No. 733,075. PATENTED JULY 7, 1903.

G. F. NOLTE.

VAPOR BURNER.

APPLICATION FILED SEPT. 17, 1902.

NO MODEL. 2 SHEETS—SHEET 1.

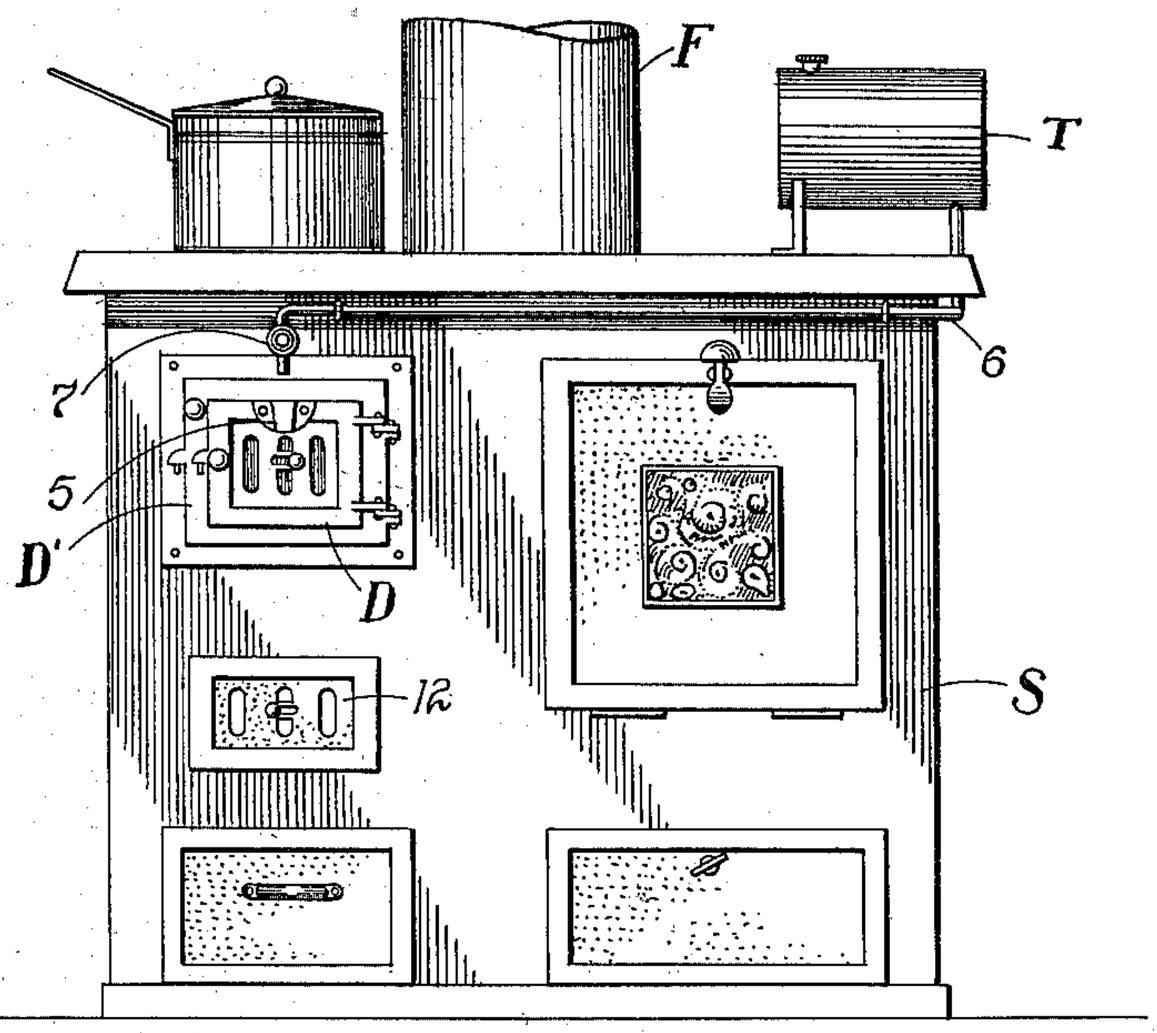

Fig. 1.

