Oct. 21, 1952 H. E. MARTINDALE ET AL 2,614,514

RADIANT PLATE AND BAFFLE FOR HEATING BURNERS

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Fig. 1.

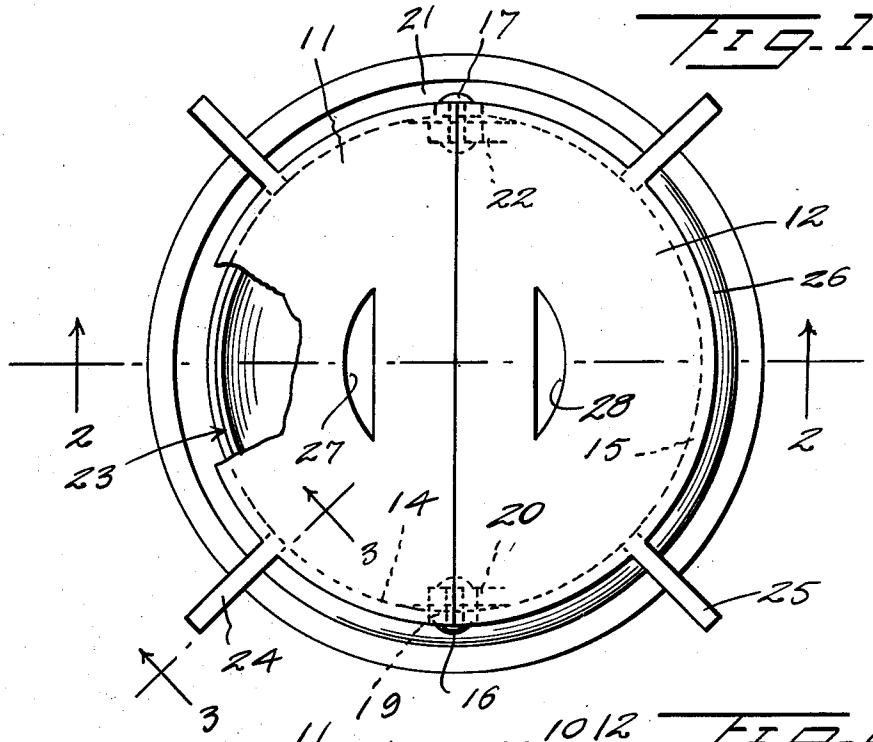


Fig. 2.

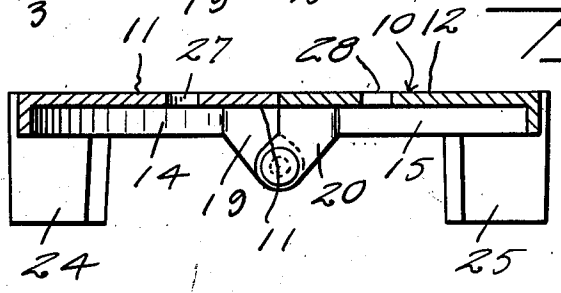
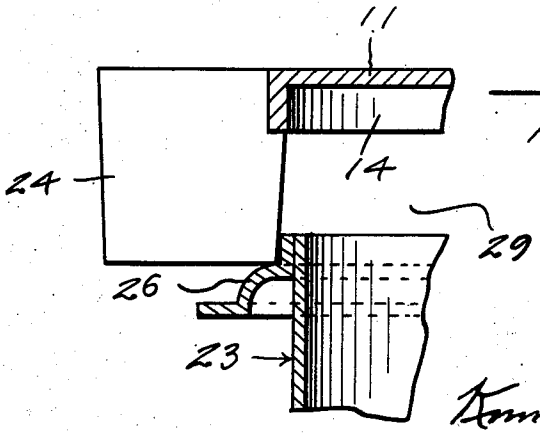


Fig. 3.



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RADIANT PLATE AND BAFFLE FOR HEATING BURNERS

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2 Claims. (Cl. 110—97)

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This invention relates to attachments for room or circulating heaters.

In circulating heaters wherein the heater is located within the room to be heated and oil is used as a heating medium, the oil is fed to a drum in the bottom of the latter and the flames emerge from the top of the drum for heating the walls of the heater. It is an object of this invention to provide an attachment for the drum of a heater of this type which will deflect the flames laterally for more intimate contact with the walls of the heater so that the combustion chamber or firebox will be heated more efficiently and to a higher degree without increase in the fuel being fed to the drum.

