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(54) DEVICE FOR ATTACHING GAS CONDUIT IN A HOUSEHOLD APPARATUS

(57) The present invention refers to a household apparatus, in particular to a free standing gas oven and, respectively, in a built-in gas oven comprising a body with a cooking surface and an oven, at least one gas burner being disposed on said cooking surface, said gas burner being fed by gas via a supply line comprising a main gas supply pipe with at least one gas blocking device, wherein said main gas supply pipe is fixed by means of at least one fixing means to the body of the household apparatus. A device for attaching main gas supply pipe comprises an opposite fixing means (14) permanently attached to a front plate (5) of a household apparatus, said fixing means (14) configured to cooperate with a fixing means (13) located at the opposite side and arranged on a main gas supply pipe (9).

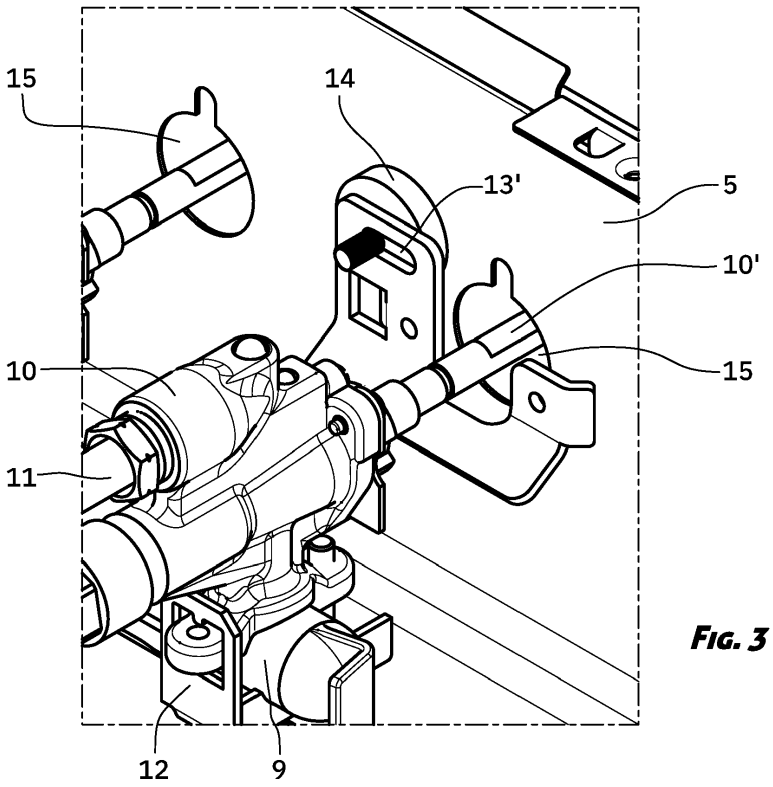

Fig. 3

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Description

[0001] The present invention refers to a household apparatus, in particular to a free standing gas oven and, respectively, in a built-in gas oven comprising a body with a cooking surface and an oven, at least one gas burner being disposed on said cooking surface, said gas burner being fed by gas via a supply line comprising a main gas supply pipe with at least one gas blocking device, wherein said main gas supply pipe is fixed by means of at least one fixing means to the body of the household apparatus.

[0002] Known household apparatuses such as free standing gas ovens and, respectively, built-in gas ovens have said supply line fixed via a main gas supply pipe to the front wall of the oven and, to a fold at the upper edge of said wall. Generally, said wall of the oven is made of a thin metal sheet, thus, exposed to deformations due to variations of mechanical properties of the material and due to the enamel process. In addition, the distance between the point of the fixture of the main gas supply line and the stem of the gas valve is relatively large which may cause additional dimensional discrepancies.

[0003] Also are known household apparatuses of the aforementioned kind, wherein the main gas supply pipe is fixed by means of a special carrier directly to a flanged cut-out on a front wall of the household apparatus which in turn is provided for placing electrical switches. Such an arrangement enables direct fixing of the main gas supply pipe, however, no additional intervention into said fixing or adaptation thereof is possible at the later time.

