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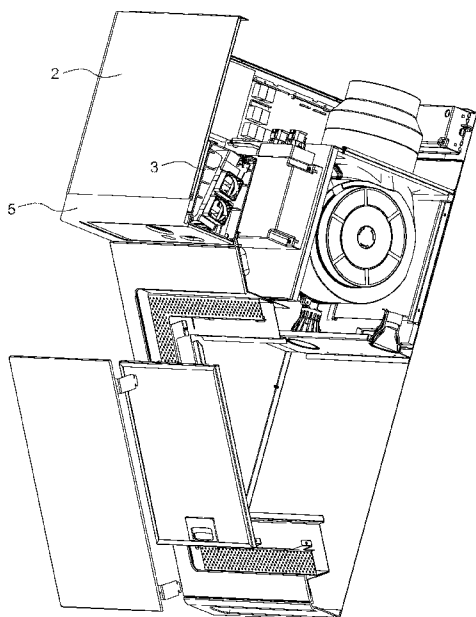
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(54) Title: A HOUSEHOLD APPLIANCE CONTROL UNIT

Figure 2



(57) Abstract: The present invention relates to a household appliance control unit (1), comprising a casing (2) and a projector (3) that is disposed in the casing (2), that reflects the images that are preloaded by the producer to a surface that enables the user to enter information through the transmitted image and that is suitable for one or more household appliance to be enabled to be controlled in accordance with the information entered.

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A HOUSEHOLD APPLIANCE CONTROL UNIT

The present invention relates to a projector that reflects the image predetermined by the producer to a surface and a household appliance control unit the operation of which is controlled by a sensor that detects the control signal in the area scanned by the projector.

5 Nowadays, household appliances that operate in connection with each other are used. Moreover, all the devices inside the house can be controlled from a single point. The said systems that are very useful for the user provide time saving and realize many processes on behalf of the user. Especially, the embodiments of cooker and exhaust hood are used often. By means of a projector disposed on the exhaust hood, reflection on the cooker or the countertop is enabled. Other devices in the house can be controlled by the control panels reflected on the countertop from the exhaust hood. The cooker can be controlled by means of the images projected on the cooker from the exhaust hood. However, materials such as water vapor, oil, and dirt rise up and are sucked in by the exhaust hood during the cooking process realized on the cooker. This situation causes the projector disposed on the exhaust hood to get dirty and malfunction in the course of time. Any kind of material to be wrapped on the projector is not useful as it gets dirty as well.

15 In the state of the art International Patent Application No. WO2010135478, household appliances are disclosed, that are controlled from the image projected by the projector.

The aim of the present invention is the realization of a household appliance control unit the projector of which is not adversely affected from materials such as vapor and dirt.

The household appliance control unit realized in order to attain the aim of the present invention, explicated in the first claim and the respective claims thereof comprises a casing and a projector disposed in the casing. By means of the projector, the control panels related to the household appliances are projected to a surface, and the household appliances can be controlled therefrom. Thus, controlling from a single point is enabled, and the cost of the control panel is eliminated.

The household appliance control unit of the present invention comprises a transparent plate disposed in front of the projector. The transparent plate is in a detachable form. By means of the plate, materials such as vapor, oil, and dirt that rise during the cooking process realized on the cooker are prevented from reaching the projector. When dirty,
5 the transparent plate can be cleaned by the user by being easily removed.

In an embodiment of the present invention, the transparent plate is produced from glass. Thus, a more hygienic structure is provided, and the image that comes out from the projector is enabled to reach the desired surface without being refracted.

In an embodiment of the present invention, the household appliance control unit
10 comprises a board, and a pin and a bracket that enable the plate to be attached to the board. By means of the pin and the bracket, the plate is tightly seated on the board.

In a derivative of this embodiment, the household appliance control unit comprises a pin housing and a bracket housing that enable respectively the pin and the bracket to be attached on the board. The pin is tightly seated in the pin housing, and the bracket is
15 tightly seated in the bracket housing. Thus, accidents that may occur in case the plate falls down are prevented.

