Aug. 15, 1950 C. H. MELTON 2,518,629

FORCED AIR FLOW OIL BURNING AIR HEATING FURNACE WITH INTERNAL AIR CHAMBER

Filed June 4, 1946 2 Sheets-Sheet 1

Fig. 1.

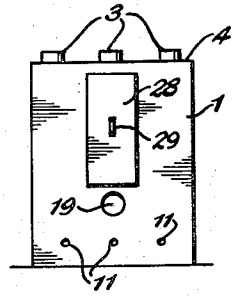


Fig. 2.

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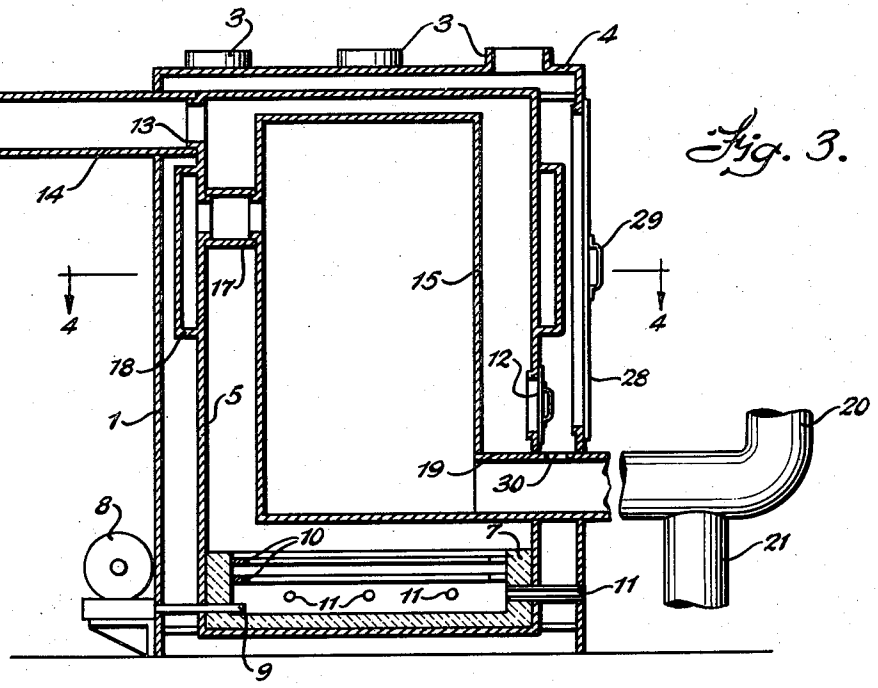


Fig. 3.

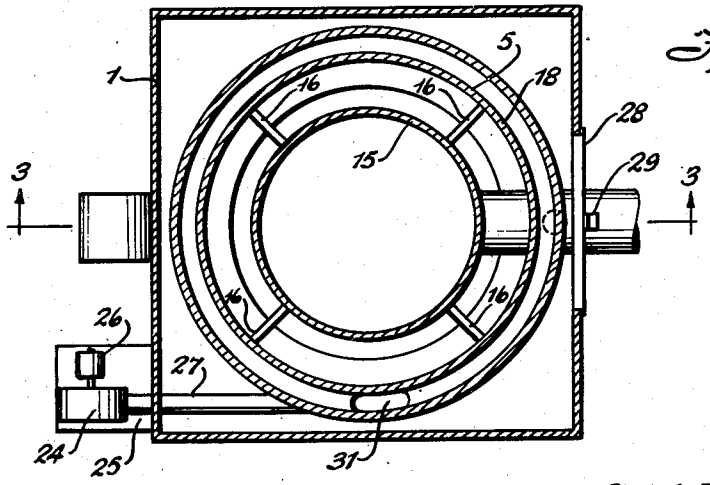


Fig. 4.

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UNITED STATES PATENT OFFICE

2,518,629

FORCED AIR FLOW OIL BURNING AIR HEATING FURNACE WITH INTERNAL AIR CHAMBER

Carl H. Melton, Indianapolis, Ind.

Application June 4, 1946, Serial No. 674,320

2 Claims. (Cl. 126—110)

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This invention relates to improvements in oil heating stoves.

An object of the invention is to provide an improved oil heating stove which will include means for admitting air into a heating drum in said stove to be heated therein, together with means for forcing the heated air out through suitable ducts to be discharged through radiators in the several rooms of the structure in which the stove is located.

Another object of the invention is to provide an improved oil heating stove which will include an outer casing or jacket, an inner air heating drum, and an intermediate casing or jacket in which an oil burner is disposed, whereby air passing through the air heating drum will be heated by said oil burner and forced through suitably disposed ducts to be discharged in various places throughout the building in which the stove is located.

A further object of the invention is to provide an improved air heating oil stove which will include an oil burner and an air heating drum, together with means for admitting air to be heated to said drum at a tangent thereto for forcing the heated air to one or more outlets from the air heating drum and to ducts connected therewith extending to the several rooms to be heated.

Another object of the invention is to provide an improved oil heating stove which will be highly efficient in operation, and relatively inexpensive to manufacture and produce.

Other objects will appear as the description proceeds.

In the accompanying drawings which form a part of this application:

Figure 1 is a front elevation of the improved oil heating stove;

Figure 2 is a side elevation of the improved oil heating stove being partially broken away to show the air heating drum and connection thereto;

Figure 3 is a vertical sectional view taken on the line 3—3 of Figure 4, and

Figure 4 is a transverse sectional view taken on the line 4—4 of Figure 3.

