

R. A. BRIGHT.
CRUDE OIL BURNER.
APPLICATION FILED OCT. 25, 1909.

946,955.

Patented Jan. 18, 1910.

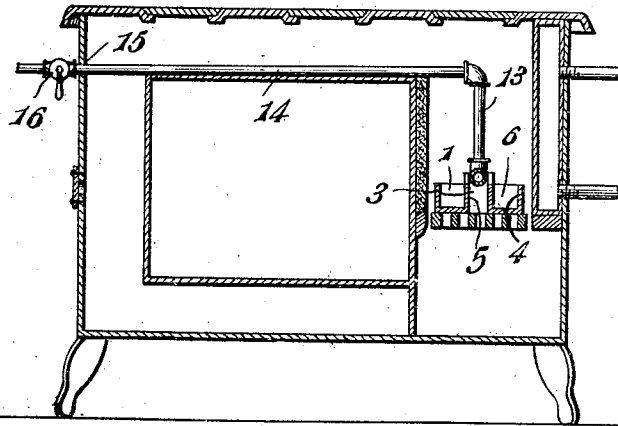


Fig. 1.

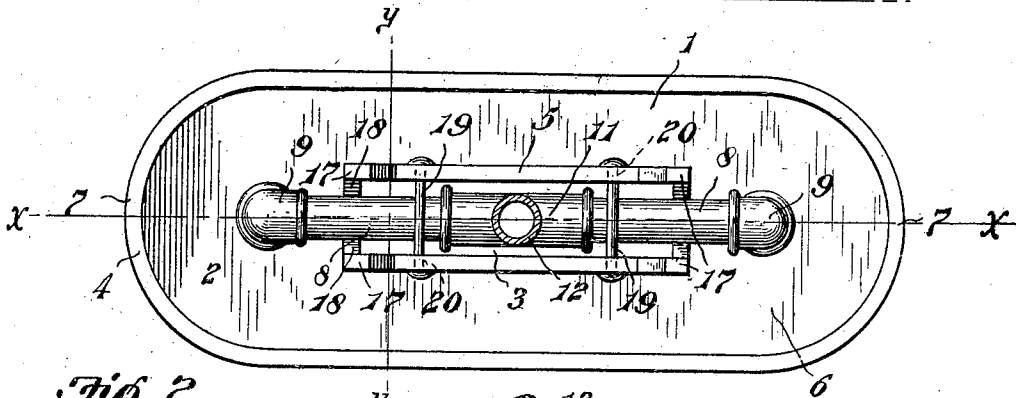


Fig. 2.

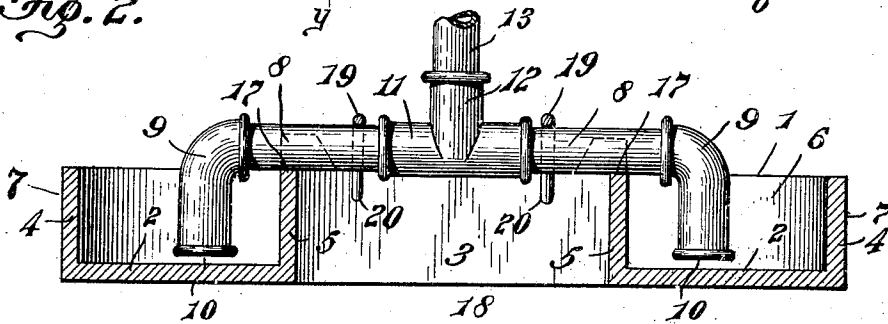


Fig. 3.

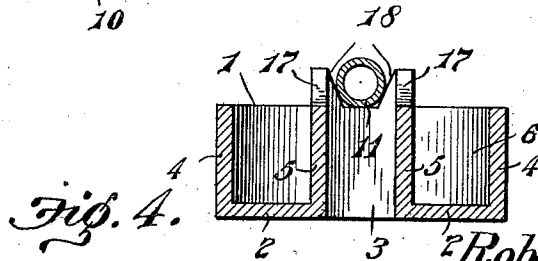


Fig. 4.

Inventor

Witnesses

J. H. Bishop.
H. S. Austin

By

Robert A. Bright.

Joshua R. H. Tott.

Attorney

UNITED STATES PATENT OFFICE.

ROBERT ANGUS BRIGHT, OF OKLAHOMA, OKLAHOMA.

CRUDE-OIL BURNER.

946,955.

Specification of Letters Patent.

Patented Jan. 18, 1910.

Application filed October 25, 1909. Serial No. 524,472.

To all whom it may concern:

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

My invention relates to oil burners and particularly to oil burners adapted to be arranged in ordinary coal stoves and especially ranges.

