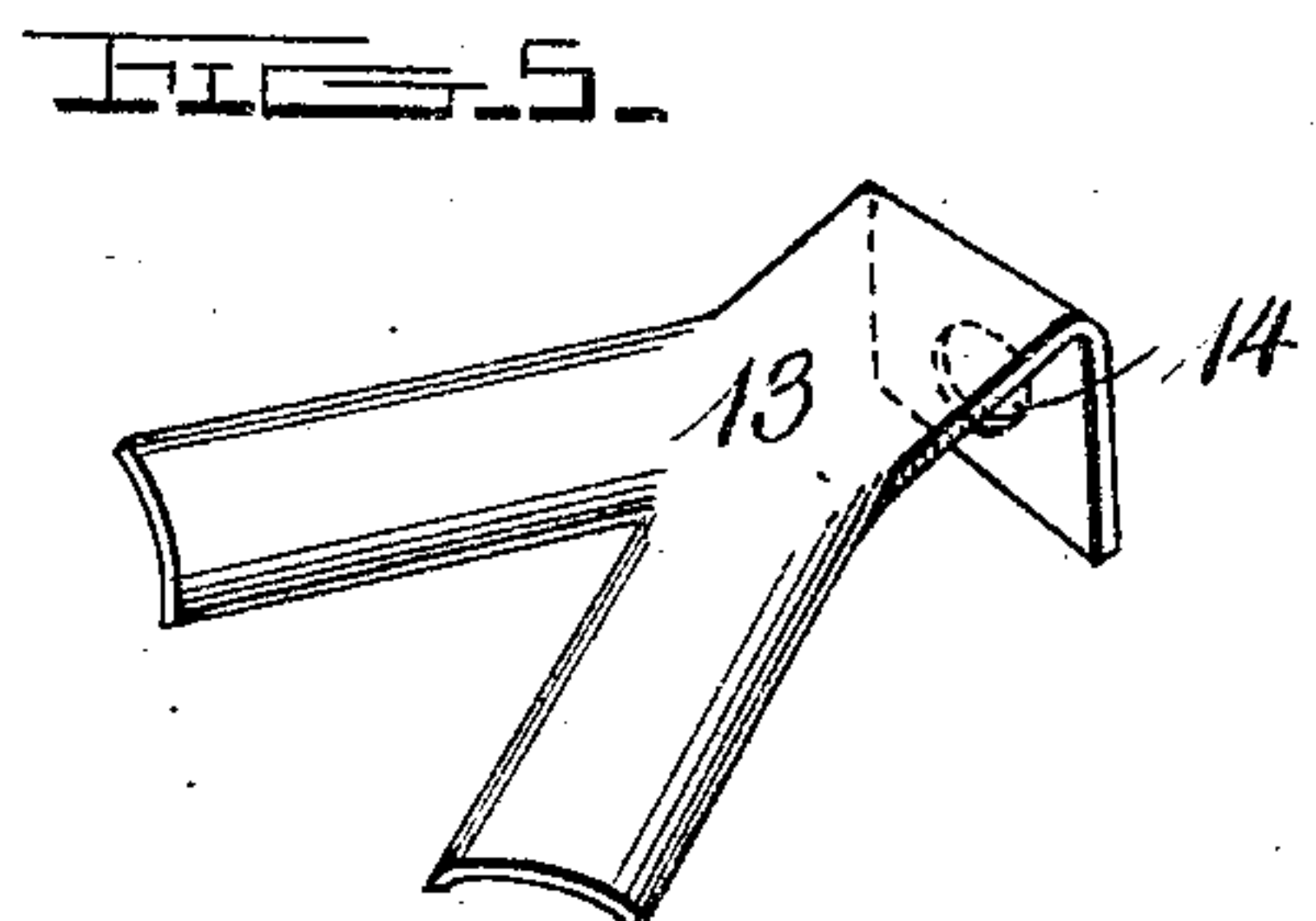


OIL BURNER.

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UNITED STATES PATENT OFFICE.

CURTIS C. LILLIBRIDGE, OF SHATTUCK, OKLAHOMA.

OIL-BURNER.

944,886.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CURTIS C. LILLIBRIDGE, a citizen of the United States, residing at Shattuck, in the county of Ellis and State of Oklahoma, have invented certain new and useful Improvements in Oil-Burners; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in oil burners.

One object of the invention is to provide an improved construction of oil burner having means whereby a maximum amount of air is fed to and consumed by the burner, thus reducing the quantity of oil required.

Another object is to provide a burner of this character adapted to be placed in the fire box of an ordinary stove or range and which is so constructed that coal or other fuel may be used in the fire box without removing or injuring the burner.

With the foregoing and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts, as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a vertical section through the fire box and a portion of a range, showing my improved burner arranged in the box; Fig. 2 is a front view of the burner; Fig. 3 is a central vertical cross sectional view of the same; Fig. 4 is a front view of the burner plate with the spreader removed; Fig. 5 is a detail view of the spreader; Fig. 6 is an end view of a modified form of the burner.

