

Jan. 13, 1925.

1,522,802

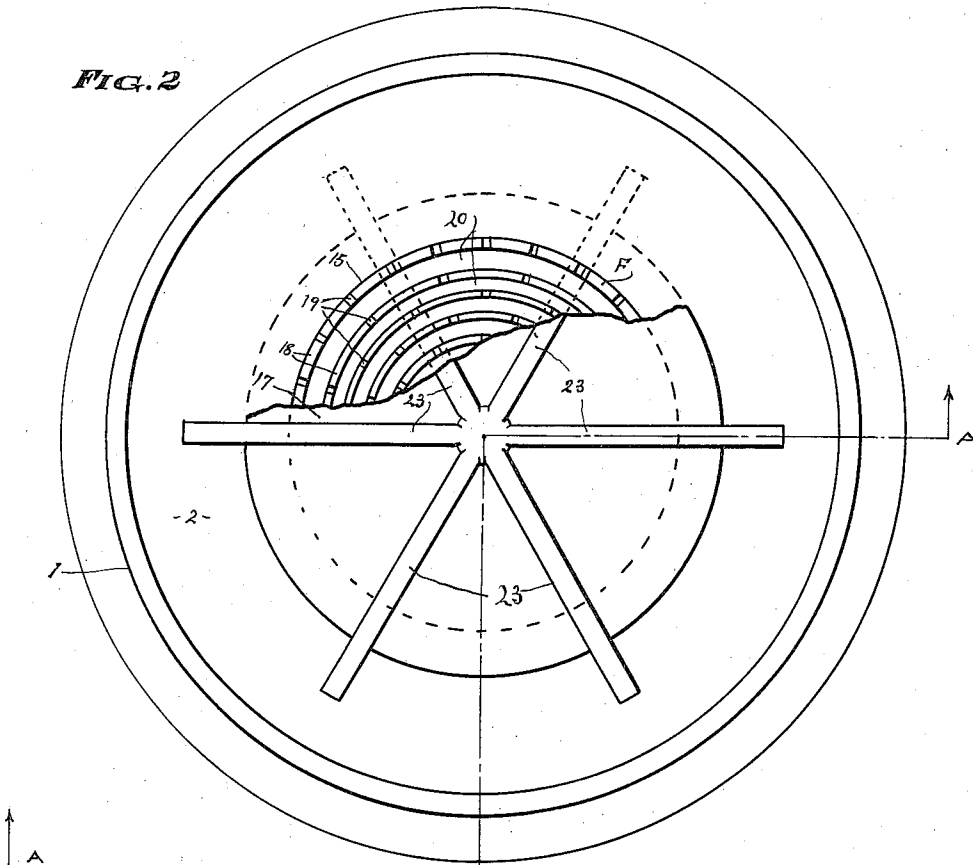
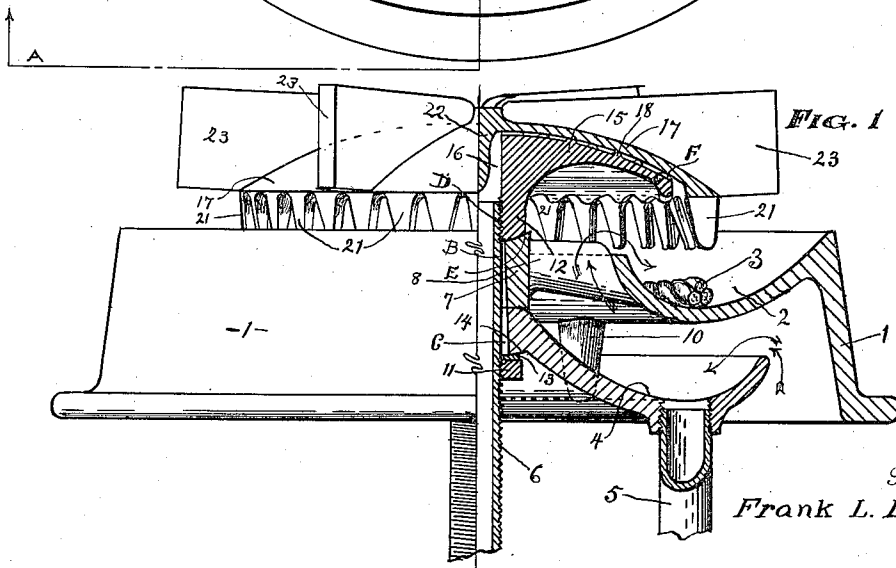
F. L. BUFF

