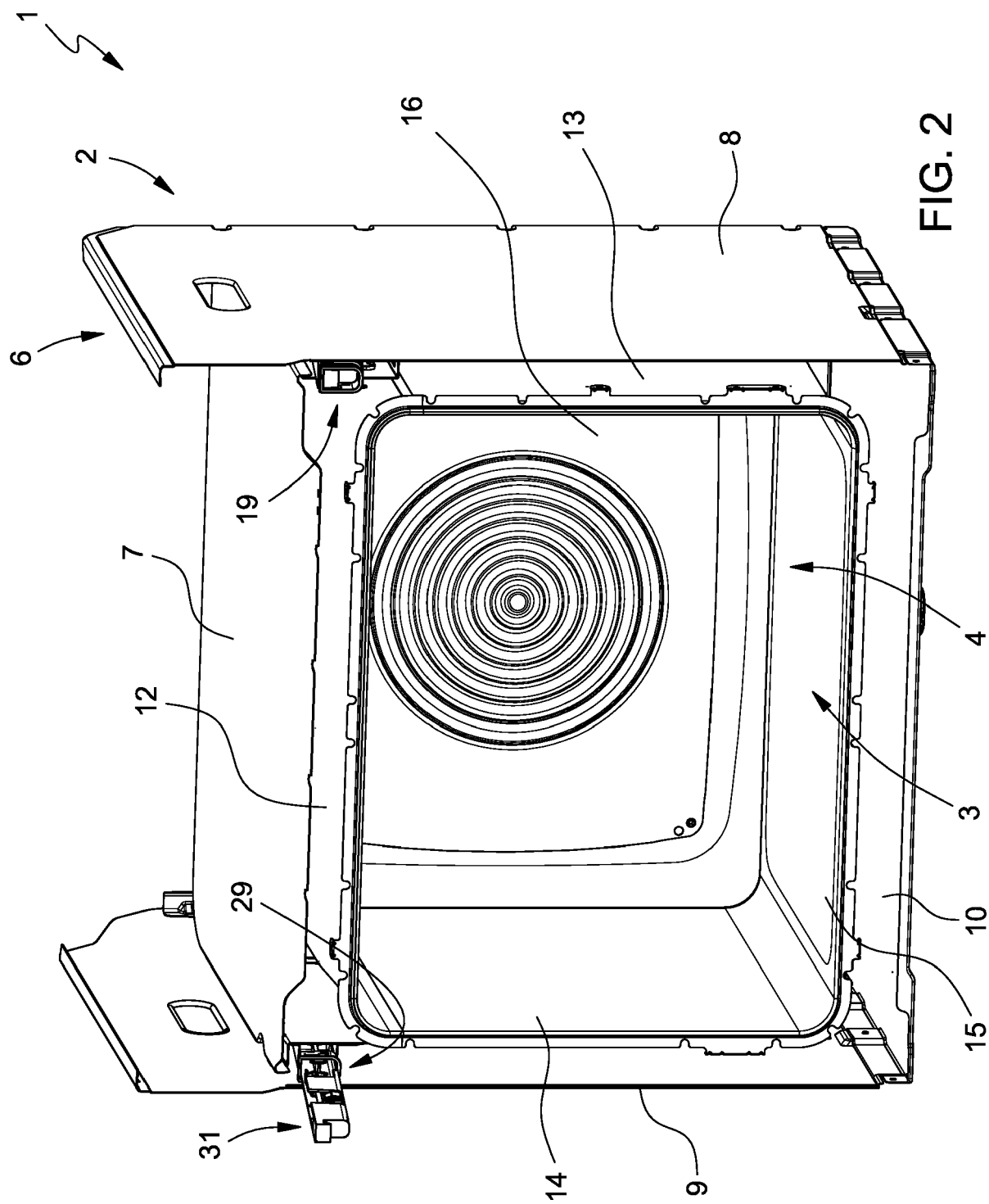


FIG. 2