[0004] It is the object of the present invention to create a household apparatus of the aforementioned kind in which gas pipeline attachment is reliable and repeatable obtained in order to remedy drawbacks of the know solutions.

[0005] According to the present invention, the object as set above is solved by features set forth in the characterising part of claim 1. Detail of the invention is disclosed in respective subclaims.

[0006] The invention is further described in detail by way of non-limiting embodiment, and with a reference to the accompanying drawings, where

Fig. 1 shows a three-dimensional view of a gas oven,
Fig. 2 shows a three-dimensional view of gas burners with a supply line,
Fig. 3 shows a detail of mounting the supply line to a front plate of the household apparatus,
Fig. 4 shows an embodiment of an opposite fixing means on the front plate,
Fig. 5 shows additional embodiment of the opposite fixing means,
Fig. 6 shows yet additional embodiment of the opposite fixing means,
Fig. 7 shows yet additional embodiment of the opposite fixing means,
Fig. 8 shows yet additional embodiment of the opposite fixing means,
Fig. 9 shows a front plate of the household apparatus with inserted gauges for mounting the gas supply unit.

[0007] A household apparatus and, in a particular embodiment, a free standing gas oven shown in Fig. 1 comprises a body 1 with a cooking surface 2 on which at least one gas burner 3 is disposed, a backing chamber closed by a door 4, and a front plate 5 located above said backing chamber. Said front plate 5 is either a metal or a glass wall and comprises a control section with a display 6 and at least one control button 7 to control gas supply.

[0008] In the region below said cooking surface 2 is arranged a supply unit 8 to supply at least one gas burner 3 with gas, said supply unit 8 comprises a main gas supply pipe 9 with at least one gas blocking device 10 by means of which feeding burner 3 with gas is controlled. Generally, said main gas supply pipe 9 extends along said front plate 5 and in immediate vicinity of each control button 7. Each burner 3 is fluidly coupled by means of a local gas supply pipe 11 with the gas blocking device 10. Said gas blocking device 10 can be incorporated directly in the main gas supply pipe 9, or can be fluidly coupled with the latter and attached thereto indirectly by means of a carrier element 12.

[0009] Furthermore, said supply unit 8 and, respectively, said main gas supply pipe 9 comprise at least one fixing means 13 provided for attaching the supply unit 8 and, respectively, said main gas supply pipe 9 to said front plate 5 of the household apparatus. Said each fixing means 13 is preferably disposed on the main gas supply pipe 9 in the region of each end section of the front plate 5. In order to secure the supply unit 8 and, respectively, said main gas supply pipe 9 to the front plate 5, the latter is provided at its side facing the interior of the household apparatus and opposite to the fixing means 13 with at least one opposite fixing means 14 provided for cooperation with the fixing means 13. Said cooperation of the fixing means 13 and the opposite fixing means 14 is based either on a non-positive joint and/or on a form-locking joint. Moreover, said cooperation of the fixing means 13 and the opposite fixing means 14 can be provided either as a temporary joint or as a permanent joint. Preferably, said fixing means 13 is linked with the main gas supply pipe 9 by means of a permanent joint, by adhesive, welding and similar, for example. Preferably, said opposite fixing means 14 is linked with the front plate 5 by means of a permanent joint, by adhesive, welding and similar, for example.

[0010] In the present embodiment, said fixing means 13 is formed as an elongated flat support a first end thereof being non-movable connected to the main gas supply pipe 9, whereas its other end, that is the folded end configured for cooperation with the opposite fixing means 14, is formed with an elongated through hole 13' for receiving said opposite fixing means 14. Said cooperation of the fixing means 13 and the opposite fixing means 14 is preferably provided on the basis of a threaded connec-

tion. Furthermore, said cooperation of the fixing means 13, 14 is preferably provided in the immediate vicinity of at least one through hole 15 formed in the front plate 5 and provided for a stem 10' of the gas blocking device 10 to pass through the front plate 5. Said stem 10' is provided to accommodate said control button 7.