OIL BURNER

Filed Oct. 13, 1923

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FIG. 2



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FIG. 4

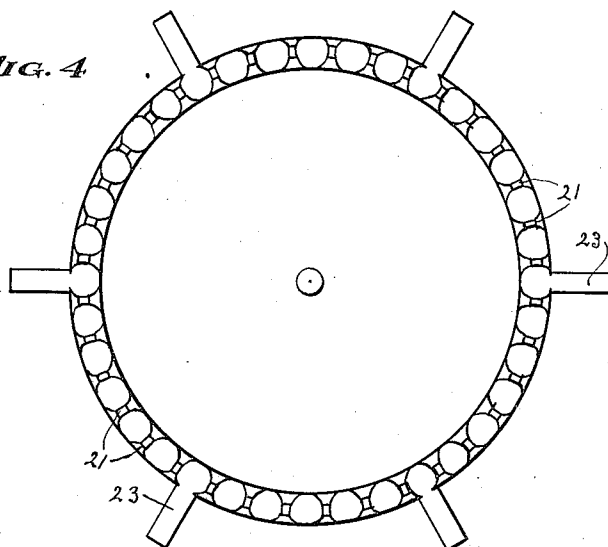
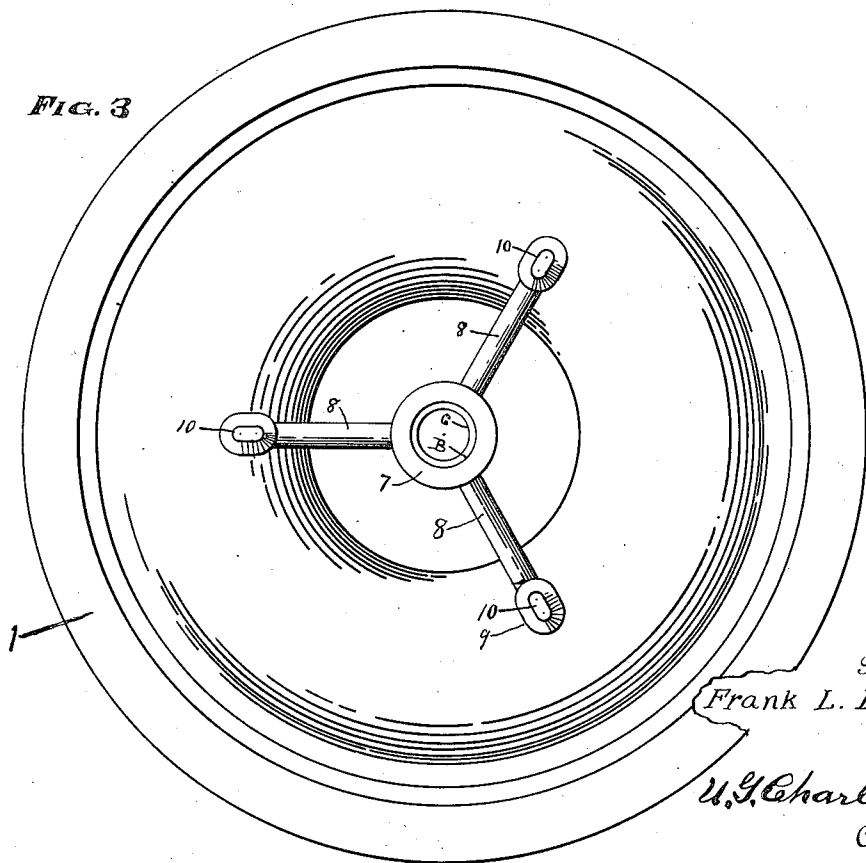


FIG. 3



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Patented Jan. 13, 1925.

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UNITED STATES PATENT OFFICE.

FRANK L. BUFF, OF WICHITA, KANSAS.

OIL BURNER.

Application filed October 13, 1923. Serial No. 663,354.

To all whom it may concern:

Be it known that I, FRANK L. BUFF, a citizen of the United States, residing at Wichita, county of Sedgwick, and State of Kansas, have invented certain new and useful Improvements in Oil Burners, which will be readily understood from the following description, reference being had to the accompanying drawings, which form a part of this application.

My invention relates to oil burners.

The object of my invention is to provide a burner having an air circulating means concentric to the zone.

A further object of my invention is to provide a burner that when turned low certain heat transmitting elements will function, as hereinafter described.

Another object of my invention is to provide certain heat conveying elements when the burner is turned on to its greater capacity.

