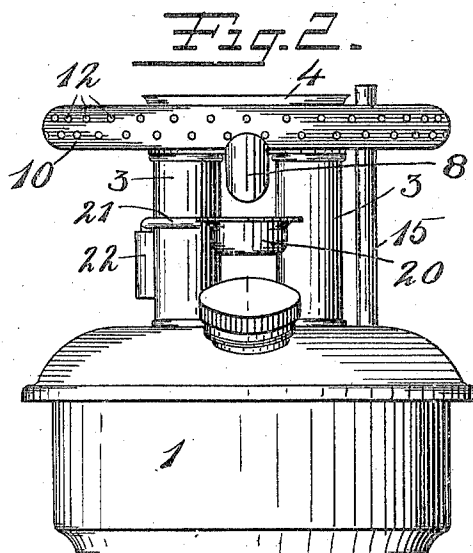
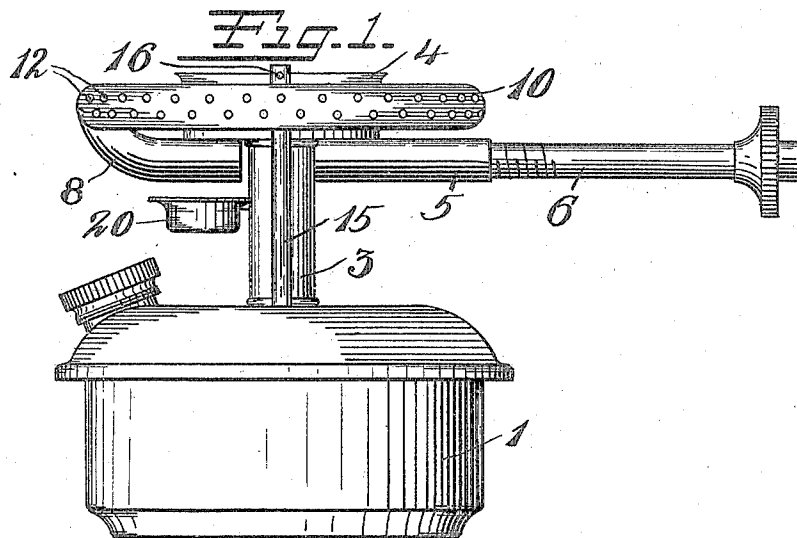


950,997.

J. W. CHAPMAN.
FLUID VAPOR STOVE.
APPLICATION FILED MAY 8, 1908.

Patented Mar. 1, 1910.
2 SHEETS—SHEET 1.



Witnesses:
Chas. Reed
Fred M. Dammann

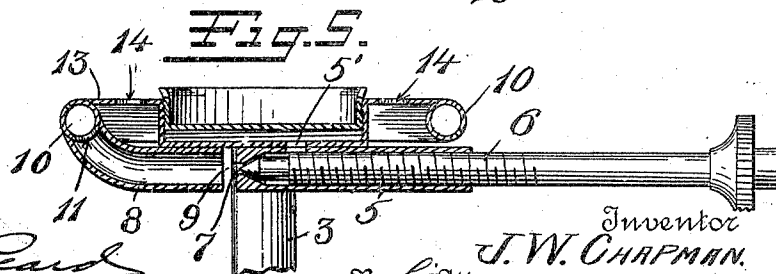
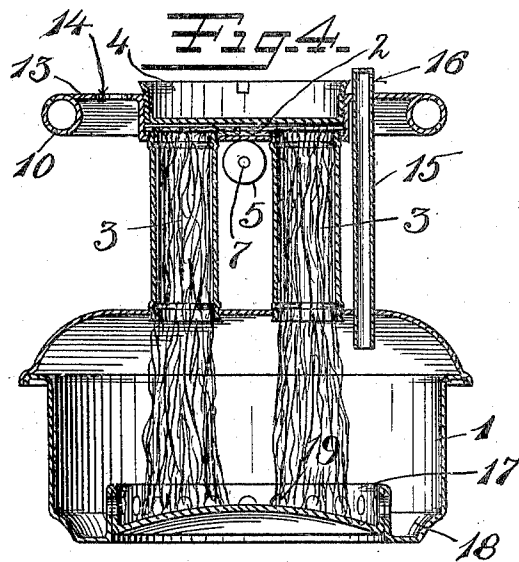
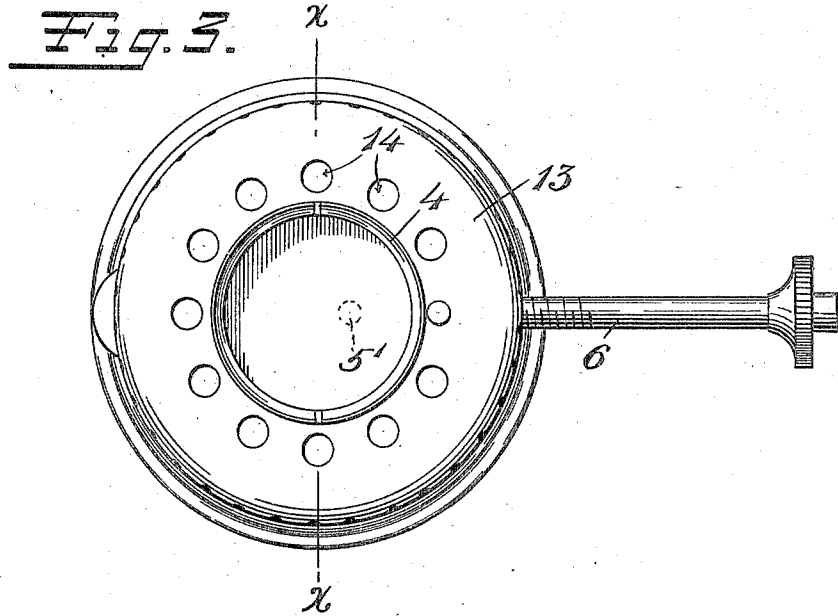
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Witnesses:

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UNITED STATES PATENT OFFICE.

