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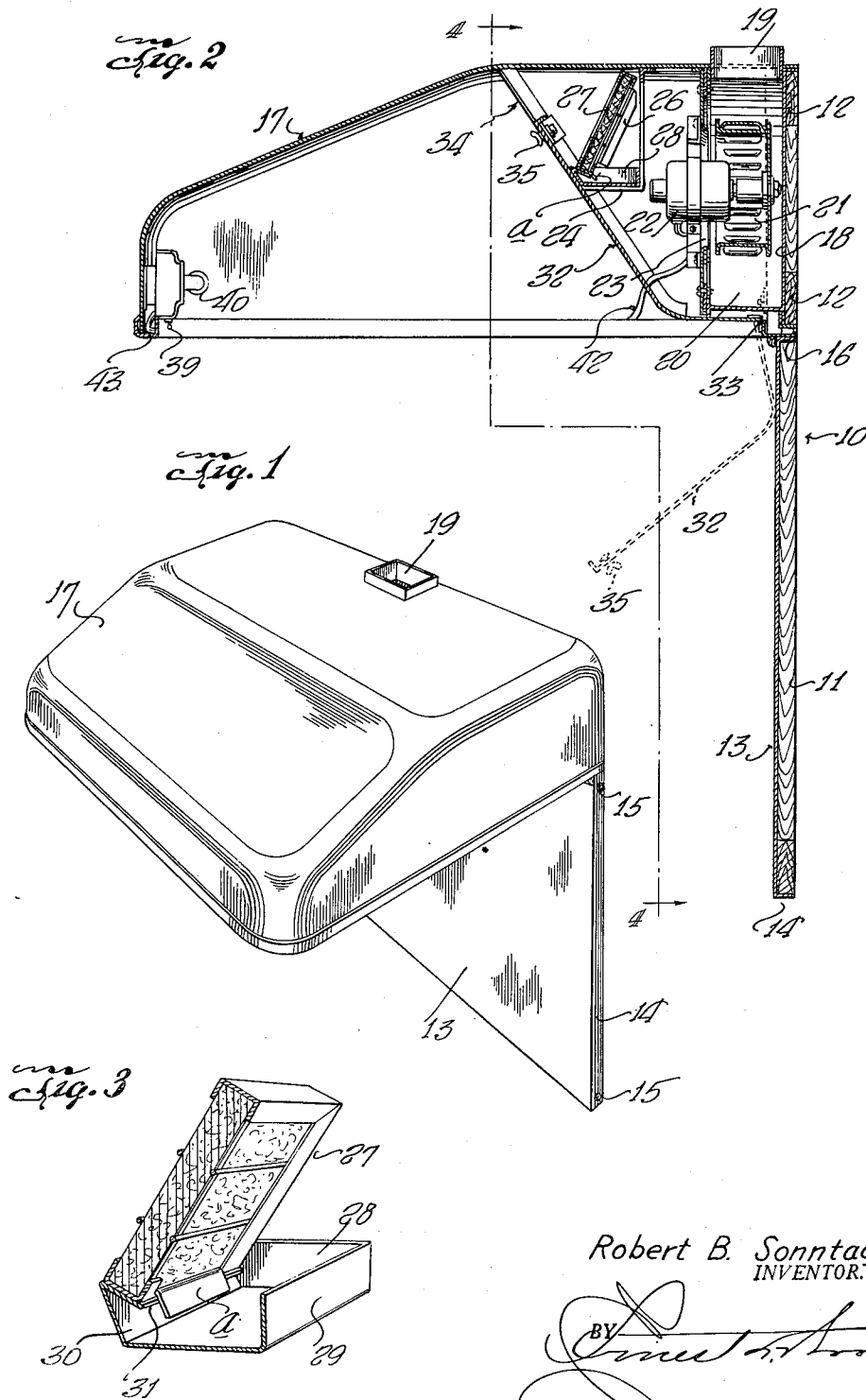
R. B. SONNTAG

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COOKING STOVE VENTILATING HOOD

Filed Dec. 19, 1949

2 SHEETS—SHEET 1



Robert B. Sonntag
INVENTOR.

