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COMBINED MANIFOLD AND DRAFT DIVERTER

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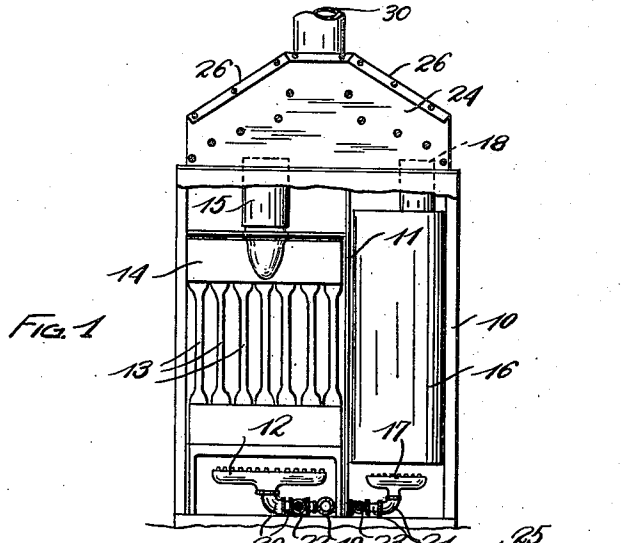

FIG. 1

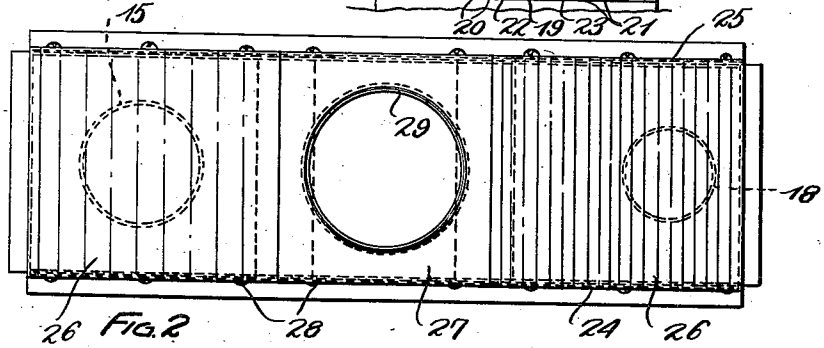

FIG. 2

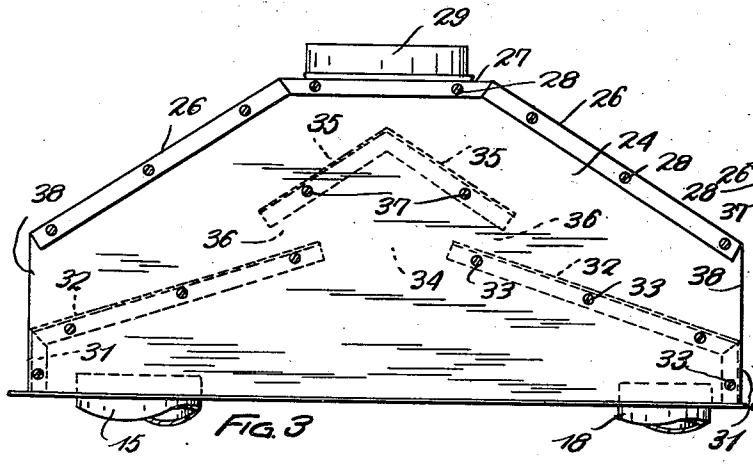

FIG. 3

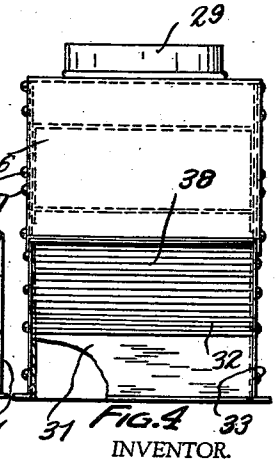

FIG. 4

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COMBINED MANIFOLD AND DRAFT DIVERTER

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2 Claims. (Cl. 126—307)

This invention relates to improvements in combined manifold and draft diverters, the invention as disclosed herein being embodied in a hood for a plurality of heating units generally of different types.

One of the objects of the invention is the provision of apparatus wherein a plurality of heating units are mounted in juxtaposition to each other and discharge into a common hood in which is incorporated a single draft diverter serving all of the units.

Another object is the provision of a multi compartment casing, housing two heaters, the fuel connections for which are joined together, thereby facilitating the installation of the heaters and lessening the cost thereof.

Other objects and features of novelty will appear as I proceed with the description of that embodiment of the invention which, for the purposes of the present application, I have illustrated in the accompanying drawing, in which:

Fig. 1 is a front elevational view of the pertinent parts only of a double unit apparatus, with the front wall of the casing broken away in order to more clearly illustrate the invention.

Fig. 2 is a top plan view on a larger scale of the draft hood.

