R. A. BRIGHT.

OIL BURNER.

APPLICATION FILED DEC. 22, 1909.

960,491. Patented June 7, 1910.

Fig. 1.

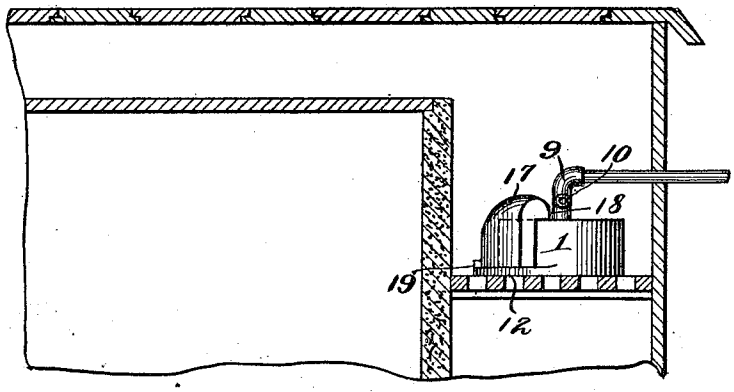


Fig. 2.

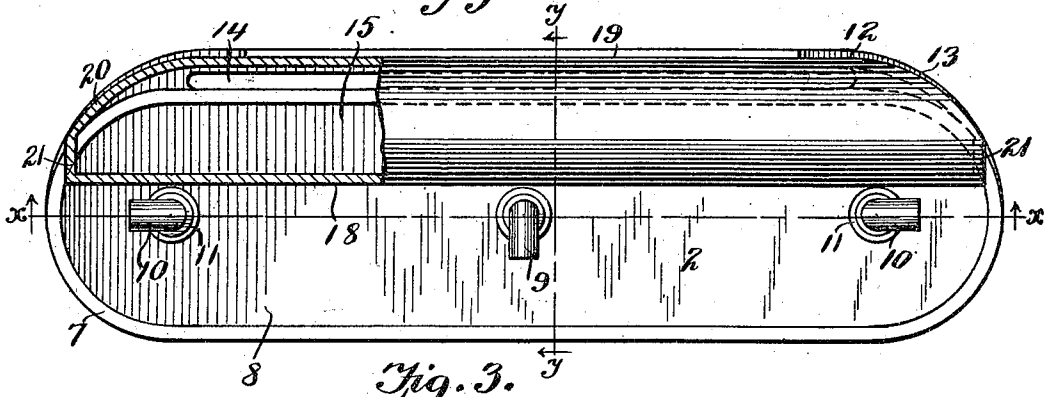


Fig. 3.

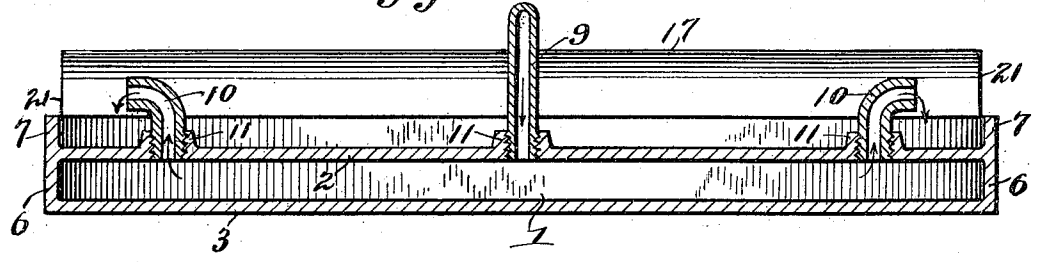
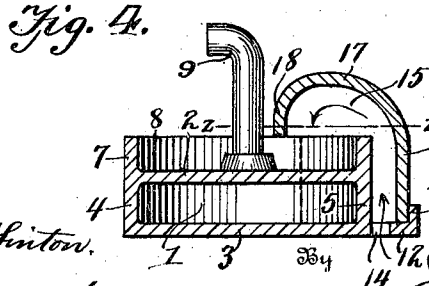


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

ROBERT A. BRIGHT, OF JACKSONVILLE, FLORIDA.

OIL-BURNER.

960,491. Specification of Letters Patent. Patented June 7, 1910.

Application filed December 22, 1909. Serial No. 534,424.

To all whom it may concern:

Be it known that I, ROBERT A. BRIGHT, a citizen of the United States, residing at Jacksonville, county of Duval, and State of Florida, have invented certain new and useful Improvements in Oil-Burners, of which the following is a specification.

My invention relates to oil burners and particularly to that class of burners adapted to be arranged within an ordinary stove thereby adapting the same for burning oil as fuel instead of coal.

The object of my invention is to provide an improved oil burner adapted to be arranged within a stove and of such improved construction that oil of substantially any grade may be readily burned therein.

A further object of my invention is to provide an oil burner as mentioned which is adapted to contain a quantity of oil and so constructed that the oil therein is readily vaporized and the gas formed is readily discharged into the burner pan to be burned therein and continue the vaporization of the oil, and equipped with means for supplying oil thereto as consumed.

A further object of my invention is to provide improved means for supplying air to the burner pan.

A further object of my invention is to provide a device as mentioned which shall be simple of construction, of low cost to manufacture, which may be readily kept clean, and which shall not readily get out of order.

Other objects will appear hereinafter.

With these objects in view my invention consists generally in an oil chamber, the top of which is constructed to form a burner pan, whereby the heat generated by burning fuel in the pan will vaporize the oil in the chamber, means for supplying oil to said chamber and means for conveying the vaporized oil from the chamber to the pan.