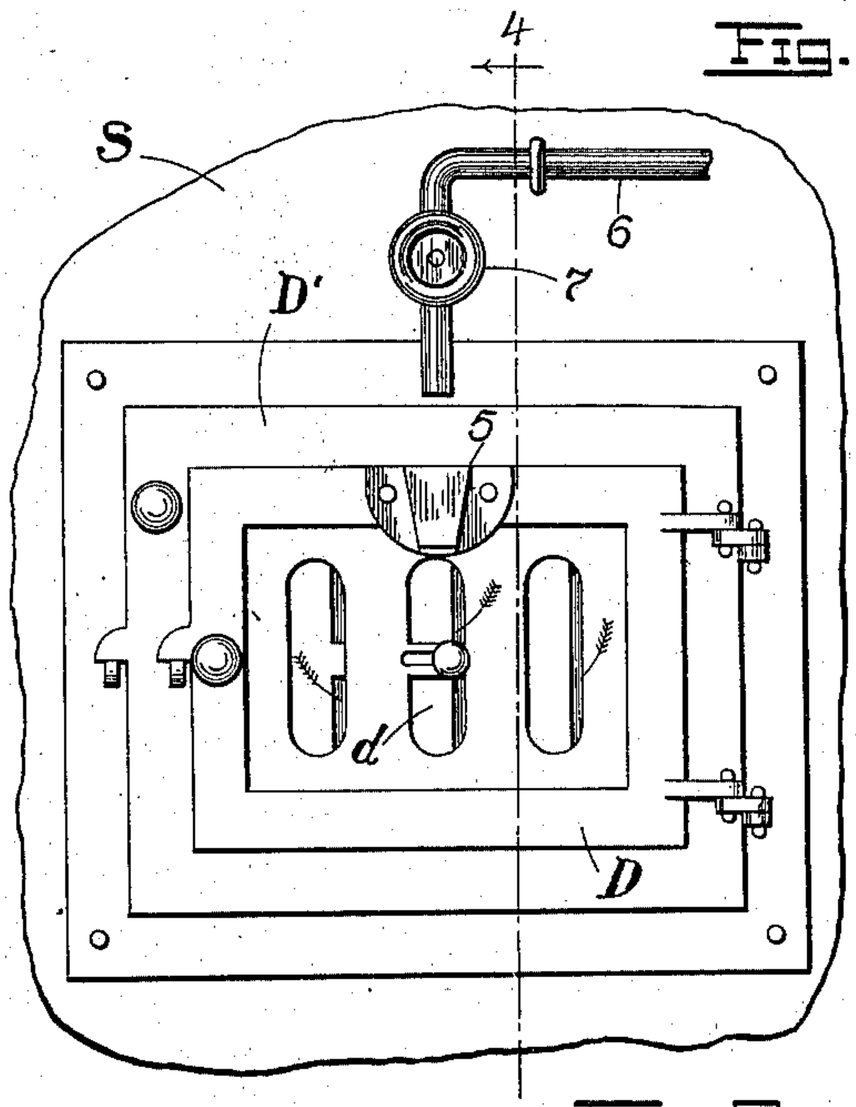

Fig. 2.