BY *[Signature]*
ATTORNEY

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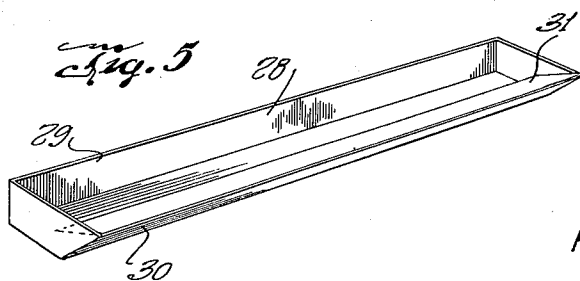
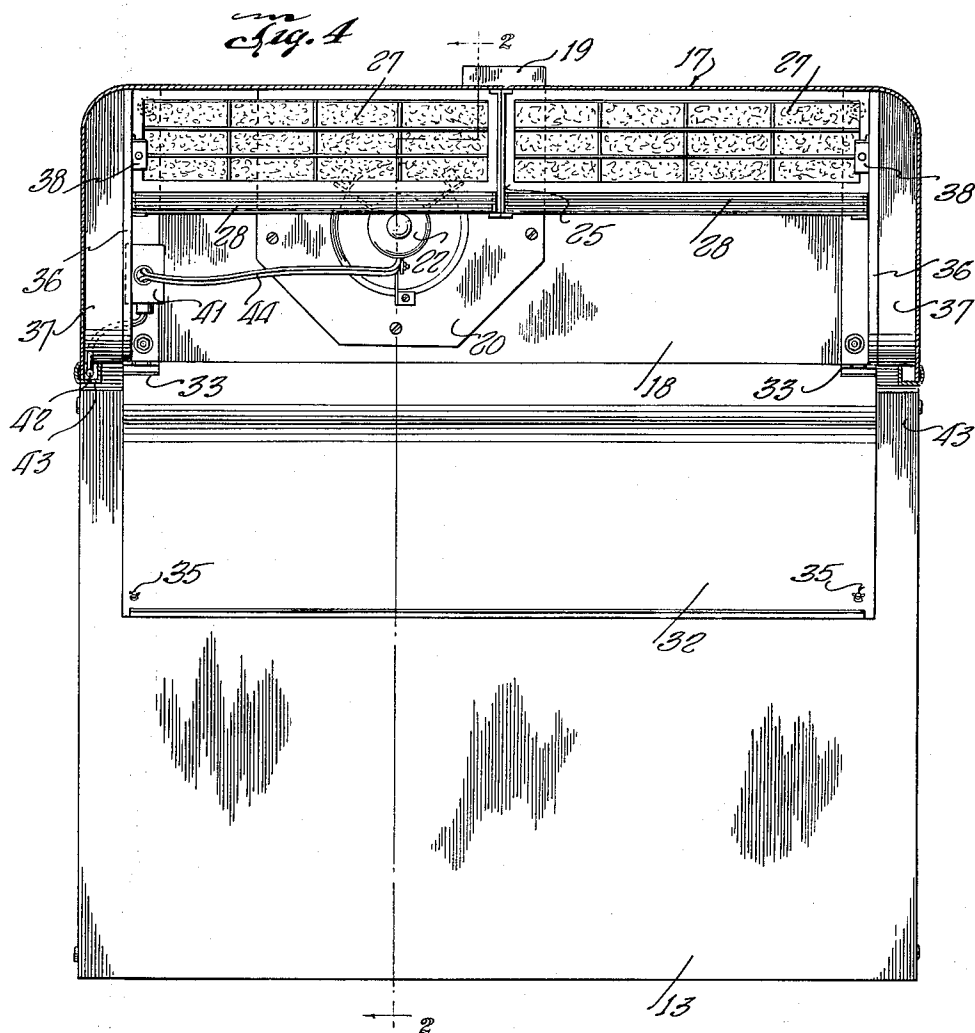
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UNITED STATES PATENT OFFICE

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COOKING STOVE VENTILATING HOOD

Robert B. Sonntag, Dallas, Tex.

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5 Claims. (Cl. 98—115)

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This invention relates to ventilating equipment and more particularly to an improved ventilating canopy for cooking stoves for disposing of smoke and cooking odors.

The principal object of the invention is to provide a hood which is devoid of sharp angles in its construction making for more ready cleaning thereof but more important is the fact that a blower is provided whose intake area is coextensive with the width of the hood and is so disposed that all of the smoke and fumes rising from the stove will be caught up in the suction of the blower and influenced thereby through the intake area and out of the stack, leaving none to by-pass the hood, which is the objectionable characteristics of conventional ventilating hoods whose intake openings are too low with respect to the top of the hood.