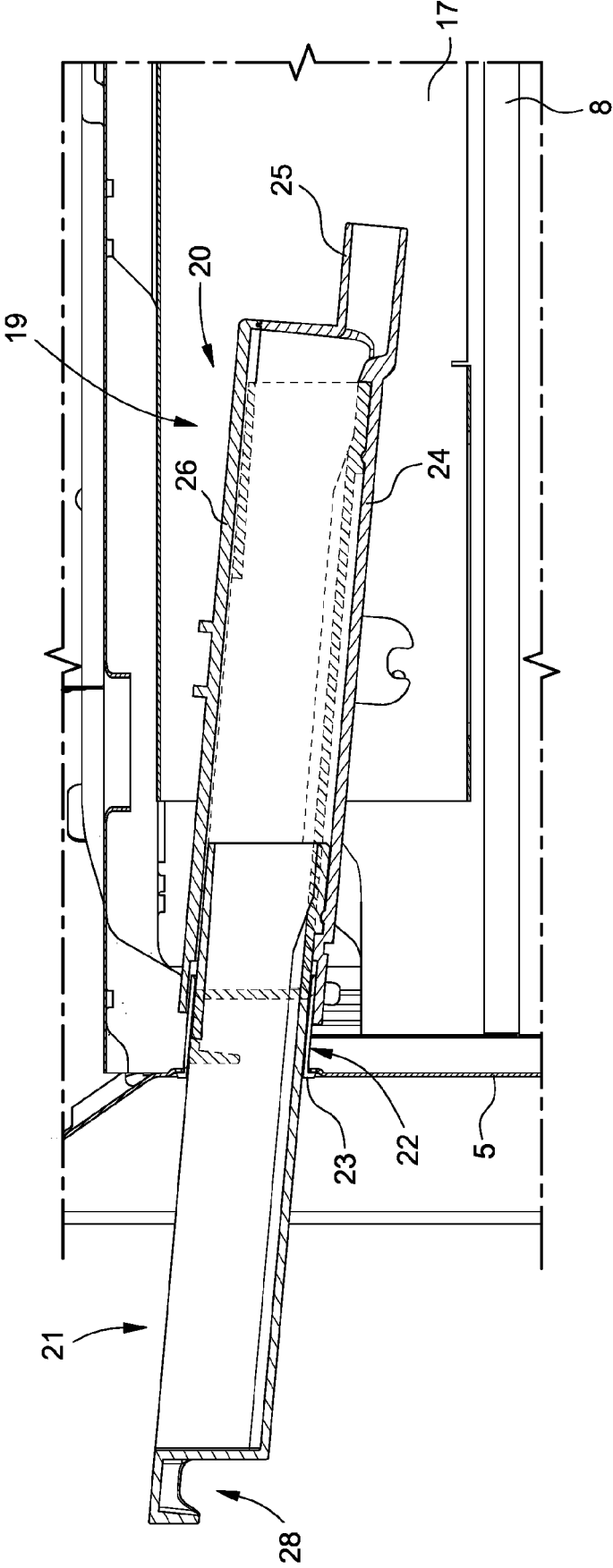
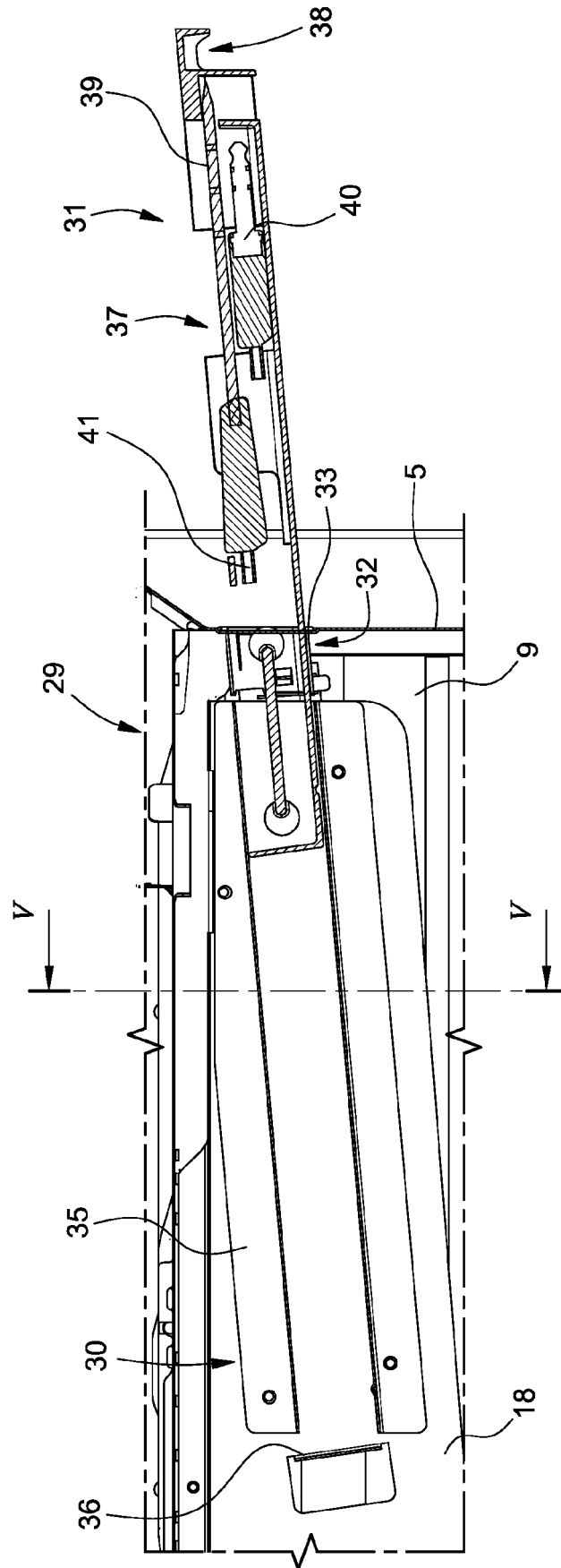