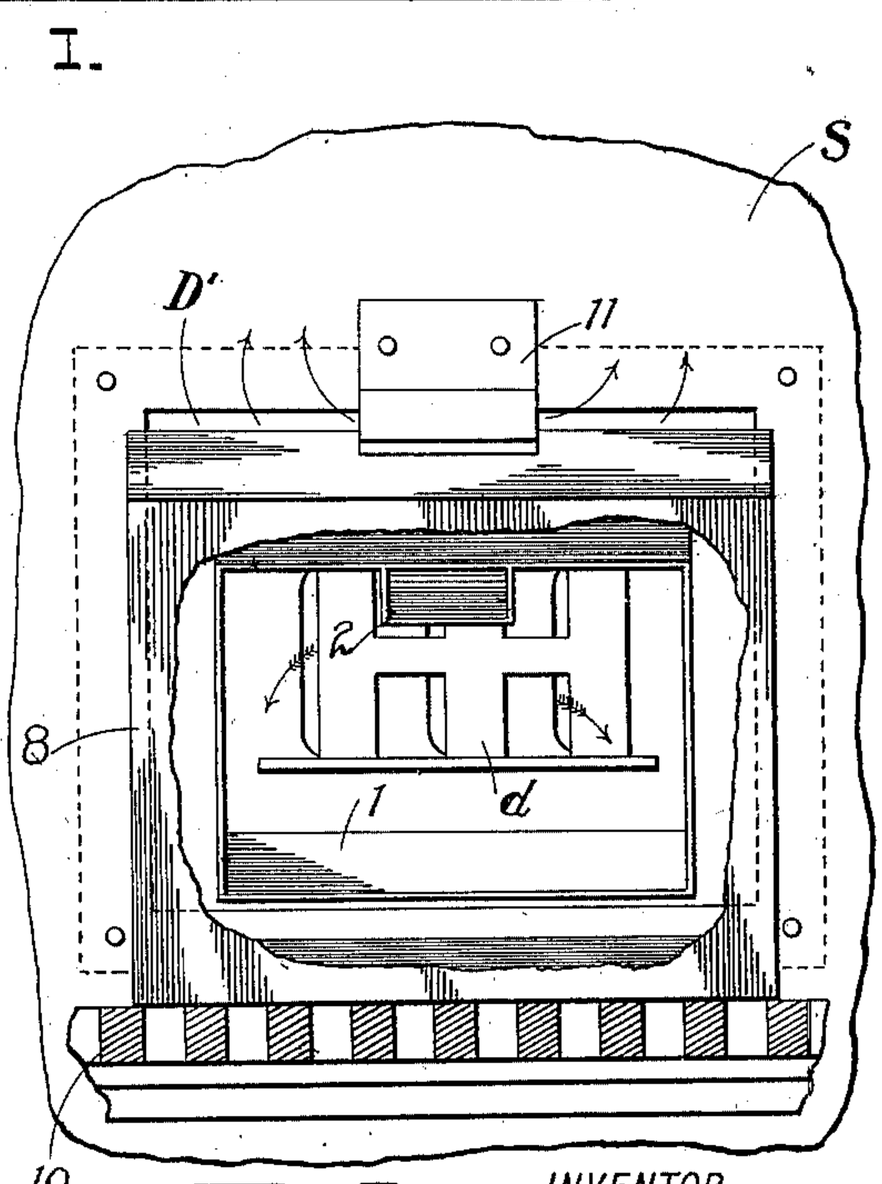

Fig. 3.

WITNESSES:
Robt. J. Mann
Rosa Ross.

INVENTOR
Geo. F. Nolte
BY Emil Starek
ATTORNEY

No. 733,075. PATENTED JULY 7, 1903.

G. F. NOLTE.

VAPOR BURNER.

APPLICATION FILED SEPT. 17, 1902.

NO MODEL. 2 SHEETS—SHEET 2.