In an embodiment of the present invention, the pin and the bracket are fixed on the plate by means of silicone. Operations such as the puncturing or the screwing of the glass damage the glass. The damaging of the glass also causes the damaging of the projector.
20 Therefore, the pin and the bracket are adhered on the glass by means of silicone.

In an embodiment of the present invention, a gasket is used between the plate and the board in order to prevent the materials such as oil, dirt, and vapor from reaching the projector. Thus, the projector is enabled to be insulated from any kind of external factors. Moreover, the gasket can be cleaned by the user by easily being detached in
25 case the gasket gets dirty.

In an embodiment of the present invention, the projector is placed in the casing after being placed in a cassette. Apart from the projector, components such as sensors, Wi-Fi

receiver etc. that enable the system to operate are also placed in the cassette. Thus, in case of a possible malfunction, the service provider deals only with the cassette.

In a derivative of this embodiment, the cassette is formed by the assembly of an upper cover, a front and rear cover, and a lower cover.

- 5 In an embodiment of the present invention, the cassette comprises the lower cover that has slots so as to enable the projector and the sensors thereon to operate. By means of the slots, the signals are enabled to reach the respective units without any problem.

In an embodiment of the present invention, an opening is arranged on the board. By means of the said opening, it is possible to access the cassette without opening the casing. The opening is closed by the plate being attached in front of the opening.

In an embodiment of the present invention, the lower cover is placed so as to remain above the opening.

A household appliance control unit realized in order to attain the aim of the present invention is illustrated in the attached figures, where:

- 15 Figure 1 – is the schematic view of the household appliance control unit.

Figure 2 – is the partial view of the household appliance control unit and the projector.

Figure 3 – is the perspective view of the household appliance control unit and the plate.

Figure 4 – is the schematic view of the board.

Figure 5 – is the exploded view of the cassette and the board.

- 20 The elements illustrated in the figures are numbered as follows:

1- Household appliance control unit

2- Casing

3- Projector

4- Plate

- 25 5- Board

6- Pin

7- Bracket

8- Pin housing

9- Bracket housing

5 10- Gasket

11- Cassette

12- Upper cover

13- Front cover

14- Rear cover

10 15- Lower cover

16- Opening

The household appliance control unit (1) comprises a casing (2) and a projector (3) that is disposed in the casing (2), that reflects the images that are preloaded by the producer to a surface that enables the user to enter information through the transmitted image and
15 that is suitable for one or more household appliance to be enabled to be controlled in accordance with the information entered. Thus, the household appliances can be controlled from a single point. When no operation is present relating to the household appliances, the projector (3) is turned off. By preventing the multitude of buttons, an esthetic appearance is provided. At the same time, saving from the costs of the control
20 panel is provided.

The household appliance control unit (1) of the present invention comprises a transparent plate (4) that is disposed between the surface that the image is transmitted and the projector (3) and that is in detachable form. By means of the plate (4), materials that rise up from above the cooker and adhere to the exhaust hood such as water vapor,
25 oil, and dirt are prevented from reaching the projector (3). Malfunctions that may occur

in the projector (3) are prevented. When dirty, the plate (4) can be cleaned by the user by easily being detached.

In an embodiment of the present invention, the household appliance control unit (1) comprises the plate (4) produced from glass. By means of the glass material, hygiene is
5 provided, and the image that is projected from the projector (3) is enabled to be properly transmitted to the surface. The plate (4) is produced from a glass that is heat-resistant and that has good optic features.

In an embodiment of the present invention, the household appliance control unit (1) comprises a board (5) that is disposed on the casing (2), and at least one pin (6) and at
10 least one bracket (7) that are disposed on the plate (4) and that enable the plate (4) to be attached on the board (5). By means of the pin (6) and the bracket (7), the plate (4) is tightly seated on the board (5) and the projector (3) surface is fully closed.

In an embodiment of the present invention, the household appliance control unit (1) comprises a pin housing (8) wherein the pin (6) is seated, and that is disposed on the
15 board (5); and a bracket housing (9) wherein the bracket (7) is seated and that is disposed on the board (5). The pin (6) and the bracket (7) are fixed respectively in the pin housing (8) and the bracket housing (8).