Another object of the invention is to provide replaceable filter mats through which the grease laden smoke is constrained to pass and thus deprive the same of entrained grease preliminary to exhausting the smoke to atmosphere. The combined length of the filters is equal to that of the air intake area, hence to obviate restriction. Moreover, provision is made to support the filters for ready removal and at such an angle as to facilitate drainage of condensed grease into a suitable tray or pan which likewise may be removed for emptying.

Still another object of the invention is to provide a hinged cover which, when closed, conceals the blower, filters and grease collecting pan, the upper edge of the cover terminating short of the undersurface of the hood to define the blower intake area referred to.

Other objects will appear as the description proceeds, taken in connection with the accompanying drawing, wherein:

Fig. 1 is a top perspective view of a cooking stove canopy or hood, constructed according to the invention.

Figure 2 is a vertical sectional view, taken on line 2—2 of Figure 4.

Figure 3 is a perspective view of the grease collecting pan and a filter mat in vertical section.

Figure 4 is a vertical sectional view of the hood taken on line 4—4 of Figure 2, and

Figure 5 is a perspective view of the grease collecting pan per se.

Continuing with a more detailed description of the drawing, reference numeral 10 denotes generally a mounting frame for the ventilating hood and wall panel, said frame being similar in many respects to that described in U. S. Letters Patent issued to John H. Sonntag, November 8, 1949, No. 2,487,607. The frame consists primarily of vertical timbers 11 and parallel horizontal timbers 12 thereabove. The vertical timbers 11 are spaced apart to provide supports for the wall panel 13, having side and bottom edge flanges 14

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through which screws 15 pass and enter the timbers 11. The flange 16 along the top of the wall panel 13 extends over the tops of the timbers 11, as shown in Figure 2.

5 The hood or canopy 17 is formed from sheet metal and all angles are each formed with a long radius thus to obviate corners to collect dirt and to facilitate cleaning of the hood.

The rear wall plate 18 of the hood lies flush against the upper portion of the mounting frame 10 and is rearwardly flanged to embrace the timbers 12, top and bottom. The top and sides of the hood, at the rear thereof, embrace the flanged perimeter of the rear plate 18, to which 15 they are secured. A flanged opening 19 is provided in the top of the hood 17 to receive a stack, not shown. A housing 20 is suspended from the undersurface of the hood 17 and is secured to the rear plate 18. The housing contains a blower 21, operated by motor 22. The motor 22 is mounted in the circular intake opening 23 of the blower housing and, it will be observed in Figure 2, the edges of the intake opening are rolled inwardly.

25 Spaced forwardly of the blower housing 20 is a series of substantially L-shaped brackets 24 whose upper ends are spot welded to the undersurface of the hood 17. A separator plate 25 (Fig. 4) is mounted on the intermediate bracket 24 and to each side of this separator plate is affixed an angular strip 26. A like strip is affixed at the same angle to the inner surface of each end of the hood 17 and these strips are adapted to support the ends of two, longitudinally aligned filter mats 27 at such an angle that condensed grease will readily drain therefrom into a collecting pan 28 therebelow.

There are two of the collecting pans 28, such as shown in Figures 3 and 5. Each pan is constructed with a perpendicular longitudinal wall 29 which is the rear wall thereof but the front or opposite wall of the pan is upwardly divergent and is formed with a coextensive lip 31 which forms an acute angle with the divergent wall, inwardly thereof and constitutes a support for a filter mat 27 which accounts for the latter's angular position in the hood. The filter mat 27 is not new, either in construction or use as applied to a stove ventilating hood but in the present case, the flange formed on the frame of the mat is, as shown in Figure 3, cut into segments 32 of predetermined length and turned downwardly, to facilitate drainage of grease from the mat into the pan 28 on which the mat is supported. Also, the fact that the intake area of the blower, which actually is formed along the top edge of a hinged cover plate 32, is considerably longer than that of any known ventilating hood, the filtering area of the present hood is greater since the filter mats 27, in end to end relationship, cover the entire intake area.

The cover plate 32 is hinged along its lower edge at 33 and is curved longitudinally at a point spaced forwardly of its hinge, to extend upwardly and terminates at a point spaced downwardly from the undersurface of the hood to define the intake area 34 (Fig. 2) which is coextensive with the width of the hood, as explained. A spring latch 35 provides a simple means for holding the closure plate 32 at its free corners in closed position so that its ends will lie in recessions 36 (Fig. 4) formed in flanges 37, produced by offsetting the confronting edges of these flanges. Keepers 38 (Fig. 4) are provided for the latches 35.