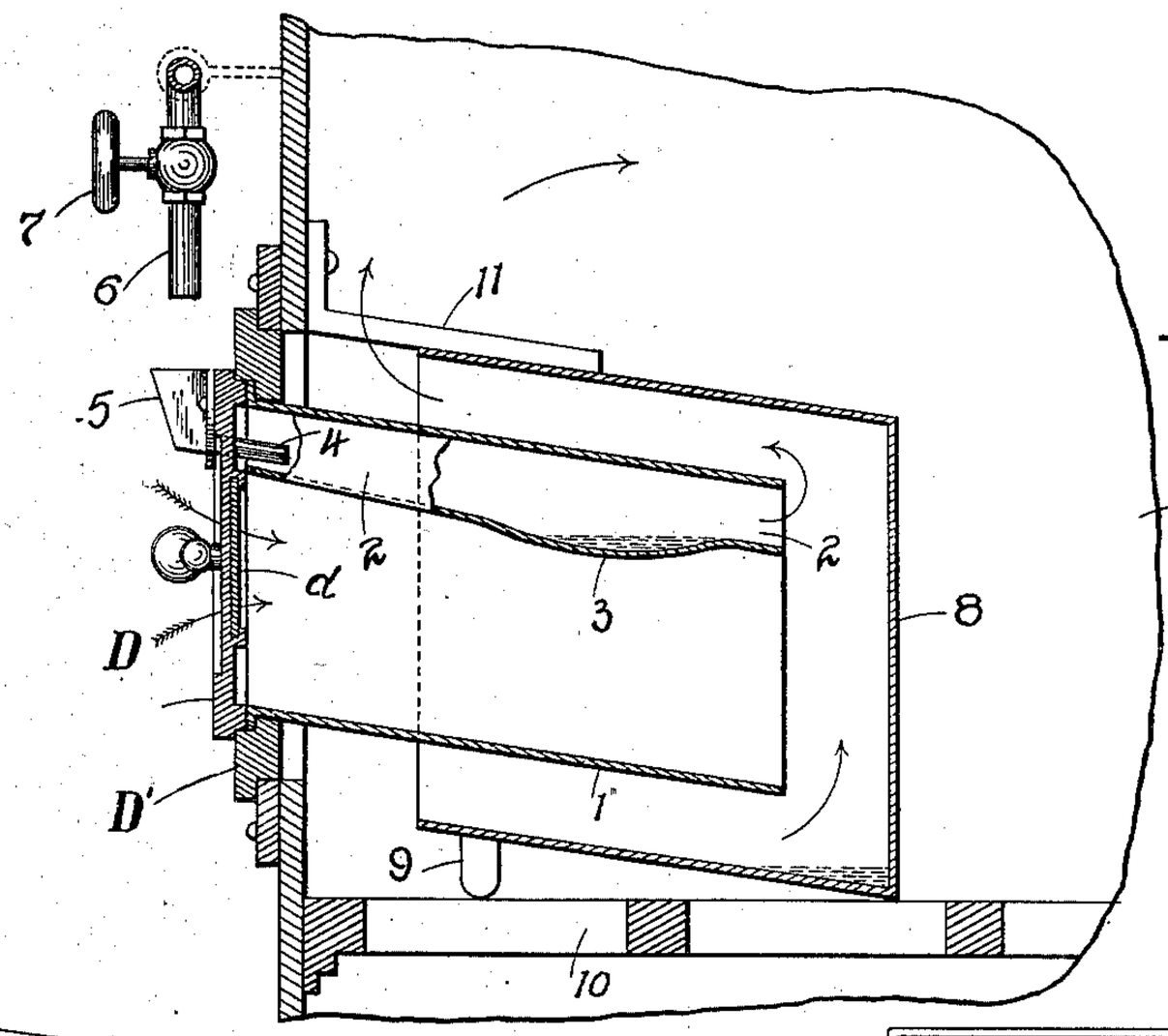

Fig. 4.

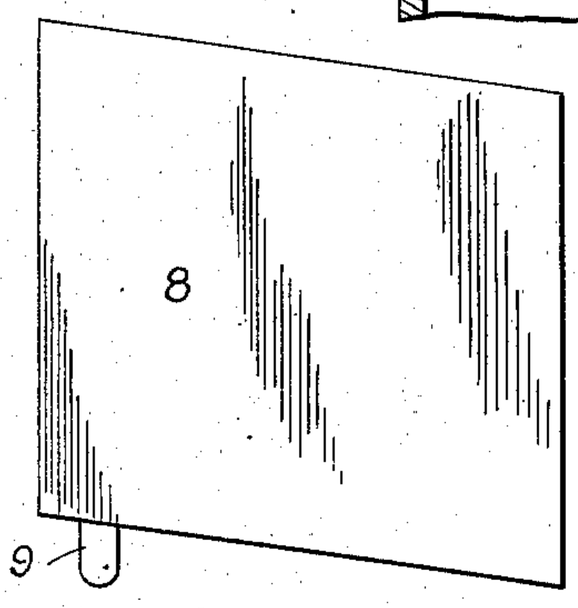

Fig. 5.

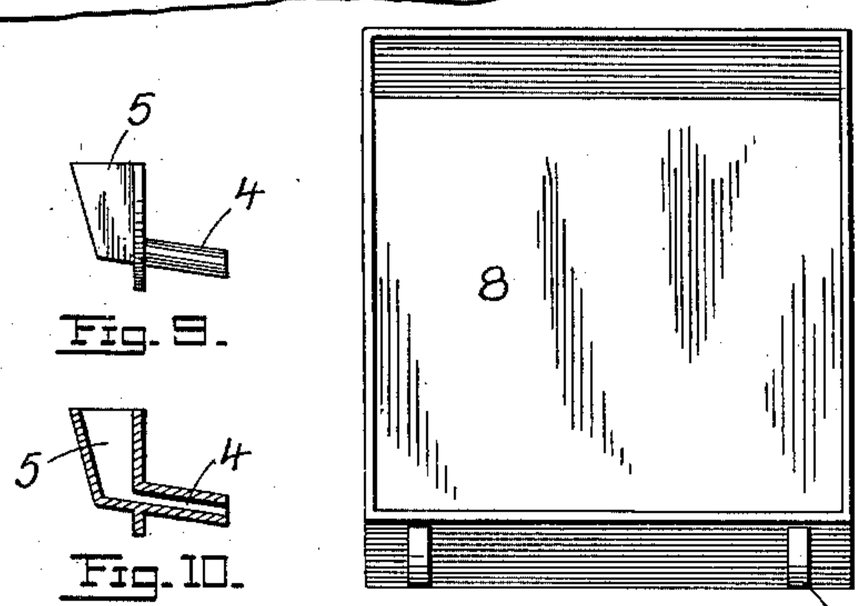

Fig. 6.