Fig. 3 is a front elevation of the hood, and

Fig. 4 is an end view of the same.

In the drawing, 10 represents a casing preferably formed as a frame of angle iron covered with sheet metal. In the casing, there are a plurality of compartments, two being illustrated, which compartments are separated from each other by a partition 11. In one of these compartments, there is housed a furnace and in the other a water heater. In the furnace compartment, there is a gas burner 12 from which the products of combustion rise through a series of tubular conductors 13 into a header 14. A draft outlet 15 extends upwardly from the header 14 as shown in the drawing, and projects through a suitable opening in the top wall of the casing 10. Air to be heated is caused to flow exteriorly over the tubular conductors 13.

In the other compartment of the casing, there is mounted a water storage tank 16 heated by a gas burner 17, and the products of combustion of this burner are vented through a draft outlet 18 which also projects upwardly through a suitable opening in the top wall of the casing. An instantaneous type water heater may be substituted for the storage type herein illustrated if desired.

The two burners 12 and 17 are fed from a single fuel conductor 19 which enters the casing at a convenient point and from which individual conductors 20 and 21 lead to the burners. In each of the branch conductors, there is a valve 22 and 23, respectively, which controls the flow of gas to the individual burners. While these valves are illustrated as hand valves, it will be appreciated that valves operated by electrical energy or otherwise, and under control of thermostats (not shown), may be substituted, and as a matter of fact will be substituted in most cases.

Over the top of the casing 10, assuming that the draft outlets 15 and 18 extend upwardly through the top of the casing as herein illustrated, and in any event in a position to receive the outlets, I mount a draft hood which in the present instance comprises front and back side members 24 and 25 and an upper closure having two inclined portions 26 and a central horizontal portion 27. The closure elements 26 and 27 which are preferably formed from a single piece of sheet metal are flanged at each side to engage the side wall members 24 and 25 to which they are secured by fastenings 28. In the horizontal element 27 I form a flue connection 29 from which a pipe 30 may be caused to extend to a chimney.

The side members 24 and 25 of the draft hood are further connected and braced by the manifolding means and the draft diverter now to be described. The manifolding means according to the present disclosure consists of two identical parts each formed of sheet metal flanged at the side edges and dimensioned to fit between the side walls 24 and 25 of the hood. Each of these parts comprises a short vertical portion 31 forming an end wall that closes the lower part only of the end of the hood, and a baffle 32 which is upwardly and inwardly inclined and stops short of the median line of the hood. The side flanges of these manifold parts 31 and 32 are secured to the side walls 24 and 25 of the hood by screws 33 or the like. The gases discharged from the outlets 15 and 18 are directed upwardly and toward the center of the hood by this manifold means and pass outwardly through the opening 34 left between the inner ends of the two baffles 32.

The draft diverter comprises two baffles 35 of sheet metal inclined upwardly and inwardly and meeting in a line located preferably directly above the middle of the opening 34. As indicated in Figure 3, the baffles 35 are positioned far enough above the manifolding means 32 to leave free passageways 36 through which the products of combustion may flow after passing through the

opening **34**. The diverter element comprising baffles **35** is preferably formed of a single piece of sheet metal and has side flanges which are attached to the walls **24** and **25** of the hood by fastenings **37**. After emerging from the passageways **36** the exhaust gases then flow upwardly between the diverter baffles **35** and the closure walls **26** of the hood, being then mixed with atmospheric air which enters the hood at the ends thereof through the openings **38** above the end portions **31** of the manifolding means, thereby cutting down the strength of the draft to the desired point. When down drafts occur, the downward flow instead of being permitted to enter the space within the manifolding means is diverted by the baffles **35** and **32** to atmosphere through the openings **38**, the functions of the diverter therefore being the same as in the case of the conventional diverter positioned in the flue pipe of apparatus of this kind. In my construction, one diverter and one flue connection serve for the two draft outlets, saving expense in manufacture and in installation, and furthermore, the appearance of the apparatus is considerably enhanced.

Having thus described my invention, what I claim is:

1. In apparatus of the class described, a hood having spaced openings at the bottom for the reception of a plurality of draft outlets, said hood comprising manifolding means for directing exhaust gases from all of said outlets to a central opening within the hood, said hood having openings to the atmosphere exteriorly of said manifolding means, baffle means within the hood above the said central opening for directing down draft away from said central opening, and a flue connection at the top of the hood above said baffle means.

2. In apparatus of the class described, a hood having spaced openings at the bottom for the reception of a plurality of draft outlets, said hood comprising manifolding means adapted to embrace and cover said draft outlets, said manifolding means having inclined upper walls leading to an opening in the top thereof within the hood, said hood having openings to the atmosphere exteriorly of said manifolding means, a draft diverter within the hood comprising baffles spaced above said manifolding means, said baffles being inclined and meeting above the opening in said manifolding means, said hood having a flue opening above said baffles and arranged centrally with respect thereto.

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