In an embodiment of the present invention, the household appliance control unit (1) comprises the pin (6) and the bracket (7) that are fixed on the plate (4) by means of
20 silicone. Thus, the pin (6) and the bracket (7) are enabled to be fixed on the plate (4) without the plate (5) being punctured or screwed. Since the plate (4) has no holes, a vapor-proof structure is obtained. Thus, the projector (3) is enabled to be fully protected from materials such as vapor, dirt oil etc. by means of the plate (4).

In an embodiment of the present invention, the household appliance control unit (1) comprises a gasket (10) that is disposed between the plate (4) and the board (5) and that
25 prevents materials such as dust, dirt, oil, humidity etc. from reaching the projector (3). By the pin (6) and the bracket (7) tightly fixing the plate (4) on the board (5), the gasket (10) is squeezed between the board (5) and the plate (4). The vapor that can pass from

the edges of the plate (4) is enabled to be prevented by means of the gasket (10). Thus, the projector (3) is fully insulated from the outer environment.

In an embodiment of the present invention, the household appliance control unit (1) comprises a cassette (11) wherein the projector (3) is placed and that is disposed in the casing (2). Apart from the projector (3), components such as the sensor and the Wi-Fi receiver that enable the system to operate are also placed in the cassette (11). Thus, the whole system constitutes a compact structure in the cassette (11). In a malfunction that can occur in the projector (3) or the sensors, the service provider can deal only with the cassette (11). Thus, the system is enabled to be portable.

10 In an embodiment of the present invention, the cassette (11) comprises an upper cover (12) that is seated so as to close the top of the cassette (11); a U-shaped front cover (13) and rear cover (14) that constitute the side walls of the cassette (11) when joined; and a lower cover (15) that constitutes the base of the cassette (11). Thus, the cassette (11) is enabled to be insulated from the outer environment and the projector (3) is enabled to be maintained in a safe manner.

In an embodiment of the present invention, the lower cover (15) comprises slots that enable the reflecting and detecting units of the projector (3) to be operated. By means of the lower cover (15), the signals are enabled to easily reach the sensors disposed in the cassette (11) and the image that is projected from the projector (3) are enabled to reach the desired surface.

In an embodiment of the present invention, the household appliance control unit (1) comprises an opening (16) that is disposed on the board (5), that enables the cassette (11) to be attached/detached without opening the casing (2) and that is closed by means of the plate (4). The cassette (11) can easily be attached/detached through the opening (16). Thus, ease of use is provided.

In an embodiment of the present invention, the household appliance control unit (1) comprises the cassette (11) that is disposed so that the lower cover (15) remains above the opening (16).

By means of the present invention, a household appliance control unit (1) is realized, that prevents materials that rise during the cooking process realized on the cooker such as vapor, oil, dirt etc. from reaching the projector (3) that is disposed on the exhaust hood and that comprises a detachable plate (4). The plate (4) can easily be cleaned by
5 the user by being attachable/detachable.

CLAIMS

- 1- A household appliance control unit (1) **comprising** a casing (2) and a projector (3)
- 5 – that is disposed in the casing (2),
- that reflects the images that are preloaded by the producer to a surface, and
- that enables the user to enter information through the transmitted image and that is suitable for one or more household appliance to be enabled to
- 10 be controlled in accordance with the information entered,
- characterized by** a transparent plate (4) that is disposed between the surface that the image is transmitted and the projector (3) and that is in detachable form.
- 2- A household appliance control unit (1) as in Claim 1, **characterized by** the plate
- 15 (4) produced from glass.
- 3- A household appliance control unit (1) as in Claim 1 or Claim 2, **characterized by** a board (5) that is disposed on the casing (2), and at least one pin (6) and at least one bracket (7) that are disposed on the plate (4) and that enable the plate (4) to be attached on the board (5).
- 20 4- A household appliance control unit (1) as in Claim 3, **characterized by** a pin housing (8) wherein the pin (6) is seated and that is disposed on the board (5); and a bracket housing (9) wherein the bracket (7) is seated and that is disposed on the board (5).
- 25 5- A household appliance control unit (1) as in Claim 3 or Claim 4, **characterized by** the pin (6) and the bracket (7) that are fixed on the plate (4) by means of silicone.