Fig. 6.

Fig. 9.

Fig. 10.

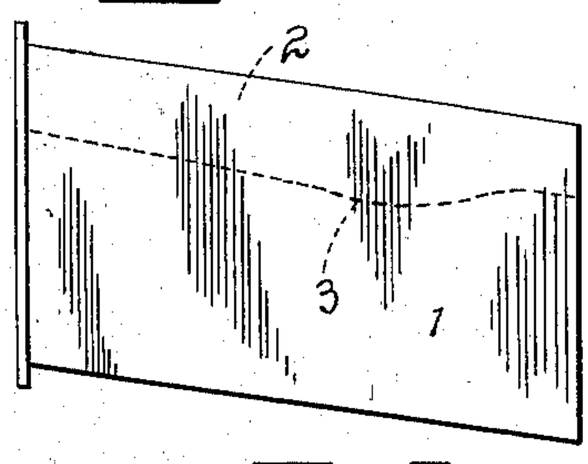

Fig. 7.

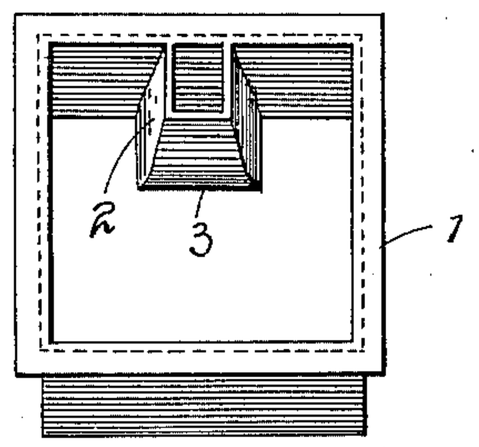

Fig. 8.

WITNESSES:

Thos. J. Nawn

Rosa Ross

INVENTOR

Geo. F. Nolte

BY Emil Stark

ATTORNEY

No. 733,075. Patented July 7, 1903.

UNITED STATES PATENT OFFICE.

GEORGE F. NOLTE, OF ST. LOUIS, MISSOURI.

VAPOR-BURNER.

SPECIFICATION forming part of Letters Patent No. 733,075, dated July 7, 1903.

Application filed September 17, 1902. Serial No. 123,775. (No model.)

To all whom it may concern:

Be it known that I, GEORGE F. NOLTE, a citizen of the United States, residing at St. Louis, State of Missouri, have invented certain new and useful Improvements in Vapor-Burners, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention has relation to improvements in vapor-burners; and it consists in the novel arrangement and combination of parts more fully set forth in the specification and pointed out in the claims.

In the drawings, Figure 1 is a front elevation of a stove, showing my improvement attached thereto. Fig. 2 is a front view of the device detached and shown on a larger scale. Fig. 3 is a rear elevation thereof with a portion of the rear wall, the drum removed to show the interior construction. Fig. 4 is a vertical longitudinal section on the line 4 4 of Fig. 2. Fig. 5 is a side elevation of the drum. Fig. 6 is a front view of the drum. Fig. 7 is a side elevation of the igniting-chamber. Fig. 8 is a front view thereof. Fig. 9 is a side elevation of the drip-pot, and Fig. 10 is a vertical longitudinal section of the same.

The object of my invention is to construct a vapor-burner adapted for use in connection with stoves, ranges, ovens, and the like which shall be simple in construction and yet capable of developing a maximum amount of heat. To this end I have devised a burner which in detail may be described as follows:

