June 5, 1956 W. A. SMITH 2,748,688

GREASE EXTRACTING VENT

Filed Sept. 24, 1953 2 Sheets-Sheet 1

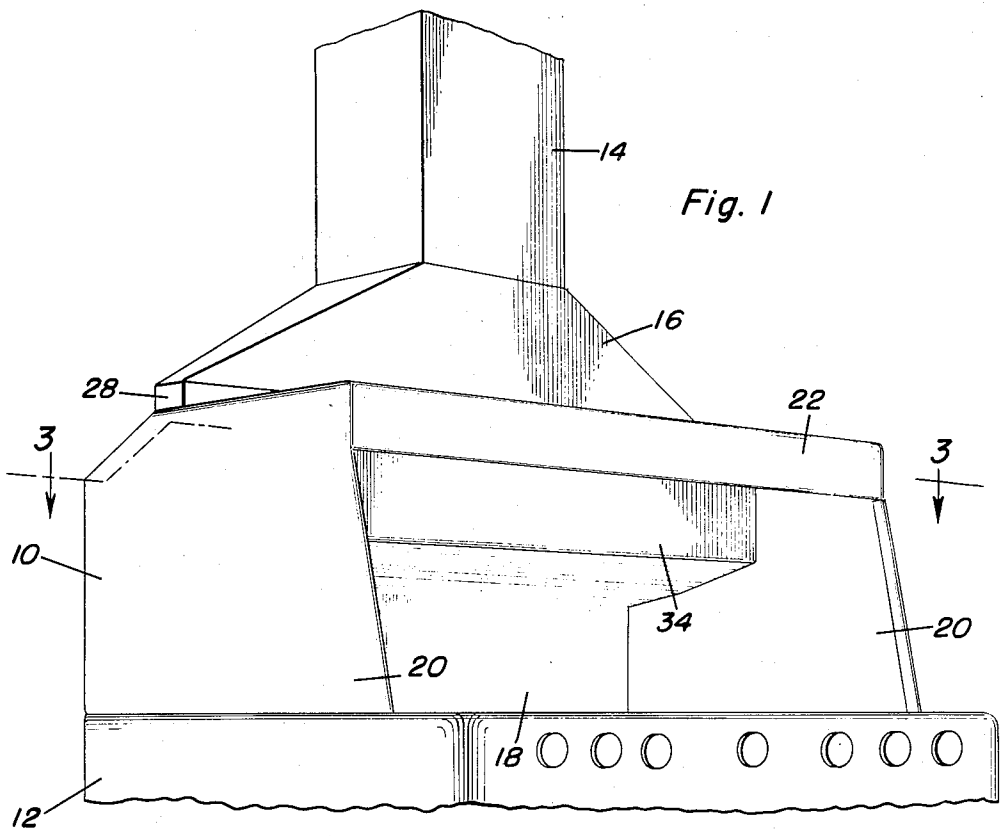


Fig. 1

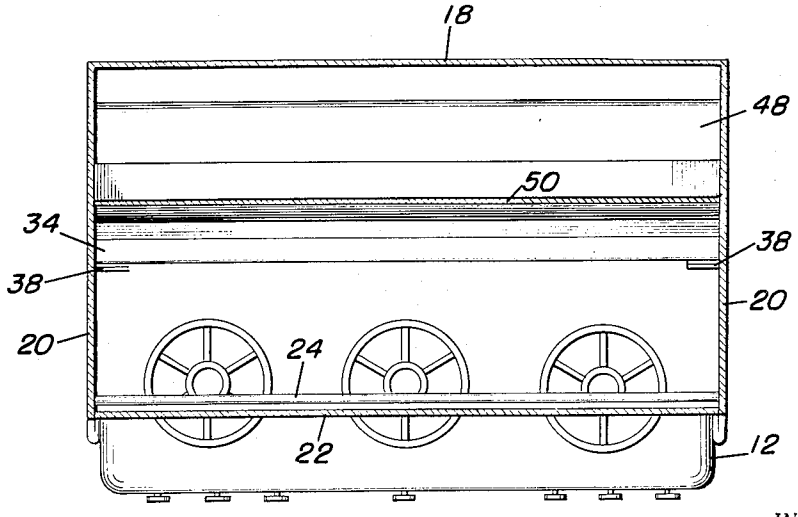


Fig. 3

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GREASE EXTRACTING VENT

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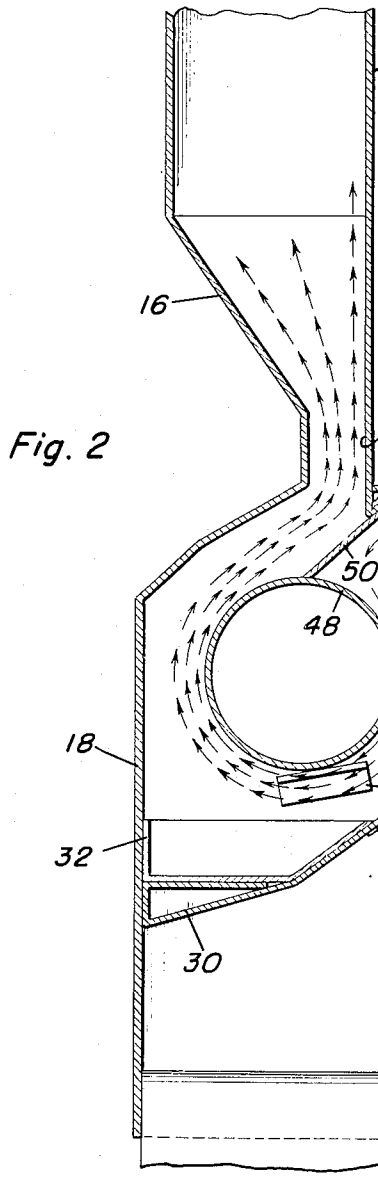


Fig. 2

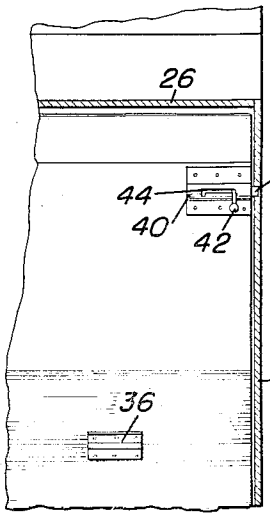


Fig. 4

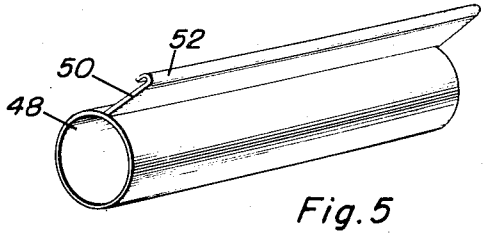


Fig. 5

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GREASE EXTRACTING VENT

William A. Smith, Dallas, Tex.

Application September 24, 1953, Serial No. 382,153

4 Claims. (Cl. 98—115)

This invention relates to a grease extracting vent and more specifically provides a vent for extracting grease from the fumes created by a cook stove during the cooking process.

An object of this invention is to provide a canopy for a cook stove providing a grease extracting vent therefor.

Another object of this invention is to provide a grease extracting vent having a receptacle for receiving the extracted grease which may be removed thereby eliminating a serious fire hazard.

A further object of this invention is to provide a grease extracting vent to be used in conjunction with an exhaust fan for exhausting air to the atmosphere.

Yet another object of this invention is to provide a grease extracting vent having a fume deflecting drum providing a torturous path for the grease laden fumes, thereby condensing and depositing the grease on the drum and walls of the vent.

A still further object of this invention is to provide portions of the vent that are removable and foldable to a position wherein the interior of the vent is easily cleaned and maintained in a safe and sanitary condition.

Another important object of this invention is to provide a grease extracting vent that is simple in construction, easy to install, efficient in operation and inexpensive to manufacture.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a perspective view showing the grease extracting vent of this invention assembled over a stove;

Figure 2 is a transverse vertical section taken substantially along the center line of the vent showing the details of the structure of the grease extracting vent;

