No. 703,282. Patented June 24, 1902.

J. A. LANDIS, W. A. JOHNSTON & L. W. BOSLEY.

CRUDE OIL BURNER.

(Application filed Dec. 7, 1901.)

(No Model.) 2 Sheets—Sheet 1.

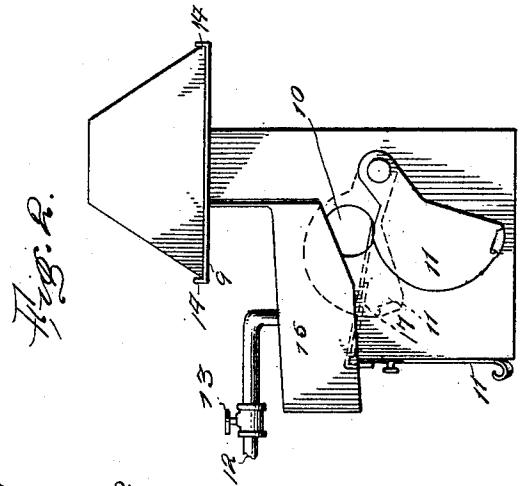


Fig. 2.

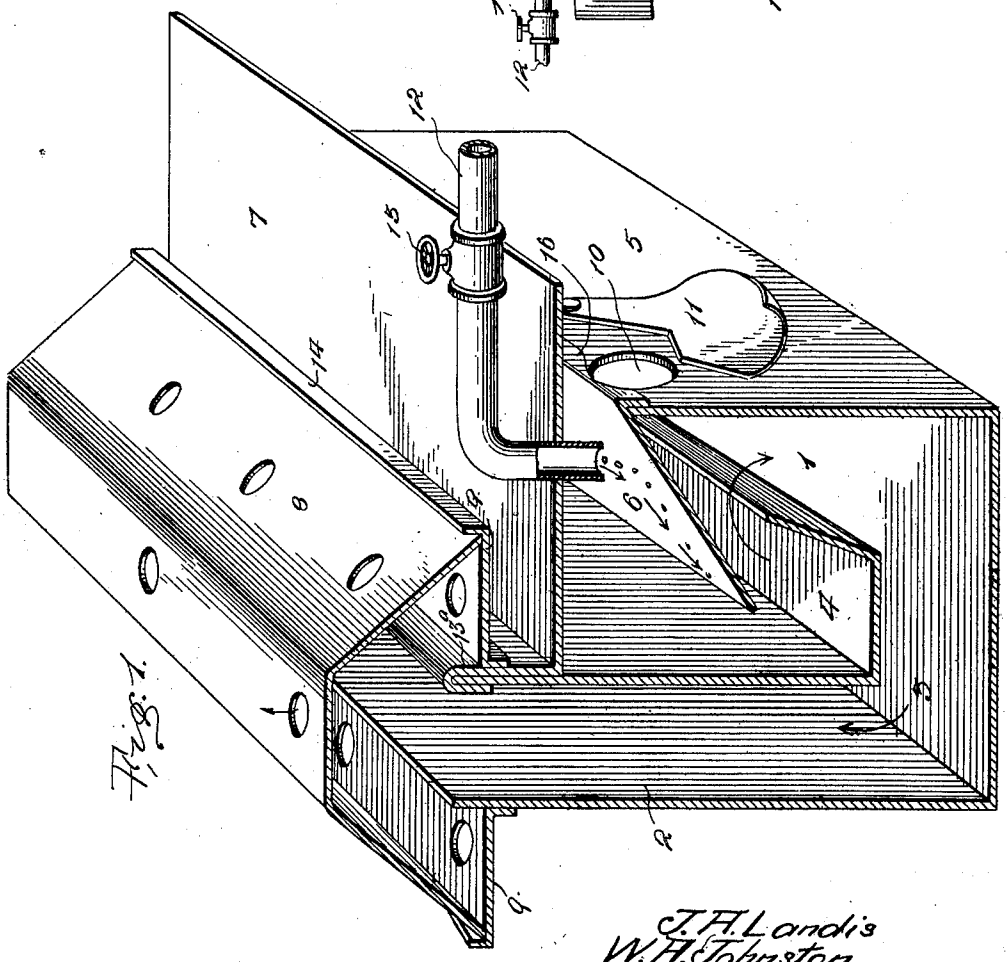


Fig. 1.