Referring to the drawings, S represents an ordinary stove provided with the usual exit-flue F, located at any convenient point in the body of the stove. Opening into what corresponds to the fire-box of the ordinary stove is a door D, provided with a sliding damper-plate *d*, the air-passages controlled thereby being adapted to conduct air into the interior of the igniting-chamber 1, which takes the place of the fire-box aforesaid. The chamber 1 is conveniently secured to the front wall of the stove, being inclined rearwardly and being provided with an upper compartment 2, which is depressed into an oil basin or container 3 for a purpose presently to be referred to. The compartment 2 is supplied with oil or hydrocarbon from the delivery-nozzle 4 of a drip-pot 5, carried by the door D, the oil being fed to the pot 5 from the end of a feed-pipe 6, leading to a general supply-tank T, located on top of the stove, as shown, or in proximity thereto, the rapidity of the flow being controlled by a regulating-valve 7 of any approved design or construction. Surrounding the chamber 1 and communicating with the rear open end thereof and of the compartment 2 is an outer drum 8, open in front and closed in the rear and having its upper and lower walls substantially parallel to the corresponding walls of the igniting-chamber 1. The front of the bottom wall is supported on legs 9 9, resting in the grate-bars 10. The space between the front wall of the stove and the upper wall of the drum is spanned by a deflecting-plate 11, partially extending across the upper wall of the drum and being disposed symmetrically on either side of the medial line of the drum, said plate serving to spread the flame as it issues from the drum.

In the operation of my device oil is first allowed to enter the pot 5 and run into the compartment 2 to more than fill the basin 3, the overflow running into the rear of the drum 8. The operator then closes the valve 7 and opens the door D, inserting into and igniting a piece of paper or shaving in the chamber 1 below the compartment 2, the paper thus ignited in turn igniting the oil in the drum, which by its combustion evaporates the oil in the basin 3, the products passing out of the drum and around the deflecting-plate (which serves as a distributing-plate) through the stove and into the exit-flue F, as shown by the arrows. Once the fire is started the door D is closed and the valve 7 opened sufficiently to permit the oil to be fed only as fast as the same is evaporated from the basin 3. Of course the products are free to pass in all directions about the drum after once issuing from the front open end thereof, the most of the ignition taking place at the rear end of the compartment 2, whence the vapors generated in the basin 3 escape. The necessary quantity of air is supplied through air-ducts of the damper-plate *d*, as seen by the feathered arrows in the drawings. The results are such that the drum 8 is filled with a flame of high intensity, completely consuming the gases rising from the surface of the oil in the basin 3, the flames in turn enveloping the chamber 1

and the several parts radiating the heat to the stove and its oven. Air may also be supplied from below the grate 10 to the drum through a damper-plate 12, if desirable, Fig. 1.

I do not, of course, desire to be limited to the details here shown, as these may in a measure be departed from without in any wise departing from the spirit or nature of my invention.

In practice the door D is preferably hinged to a larger door D′, to which the chamber 1 is secured, the latter being detachable from said door D′ and swinging with it when the door is opened for any purpose, such as cleaning the interior of the device.

Having described my invention, what I claim is—

1. In a stove having a swinging door, an igniting-chamber having communication at one end with the outer air and secured to said door, an oil-basin located in the upper portion of the chamber, a stationary drum open in front and closed in the rear enveloping said chamber, the chamber being adapted to be swung outwardly therefrom with the opening of the door, the drum being adapted to receive a portion of the oil from the chamber for purposes of initial ignition, and being in communication therewith and forming with the chamber an exit-passage for the products of combustion, means for feeding oil to the oil-basin, and devices for regulating the feed, substantially as set forth.

2. In combination with a stove having a door, a damper-plate in said door, a drip-pot carried by said door, a valve-controlled feed-pipe leading to said drip-pot, a supply-tank for the oil, an igniting-chamber having a rearwardly-inclined oil-basin communicating with the drip-pot, a drum enveloping said chamber and forming in conjunction therewith an exit-passage for the products of combustion, a flame distributing and deflecting plate spanning the middle of the drum, said drum being located a suitable distance from the adjacent wall of the stove, the front of the igniting-chamber being in communication with the air-passages of the damper-plate, the parts operating substantially as and for the purpose set forth.

3. In a stove having a swinging door, an igniting-chamber secured thereto, a compartment in the upper portion of the chamber, a depressed basin formed in the lower wall of the compartment, means for feeding oil to said compartment, means for conducting air into the igniting-chamber, a stationary drum closed in the rear enveloping the igniting-chamber and in communication therewith, and forming with said chamber an exit-passage for the products of combustion, said chamber being adapted to be swung outwardly from the drum upon the opening of the door, the front open end of the drum being disposed a suitable distance rearward of the front end of the igniting-chamber, and means for conducting air to the drum, substantially as set forth.

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

GEORGE F. NOLTE.

Witnesses:
EMIL STAREK,
ROSA ROSS.