Figure 3 is a top plan section taken substantially along section line 3—3 of Figure 1 showing the relationship between the vent and the stove;

Figure 4 is a detailed front elevation partly in section showing details of the apron securing means; and

Figure 5 is a perspective view showing details of the drum and the suspension means therefor.

Referring now specifically to Figure 1, it will be seen that the grease extractor of this invention includes a canopy member **10** fitted over the upper edge of a stove **12** and having a discharge conduit **14** and a transition conduit **16** between the canopy **10** and the discharge conduit **14**. The discharge conduit **14** has a suitable discharge fan located therein for pulling the grease laden fumes through the grease extracting vent.

It will be seen that the canopy **10** includes a back wall **18**, side walls **20** and a partially depending front wall **22** having a return bent strengthening rib **24** across the front portion thereof. A top wall **26** is provided on the canopy **10** and is provided with a suitable discharge opening **28** which extends completely across the upper portion of the canopy **10**. Secured to the rear wall **18** is a forwardly and upwardly extending bracket member **30** forming a support for a grease pan **32** and having an apron baffle member **34** pivoted to its outer edge by a suitable hinge means **36**. The apron **34** is a generally vertical member and is held in its vertical position by a sliding latch member **38** having a latch housing **40** and a handle **42** for manipulating the latch **38**. The housing **40** is provided with a notch **44** for slidably receiving the shank of the handle **42** and the side member **20** of the canopy **10** are provided with suitable apertures for receiving the end portion of the latch **38** when in its extended position for securing the apron **34** in vertical position. The handle **42** may be retracted thereby withdrawing the latch **38** from the apertured side wall **20** and permitting the apron **34** to be pivoted about hinge **36** to an open position thereby providing access to the interior of the canopy **10** and removal of the grease pan **32** for removing the extracted grease and cleaning the interior of the canopy.