Witnesses
Ora Simpson
J. W. Garner

J. A. Landis
W. A. Johnston
Lee W. Bosley Inventors
by C. A. Snow & Co
Attorneys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 703,282. Patented June 24, 1902.

J. A. LANDIS, W. A. JOHNSTON & L. W. BOSLEY.

CRUDE OIL BURNER.

(Application filed Dec. 7, 1901.)

(No Model.) 2 Sheets—Sheet 2.

Fig. 4.

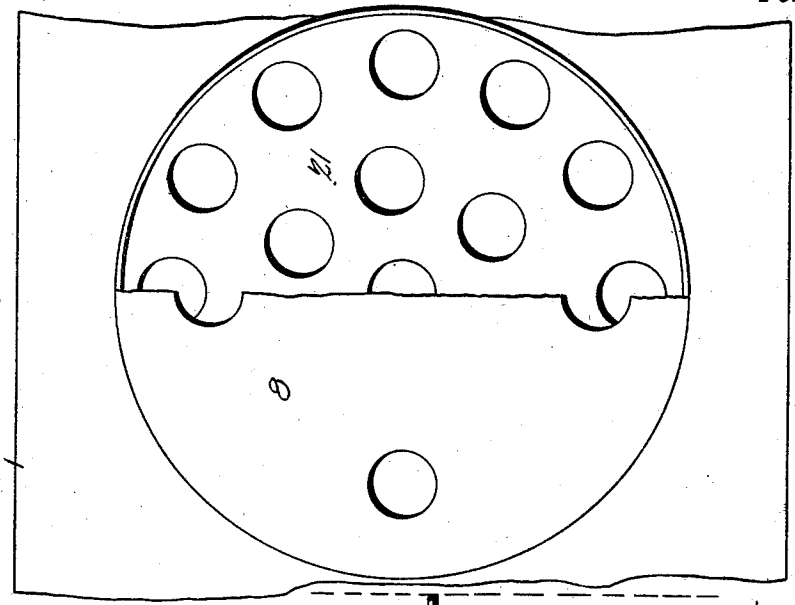
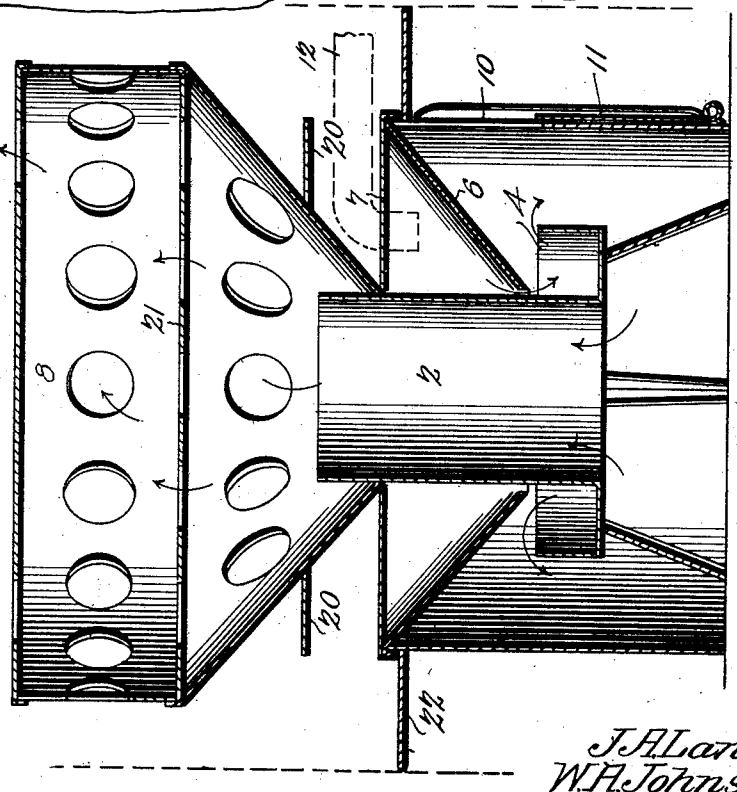


Fig. 3.



