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(54) Cooker hood assembly

(57) Cooker hood assembly, comprising a mainly cylindrical apparatus housing (4) with a first opening adapted for being permanently connected with a ventilation duct, and with a second opening connected with a curved screen member (8) by means of a lower annular edge part (6) of the apparatus housing (4), the cooker hood (2) including or interacting with a usual electronic control panel, wherein the apparatus housing (4) comprises a convex valve plate (10) with a centrally disposed third opening (12) which by means of motor devices is displaceable between a closed and an open position, and which in a convex surface comprises said permanent connection to the ventilation duct in the form of a central boring. By means of simple technical measures it is hereby possible to achieve an improved cooker hood which also fulfils the legal requirements for permanent minimum ventilation mentioned in the introduction.

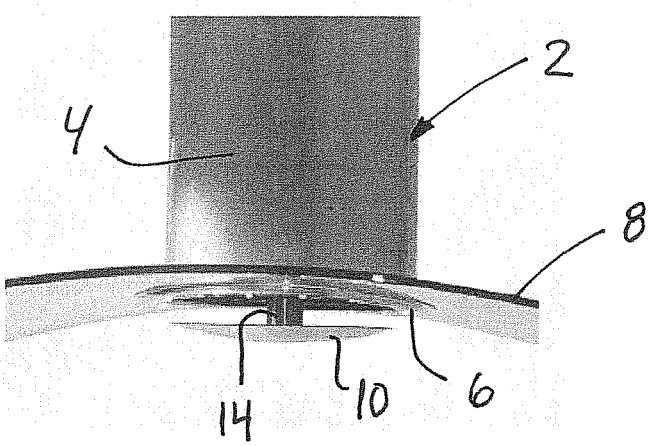

Fig. 1

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Description

Field of the Invention

[0001] The present invention concerns an arrangement by a cooker hood of the kind indicated in the preamble of claim 1.

Background of the Invention

[0002] According to current building regulations, the ventilation systems in homes are to be provided with a forced ventilation of at least 72 m^3/h - meaning that this minimum ventilation occurs also when the ventilation system is not operating.

[0003] EP 0726424 A2 describes a cooker hood comprising mainly cylindrical apparatus housing with a first opening suited for being permanently connected with a ventilation duct, and with a second opening connected with the first opening. At the second opening, the apparatus housing is connected with a curved screen member by means of an annular edge part of the apparatus housing. The cooker hood also includes an electric control panel.

[0004] DK 174164 B1 discloses a damper for regulating the airflow from a kitchen ventilator, the damper including means that enable passage of a basic ventilation airflow through the damper in its closed position. The damper includes an opening with adjustable opening area.

[0005] NO 325014 B1 describes a cooker hood including a damper which is adapted for regulating airflow from the cooker hood to an exhaust duct, and which includes a damper plate which is pivotable about a first rotary shaft and where the cooker hood includes a control device for controlling the damper plate. Between control device and damper plate is inserted a gearing such that the pivoting movement of the control device corresponds to a pivoting movement of the damper plate.

Object of the Invention

[0006] On this background, it is the purpose of the invention to provide a new and improved ventilation system of the kind mentioned in the introduction, in particular in the form of a special design of a cooker hood, and which comprises the said mandatory minimum ventilation, and which furthermore includes a further optimised function.

Description of the Invention

[0007] The arrangement of a cooker hood according to the invention is peculiar in that the apparatus housing includes a convex valve plate with a centrally disposed third opening which by means of motor devices is displaceable between a closed and an open position, and which in a convex surface includes the permanent connection to the ventilation duct in the form of a central boring.

[0008] By means of simple technical measures it is hereby possible to achieve an improved cooker hood which also fulfils the legal requirements for permanent minimum ventilation mentioned in the introduction.

[0009] The cooker hood is suitably designed such that the motor means is constituted by an electric spindle or damper motor as the latter interacts with a special jaw-tongs mechanism.

[0010] The arrangement by the cooker hood according to the invention is suitably designed such that the cooker hood includes a filter which is interposed between the valve plate and the connection to the ventilation duct.

