(No Model.)

C. A. HOLDRIDGE.

OIL BURNER.

No. 517,341. Patented Mar. 27, 1894.

Fig. 3.

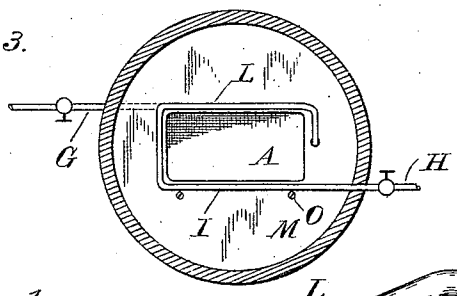


Fig. 1.

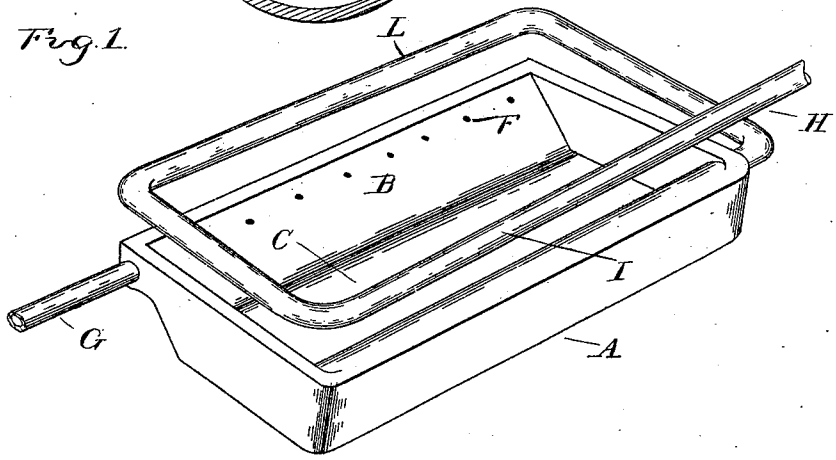
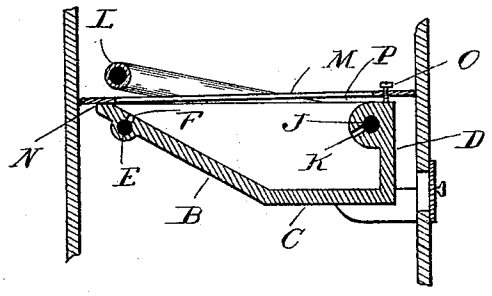


Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

CHARLES A. HOLDRIDGE, OF FENTON, MICHIGAN.

OIL-BURNER.

SPECIFICATION forming part of Letters Patent No. 517,341, dated March 27, 1894.

Application filed September 26, 1893. Serial No. 486,513. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. HOLDRIDGE, a citizen of the United States, residing at Fenton, in the county of Genesee and State of Michigan, have invented certain new and useful Improvements in Oil-Burners, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention consists in the peculiar construction of a receptacle having an inclined wall over which the oil is fed from an oil pipe extending across the top thereof, and a steam supply pipe arranged on the opposite wall of the receptacle, with discharge apertures to direct the steam to a point near the base of the inclined wall.

The invention further consists in the peculiar arrangement and combination of the various parts, all as more fully hereinafter described.

In the drawings, Figure 1 is a perspective view of my device detached, with the air deflecting plate removed. Fig. 2 is a vertical, central cross-section thereof. Fig. 3 is a plan view of my burner as in a stove.

A is a receptacle or pan of substantially rectangular shape and having the inclined back wall B. This connects with the horizontal bottom portion C at about mid-way of the pan. Opposite the inclined wall is the vertical wall D.

E is an oil supply pipe or passage, preferably cast integral with the inclined wall B and near the top thereof. This is provided with a series of feed apertures F leading through the wall B and permitting the oil to flow from the pipe through the apertures F upon the top of the inclined wall.

G is the oil supply pipe connecting with the passage or pipe E.

H is a water supply pipe arranged in a loop I over the pan and discharging into the pipe or passage J on the inside of the vertical wall D of the pan. This pipe or passage is preferably cast integral with the pan and is provided with a series of inclined discharge apertures K adapted to discharge steam into the pan at a point at or near the base of the inclined wall B, as plainly shown in Fig. 2.

M is a disk or plate fitting within the casing of the stove or furnace, as shown in Fig. 3, so as to form substantially a partition across the same above the burner. This plate rests upon the rear edge of the burner, as shown at N, Fig. 2 to form a tight joint, and is adjustably supported by set screws O at the forward edge of the burner, which screws engage screw threaded apertures in the plate. This forms an air feed aperture P between the top of the burner at front and sides, and the bottom of the plate, through which all the air for combustion must pass over the edge of the burner. The disk is apertured to correspond substantially to the opening in the burner, so that the flames are free to rise therefrom. Thus my burner may be fitted to a large or small, a round or square stove, by simply placing the burner at the center, and fitting the disk to the inside of the casing. The parts being thus constructed, oil being supplied to the pipe G in suitable quantities and water through the pipe H, the water will be vaporized while passing over the flames in the pan through the loop I and will enter as steam into the pipe J, being discharged at or near the base of the inclined wall B. The oil entering through the apertures F through the pipe E will trickle down the face of the wall B and be vaporized, the steam and oil vapors mixing with the air which enters through the opening P, thus surrounding with flames the loop I, one arm of which L is preferably arranged substantially above the upper end of the inclined wall B. This structure not only gives me a simple device, easily manufactured and which will produce good combustion, but also enables me to use any kind of oil as there are no fine ports or passages to be plugged up even if common petroleum is employed. There is no danger of explosion from my device as there are no inclosed chambers.

What I claim is—

1. In an oil burner, the combination of a receptacle, an inclined back wall, an oil supply pipe extending across the top of said wall having feed apertures leading into the receptacle and a steam supply pipe arranged in the wall opposite the inclined wall having discharge apertures to direct the steam to the base of the inclined wall, substansially as described.

2. In an oil burner, the combination of a pan or receptacle having the inclined rear wall B, the oil supply pipe E cast integral

therewith and having supply passages F leading from the upper end of said inclined wall, the vertical front wall D, the pipe J cast integral therewith and having the inclined discharge apertures K, the oil supply pipe G connecting with the pipe E, water supply pipe H and the loop I connecting with the pipe J, the parts arranged and operating substantially as and for the purpose described.

3. In an oil burner, the combination with the casing, of an open pan-shaped burner having even upper edges, an apertured plate located above and supported on the burner and extending beyond the burner to the side walls of the casing, and means for vertically adjusting one side of the plate in relation to the burner to form an air passage between the burner and plate, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES A. HOLDRIDGE.

Witnesses:
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