Another object of this invention is to provide an attachment of this kind which can be applied to conventional oil drums without the use of tools, the device being collapsible or foldable so that it may be passed through the front door of the heater.

Another object of this invention is to provide a device of this kind embodying a circular plate formed in two halves hinged together with supporting feet on the outer portions of the plate for engagement with the top of the oil drum, the plate being supported by the feet a predetermined distance above the drum and having a diameter substantially the same as that of the drum, so that the plate will be heated to a relatively high degree and will form a radiant heating medium in addition to deflecting the heat and flames laterally toward the walls of the heater.

A further object of this invention is to provide an attachment of this kind which is of simple and rugged construction and can be produced at small cost so that it will not add unduly to the cost of the heater and can be purchased separately for mounting on a heater at present in use.

With the above and other objects in view, our invention consists in the arrangement, combination and details of construction disclosed in the drawings and specification, and then more particularly pointed out in the appended claims.

In the drawing,

Figure 1 is a plan view, partly broken away of an attachment for a circulating heater constructed according to an embodiment of this invention, showing the device mounted on top of the oil drum,

Figure 2 is a sectional view taken on the line 2—2 of Figure 1, with the drum removed,

Figure 3 is a fragmentary sectional view taken on the line 3—3 of Figure 1.

Referring to the drawing, the numeral 10 designates generally a circular plate which is formed of a pair of semi-circular half members 11 and 12. The members 11 and 12 are provided on

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their outer marginal edges with depending flanges 14 and 15 respectively, for reinforcing the plate members 11 and 12. The two plate members 11 and 12 are hingedly secured together by means of a pair of pivot members 16 and 17 disposed in axial alignment and extending through pairs of ears 19 and 20, and 21 and 22, respectively, which are carried by the plate members 11 and 12.

In order to provide a means whereby the plate members 11 and 12 when in horizontal operative position may be supported above the top of an oil drum generally designated as 23 and of conventional construction, we have provided pairs of feet 24 and 25 which are fixed to or formed integral with the plate members 11 and 12 and project both outwardly and downwardly therefrom. The feet 24 and 25 are adapted to engage an annular rim or flange 26 which is carried by the top of the drum 23, being removably mounted on the rim 26 and held against lateral movement by extending downwardly a slight distance from the upper end of the drum 23, as shown in Figure 3.

The plate member 11 is formed with an opening 27 inwardly from the marginal edge thereof and the plate member 12 is formed with a similar opening 28. The openings 27 and 28 are provided so that a limited amount of heat, flames or products of combustion may pass through the plates 11 and 12.

In the use of this device, the attachment comprising the hinged plate members 11 and 12 may be mounted in a heater of present construction by extending the plate members 11 and 12 through the door of the heater which opens into the firepot. In most heaters of this type the door is round and of fairly small size and in order to position the attachment within the heater the two plate members 11 and 12 are rocked toward each other to collapse the device and allow for its being passed through the small door opening. After the device is within the heater, the two plate members 11 and 12 are swung outwardly to substantially horizontal alignment with each other, and the feet 24 and 25 are then engaged with the rim 26 of the drum 23.

The fuel is lighted in the conventional manner in the lower portion of the drum 23 and the flames or products of combustion rising in the drum 23 will pass outwardly in the space 29 which is formed between the plate members 11 and 12 and the upper edge of the drum 23. A portion of the flames or products of combustion may also pass through the openings 27 and 28. With an attachment as hereinbefore described, the flames generated in the oil drum 23 and rising from the open upper end thereof will be deflected laterally toward the walls of the firebox so as to more thoroughly heat these walls

than would be the case when the flames rise vertically upward from the top of the drum 23.

We do not mean to confine ourselves to the exact details of construction herein disclosed but claim all variations falling within the purview of the appended claims.

What is claimed is:

1. A deflector attachment for use in the upwardly opening oil drum of a circulating heater of the liquid fuel burner type comprising a circular plate formed of semi-circular members, said members having transverse edges adapted for abutted engagement to form a close fitting assembly, dependent flanges carried by the outer periphery of said members, and feet members carried by said plate having dependent portions that extend below and outwardly of said flanges for engagement with the drum to space said plate above and extending outwardly of the drum opening, said flanges extending about the semi-circular edge of each member only, whereby when they are assembled in the manner recited a continuous circular flange about the entire assembly is thus formed.

2. An attachment as defined by claim 1 including apertures formed in the plate with said apertures equally spaced at each side of the abutted edges of the members to provide release means for hot gases pocketed within the flanges of said plate.

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