[0011] Preferably, the arrangement by the cooker hood according to the invention is further designed such that the valve plate is seated by means of a central tube in a central guide which is connected with the apparatus housing by means of a number of radial spokes, and which includes a number of axially extending slotted apertures which are permanently connected with the ventilation duct.

[0012] The arrangement by the cooker hood according to the invention may also advantageously be designed such that the control panel includes a pushbutton which is adapted for switching the cooker hood on and off, and which at the same timer operates the closing and opening function of the valve plate.

[0013] The arrangement by the cooker hood according to the invention is designed in an optimal way such that the lower edge part is fitted with a ring of LED lamps, for example 16 LED lamps.

[0014] With the object of maximising the size of the filter plate, the filter is constituted by a filter plate customised such that it bears against the radial spokes and at the same time curves inwardly/upwardly between the radial spokes.

Description of the Drawing

[0015] The invention is explained below in more detail in connection with the drawing which shows:

Fig. 1 shows a perspective view of an embodiment of a cooker hood according to the invention, as seen from the side;

Fig. 2 shows a partial perspective view of a front part of the cooker hood shown in Fig. 1;

Fig. 3 shows a partial perspective view of the front part shown in Fig. 2, where a central front plate has been removed for insertion of a customised flexible filter cloth;

Fig. 4 shows a partial perspective view of the front part shown in Fig. 2 where the filter cloth is placed inside the front part;

Fig. 5 shows a perspective view of the front part of the embodiment of a cooker hood according to the invention shown in Fig. 1, where an annular edge part is fitted with a ring of LED lamps; and

Fig. 6 shows a partial perspective view of an alternative embodiment of a front part with central seat ring secured by three spokes.

Detailed Description of Embodiments of the Invention

[0016] The cooker hood 2 shown in Figs. 1-5 comprises a cylindrical apparatus housing 4 which in a not shown way is connected with a ventilation duct and which by means of an annular lower edge part 6 is connected downwardly with a concave, curving screen plate 8 which is preferably constituted by a transparent plate of glass or other suitable material.

[0017] Furthermore, the cooker hood 2 has downwardly a convex, curving valve plate 10 which is supported opposite to a central opening/boring 12 by a central tube section 14 which is seated in a central guide tube 16 connected with the apparatus housing 4 by means of four radial spokes 18 (Fig. 3).

[0018] As most clearly shown in Fig. 3, opposite the spokes 18 the guide tube 16 is provided with longitudinal slots 20 which similarly to the tube section 14 communicates with the ventilation duct for establishing a mandatory minimum ventilation, even when the valve plate 10 is located in an upper closed position. The valve plate 10 is operated by a not shown electric spindle or damper motor in such a way that the valve plate 10 is automatically moved downwards to the open position shown in Fig. 1 when the cooker hood 2 is switched on, and the valve plate 10 is automatically moved up to closed position when the cooker hood 2 is switched off again. The damper motor, e.g. Belimo, interacts with a suitable jaw-tongs mechanism.

[0019] In Figs. 3 and 4 is seen how a specially customised flexible filter plate 22 is disposed externally of the spokes 18 in such a way that the filter plate 22 curves upwardly between the spokes 18 with the object of maximising the size and thereby the function of the filter plate 22.

[0020] In Fig. 5, the valve plate appears in closed position where the forced minimum ventilation occurs through the central opening 12 which, irrespective of the location of the valve plate 10, is in continuous communication with the ventilation duct. In addition, it is seen most clearly in Fig. 5 that the edge part 6 is fitted with a ring of LED lamps 24, being in number sixteen LED lamps 24.

[0021] Fig. 6 shows an alternative embodiment of a cooker hood 2' where the guide tube 14' is mounted by means of three spokes 18'.

Claims

1. Arrangement by a cooker hood (2), comprising a mainly cylindrical apparatus housing (4) with a first opening adapted to being permanently connected with a ventilation duct, and with a second opening connected with a curved screen member (8) by means of a lower annular edge part (6) of the apparatus housing (4), the cooker hood (2) including or interacting with a usual electronic control panel, **characterised in that** the apparatus housing (4) comprises a convex valve plate (10) with a centrally disposed third opening (12) which by means of motor devices is displaceable between a closed and an open position, and which in a convex surface comprises said permanent connection to the ventilation duct in the form of a central boring.

