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G. W. BEDINGER, I. KING & S. S. BEDINGER.

CRUDE OIL BURNER.

APPLICATION FILED FEB. 2, 1903.

NO MODEL.

Fig. 1.

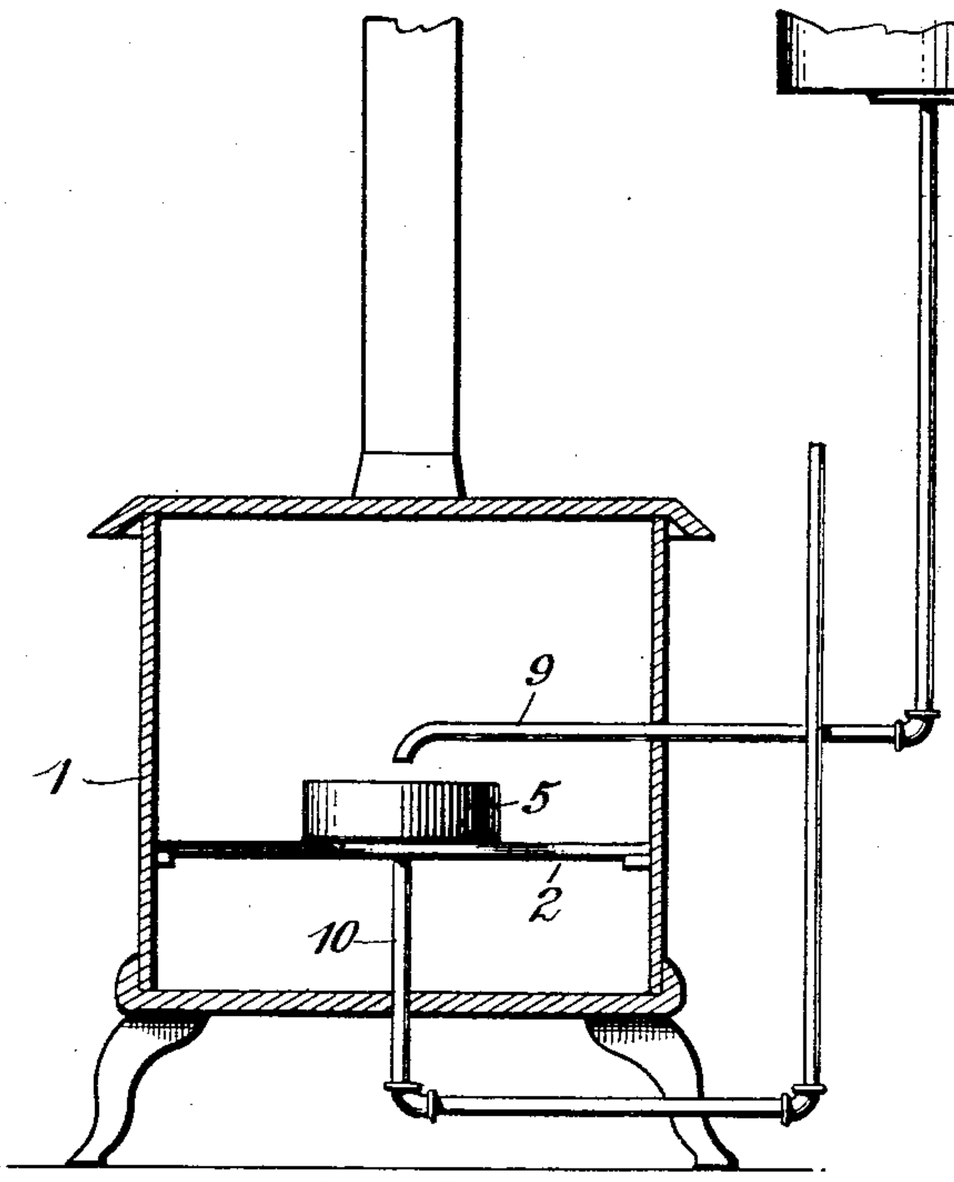


Fig. 2.