Witnesses
E. F. Stewart
J. W. Garner

J. A. Landis
W. A. Johnston
Lee W. Bosley Inventors

by C. A. Snow & Co
Attorneys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOHN A. LANDIS, WILLIAM A. JOHNSTON, AND LEE WOODEN BOSLEY, OF GAINESVILLE, TEXAS.

CRUDE-OIL BURNER.

SPECIFICATION forming part of Letters Patent No. 703,282, dated June 24, 1902.

Application filed December 7, 1901. Serial No. 85,045. (No model.)

To all whom it may concern:

Be it known that we, JOHN A. LANDIS, WILLIAM A. JOHNSTON, and LEE WOODEN BOSLEY, citizens of the United States, residing at Gainesville, in the county of Cooke and State of Texas, have invented a new and useful Crude-Oil Burner, of which the following is a specification.

Our invention is a crude-oil burner especially adapted for use in cooking and heating stoves and in fireplaces; and it consists in the peculiar construction and combination of devices hereinafter fully set forth and claimed.

In the accompanying drawings, Figure 1 is a sectional perspective view of a crude-oil burner embodying our improvements. Fig. 2 is an end elevation of the same. Fig. 3 is a vertical sectional view of a modified form of our invention. Fig. 4 is partly a top plan view and partly a horizontal section of the same.

In the embodiment of our invention we provide a box or body 1, which is preferably of rectangular form and may be of any suitable dimensions and is provided on one side with a flue 2, which extends vertically therein and communicates at its lower end with the interior of the box or body, as at 3. In the latter is a drip-pan 4, which is here shown as secured to the inner side of the flue 2 and as extending to within a suitable distance of the front side 5 of said box or body. On the front side of the box or body, at the upper edge thereof, is secured a laterally-inclined drip-plate 6, which extends partially over the drip-pan 4. A top plate 7 is here shown as secured to the front side or wall of the flue 2 and as extending over the drip-pan and drip-plate and as projecting some distance beyond the front side of the box or body at a suitable distance above the drip-plate, so that air can enter the space between the drip-plate and the top plate 7, pass under the drip-plate, over the drip-pan into the box or body 5, under the drip-pan, and upwardly through the flue 2. At the upper end of the flue is a spreader-head 8, which is preferably of truncated pyramidal form in cross-section and the bottom plates 9 of which project laterally in front and rear of the flue 2, one of said bottom plates 9 overhanging the top plate 7. Said bottom plates 9 and the upper portion of the burner-head or spreader are provided with openings, as shown. Ignition-openings 10 are here shown as in the front wall 5 and in one end wall of the box or body to enable a burning match to be inserted in the drip-pan to ignite oil therein and start the burner in operation. Suitable closures 11 are provided for the said ignition-openings. An oil-feed pipe 12 is here shown as having one end downturned, passing through and secured to the said top plate 7, the said downturned discharge end of said feed-pipe being disposed at a suitable distance above the drip-plate 6. The said oil-feed pipe is adapted to feed oil drop by drop to the drip-plate and is provided with a suitable needle or other form of valve 13 to regulate the flow of the oil through the said pipe.

