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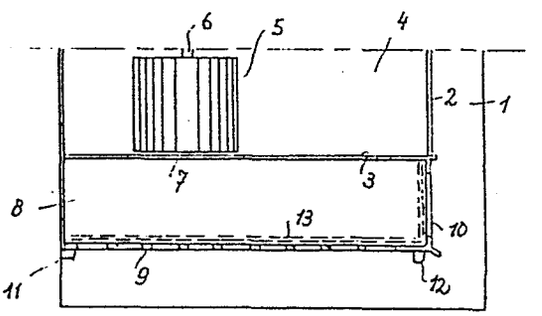
(54) An exhaust hood.

(57) An exhaust hood comprises a blower housing having a substantially vertical axis, and an apertured bottom joining a filter box 8. Said filter box is provided with an air pervious detachable lower plate 9, air deflection means comprising a filter sheet 13 made of metal mesh or apertured or expanded metal, covering at least said lower plate 9.



EP 0 136 738 A2

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An exhaust hood.

The invention relates to an exhaust hood comprising a blower housing arranged within the hood and having a substantially vertical axis, said blower housing having an apertured bottom joining a filter box with a substantially horizontal bottom which is detachably connected to the exhaust hood, the bottom of the blower housing forming, moreover, the upper wall of the filter box, said filter box having a height which is small in proportion to its length and width, and which is, at its inner side, provided with air deflection means causing the air taken in by the blower to follow a tortuous path, whereby substances entrained by the air can settle on said deflection means.

Such an exhaust hood is a.o. disclosed in US PS 3,768,237. In this known device the filter box forms, together with the bottom plate of the blower housing, a detachable unit, said box being open at least at one side, and at least one of both boundary walls being provided with projections deflecting the air flow taken in so as to produce the desired separation. The bottom plate and the lower plate are interconnected by means of a hinge. The unit thus formed can be easily cleaned. Since the exhaust openings are provided in the lateral wall of the box, the air flow in the filter box taken in is mainly horizontally directed.

A disadvantage of this known exhaust hood consists in that the air flow taken in horizontally at the narrow lateral sides (and in practice only at the front side). This means that vapour originating from a cooking apparatus placed under the hood will not be uniformly exhausted. In the case of a considerable and particularly sudden, vapour production, a portion thereof can escape towards the surroundings of the hood, also because the exhaust capacity is restricted by the relatively small cross-section of the

filter box opening. Furthermore the vapour can condense against the lower plate of the filter box, which will lead to drop formation and also deposition of grease etc.

It is an object of the invention to provide an exhaust hood not having these disadvantages. To that end in the hood of the invention the detachable lower plate of the filter box is made air-pervious, while the air deflection means are formed by a filter sheet made of metal mesh or apertured or expanded metal, covering at least the lower plate.

As the lower plate of the filter box is pervious, a vertical exhaustion over the complete surface of this plate is obtained, so that no condensation or deposition on the lower plate will take place, and also the exhaust effect is increased by the larger cross-section of the exhaust opening so that also in the case of a considerable vapour production or vapour blasts, an effective exhaustion within the hood is ensured. After removing the lower plate, the latter, as well as the filter sheet lying thereon, can be easily cleaned.

In order to improve the exhaust effect still more, also one or more lateral walls of the filter box can be made pervious, whereupon the filter sheet will be bent upwards along the lateral wall in question.

Preferably the filter sheet consists of stainless steel in order to prevent corrosion by the vapours.

Such a filter sheet can provide a more effective separation than the projections of the known filter box, so that soiling of the blower and the blower housing will be reduced, and cleaning thereof will be required less repeatedly. To that end the bottom plate of the blower housing can be separately detachably connected to the exhaust hood, so that this plate should not always be removed together with the filter box.

The present invention will be elucidated below by reference to the accompanying drawing, showing a section of a portion of an exhaust hood according to the invention.

The drawing shows a diagrammatical representation of an embodiment of the exhaust hood according to the invention, the lower part thereof being shown at 1. Vertical walls 2 and a horizontal bottom 3 define a blower housing 4 within this hood, inside which a blower body 5 is rotatably arranged and is, by means of a shaft 6, coupled with a drive motor, not shown. In a known manner the blower housing 4 can have a helical shape, and the discharge side thereof communicates with a discharge duct, not shown.

The bottom plate 3 is provided with an opening 7 connecting with the interior of the blower body, so that this opening 7 acts as the intake opening of the blower.

Below the bottom plate 3 of the blower housing 4 a filter box 8 is provided consisting of a lower plate 9 and lateral walls 10, said filter box 8 being adapted to be detachably fixed to lateral walls (not shown) of the exhaust hood 1 proper or of the blower housing 4, e.g. by means of rear brackets 11 and snap locks or latches 12 arranged at the front side. If the above-mentioned fixed lateral walls sufficiently join the lower plate 9, a front wall 10 may suffice for closing the inner space of the filter box 8.

