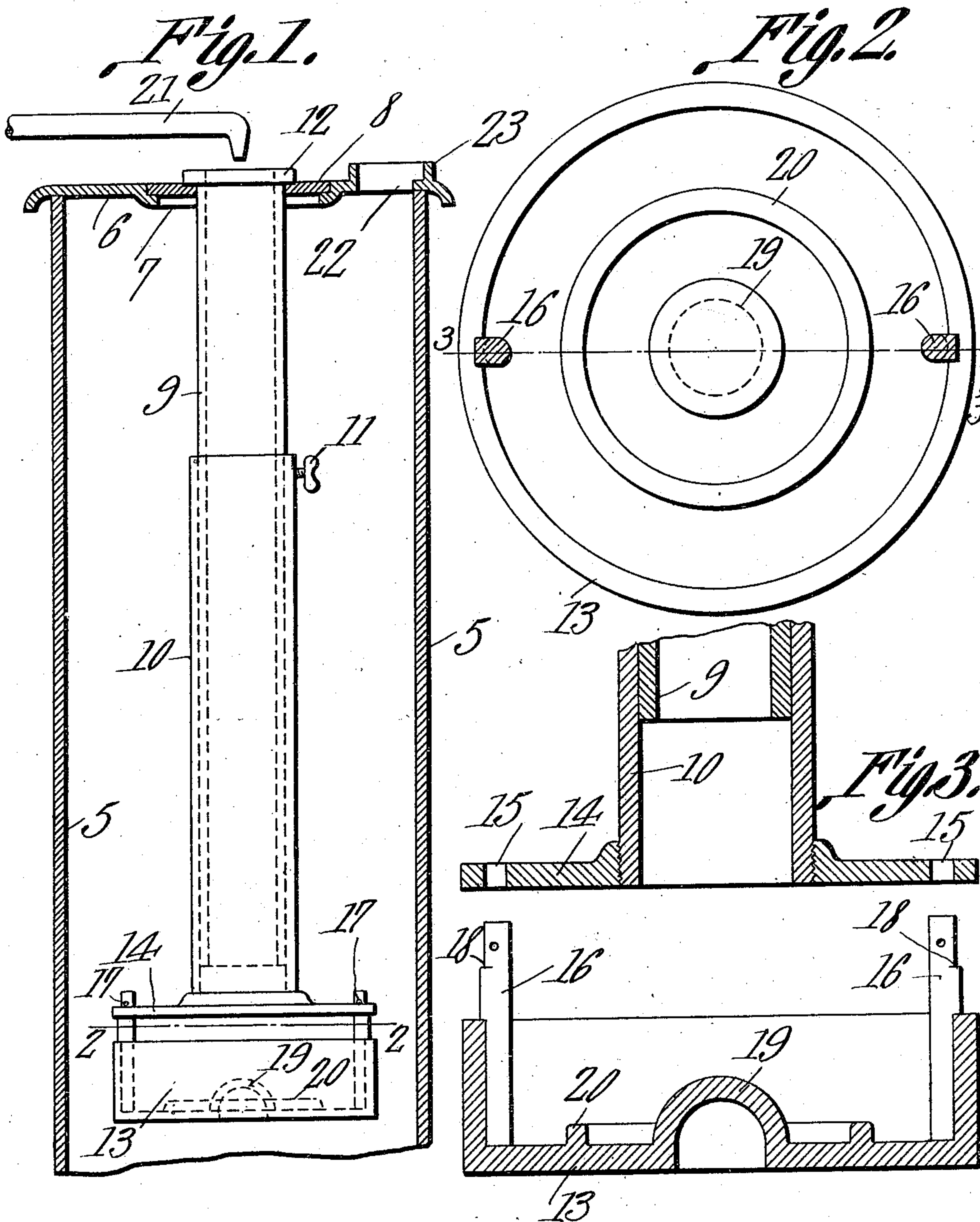


W. R. MONTGOMERY.
LIQUID FUEL BURNER.
APPLICATION FILED MAY 20, 1910.

966,576.

Patented Aug. 9, 1910.



Witnesses
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UNITED STATES PATENT OFFICE.

WALTER R. MONTGOMERY, OF SHREVEPORT, LOUISIANA.

LIQUID-FUEL BURNER.

966,576.

Specification of Letters Patent.

Patented Aug. 9, 1910.

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To all whom it may concern:

Be it known that I, WALTER R. MONTGOMERY, a citizen of the United States, residing at Shreveport, in the parish of Caddo and State of Louisiana, have invented a new and useful Liquid-Fuel Burner, of which the following is a specification.

This invention relates to liquid fuel burners designed more particularly for heating stoves, and it has for its object to provide a simple and highly efficient burner of this kind, and also one which is so constructed that it may be readily applied to any ordinary stove without altering or modifying the structure of the latter; and a further object of the invention is to provide a burner which is adjustable in order that it may be applied to different sized stoves.