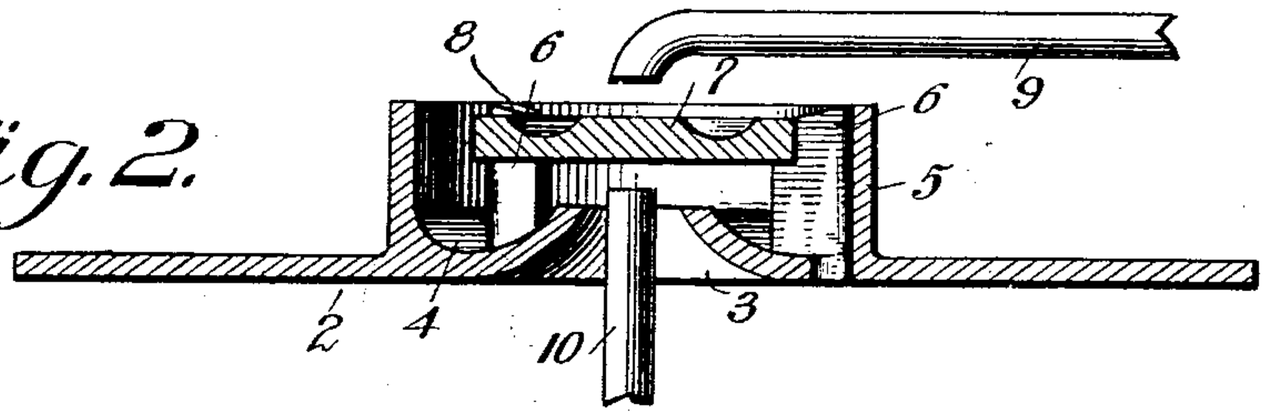


Fig. 3.

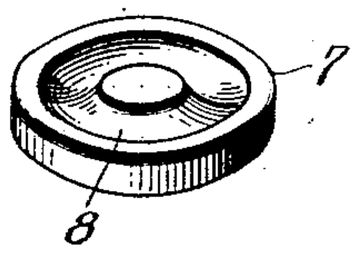
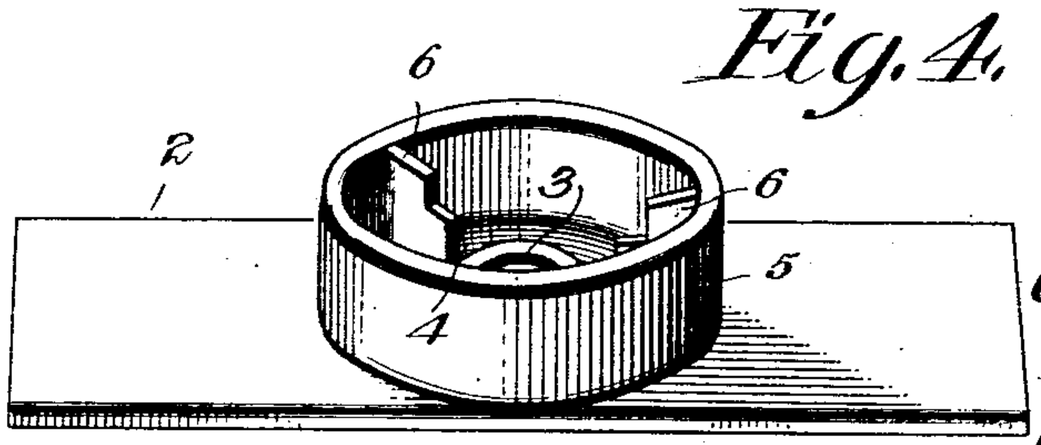


Fig. 4.



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UNITED STATES PATENT OFFICE.

GEORGE WASHINGTON BEDINGER, IRA KING, AND SOLOMON SINGLETON BEDINGER, OF WEATHERFORD, TEXAS.

CRUDE-OIL BURNER.

SPECIFICATION forming part of Letters Patent No. 751,603, dated February 9, 1904.

Application filed February 2, 1903. Serial No. 141,597. (No model.)

To all whom it may concern:

Be it known that we, GEORGE WASHINGTON BEDINGER, IRA KING, and SOLOMON SINGLETON BEDINGER, citizens of the United States, residing at Weatherford, in the county of Parker and State of Texas, have invented a new and useful Crude-Oil Burner, of which the following is a specification.

Our invention relates to crude-oil burners, and has for its object to produce a device of this nature which will be extremely simple of construction, inexpensive to manufacture, and one in which dry heated steam and air will be mixed with the oil-vapor, thus insuring a more perfect combustion.

The invention comprises the details of construction and combination of parts more fully hereinafter described.

In the accompanying drawings, Figure 1 illustrates our improved burner as applied to a stove. Fig. 2 is a vertical sectional elevation of the burner on an enlarged scale. Figs. 3 and 4 are detail perspective views of parts of the burner.

