No. 811,845. PATENTED FEB. 6, 1906.

L. HENDERSON.

HYDROCARBON GAS GENERATOR.

APPLICATION FILED MAR. 6, 1905.

Fig. 1.

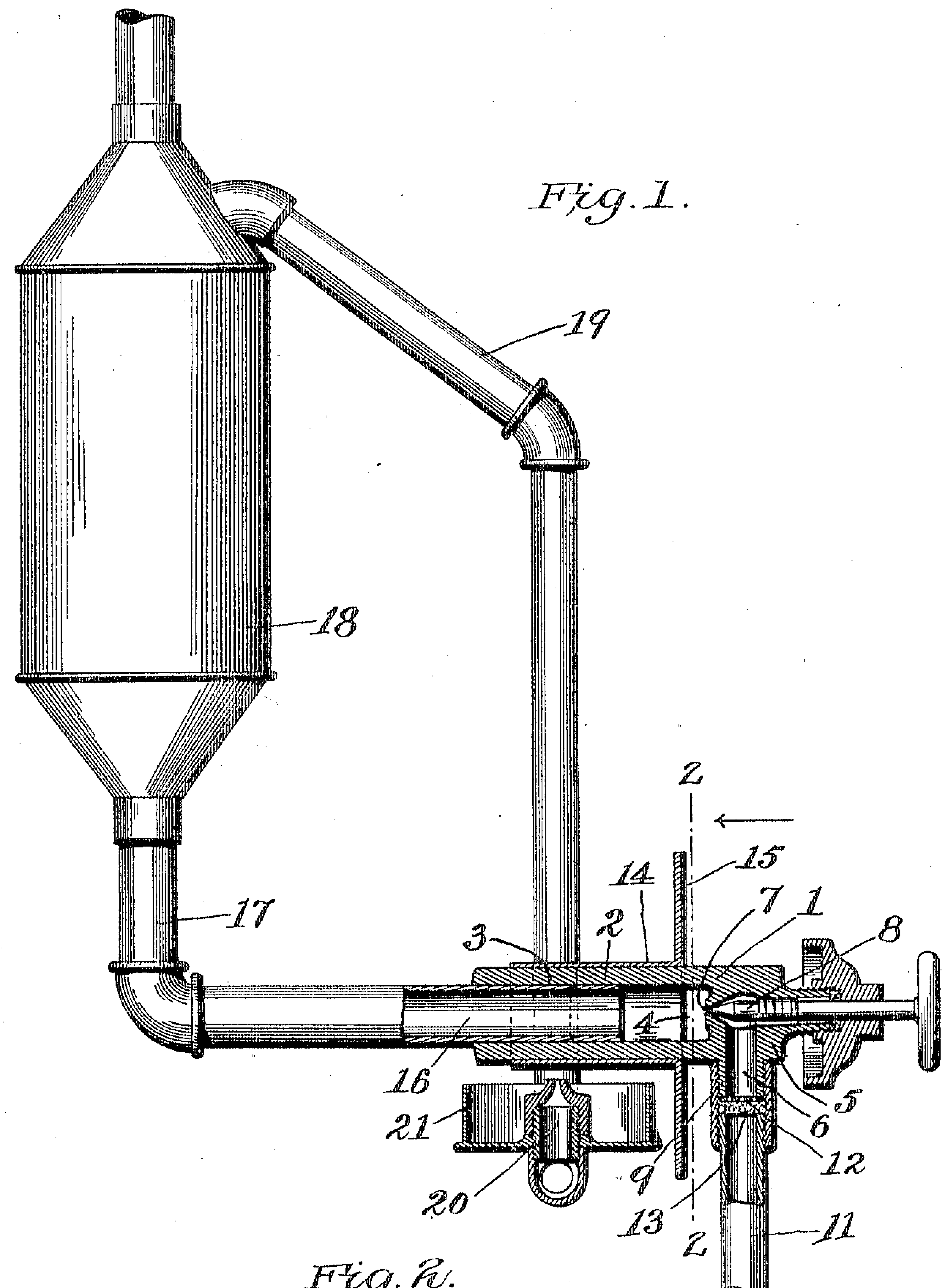
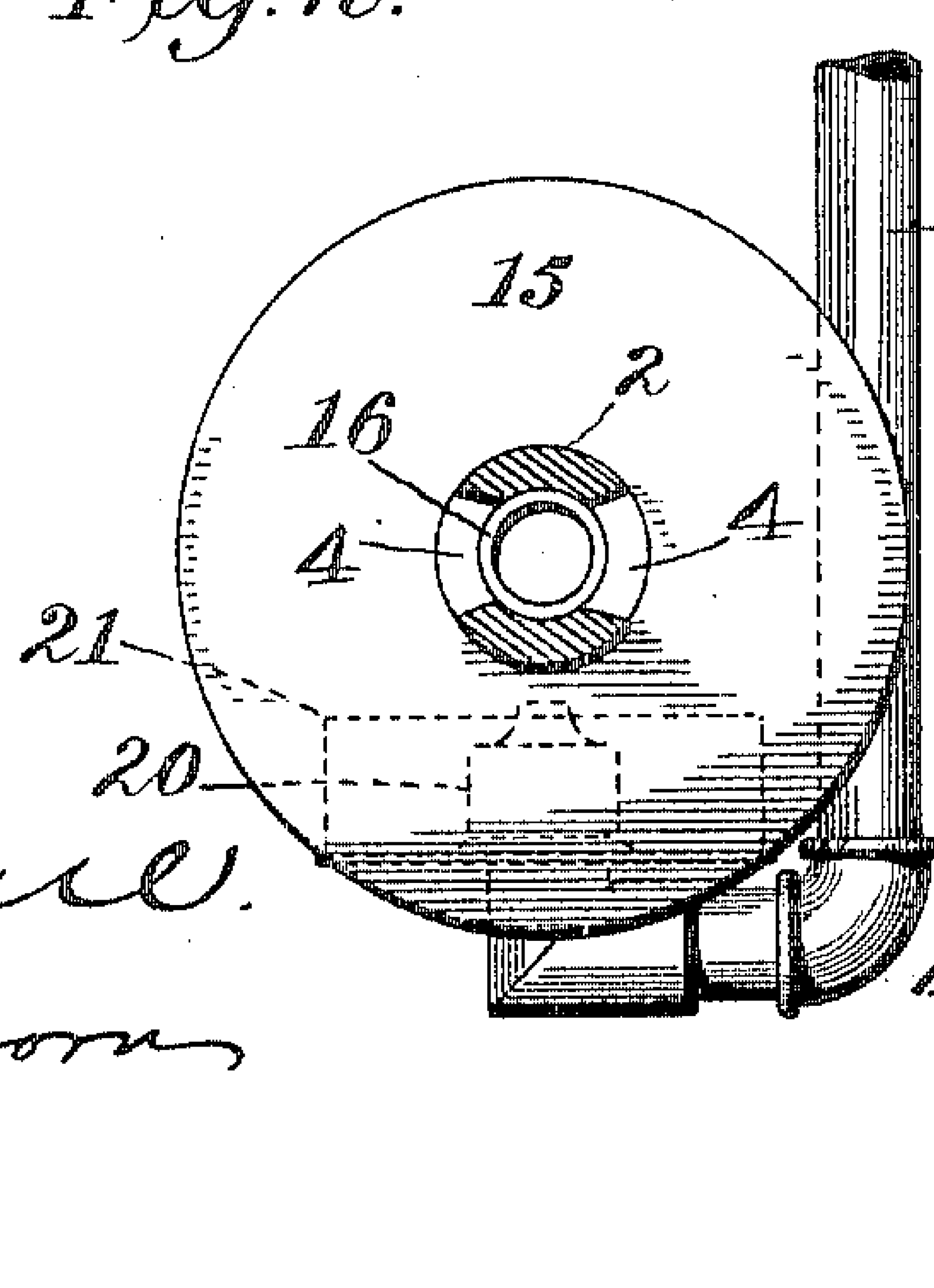