Like characters of reference are used throughout the following specification and the accompanying drawings to designate corresponding parts.

In carrying out the invention, there is provided an improved oil heating stove having an outer casing 1 preferably square in cross section formed with a plurality of outlets 3 through its top 4, to be connected with suitable ducts (not shown) to extend to various locations in the building in which the stove is located.

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A second casing or jacket 5 will be supported in spaced relation within the outer casing or jacket 1 in any desired manner, and will be provided with a fire brick liner wall 7 in its lower end extending across the bottom of said casing or jacket 5 and up the side walls thereof a considerable distance. An oil burner 8 will be secured to the outer casing or jacket 1 adjacent its lower end, and will have its burner tube 9 extending through the casings 1 and 5 and through the liner 7 to discharge its flame within said liner. Annular spaced rings 10 will be formed about the inner and upper end of the liner 7.

A series of spaced radially extending air inlet openings 11 will be formed through the casings or jackets 1 and 5 immediately above the top of the burner tube 9 to admit air from the outside to the inside of said casing or jacket 5. A clean-out door 12 will be provided through the casing or jacket 5, and a smoke outlet 13 will be provided at its upper end to connect with the smoke pipe 14 leading to a suitable chimney (not shown).

An inner air heating drum 15 will be supported within the second casing or jacket 5 in spaced relation thereto by means of the interconnected webs 16, and will be provided with the inlet connection 17 connecting with the annular jacket 18 disposed about the upper end of the casing or jacket 5, and with the outlet connection 19 adjacent its lower end extending through the casings 5 and 1 to be connected to the ducts 20 and 21 extending to suitable hot air outlets 22 and 23 located respectively on the upper floor and in the same floor.

The sirocco type air blower 24 will be positioned on a bracket 25 on the casing or jacket 1 and will be driven by an electric motor 26. A tubular air connection 27 will extend from the blower 24 through the outer and second casings or jackets 1 and 5 and will be connected on a tangent at 31 to the space between the annular jacket 18 and the air heating drum 15, whereby air under pressure will be blown through the connections or duct 27 to whirl about between the air heating drum 15 and the second casing or jacket 5 to enter said drum through its inlet 17, to be heated therein, and to be forcibly discharged through the heated air discharge outlet 19 to pass through the ducts 20 and 21 to be discharged through the outlets 22 and 23.

A door 28 will be provided for the outer casing or jacket 1, as clearly shown in the drawings and will be provided with a suitable handle 29.

A port 30 will be formed through the outlet

connection 19 to permit the heated air to pass upwardly between the casings 5 and 1 to be discharged through the hot air outlets 3 formed through the top 4 of the casing 1.

From the foregoing description, it will be apparent that there has been provided a highly efficient form of oil heating stove for buildings of all types, which will be highly efficient in operation, and relatively inexpensive to manufacture and produce.

While the preferred embodiment of the instant invention has been illustrated and described, it will be understood that it is not intended to limit the scope of the invention thereto, as many minor changes in detail of construction may be resorted to without departing from the spirit of the invention.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

1. An oil heating stove including an outer casing extending to floor level at its lower end and closed at its upper end, said outer casing being provided with a plurality of spaced annularly disposed air inlet openings through the bottom portion thereof, an inner casing disposed in spaced relation from the top, bottom and sides of said outer casing, said inner casing having a smoke outlet at its upper end, a firebrick liner wall in the lower end of the inner casing, an oil burner associated with the liner portion of said inner casing, radially extending air supply inlets extending from the air inlets of said outer casing through said inner casing and into said liner, an air heating drum having closed ends supported in said inner casing in spaced relation from the sides and top thereof and provided with an air inlet and outlet at its upper and lower ends, said outlet extending through the inner and outer casings, an annular jacket disposed about the upper end of said inner casing and spaced therefrom to form an air chamber, conduit means connecting the chamber with said air heating drum, and means for forcing air under pressure through said conduit means from the chamber to said air heating drum and through the outlet from said drum.

2. An oil heating stove including an outer casing extending to floor level at its lower end and closed at its upper end, said outer casing being provided with a plurality of spaced annularly disposed air inlet openings through the bottom portion thereof, an inner casing disposed in spaced relation from the top, bottom and sides of said outer casing said inner casing having a smoke outlet at its upper end, a firebrick liner wall in the lower end of said inner casing spaced above floor level, an oil burner connected with the liner portion of said inner casing, radially extending air supply inlets extending from the air inlet openings through the inner casing into said liner, a cylindrical air heating drum having closed ends supported in said inner casing in spaced relation from the sides and top thereof said drum being provided with an air inlet and outlet at its upper and lower end, an annular jacket disposed concentrically about the upper end of said inner casing and spaced therefrom to define therewith an air chamber conduit, means for connecting the air chamber with said air heating drum, means for forcing air under pressure through said air chamber and to the air heating drum, and hot air ducts connected with the outlet from said air heating drum.

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REFERENCES CITED

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

UNITED STATES PATENTS

Number	Name	Date
505,697	Bridges	Sept. 26, 1893
554,705	Lucas	Feb. 18, 1896
767,738	Daniels	Aug. 16, 1904
1,328,246	Merry	Jan. 13, 1920
2,073,424	La Fay	Mar. 9, 1937
2,089,407	Norris	Aug. 10, 1937
2,172,399	Mueller	Sept. 12, 1939
2,291,232	Juby	July 28, 1942

FOREIGN PATENTS

Number	Country	Date
388	Sweden	July 30, 1886