No. 720,584. PATENTED FEB. 17, 1903.

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CRUDE OIL BURNER.

APPLICATION FILED NOV. 10, 1902.

NO MODEL.

Fig. 1.

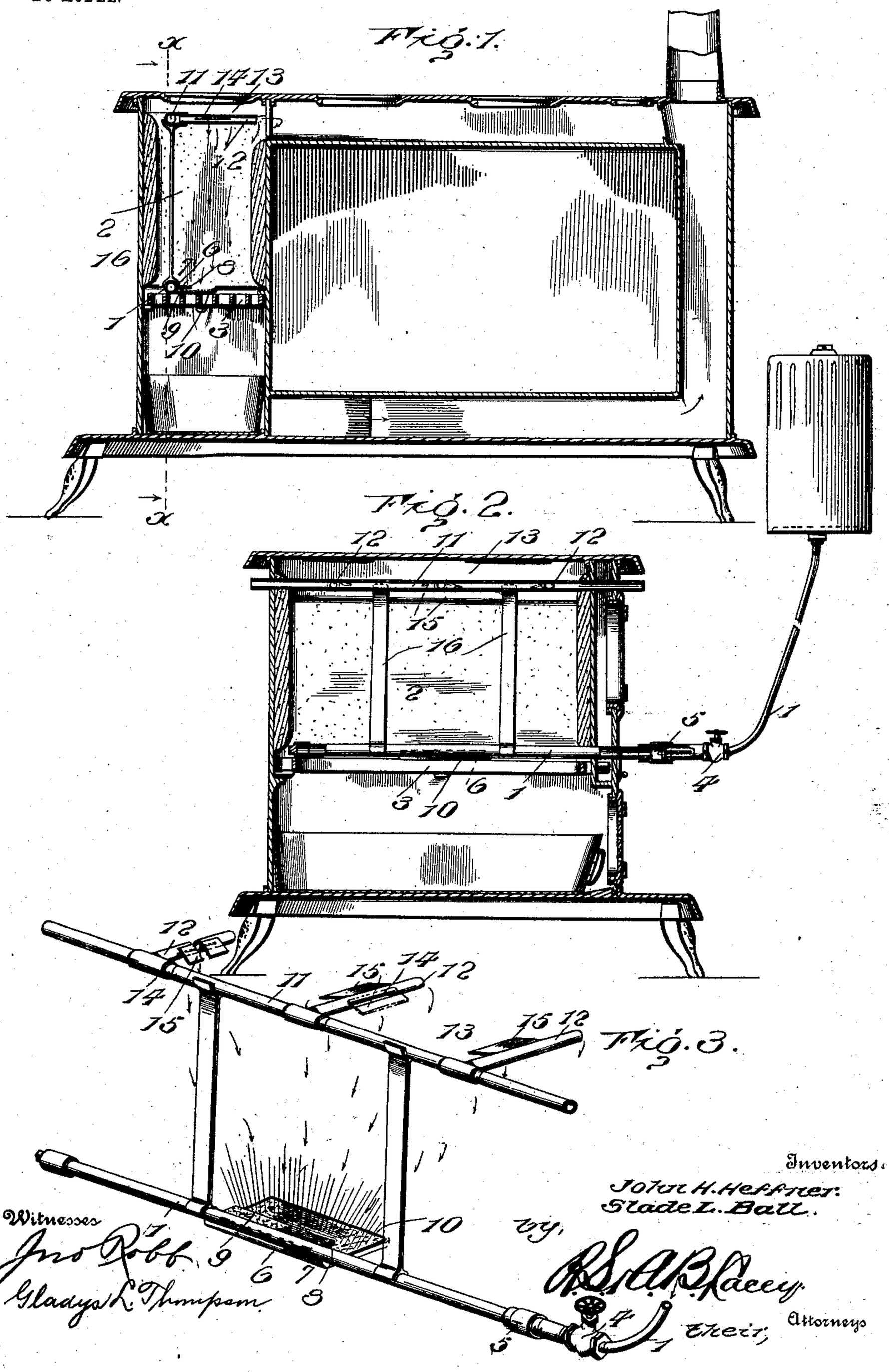

Fig. 2.

Fig. 3.

Witnesses
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UNITED STATES PATENT OFFICE.

JOHN H. HEFFNER AND SLADE L. BALL, OF THORNTON, TEXAS.

CRUDE-OIL BURNER.

SPECIFICATION forming part of Letters Patent No. 720,584, dated February 17, 1903.

Application filed November 10, 1902. Serial No. 130,750. (No model.)

To all whom it may concern:

Be it known that we, JOHN H. HEFFNER and SLADE L. BALL, citizens of the United States, residing at Thornton, in the county of Limestone and State of Texas, have invented certain new and useful Improvements in Crude-Oil Burners, of which the following is a specification.