In the operation of our invention after the burner has been initially heated the oil is vaporized by contact with the heated drip-plate 6 and the heated drip-pan 4 under the same, the flame passing upwardly through the flue 2 to the burner-head, where it is spread. It will be understood that the air which is admitted to the burner through the space between the drip-plate 6 and the top plate 7 becomes commingled with the vapor during its passage together with the vapor through the burner, hence facilitating the combustion of the vapor. The combustion of the oil and the vapor thereof is so nearly perfect that the burner requires very little attention. To enable the parts of the burner to be disassembled to permit access to the interior of the burner when it becomes necessary to repair or clean the same, we provide the top plate 7 with a flange 13^a at its inner side, which engages and overhangs the upper edge of the front wall of the flue 2, secure the front bottom plate 9 of the burner-head to the said flange 13^a, and form the upper portion 8 of the burner-head separately from the bottom plates 9 thereof, so that the said upper portion of the burner-head may be readily detached from said bottom plates. The latter are formed with vertical flanges 14 at their outer edges, which flanges are upturned and engage the sides of the upper portion of the

burner-head to retain the same in place, as shown in the drawings. The ends of the top plate 7 are downturned, as at 15, to engage the ends of the box or body 1. The drip-plate 6 is formed at its outer edge with a downturned flange 16, which bears on the front wall of the box or body. The said drip-plate is maintained at the necessary inclination over the drip-pan by supports, such as are shown at 17, on the end walls of the box or body.

We do not desire to limit ourselves to the precise construction and combination of devices herein shown and described, as it is evident that modifications may be made therein without departing from the spirit of our invention.

In the modified form of our invention shown in Figs. 3 and 4 the casing 1 and flue 2 and drip-pan 4 are cylindrical in form, the drip-plate 6 is of inverted conical or funnel shape, and the plate 7, which forms the cover of the casing, is of circular form and is perforated for the passage of air downwardly therethrough. The head 8 of the burner is of cylindrical form, with its lower portion funnel-shaped, and is provided with an outwardly-extending deflector-plate 20, that is disposed at a suitable distance above the cover-plate 7 of the casing. In the burner-head is a perforated spreader or diaphragm 21. This form of our invention is especially adapted for use in cylindrical heating-stoves of the common form, and when our burner is placed in such a stove a reducer-plate 22 is also used to cut off the draft in the upper portion of the stove and cause all the air admitted to the interior of the stove to pass through the burner in the direction indicated by the arrows in Fig. 3.

Having thus described our invention, we claim—

1. A crude-oil burner comprising an outer casing, an escape-flue, a drip-pan in said casing and around which pan said flue passes, a drip-plate, to discharge into said drip-pan, means to feed oil to said drip-plate, and an air-inlet flue passing over and under said drip-plate and communicating with said escape-flue, substantially as described.

2. A crude-oil burner comprising a box or casing, an uptake-flue communicating with the lower portion thereof, a drip-pan disposed against the inner wall of said flue and above the bottom of said box or casing, a space being formed between said drip-pan and the proximate wall of said box or casing, a drip-plate above and discharging into said drip-pan and extending from said wall of said casing, whereby a downdraft-flue is formed under said drip-plate and around said drip-pan, said downdraft-flue communicating with said uptake-flue, and means to feed oil on said drip-plate, substantially as described.

3. A crude-oil burner comprising a box or casing, a flue communicating with the lower portion thereof, a head or spreader at the upper end of said flue, a drip-pan disposed against the inner wall of said flue and above the bottom of said box or casing, a space being formed between said drip-pan and the proximate wall of said box or casing, a drip-plate above and discharging into said drip-pan, and extending from said wall of said casing, whereby a flue is formed under said drip-plate and around said drip-pan, said flue communicating with said first-mentioned flue, a deflector above said drip-plate and means to feed oil on said drip-plate, substantially as described.

4. A crude-oil burner having a spreader-head and an uptake leading thereto, a drip-plate disposed at the intake of said flue, means to supply oil to said drip-plate, a drip-pan into which the drip-plate discharges, and a casing in which said drip-plate is inclosed, said casing having a downdraft-flue passing over and under said drip-plate, and communicating with the uptake-flue substantially as described.

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

JOHN A. LANDIS.
WILLIAM A. JOHNSTON.
LEE WOODEN BOSLEY.

Witnesses:
JOHN A. HULEN,
S. L. BALL.