As best seen in Figure 2, the opening **28** has a projecting hook member **46** on the bottom end of a projection and a cylindrical drum **48** having a suspension plate **50** projecting from the periphery thereof and having a hook member **52** for engaging over the hook **46** thereby suspending the drum **48** within the confines of the canopy **10**. It will be seen that the drum **48** is suspended over the grease pan **32** in spaced relation to the rear wall **18** and the apron **34** and the suspension plate **50** forms a closure from the top wall **26** down to the drum **48**. As will be seen, the grease laden fumes follow the arrows as shown in Figure 2, that is, up over the apron **34** and then downwardly about the periphery of the drum **48** wherein the grease is deposited on the drum and drips off into the pan **32**. A pair of angle brackets **54** are secured on the end members **20** for supporting the lower periphery of the drum in operative position. By lowering the apron **34**, the drum **48** may be removed by disengaging the hook members **46** and **52** for cleaning as becomes necessary. All of the members **30**, **32**, **34**, **46**, **48**, **50** and **52** extend throughout the entire length of the canopy and engage both ends walls **20**.

The operation of the device will be readily understood. The canopy **10** is installed over the stove **12** and the discharge conduit **14** is suitably equipped with a discharge fan for pulling the grease laden fumes away from over the stove **12** out through the discharge conduit **14**. Fumes pass up over the apron and are deflected downwardly about the outer periphery of the cylindrical drum **48** and then upwardly through the opening **28** to the discharge conduit **14**. The grease fumes due to the centrifugal action as they pass about the drum **48** and due to the change of direction as they pass about the apron baffle **34** deposit the grease on the surfaces which are all tapered to drain the grease into the grease pan **32**. Periodically, the pan **32** may be removed and emptied by disengaging the latch members **38** and pivoting the apron **34** about the hinge pin **36** wherein the grease pan may be removed. The drum and suspension plate may also be removed for cleaning and the interior of the device may be easily cleaned for sanitation and elimination of any fire hazard.

The device of this invention may be made of any type sheet metal such as stainless steel meeting the requirements of sanitation and appearance and the particular size of the canopy may be determined by the individual needs of the various installations and the frequency of cleaning, of course, is determined by the amount of use the stove is subject to. Obviously, the drum **48** may be made in a single section or may be made in a plurality of sections for ease of handling and cleaning as desired.

From the foregoing, the construction and operation

of the device will be readily understood and further explanation is believed to be unnecessary. However, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the appended claims.

What is claimed as new is as follows:

1. A grease extracting vent comprising an enlarged generally rectangular canopy for collecting grease-laden fumes, a discharge conduit extending from the upper end of the canopy for venting the canopy to the amosphere, a plate extending into the interior of the canopy and forming a continuation of one side of said discharge conduit, a bracket on each side wall of the canopy, a cylindrical drum supported on said plate and said brackets, said drum and plate extending horizontally and completely across the interior of the canopy, a baffle extending across said canopy and extending to the rear wall of the canopy in spaced relation to the drum and plate and being disposed between the drum and the source of fumes, said baffle terminating in spaced relation to the top of the canopy and above the lower periphery of the drum, said discharge conduit being disposed on the opposite side of the drum from the baffle whereby grease-laden fumes must pass over the upper end of the baffle and downwardly around the drum and upwardly through the discharge conduit for extracting grease from the fumes by centrifugal force as they pass around the lower periphery of the drum.

2. The combination of claim 1 wherein said drum supporting plate includes a hooked upper longitudinal edge, said one side of said discharge conduit having a hooked longitudinal edge for detachably supporting said plate and drum to permit removal thereof, said drum resting upon said brackets to permit lifting thereof to disengage the hooked edges.

3. The combination of claim 2 wherein said baffle has a lower section rigidly attached to the canopy and extending under the drum and an upper section pivotally attached to the lower section, and releasable latch means adjacent the upper end of said upper section of the baffle for engagement with opposite walls of the canopy to permit vertical swinging movement of the upper section of the baffle whereby the drum and plate may be removed for cleaning.

4. The combination of claim 3 together with a removable receptacle disposed on the upper surface of the lower section of the baffle, said receptacle being positioned under said drum for collecting grease from the fumes.

References Cited in the file of this patent

UNITED STATES PATENTS

689,104	Mason	Dec. 17, 1901
2,226,641	Sonntog	Dec. 31, 1940
2,375,608	Young	May 8, 1945
2,564,074	Musante	Aug. 14, 1951

FOREIGN PATENTS

237,665	Great Britain	Aug. 6, 1925
323,049	Great Britain	Dec. 24, 1929
556,361	Great Britain	Oct. 1, 1943
901,740	France	Nov. 13, 1944