A further object of my invention is to provide an air circulating and generating device supporting the feed for the fuel in such a way that it can be adjusted to a level position so that the flow of the oil will be equal at its dispensing periphery.

Referring to the drawings;

Fig. 1 is a side view of the burner parts shown in section taken on line A, looking in the direction of arrow.

Fig. 2 is a top view, part removed for convenience of illustration.

Fig. 3 is an inverted view of the generating chamber.

Fig. 4 is an inverted view of the distributor head.

1 constitutes a base support and receptacle, 2, for a generator, 3 is a fabric wick interposed in said receptacle, by which means, oil will burn freely when lighted and the heat from said receptacle will cause the distributing head and crown plate to become heated sufficiently to generate the oil into gas. 4 is an overflow receptacle, having a drain pipe 5, the said pipe is means for conveying the fuel oil to an appropriate automatic cut off device, not shown in the drawings. The said member 4 is drilled in the center to receive a feed pipe 6, and said hole registers with a hole in a hub 7, said hub being supported by arms 8. Leg 10 extends downward, separating the members 4 and 2, forming a free air passage between said plates. Air flowing in the direction of ar-

rows, shown in the section in Fig. 1, forms a proper mixture of gas and air. The hole drilled through hub 7 and receptacle 4 is flaring from the top B to the bottom C, the object of which is to allow the oil distributing head to be adjusted to a level position, independent of the base member 1 and when said head is properly adjusted, it is held firmly in position by a nut 11, which is threaded on pipe 6, and the said pipe extends up through and is screwed firmly to the crown plate as at D, and to accommodate for the oscillation required to plumb said distributing head, the neck 12 is slightly coned fitting in a socket in hub 7 as shown at E, the said nut 11 has its bearing on a washer 13 adapted to fit on a crown portion 14 of member 4, the object of which is to have a continuous bearing when tension is made by the nut 11, and also by this means the said members are held firmly together. The distributing head 15 is centrally drilled through its hub 12, as at 16, said hole registering with the supply pipe 6 as means for delivering the oil between the head 15 and crown plate 17; the said crown plate and heads being separated by rings 18, and through said rings are ports 19, the said rings functioning as stops, collecting the oil in the space 20 and the said body of oil is allowed to pass through the ports 19 as heretofore described by which means the fuel oil is equally distributed over said distributing head and dispensed through the ports 19 in the lower rib F, but it will be understood that when the said members 15 and 17 have become heated, the oil will be generated into gas by the time it has reached the ports in rib F, at which point the gas is consumed by ignition and the flames contacting on the teeth 21, for the purpose hereinafter described.

The crown plate 17 being concave to conform to the shape of the distributing head 15 and in the center of said plate is a spindle 22 adapted to extend downward into the hole 16, and said crown plate, has radiating bars 23, the ends of which project over the edge of said plate, for the purpose hereinafter described.

When the burner is being started into action, I turn on the oil supply which flows freely, dropping into and onto the wick 3 as heretofore described, and lighted with a match or torch for the purpose of generating the oil into gas which accumulates be-

tween the members 15 and 17, and when sufficiently heated the oil supply is turned on, and lighted as heretofore described, and the flames coming into contact with finger members 21 when turned low will heat said fingers to a very high degree, causing the heat to be transmitted to the shell of the crown plate 17 and when the oil supply is turned on greater, the flames will extend farther on and the heat will naturally be decreased on the fingers 21 and the ends of bars 23 will receive the greater heat as the flames extend farther out, therefore the heat will be transmitted through the said bars to the crown plate in like manner as the fingers were heated by the lesser flames.

I wish to make it understood that the crown plate would not receive as much heat if the fingers and bars were removed, owing to the fact that the greater heat was obtained at the end of the flame which contacts the said members and as they become intensely heated, the heat is likewise transmitted back

through the plate which is means for enveloping and confining the flow of the fuel oil generating it more evenly and quickly.

I also provide the fingers 21 as means for better distribution of the flame and mixing the gas with the air.

Such modifications may be employed as lies within the scope of the appended claim and having thus described my invention, what I claim as new, and desire to secure by Letters Patent is:

A frusto-conical annular base having an annular pan, with an axial opening, supported thereon at its periphery, a generator, supported axially above the base having a downwardly directed annular vapor outlet, a plurality of heat absorbing elements depending from the periphery of the generator and a drip pan spaced from said annular pan to afford an air passage to the axial opening of said annular pan.

FRANK L. BUFF.