[0011] The shown present embodiment of said opposite fixing means 14 comprises either a disc shaped or a polygonal shaped base 14a configured for a firm connection with the front plate 5, and at least one stem 14b configured for cooperation with said through hole 13' formed at the folded end of the fixing means 13. Said stem 14b comprises either an outer threaded section 14c or an inner threaded section 14d which extends through the through hole 13' and which meshes either with a fixing nut or a fixing bolt, when household apparatus assembled, thus rendering mutual connection of said fixing means 13, 14 more rigid.

[0012] Moreover, it is provided for according to the present invention that the base 14a of the opposite fixing means 14 is formed at its side facing the front plate 5 either with at least one depression 16 and/or at least one bulge 17. Said at least one depression 16 and/or bulge 17 is provided for a positive material joint with the front plate 5, for example by means of adhesive, welding, soldering, and similar.

[0013] The supply unit 8 and, respectively, said main gas supply pipe 9 having at least one fixing means 13 associated therewith, is fixed to the front plate 5, which is provided in advance with at least one opposite fixing means and attached to the body of the household apparatus, in the following steps.

[0014] At first, said supply unit 8 is placed together with said main gas supply pipe 9 onto the body of the household apparatus, so as to said at least one stem 10' of the gas blocking device 10 extends through said through hole 15 in the front plate 5. Afterwards, a gauge 18 (shown in dashed line in Fig. 9) is put on said at least one stem 10' the outline thereof at least partially corresponds to the contour of the through hole 15. Said gauge 18 is centred and guided both on the stem 10' of the gas blocking device 10 and on the circumference of the though hole 15 in the front plate 5. Said stem 14b of the opposite fixing means 14 is than attached through the through hole 13' to the folded free end of the fixing means 13. The connection of the fixing means 13, 14 is secured by means of a fixing nut or a fixing bolt.

Claims

1. A device for attaching gas conduit in a household apparatus, in particular in a free standing gas oven and, respectively, in a built-in gas oven comprising a body with a cooking surface and an oven, at least one gas burner being disposed on said cooking surface, said gas burner being fed by gas via a supply line comprising a main gas supply pipe with at least one gas blocking device, wherein said main gas supply pipe is fixed by means of at least one fixing means to the body of the household apparatus, ***characterized in that*** it comprises an opposite fixing means (14) permanently attached to a front plate (5) of a household apparatus, said fixing means (14) configured to cooperate with a fixing means (13) located at the opposite side and arranged on a main gas supply pipe (9).

2. A device according to claim 1, ***characterized in that*** said permanent joint of the opposite fixing means (14) and the front plate (5) is selected as a positive material joint.

3. A device according to claims 1 and 2, ***characterized in that*** the opposite fixing means (14) comprises a base (14a) configured for a firm connection with the front plate (5), and at least one stem (14b) configured for cooperation with a through hole (13') formed at the folded free end of the fixing means (13).

4. A device according to any of the preceding claims, ***characterized in that*** said stem (14b) is formed as an external threaded section (14c) or as an internal threaded section (14d) in which meshes either a fixing nut or a fixing bolt, thus rendering mutual connection of said fixing means (13, 14) rigid.

5. A device according to claim 3, ***characterized in that*** the base (14a) of the opposite fixing means (14) resembles a disc shape or a polygonal shape.

6. A device according to any of the preceding claims, ***characterized in that*** the base (14a) of the opposite fixing means (14) is formed at its side facing the front plate (5) either with at least one depression (16) and/or at least one bulge (17) provided for a positive material joint with the front plate (5), for example by means of adhesive, welding, soldering, and similar.