FIG. 3



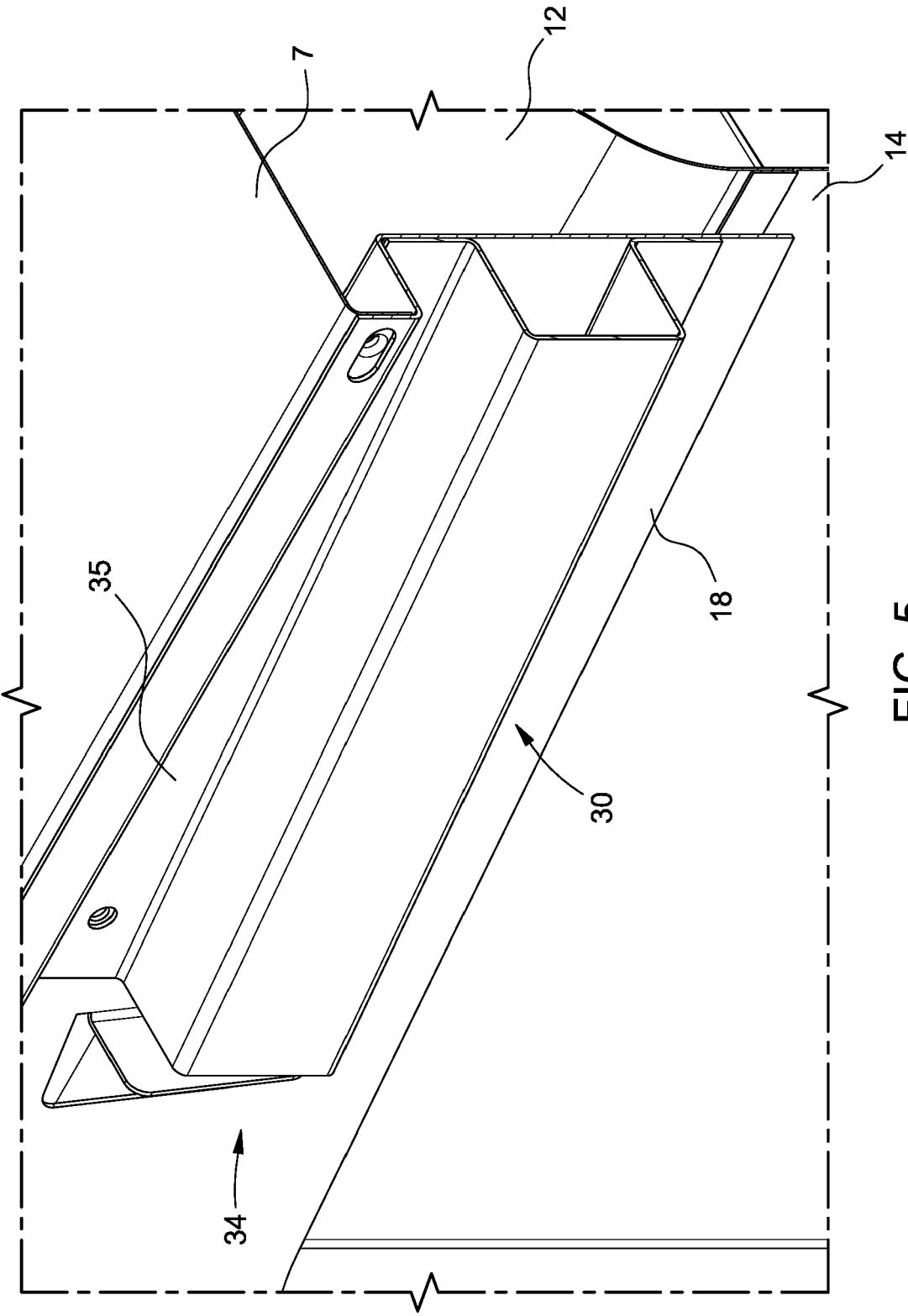


FIG. 5



EUROPEAN SEARCH REPORT

Application Number

EP 23 15 7185

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EPO FORM 1503 03.82 (P04C01)

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Place of search The Hague		Date of completion of the search 20 June 2023	Examiner Adant, Vincent
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

**ANNEX TO THE EUROPEAN SEARCH REPORT
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5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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20-06-2023

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