The object of my invention is to provide an improved burner which may readily be arranged within the fire box of a stove whereby a coal stove may be transformed into an oil burning stove.

A further object of my invention is to provide an improved burner of the class mentioned which shall be adapted to burn crude oil and which shall be of such improved construction as to discharge the oil into the fuel cup in such a manner as to avoid carbonizing of the oil in the delivery pipe and which shall be so arranged as to heat the oil to substantially the ignition point before discharging the same into the pipe.

A further object of my invention is to provide a device of the class mentioned which shall be simple of construction, of low cost to manufacture, easily 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 a horizontally disposed fuel pan having a central air inlet and a suitable oil feed for feeding the oil to the cup. The oil feed comprises a downwardly extending pipe, preferably arranged centrally of the air inlet and discharging into a pipe arranged horizontally above said air inlet and the ends thereof being turned downwardly to discharge the oil directly upon the bottom of the 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 inven-

tion arranged within an ordinary range, Fig. 2 is a plan view of the burner upon an enlarged scale, Fig. 3 is a longitudinal vertical section of the burner taken on the line $x-x$ of Fig. 2, and Fig. 4 is a transverse vertical section taken on the line $y-y$ of Fig. 2.

Referring now to the drawings 1 indicates the fuel or burner pan consisting of a flat bottom 2 having a central air opening 3 and the vertical outer and inner walls 4 and 5 conforming to the outer edge of the bottom 2 and the edge of the opening 3 respectively. The walls 4 and 5, together with the bottom, form an oil receiving chamber 6 which is opened at the top. In the drawings I have illustrated a burner particularly adapted to be arranged within a long and narrow fire box such as is common in ranges and to this end the cup 1 is elongated and provided with rounded ends 7-7, the aperture 3 being rectangular and also elongated.

Arranged parallel with the axis of the member 1 and horizontally above the air opening 3 is a pipe 8 which projects beyond the ends of the opening 3 and is provided at the ends with the elbows 9-9 which extend downwardly toward and almost into contact with the bottom, the discharge openings thereof being but slightly above the bottom 2. The pipe 8 is provided with a centrally disposed tee 11 to the vertical portion 12 of which is attached a pipe 13. The pipe 13 extends downwardly from a feed pipe 14, the latter extending into the stove through an aperture 15 formed in the side thereof which leaves the top of the stove perfectly clear and unobstructed. In ranges of modern construction both side castings are similar and provided with two apertures to receive the pipes leading from the boiler to the water back in order that the stove may be set up with either a right or left hand fire box and a single casting serving for either side. I take advantage of this construction by extending the pipe 14 through one of the apertures on the side opposite the water back.

The walls 4 and 5 are preferably of uniform height and the pipe 8 preferably rests upon the end walls 5. Said end walls are provided with upwardly extending ears or lugs 17 having inclined and converging edges 18 which rest against the pipe and keep the same properly centered. The pan may rest upon the grate of the stove if desired or may be supported by the feed pipe,

and in Figs. 2 and 3 I have illustrated means for thus supporting the pan 1 which may be dispensed with, when the device rests upon the grate. This consists of a pair of stirrups 5 or hangers 19 comprising a rod bent to rest astride the pipe 8 and having its ends extending downwardly into the air inlet 3 and inserted through apertures 20 in the walls 5.

In using the device the oil is admitted 10 through the pipes 14, 13 and 8 to the pan 1 where it is ignited. Sufficient air for the substantially complete combustion of the oil is admitted through the air opening 3 and about the sides of the device between its 15 outer walls and the sides of the fire box of the stove. The heat from the burning oil raises the temperature of the oil flowing through the pipes 13 and 8 almost to the point of ignition but the cooler air entering 20 through the air space 3 prevents said pipes from becoming so highly heated as to carbonize the oil within them.

Having described my invention what I claim as new and desire to secure by Letters 25 Patent is:

1. An oil burner adapted to be arranged

within a stove and comprising an oil pan having inner and outer walls, and a flat bottom, said inner wall defining an air inlet, an oil pipe horizontally disposed above said air 30 inlet and discharging into said pan, and lugs on said inner wall for maintaining said oil pipe centered above said air inlet, substantially as described.

2. An oil burner adapted to be arranged 35 within a stove and comprising an oil pan having inner and outer walls, said inner wall defining an air inlet, an oil pipe horizontally disposed above said air inlet and provided with downwardly extending ends discharg- 40 ing into said oil pan a short distance above the bottom thereof and a feed pipe extending downwardly to said oil pipe, substantially as described.

In testimony whereof I have signed my 45 name to this specification in the presence of two subscribing witnesses.

ROBERT ANGUS BRIGHT.

Witnesses:

FRED E. THOMAS,
P. S. HINE.