With these objects in view, the invention consists in a novel construction and arrangement of parts to be hereinafter described and claimed, reference being had to the accompanying drawing, in which—

Figure 1 is an elevation of the burner in position within the stove, a fragment of the latter being shown in section. Fig. 2 is an enlarged horizontal section on the line 2—2 of Fig. 1. Fig. 3 is a cross section on the line 3—3 of Fig. 2, showing the burner pan separated from the air supply pipe.

In the drawing, 5 denotes the body of an ordinary heating stove to which the burner which is the subject of the present invention, is applied. The top 6 of the stove has an opening 7 which is closed by a lid 8. This lid supports the entire structure constituting the burner.

Depending from the lid 8 into the stove is an air pipe which is in two sections, indicated at 9 and 10 respectively, said sections being telescopically connected, and locked together by means of a set screw 11. The upper section passes through a central opening in the plate 8, and has a flange 12 engaging the top of said plate around the central opening thereof, whereby the entire burner structure is suspended from the lid.

Located beneath the lower end of the lower section of the air pipe is a pan 13, into which the oil or other liquid drops and is vaporized as will be presently described. The lower end of the lower pipe section carries a circular plate 14 which may be connected to the said pipe section by screwing thereonto as shown in Fig. 3, or by being

formed integral therewith. At diametrically opposite points, the plate 14 has openings 15 into which extend stems 16 rising from the pan 13, said stems being, preferably, formed integral with the pan. These stems project a short distance above the top of the plate, and through said projecting ends are passed pins 17, whereby the stems are made fast to the plate. The stems have shoulders 18 which engage the bottom of the plate, whereby the pan is suitably spaced from said plate.

The pan is circular as shown in Fig. 2, and located centrally within the pan, on the bottom thereof, is a raised portion 19 surrounded by an annular upstanding flange 20 which forms a trough in the center of which the raised portion 19 is located. The raised portion 19 is so located with respect to the air pipe that the oil dropping through the latter drops on said raised portion.

At 21 is indicated the oil or other liquid fuel supply pipe, said pipe leading from a suitable source of supply, and discharging into the upper end of the air pipe as shown in Fig. 1. The air pipe is open at both ends, and the oil drops therethrough onto the raised portion 19 of the pan 13.

In operation, to start the burner, a piece of rag, cotton or paper is allowed to become saturated with the liquid fuel, and is then set on fire and dropped down through the air pipe into the pan. A few drops of oil are then allowed to enter the pan until a roaring mass of flames is formed. The pan becomes quickly heated so that when the fuel is again turned on and is dropped on the raised portion 19 of the pan, it is at once vaporized, and upon mixing with the air passing down the air pipe, a highly combustible gas is formed which burns fiercely, the flames issuing from the pan through the space between the top edge thereof and the plate 14, the pan being spaced a suitable distance from the plate in order to enable the flames to escape as stated. The raised portion 19 is hollow as shown in Fig. 3, by reason of which it will be more quickly heated, and the burner can therefore be quickly started. The products of combustion escape from the stove through an opening 22 made in the top 6 thereof, said opening being provided with the usual collar 23 to which the stove pipe is connected.

Inasmuch as the air pipe is made in two

telescoping sections, they can be readily adjusted to different sized stoves, and this adjustment is effected without cutting the pipe.

It is not necessary to support the pan on the grate of the stove, nor is it desirable to do so for the reason that the grate makes an uneven support for the pan, especially if the grate bars are burnt out or warped. By mounting the pan on the lower end of the air pipe, it is held perfectly level, and the fuel will run evenly down the raised portion 19 in the pan. The oil that is not vaporized upon striking the raised portion, runs down the same into the trough formed by the flange 20, in which it is ignited and burns, thus keeping the raised portion heated. The burner can be easily installed and requires no specially constructed stove, the only change necessary being to make an opening in the lid to receive the air pipe.

What is claimed is:

1. A liquid fuel burner comprising an air supply pipe, means for supporting the same in pendent position, a plate mounted on the lower end of the air supply pipe, said plate having apertures, a pan located below the plate, said pan having upstanding stems passing through the apertures of the plate, means for preventing withdrawal of the stems from the apertures, and a fuel sup-

ply pipe discharging through the air pipe into the pan.

2. A liquid fuel burner comprising an air supply pipe consisting of telescoping sections, means for locking said sections together, means for supporting the air supply pipe in pendent position, a pan carried by said pipe, said pan being located below the lower end thereof, and a fuel supply pipe discharging through the air supply pipe into the pan.

3. A liquid fuel burner comprising an air supply pipe, means for supporting said pipe in pendent position, a pan located beneath the lower end of the pipe, said end of the pipe carrying a plate having apertures, shouldered stems rising from the pan and passing through the apertures of the plate, the shoulders of the stems engaging the bottom of the plate, fastening means passing through the stems above the plate, and a fuel supply pipe discharging through the air supply pipe into the pan.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

WALTER R. MONTGOMERY.

Witnesses:

F. G. THATCHER,
A. D. KEENEY.