The lower plate 9 of the filter box 8 is air pervious, and can, to that end, be provided with a large number of apertures, or can, for the greater part, consist of open wire mesh or the like. Also the front wall can be made pervious in this manner, and, if the filter box 8 is provided with independent lateral walls, also the latter can be made pervious if desired.

On the lower plate 9 a sheet 13 of metal mesh or apertured or expanded metal is supported, said sheet consisting, particularly,

of stainless steel or a similar corrosion-resistant material. In the case of a pervious upstanding wall, the filter sheet is to be bent upwards, as shown, against this upstanding wall.

The air taken in by the blower 5 will mainly (and in the case of closed lateral walls 10 fully) enter, through the open lower plate, into the filter box 8, the air being repeatedly deviated in the very narrow passages in the filter sheet 13, so that deposition of substances entrained by the air, in particular water vapour and grease, will take place there. This separation is, in view of the character of these passages, very effective, so that the air let through will be substantially free of entrained substances. Accordingly the bottom plate 3 directed towards the filter box 8, and also the blower body 5, will be only slightly exposed to soiling.

For cleaning the filter box it suffices to release the locking means 11, and to remove the lower plate 9 (together with the lateral walls connected thereto) from the hood 1. Then the filter sheet 13 can be taken away to be separately cleaned. This can be done in a more simple manner than in the case of the known filter boxes with extending ribs or teeth which, generally, have to be brushed clean.

Since a filter sheet of this type operates very effectively, the blower housing 2 and body 5 have less often to be cleaned. The bottom plate 3 can, for instance, be supported in sliding guides, or can be fixed by means of a snap connection or the like, so that it can be easily unfastened for cleaning also the interior of the blower housing at larger intervals. It is, of course, also possible to place the bottom plate 3 as a loose cover on the filter box, so that, then this plate is always removed from the hood together with the box.

Since the cross-sectional area of the exhaust opening in

such a filter box is much larger than in the known ones, the exhaust effect is better, and, moreover, the exhaustion takes place vertically, i.e. in the rising direction of the produced vapours, which also contributes to an improvement of the exhaust effect, and deposition and condensation on the lower side of the filter box is prevented thereby. As a consequence of the better exhaust effect, condensation and deposition on adjoining walls is effectively prevented.

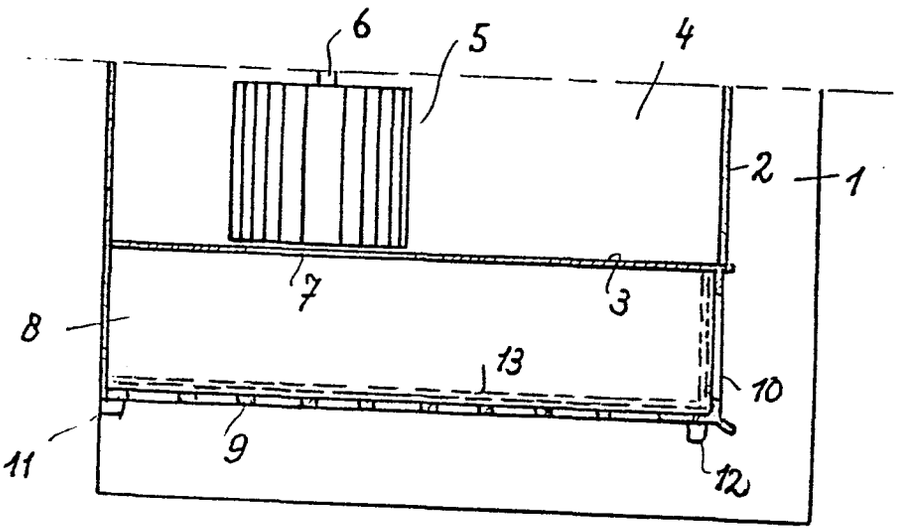
CLAIMS

1. An exhaust hood, comprising a blower housing arranged within the hood and having a substantially vertical axis, said blower housing having an apertured bottom joining a filter box with a substantially horizontal bottom which is detachably connected to the exhaust hood, the bottom of the blower housing forming, moreover, the upper wall of the filter box, said filter box having a height which is small in proportion to its length and width, and which is, at its inner side, provided with air deflection means causing the air taken in by the blower to follow a tortuous path, whereby substances entrained by the air can settle on said deflecting means, the detachable lower plate of the filter box being air-pervious, while the air deflection means are formed by a filter sheet made of metal mesh or apertured or expanded metal, covering at least the lower plate.

2. The exhaust hood as claimed in Claim 1, wherein one or more lateral walls of the filter box are made pervious, and the filter sheet is bent upwards along the lateral wall in question.

3. The exhaust hood as claimed in Claim 1 or 2, wherein the filter sheet consists of stainless steel or a similar material resistant to corrosion.

4. The exhaust hood as claimed in any one of Claims 1-3, wherein the bottom plate of the blower housing is separately detachably connected to the exhaust hood.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