Referring to the drawings, 1 indicates a stove, which may be of any suitable or desired construction, with the exception of the grate 2, which in accordance with our invention comprises a horizontal sheet-metal base having an orifice 3 formed centrally therein, the plate adjacent to the edge of this orifice being grooved or channeled, as at 4, to receive any oil which may possibly escape to the same. Mounted upon the base-plate is a shield 5, preferably cylindrical in form and of a diameter sufficiently large to admit of its surrounding the channel 4 in the base-plate. The shield is preferably formed integral with the base-plate by casting or otherwise, but may, if so desired, be made separate therefrom and attached in any suitable manner. Mounted upon the plate and within the shield are a plurality of vertical lugs 6, adapted to receive and support the burner proper, 7. This burner preferably comprises an annular metal disk having a groove 8 formed upon its upper face near its periphery and is of a size sufficient to extend beyond the edges of the orifice 3 in the base-plate above which the burner is sustained by means of the lugs 6, the burner being maintained distant from the base-plate and also from the inner walls of the shield 5.

9 is an oil-pipe which projects into the stove, preferably through the side wall of the same, in position to deliver the oil onto the upper face of the burner.

10 is a steam-pipe which enters the casing of the stove from beneath, with its end projecting vertically upward through the orifice 3 in the base-plate and close up to the under side of the burner in position to deliver the steam directly onto the same and beneath the burner.

In assembling the parts the shield, which is formed integral with or connected to the base-plate in any suitable manner, surrounds the central orifice and also the groove 4. The burner is then mounted upon the vertical lugs 6 and is supported solely thereby over the orifice and distant from the base-plate and from the sides of the shield, as clearly shown in Fig. 2.

In operation the oil is conducted through pipe 11 and delivered upon the upper face of the burner. When the burner has become sufficiently flooded, the flow of oil is cut off, and the oil upon the surface of the burner is lighted to heat the burner, as usual. When the burner is first flooded with oil, the latter will be received in the groove 8 and any oil escaping therefrom and falling upon the base-plate will be received by the groove 4. After the burner has become sufficiently heated the oil is again turned on and vaporizes in the usual manner for ignition. Steam is delivered through pipe 10 beneath the burner and directly against its lower surface, and the steam coming in contact with the hot metal of the burner is thoroughly dried and heated before passing upward around the edges of the same and mingling with the oil-vapor. Air entering through the central orifice in the base-plate also contacts with the lower heated surface of the burner and is thoroughly heated before passing upward around the same and mixing with the steam and oil-vapor, thus insuring a thorough commingling of the vapors and a perfect combustion.

From the foregoing it will be seen that we

by our construction produce a device of extreme simplicity, one which will be inexpensive to manufacture and in which both the air and steam will be thoroughly heated and dried before mixing with the oil-vapor to insure a more perfect combustion, and in attaining these ends we do not limit or confine ourselves to the precise details herein shown and described, as various changes may be made therein without departing from the spirit or scope of our invention.

Having thus described our invention, what we claim is—

1. In an oil-burner, the combination with a horizontal base-plate having an air-inlet orifice formed therethrough, of a vertical shield mounted on the upper face of the base-plate and surrounding the orifice, a horizontally-disposed disk lying wholly within the shield and sustained above the orifice and distant from the base, means for delivering oil to the upper face of the disk, and a pipe extending through the orifice in the base-plate for delivering steam directly beneath the disk, said pipe being of lesser diameter than the diameter of the orifice to permit free passage of air through the latter.

2. In an oil-burner, the combination with a horizontal base-plate having an air-inlet orifice formed therethrough and a groove in its upper face surrounding the orifice, a vertical shield mounted on the upper face of the base-plate and surrounding the groove, vertical lugs associated with the interior of the shield, a horizontally-disposed disk removably supported by the lugs wholly within the shield, said disk being disposed above the orifice and distant from the base-plate and wall of the shield, means for delivering oil to the upper face of the disk, and a pipe extending through the orifice in the base-plate for delivering steam directly beneath the disk, said pipe being of lesser diameter than the diameter of the orifice to permit free passage of air through the latter.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

GEORGE WASHINGTON BEDINGER.
IRA KING.
SOLOMON SINGLETON BEDINGER.

Witnesses:
D. S. WRIGHT,
R. N. GRISHAM.