Referring more particularly to the drawings, 1 denotes the burner which comprises a burner plate 2 and a rear plate 3 which is bolted or otherwise secured to the burner plate and is spaced therefrom by triangular-shaped end pieces 4, which are preferably in the form of flanges cast integral with the front or burner plate 2. On the upper edge of the burner plate is formed a forwardly projecting overhanging flange 5, in which, midway between its ends, is formed a threaded passage 6, into which is screwed the end of an oil conducting pipe 7 which extends to an oil reservoir or tank which may be of any suitable construction.

On the front or burner plate 2, on each

side of the passage 6, and formed integral with said plate and the flange 5, are short laterally projecting lugs or flanges 8. On the front side of the plate 2, is formed a laterally projecting oil deflecting rib or flange 9 which is substantially inverted V-shaped or in the form of an acute angle, the apex of which projects between the lugs 8, as shown. On the outer side of the plate 2, below the rib or flange 9, is formed a second rib or flange 10, said rib being preferably in the form of an obtuse angle. The ends of this rib are spaced a slight distance below the ends of the ribs 9 and project a slight distance beyond the same. In the plate 2, on each side of the rib 9, is formed a series of air passages 11 which communicate with the space between the front and rear plates of the burner. In the front plate 2, above the rib 10 and between the inner rows of passages 11, are formed air passages 12 which also communicate with the space between the plates of the burner.

Arranged over the rib 9 and the rows of apertures 12 and the space between the lugs 8, is a spreader plate 13, said plate being substantially in the shape of an inverted Y. The upper end of the plate is bent at a right angle and has formed therein an aperture by means of which the plate is engaged with the oil pipe 7 and is thereby held in operative position over the burner plate 2. The spreader plate 13 is preferably dished or curved outwardly in cross section as shown, thereby providing ample space for the circulation of air from the passages 11 over the oil deflecting ribs 9 and 10.

The burner may be of any suitable size to fit different sized fire boxes and the space between the front or burner plate 2 and the rear plate may be of greater or less width by increasing the width of the end pieces 4 or by forming on the back plate triangular-shaped flanges, similar to the end flanges 4 formed on the top plate, as shown, in Fig. 6 of the drawings.

In the operation of the burner, the same is placed within the fire box with its lower open end preferably resting on the grate whereby air may freely pass through the grate and into the space between the front and rear plates of the burner and through the passages formed in the front plate, as hereinbefore described. The oil supply pipe 7 is adapted to pass through the top side, or other part of the stove and extends to the

oil reservoir whereby oil may be supplied to the burner under pressure or by gravity.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention, as defined in the appended claims.

Having thus described my invention, what I claim is:

1. In an oil burner, a front or burner plate having a series of air passages formed therein, an overhanging flange arranged on the upper edge of said plate, oil deflecting lugs arranged on said front plate and engaging said overhanging flange, an oil conducting pipe connected with said overhanging flange and opening through the same between said lugs, an oil deflecting rib arranged between said air passages, another oil deflecting rib and an inverted Y-shaped spreader plate arranged on said front plate and spaced above said first mentioned rib and air passages, said spreader plate being curved outwardly to form an air circulating space between the said spreader plate and ribs.

2. In a burner, a front or burner plate having formed therein, a series of air passages, an upper angular-shaped oil deflecting rib arranged between said air passages, a lower oil deflecting rib arranged below said upper rib, an oil supply pipe connected to the upper edge of said burner plate and adapted to discharge oil onto said ribs, a

spreader plate arranged over said upper rib and air apertures, spacing flanges formed on the opposite ends of said burner plate, and a rear plate secured to said flanges to form an air space between itself and said front burner plate.

3. In an oil burner, a front burner plate having formed therein a series of air passages arranged in double rows, an overhanging flange formed on the upper edge of said plate, oil deflecting lugs arranged on said front plate and engaging said overhanging flange, an oil conducting pipe connected with said overhanging flange and opening through the same between said lugs, an inverted V-shaped oil deflecting rib arranged between said rows of air passages, a lower oil deflecting rib in the shape of an obtuse angle and arranged below said upper deflecting rib, an inverted Y-shaped spreader plate arranged on said front plate and spaced above said V-shaped rib and air passages, said spreader plate being bulged or curved outwardly to form an air circulating space between the spreader plate and ribs, triangular spacing flanges formed on the opposite ends of the front burner plate, a back plate having formed thereon triangularly shaped flanges adapted to engage the spacing flanges on said front plate to provide an air space between said back and front plates, and means to secure the flanged ends of the plates together.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

CURTIS C. LILLIBRIDGE.

Witnesses:

W. J. EWING,

O. Y. WHIPPLE.