My invention further consists in a device as above mentioned provided with a horizontal or laterally projecting flange or shelf like portion having an air passage therethrough and a hood extending upwardly from substantially the outer edge of said flange and curved inwardly and downwardly over the side of the pan whereby the air entering through said passage is directed downwardly into the burner pan.

My invention further consists in various details of construction and arrangements of parts all as will be fully described hereinafter and particularly pointed out in the claims.

My invention will be more readily understood by reference to the accompanying drawings forming a part of this specification and in which—

Figure 1 is a diagrammatic sectional view illustrating a burner embodying my invention arranged within the fire box of an ordinary range, Fig. 2 is a top plan view of the burner upon an enlarged scale, Fig. 3 is a vertical longitudinal section taken on the line *x*—*x* of Fig. 2, and Fig. 4 is a vertical transverse section taken on the line *y*—*y* of Fig. 2.

Referring now to the drawings 1 indicates the oil chamber which is preferably an elongated casting fit within the fire box of an ordinary range and comprising horizontal and parallel top and bottom portions 2 and 3, the vertical parallel sides 4 and 5 and the curved end walls 6. The side and end walls 4, 5 and 6 are extended upwardly forming a vertical peripheral flange or wall 7 which together with the top plate 2 forms a burner pan 8.

Oil is supplied to the chamber 1 through an inlet 9 discharging centrally through the top plate 2 of the chamber. Arranged near the ends of the pan are the oil and gas outlets 10—10 which comprise elbow joints threaded into the bosses 11 formed on the upper face of the plate 2. These preferably discharge outwardly toward the ends of the pan 8 and the oil which is discharged therethrough with the gas flows over the bottom of the pan 8 where it is readily consumed.

Extending laterally from one side of the chamber 1 is a horizontal flange or shelf portion 12 which is of substantially uniform width for the greater portion of its length and having its ends curved as at 13 to merge into the curved end wall 6 of the chamber as shown clearly in Fig. 2. The portion 12 is preferably cast integrally with the member 1 and in a plane with the bottom plate 3 forming a continuation of the base of the device. Extending through the portion 12 is an elongated slot or opening 14 which is arranged close to the wall 5 and constitutes an air inlet or passage way. It should be noted that the opening 14 extends the greater portion of the length of the device forming an ample air inlet.

Resting upon the portion 12 and curving upwardly and over the side of the burner

pan is a hood 15. This is preferably formed of a single casting and comprises the vertical outer wall 16 and the curved top 17 the inner edge of which curves downwardly as at 18 adjacent the central longitudinal axis of the pan or adjacent the inlet and outlet pipes 9 and 10. The outer edge of the portion 12 is provided with an upwardly extending flange 19 to hold the hood in position and the lower edge of the hood rests against the same and upon the portion 12 covering the opening 14 as shown in Fig. 4. The ends of the wall 16 of the hood are curved inwardly as at 20 to engage the vertical walls of the chamber, preferably the walls 6, and it is obvious that the hood will be held snugly between said walls and the flange 19. The hood is closed at the ends 21 so that all the air entering through the inlet 14 will be directed downwardly into the pan 8, and as the downwardly extending inner edge 18 of the hood is substantially co-extensive in length with the pan the air is supplied uniformly to said pan throughout its length.

In using the device the oil is admitted through the inlet pipe 9 to the chamber 1, and through the pipes 10 into the pan 8 where it may be ignited. The heat generated by the burning of the fuel in the pan 8 will vaporize a large portion of the oil and the gas thus formed together with the heated oil is discharged into the burner pan 8. The draft created by the burning of the fuel will draw in a quantity of air through the aperture 14 and the hood 15 will distribute the same uniformly over the pan causing a complete combustion of the fuel. As the fuel is consumed the chamber 1 is replenished through the inlet pipe 9. It should be noted that the chamber 1 is quite shallow so that it may be readily heated to a sufficient degree by the burning of the fuel in the pan, and as the inlet 9 extends through the heat and flame from the pan the oil is heated somewhat before entering the chamber so as not to materially decrease the temperature thereof.

It is obvious that the device is of simple construction, being formed of but two main castings, and that there is nothing about the device to get out of order. Further as the hood may be readily lifted from off the other casting, the device may be readily cleaned when necessary.

Having described my invention what I claim as new and desire to secure by Letters Patent is:

1. An oil burner comprising an oil chamber, an upwardly extending flange on the top of said chamber forming therewith a burner pan, a source of fuel supply leading into said chamber, means for discharging the fuel from said chamber into said pan, and means for directing a current of air into said pan uniformly throughout its length, substantially as described.

2. In an oil burner, an oil chamber comprising side and end walls, a top and a bottom, said side and end walls being extended upwardly above said top forming therewith a burner pan, a source of fuel supply leading to said chamber, means for feeding the fuel to said pan, a flange extending laterally from one side of said chamber and provided with an air aperture, and a hood above said flange for directing the air from said aperture into said pan, substantially as described.

3. In an oil burner, an elongated oil chamber comprising parallel side walls, end walls, a top and a bottom, said side and end walls being extended upwardly forming a peripheral flange which together with said top constitutes a burner pan, a source of fuel supply leading into said chamber, means for feeding the fuel into said pan, a flange extending laterally from one side of said chamber and in a plane with said bottom, said flange being provided with an aperture, and a hood resting on said flange and extending upwardly and over said pan for directing the air from said aperture into said pan, substantially as described.

4. In an oil burner a fuel pan and means for supplying fuel thereto, in combination with a laterally projecting flange along one side thereof provided with an air opening, a second flange on the outer edge of the first said flange, and a hood resting on the first said flange and having its ends inturned to engage the walls of said pan, said hood being held snugly between said pan and the second said flange and extending upwardly and over the side of said flange to direct the air into said pan, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ROBERT A. BRIGHT.

Witnesses:
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