This invention aims to provide a new and novel structure of crude-oil burner of the type adapted for application to ordinary cook-stoves, kitchen-ranges, and furnaces. The burner provides a particular construction of draft means for assisting combustion, thereby giving the article a greater breadth of utility and adaptation.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result reference is to be had to the following description and drawings hereto attached.

While the essential and characteristic features of the invention are susceptible of modification, still the preferred embodiment of the invention is illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal section of a cook-stove, showing the invention applied. Fig. 2 is a section on the line X X of Fig. 1. Fig. 3 is a perspective view of the burner removed from the stove.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The different structural features of the burner are preferably substantially as hereinafter described. However, they are susceptible to a greater or less degree of modification with reference to the spirit of the invention involved. In the drawings, the numeral 1 indicates a pipe or tube extending longitudinally the length of the fire-box 2, being supported by the grate 3, if convenient. This pipe 1 leads from an oil-reservoir located at a safe distance from the stove, and a needle-valve 4, of common form, is utilized to regulate the amount of oil passing to the burner proper. Also, for safety, an automatic check-valve 5, disposed at a point in the pipe 1 approximately near the valve 4 outside of the fire-box, is employed to prevent the oil from backing into the oil-tank. The inner end of the pipe 1 is closed, as will be noted upon referring to the drawings, a longitudinal opening 6 being provided in the side of said pipe intermediate its ends and about the center of the fire-box. The burner 7 comprises a plate 8 and is rigidly secured in the burner-opening 6, said plate having a layer of asbestos 9 thereon to absorb the oil as it passes from the tank and constituting a wick, the oil being ignited therefrom. A pan 10 extends outward from the pipe 1 below the burner 7, and all drippings from the said burner are caught therein and burned in the same manner as from the burner proper. Asbestos is also secured to the upper surface of the pan 10.

To promote combustion and also to give a draft carrying off the smoke from the burner, a draft-pipe 11 extends from the front to rear of the fire-box 2, passing through the same, communicating with the open air. This pipe 11 is located approximately a distance above the burner-pipe 1 and near the top of the stove. Branch pipes 12 extend at right angles to the pipe 11 to the hot-air space 13 of the stove. These pipes may be of any suitable number, three being illustrated, according to the size and character of stove, and are provided with openings 14 in the sides thereof, the central pipe or pipes having the openings upon both sides and the end pipes having them only upon the side toward the burner. The purpose of these openings 14 is to allow the air passing into the branch pipes 12 to freely circulate above the flame of the burner, this assisting combustion in the well-known manner. Deflector-plates 15 are disposed above the openings 14, projecting laterally from the pipes 12, and serve to more thoroughly distribute the air above the flame. It will be understood that a direct circulation of air is thus established above the burner, the advantages of which are apparent.

When the oil is turned on at the valve 4, the same passes immediately to the burner 7 and is ignited there. The heating of the draft-pipe 11 and its branch pipes 12 causes a circulation of air through the same, and this air takes off all smoke and assists combustion in the manner described.

Braces or connecting members 16 join the burner-pipe and the draft-pipe 11 rigidly together, thus giving an article of united structure and not of separate parts. However, the above is a matter of convenience and not of essential importance within the scope of the invention. The pipe connections are all of ordinary screw-joint type and all fixtures to be placed in the stove, tubing, and plates adapted to resist the effect of heat.

Having thus described the invention, what is claimed as new is—

1. In a crude-oil burner for stoves, an oil-supply pipe, valve means for regulating the flow of oil to the said pipe, a burner disposed about centrally upon the inclosed portion of said pipe, an air-supply pipe located above the oil-supply pipe and connected to the latter by braces, branch pipes extending at right angles to the air-supply pipe and into the smoke-chamber of the stove, openings provided in said pipes at a point approximately above the burner, whereby combustion is promoted, substantially as set forth.

2. In a crude-oil burner for stoves, an oil-supply pipe extending across the fire-space of the stove, a longitudinal opening provided in said pipe and a plate rigidly secured in said opening and adapted to support a non-combustible material to which the oil is fed and from which it is burned, a drip-pan projected from the oil-supply pipe and extended below the burner-plate, an air-supply pipe extending from the front to rear of the fire-box and passing through the walls thereof, branch pipes disposed at right angles to the air-supply pipe and leading into the smoke-chamber of the stove, openings in the sides of the said branch pipes and lateral deflector-plates arranged above the last-mentioned openings and adapted to spread the air above the burner and promote combustion, substantially as specified.

In testimony whereof we affix our signatures in presence of two witnesses.

JOHN H. HEFFNER. [L. S.]
SLADE L. BALL. [L. S.]

Witnesses:
E. D. DICKEY,
J. M. BARNETT.