- 6- A household appliance control unit (1) as in any one of the claims 3 to 5, **characterized by** a gasket (10) that is disposed between the plate (4) and the board (5) and that prevents materials such as dust, dirt, oil, humidity etc. from reaching the projector (3).
- 5 7- A household appliance control unit (1) as in any one of the above claims, **characterized by** a cassette (11) wherein the projector (3) is placed and that is disposed in the casing (2).
- 8- A household appliance control unit (1) as in Claim 7, **characterized by** the cassette (11) that comprises an upper cover (12) that is seated so as to close the
10 top of the cassette (11); a U-shaped front cover (13) and rear cover (14) that constitute the side walls of the cassette (11) when joined, and a lower cover (15) that constitutes the base of the cassette (11).
- 9- A household appliance control unit (1) as in Claim 7, **characterized by** the
15 lower cover (15) that comprises slots that enable the reflecting and detecting units of the projector (3) to be operated.
- 10- A household appliance control unit (1) as in any one of the claims 8 or 9, **characterized by** an opening (16) that is arranged on the board (5), that enables the cassette (11) to be attached/detached without opening the casing (2) and that is closed by means of the plate (4).
- 20 11- A household appliance control unit (1) as in any one of the claims 9 or 10, **characterized by** the cassette (11) that is disposed so that the lower cover (15) remains above the opening (16).