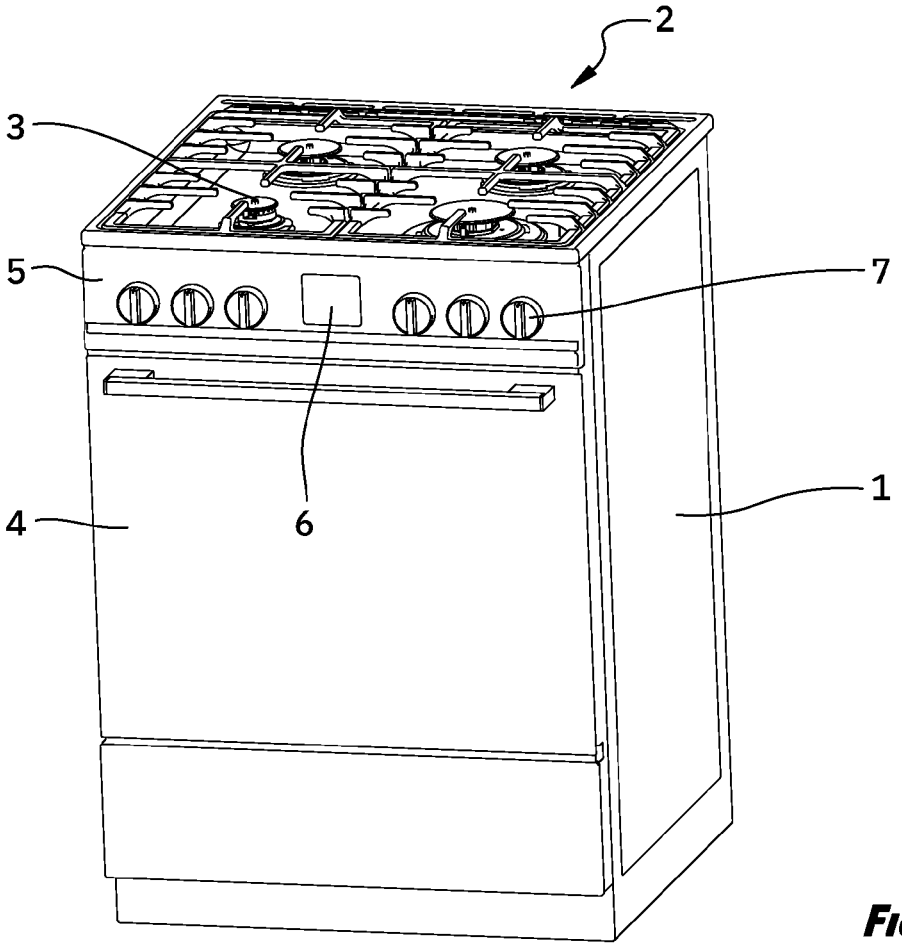

FIG. 1

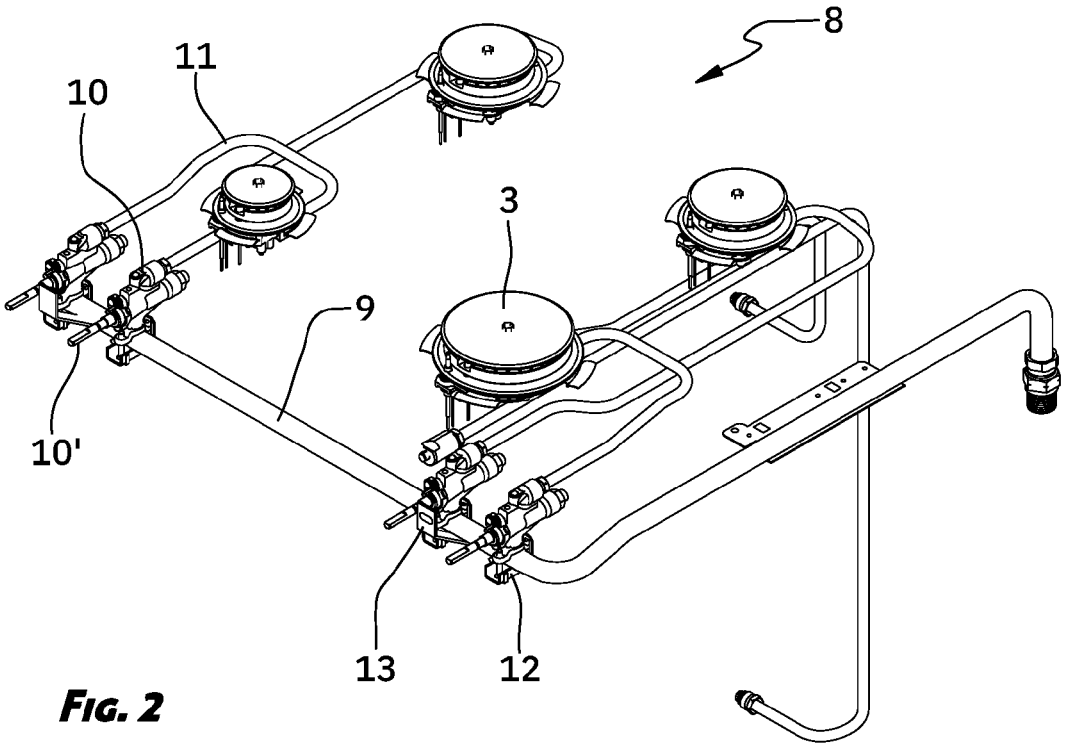

FIG. 2

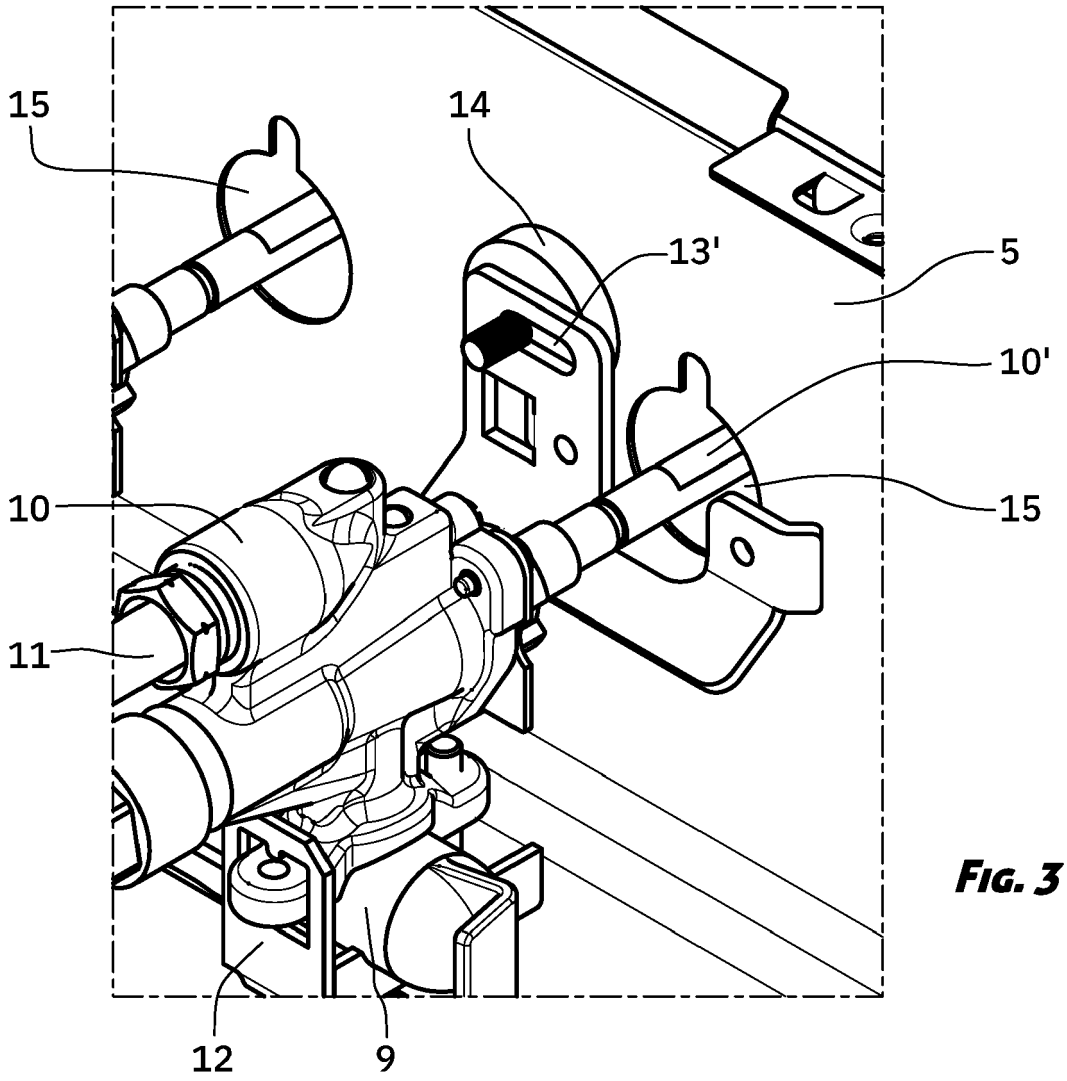

FIG. 3

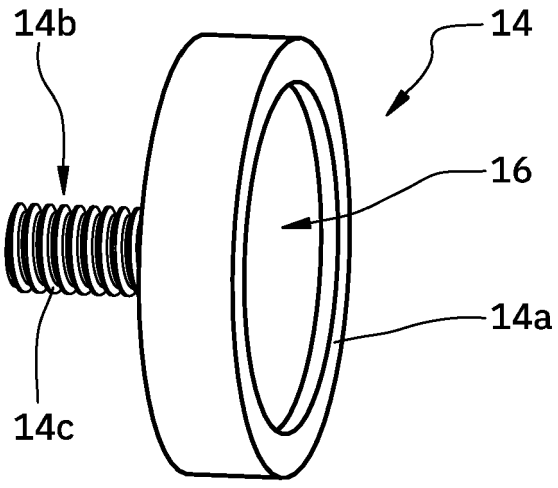

FIG. 4