Fig. 2.



Witnesses

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LEO HENDERSON, OF PEORIA, ILLINOIS.

HYDROCARBON-GAS GENERATOR.

No. 811,845. Specification of Letters Patent. Patented Feb. 6, 1906.

Application filed March 6, 1905. Serial No. 248,789.

To all whom it may concern:

Be it known that I, LEO HENDERSON, a citizen of the United States, residing at Peoria, in the county of Peoria and State of Illinois, have invented certain new and useful Improvements in Hydrocarbon-Gas Generators, of which the following is a specification.

This invention relates more especially to an improvement in those hydrocarbon-gas generators wherein a liquid hydrocarbon—such, for example, as gasolene—is supplied to a vaporizing device having a subburner or its equivalent by which the vapor is superheated and then conducted to gas-burners located at desired points.

In carrying out the form of my invention herein shown hydrocarbon is conveyed in liquid form to a small orifice controlled by a needle or other suitable valve and from this orifice is forced in the form of a jet into a commingling-passage and thence into a superheating-chamber heated by a subburner or its equivalent. This superheating-chamber connects with a suitable conducting-pipe by which the gas may be conveyed to burners located at desired points. The subburner receives its gas from the supply in the conducting-pipe leading to the burners and preferably from a point above said superheating-chamber.

In order to more particularly describe my said invention, reference will be had to the accompanying drawings, wherein similar numerals refer to similar parts throughout the several views, and wherein—

Figure 1 illustrates a form of my improved generator, partly in section and partly in side elevation; and Fig. 2 is a section taken along the line 2 2 of Fig. 1 and looking in the direction of the arrow.

Referring to the accompanying drawings, 1 represents a casting having a cylindrical body portion 2, provided with a chamber 3, which constitutes the superheating-chamber, side openings 4 4 at the end of this chamber forming a commingling-passage, and an end 5 into which extends a duct or passage 6 at right angles to the longitudinal axis of the superheating-chamber. The head of this duct 6 communicates with a small orifice 7, opening into the commingling-passage in line with the longitudinal axis of the superheating-chamber. This orifice is controlled by a needle-valve 8 of the usual form, which passes through the head of the casting 1. A nipple 9, through which passes the duct 6, is connected, by means of a suitable coupling 10, to a pipe 11, which leads to a source of liquid gasolene. Between the end of the pipe 11 and the nipple 9 is a filter consisting of a small perforated disk 12 and suitable fibrous material 13.

Over the cylindrical portion of the casting 1 fits a sleeve 14, arranged for longitudinal movement on said casting, whereby the extent of the openings 4 may be varied, thereby varying the air-supply to the commingling-passage. This sleeve 14 carries at one end a broad flange 15, forming a shield for preventing the flame of the subburner from getting into the commingling-passage.

The superheating-chamber connects with a gas-outlet pipe 16, which may or may not extend into the said chamber, as shown. This pipe 16 is in turn connected to a vertical pipe 17, which connects to the lower end of a gas-receiver 18. Leading from the upper portion of the receiver 18 is a pipe 19, which conducts gas from said receiver to a subburner 20, located beneath the superheating-chamber. This subburner is provided with a suitable drip-pan 21.

In operating the generator liquid hydrocarbon, such as gasolene, is forced under pressure through the pipe 11 and through the filter 12 13 to the valve-controlled orifice 7, where it issues in jet form, passing across the commingling-passage into the superheating-chamber, where the vapor is converted into gas, which passes up through the pipe 17 into the receiver 18 and thence to burners located at desired points. The subburner burns continuously, being supplied with gas from said receiver.

By means of this arrangement I am enabled to secure a generator which lends itself readily to use with the ordinary gas-piping of houses and one which is extremely simple and at the same time efficient.

Having thus described a form of my invention, what I claim is—

A hydrocarbon-gas generator, having a supply-duct for connection with a source of liquid hydrocarbon, provided with a small valve-controlled orifice arranged to emit the said liquid hydrocarbon in the form of a jet, a superheating-chamber arranged in line with said orifice to receive said jet of hydrocarbon, a gas-pipe connected to said chamber, a subburner for heating said chamber, means to supply said burner with gas generated in said chamber, a commingling-passage between

said chamber and said jet-orifice, said commingling-passage being open to the atmosphere, a movable sleeve surrounding said passage to vary the size of the opening of said passage to the atmosphere, and a flame-shield carried by said sleeve between said subburner and said jet.

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

LEO HENDERSON.

Witnesses:
CHARLES C. GREENE,
WILLIAM H. SIMPSON.