Figure 1

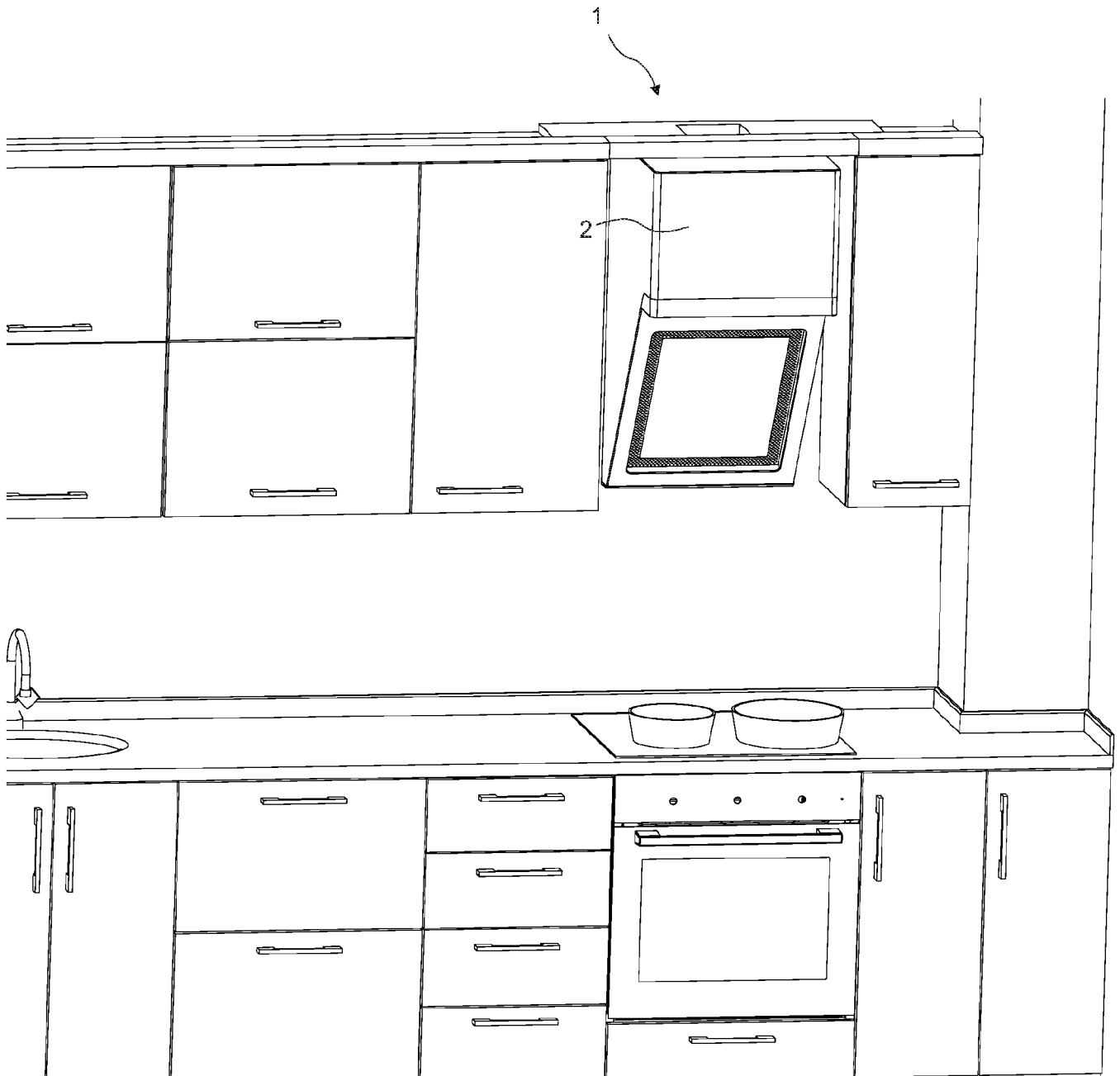


Figure 2

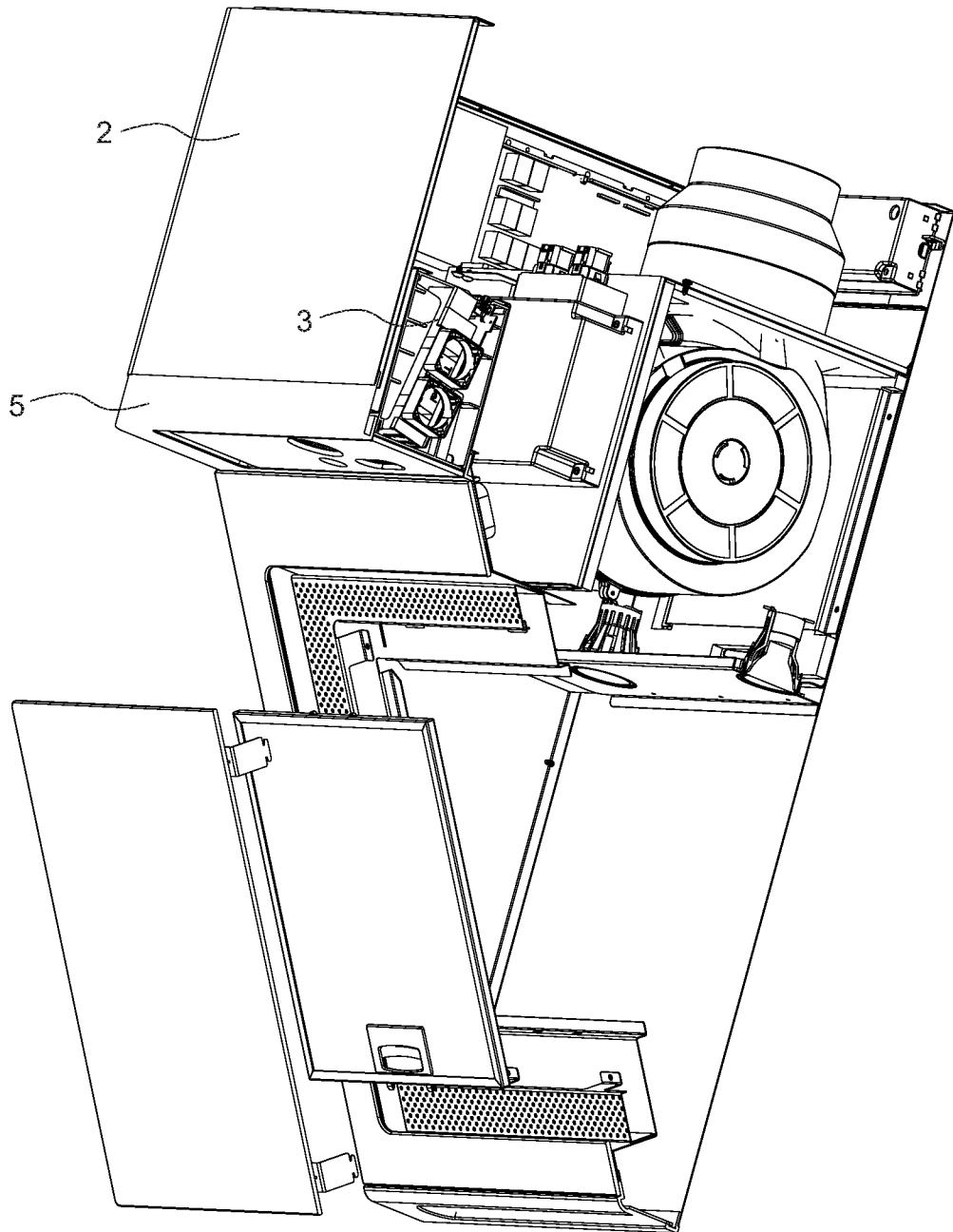


Figure 3

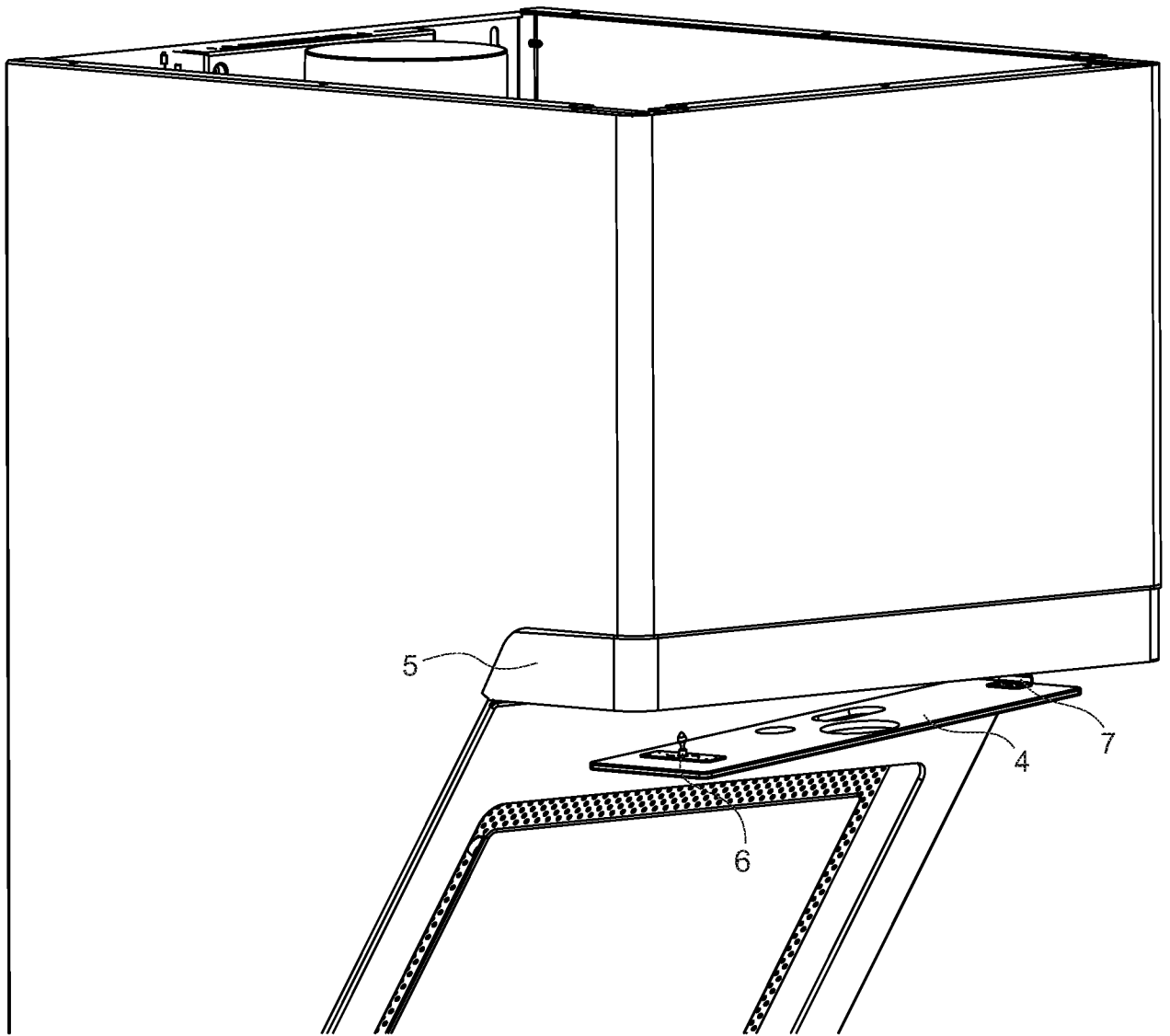