2. Arrangement according to claim 1, **characterised in that** the motor devices are constituted by an electric spindle or damper motor.

3. Arrangement by a cooker hood according to claim 1, **characterised in that** the cooker hood (2) comprises a filter (22) which is interposed between the valve plate (10) and the connection to the ventilation duct.

4. Arrangement by a cooker hood according to claim 3, **characterised in that** the valve plate (10) is seated by means of a central tube (14) in a central guide (16) which is connected with the apparatus housing (4) by means of a number of radial spokes (18), and which includes a number of axially extending slotted apertures (20) which are permanently connected with the ventilation duct.

5. Arrangement by a cooker hood according to claim 1 - 4, **characterised in that** the control panel comprises a pushbutton which is adapted for switching the cooker hood (2) on and off, and which at the same timer operates the closing and opening function of the valve plate (10).

6. Arrangement by a cooker hood according to claim 1 - 4, **characterised in that** the lower edge part (6) is fitted with a ring of LED lamps (24), for example 16 LED lamps (24).

7. Arrangement by a cooker hood according to claim 1 - 4, **characterised in that** the filter is constituted by a filter plate (22) which is customised such that it bears on the radial spokes (18) and at the same time curves inwardly/upwardly between the radial spokes (18).

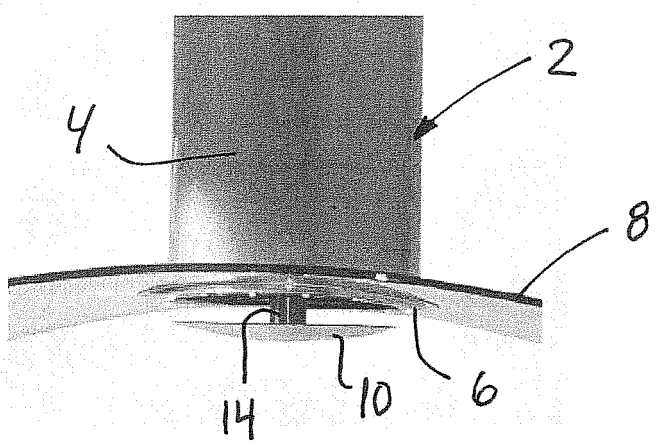

Fig. 1

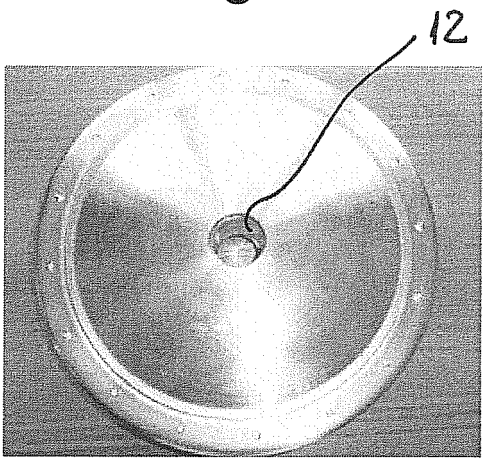

Fig. 2

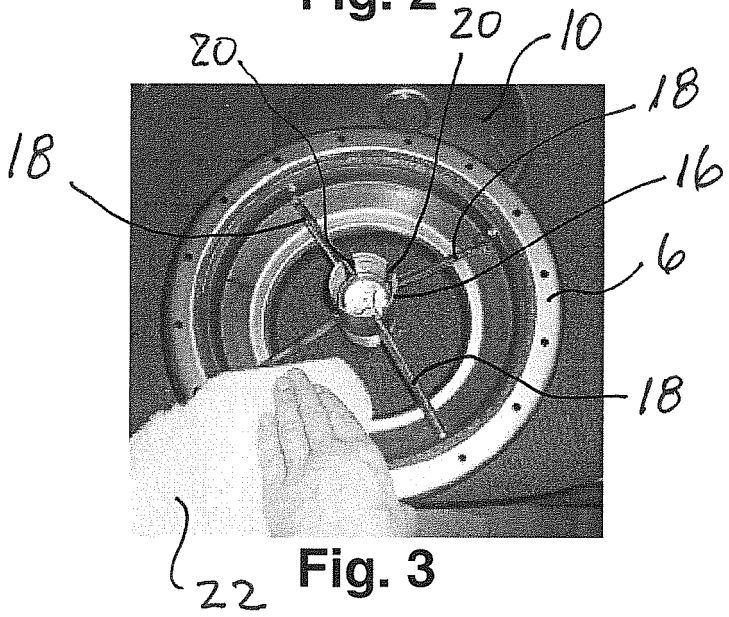

Fig. 3

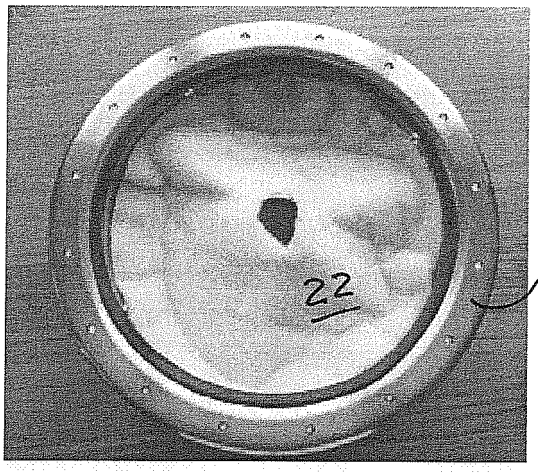

Fig. 4

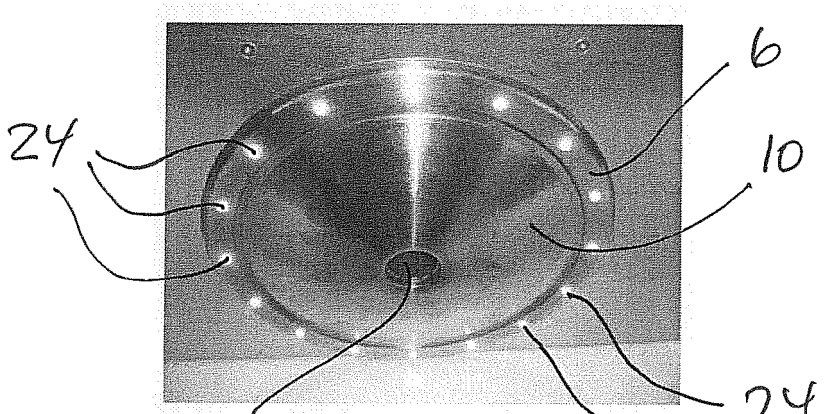

Fig. 5

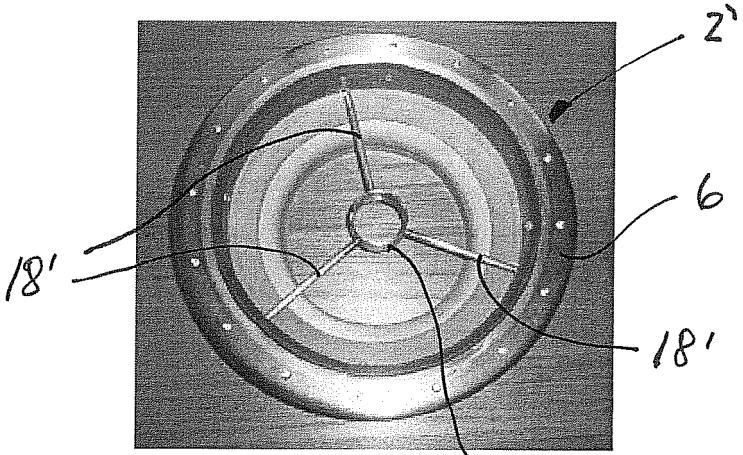

Fig. 6

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- EP 0726424 A2 **[0003]**
- DK 174164 B1 **[0004]**
- NO 325014 B1 **[0005]**