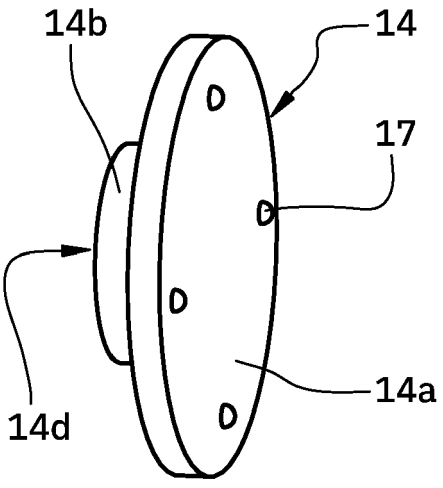

FIG. 5

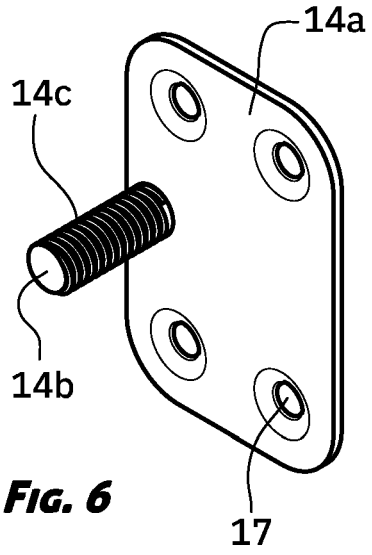

FIG. 6

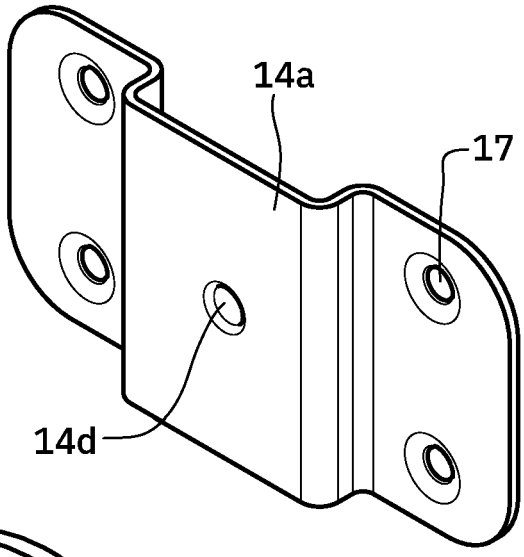

FIG. 7

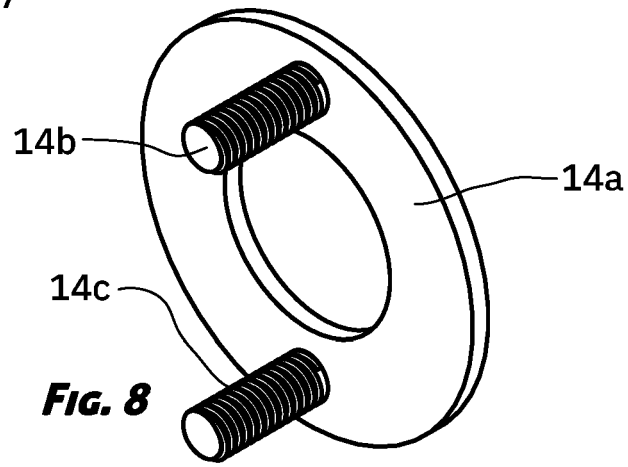

FIG. 8