Figure 4

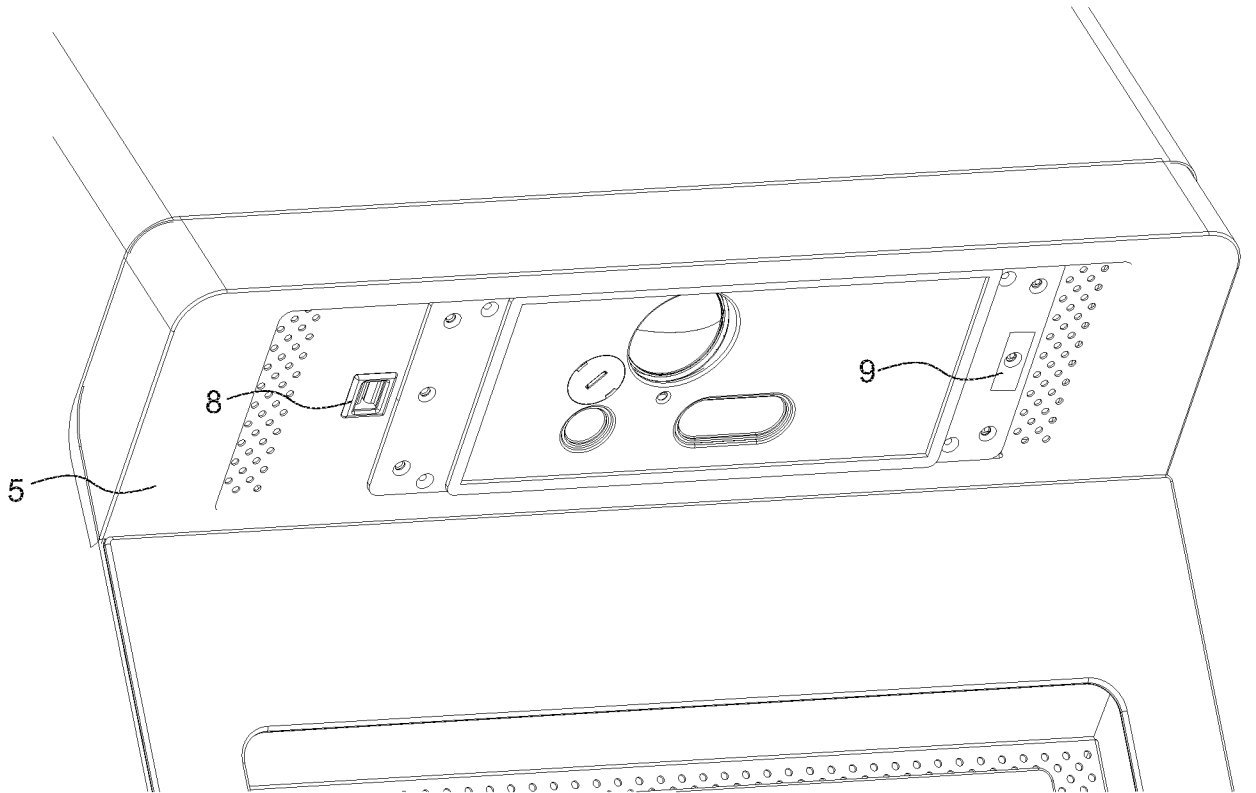
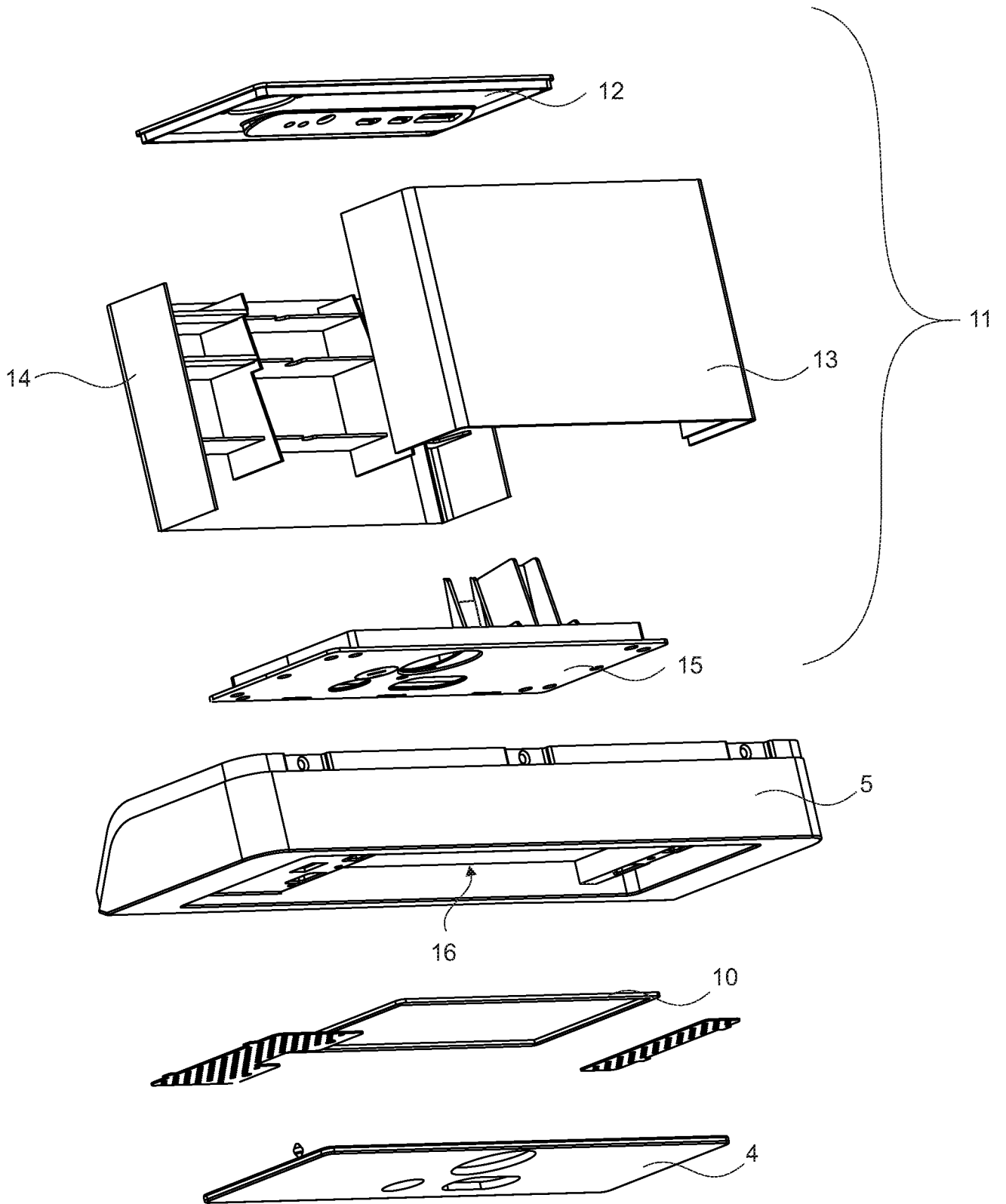


Figure 5



INTERNATIONAL SEARCH REPORT

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
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C. DOCUMENTS CONSIDERED TO BE RELEVANT		
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<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C.		
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