The ventilating hood is seldom used except while cooking on the stove over which it is mounted. Therefore, the air, smoke and fumes drawn by the blower through the filter mats 27 are usually of a temperature which is adequate to liquefy the grease which has solidified in the filter mats, hence the mats need not be frequently cleaned or replaced but when replacement becomes necessary, it is a simple matter to lift the mats off their supports 31 and install new ones since no fastening means is required.

A switch 39 is provided under a fluorescent lamp 40 under the front of the hood, which is connected to a terminal 41 by means of a wire 42, lying in a channel defined around the skirt of the hood by a return flange 43. A wire 44 provides connection between the terminal 41 and blower motor 22.

Manifestly, the construction as shown and described is capable of some modification and such modification as may be construed to fall within the scope and meaning of the appended claims is also considered to be within the spirit and intent of the invention.

What is claimed is:

1. A cooking stove ventilator comprising a hood having front and end walls and adapted to be mounted on and to extend outwardly from a wall to overlie said stove, a rear wall in said hood, a blower housing affixed to said rear wall and having an exhaust opening in the top of said hood, a blower in said housing having a horizontal shaft, a motor for driving said shaft, a plurality of substantially L-shaped brackets suspended from the top of said hood having horizontal portions extending towards the front of said hood, a filter supported on said horizontal portions in inclined position forwardly of said blower housing and extending from the front edge of said horizontal portions to the top of said hood and coextensive with the width of said hood, a flange protruding from the inner surface of said end walls and inclined opposite to said filter, a cover plate hinged at its lower end below said blower housing whose ends engage said flanges and adapted in closed position to engage the lower edges of said filter and conceal said filter and blower housing, the upper end of said cover plate terminating short of the underside of said hood to define an intake area for said blower substantially the width of said hood, and removable means below said filter for collecting grease therefrom.

2. A cooking stove ventilator comprising a smoke collecting hood having front and end walls and a rear wall plate, a blower housing secured to said rear wall plate and having a blower therein, a motor for operating said blower, a filter composed of a plurality of longitudinally aligned, air pervious mats, L-shaped supporting brackets for said mats depending from said hood and extending horizontally towards the front of said hood,

said mats being disposed on the horizontal portions of said brackets and collectively extending substantially the width of said hood and to the top thereof, a cover plate having a lower horizontal portion and an upwardly and outwardly inclined portion and hinged at its lower edge to said rear wall plate and effective in closed position to engage the lower edges of said mats to constrain air influenced by said blower to pass through said filter, the upper edge of said cover plate terminating short of the undersurface of said hood to define an intake area for said blower of a length equalling substantially the width of said hood, a flange affixed in inclined position on each end wall of said hood and extending inwardly thereof to provide bearing surfaces for the ends of said cover plate and means for receiving grease drained from said filter.

3. A cooking stove ventilator comprising a hood for collecting grease laden smoke, a front, rear and end walls on said hood, a blower housing affixed to said rear wall having an exhaust opening in the top of said hood and containing a blower adapted to operate on a horizontal axis, a motor for operating said blower, a filter for smoke and fumes extending to the top of said hood, means depending from the top of said hood and having horizontal portions extending towards the front thereof to support said filter and dispose the same forwardly of and at an angle to said blower housing, said filter comprising longitudinally aligned and replaceable air pervious mats whose combined length is substantially equal to the effective width of said hood, an inclined cover plate hinged at its lower edge to the rear wall of said hood, said cover plate being coextensive with and engaging the lower edge of said filter and having its upper edge spaced below the undersurface of said hood to define an elongated air intake area for said blower at the top of said hood, a flange on each end wall of said hood, directed inwardly thereof and disposed at an angle opposite that of said filter to provide a support for the ends of said cover plate, means to secure said cover in closed position and means accessible in open position of said cover for receiving grease drained from said filter.

4. The structure of claim 3 in which the grease receiving means consists of a pan supported by the horizontal portions of said filter supporting means and disposed under and coextensive with each filter mat and having an angular lip along one edge defining a support for the mat to hold the latter in an inclined position with respect to the pan.

5. The structure of claim 3 in which the filter mats are each mounted in a frame supported on the horizontal portions of said filter supporting means and whose lower flange is turned outwardly and downwardly to release liquefied grease collecting in said mat.

ROBERT B. SONNTAG.

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The following references are of record in the file of this patent:

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Number	Name	Date
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2,487,607	Sonntag	Nov. 8, 1949
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