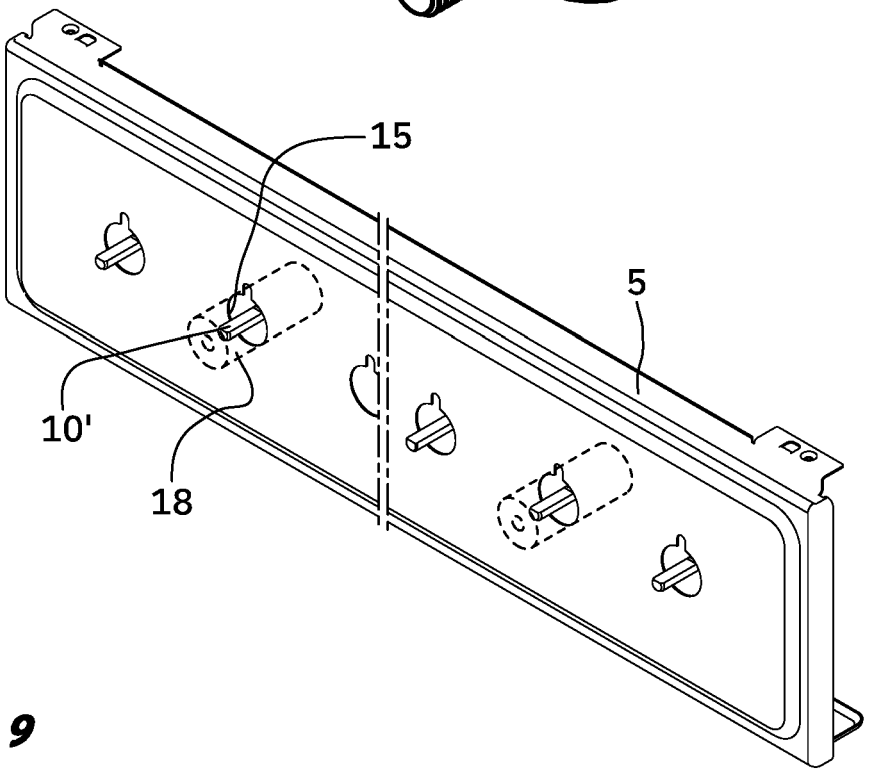

FIG. 9

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EUROPEAN SEARCH REPORT

Application Number
EP 19 15 8425

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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			F24C

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	9 July 2019	Adant, Vincent

CATEGORY OF CITED DOCUMENTS

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