JAMES W. CHAPMAN, OF MERIDEN, CONNECTICUT, ASSIGNOR TO MANNING, BOWMAN & COMPANY, OF MERIDEN, CONNECTICUT, A CORPORATION OF CONNECTICUT.

FLUID-VAPOR STOVE.

950,997.

Specification of Letters Patent.

Patented Mar. 1, 1910.

Application filed May 3, 1908. Serial No. 431,576.

To all whom it may concern:

Be it known that I, JAMES W. CHAPMAN, a citizen of the United States, residing at Meriden, county of New Haven, State of Connecticut, have invented certain new and useful Improvements in Fluid-Vapor Stoves, of which the following is a full, clear, and exact description.

My invention relates to improvements in fluid vapor stoves, and the objects thereof are to provide a simple and effective apparatus in which the generation and distribution of the gas will be easily controlled, and in which easy access may be had for the insertion and extraction of the wicks and for ready cleaning of the apparatus.

A further object is to provide for the condensation of any residue of gas remaining in the font upon cessation of the operation of the device.

The preferred form of the invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation. Fig. 2 is a similar view at right angles to the position shown in Fig. 1. Fig. 3 is a plan view. Fig. 4 is a vertical section on the line X—X Fig. 3. Fig. 5 is a vertical section of the burner taken at right angles to the view in Fig. 4.

In the embodiment of my invention which is here selected for illustration, 1 is a font or reservoir to contain fuel fluid.

2 (Fig. 4) is a gas generating chamber, which is connected with the font by wick tubes 3—3.

4 is a primer, which is removably secured on the gas generating chamber 2 and may form a cover therefor.

5 is a needle-valve chamber, with which the gas chamber 2 communicates by an aperture 5'. In this chamber 5 is adjustably mounted a needle-valve 6, which controls a valve opening 7 at the inner end of said chamber.

8 is a gas mixing chamber, which is separated from the needle-valve by the slight air space 9 to permit of the ingress of air to be mixed with the fluid vapor.

10 is a burner ring which communicates with the mixing chamber 8 by an aperture 11. A series of fine perforations 12 (Fig. 1) in the burner ring provide for the egress of the fuel gas. The burner ring may be mounted upon the generating chamber 2 by

means of a ring plate 13, the latter having apertures 14 to provide for central draft and thereby prevent the flame from drawing to the center. Provision is made for the escape of the residual gas upon cessation of operation, through an auxiliary tube 15 communicating with the font 1 and provided with apertures 16 substantially in the plane of the burner ring, for the egress of such residual gas.

In the center of the bottom of the font is formed a wick chamber 17, which is situated directly beneath the wick tubes 3 and serves to position the lower ends of the wicks substantially in the center of the font, and the forming of this chamber also provides for the formation of an annular chamber 18 at the base of the font to retain a small quantity of the fuel fluid and prevent the same from being taken up by the wicks, for a purpose hereinafter stated. The wick receiving chamber 17 communicates with this annular chamber by means of apertures 19, whereby the wicks may utilize the fuel fluid down to the level of the bottom of said apertures.

In the operation of the device, the wicks convey the fluid from the font 1 to the gas generating chamber 2, and for the purpose of starting the generation of gas a small quantity of fluid may be poured into the primer 4, which, when ignited, serves to heat up the generating chamber 2 and the valve chamber 5 to produce the gas therein. When a sufficient quantity of gas has been generated to start the operation of the burner, the needle-valve 6 is opened and the gas flows under its own pressure into the mixing chamber 8, drawing with it the necessary quantity of air through air space 9 to form the proper combustion compound.

In lieu of the primer 4, an auxiliary primer 20, Fig. 1, may be employed, which is mounted on an arm 21 pivoted at 22 upon the side of the wick tube 3. This auxiliary primer may be swung out from beneath the burner ring 10, the necessary priming fluid poured therein and ignited, and the primer then swung beneath the generating and valve chambers, as shown in Fig. 1. The subsequent operation of the device is the same as that above described.

If in the operation of the device the bulk of the fluid is exhausted, the small quantity thereof remaining in the annular chamber 18

at the base of the font will serve to condense the small amount of vapor generated in the font by the heat of the burner and which does not escape through the vent tube 15.

- 5 In order to provide for the insertion and removal of the wicks, the primer 4 is removably secured within the generating chamber 2, as by means of a screw-threaded connection, and upon removal of said primer
10 easy access is had to the wick tubes. This construction also provides for cleaning of the generating chamber and the passage 5' thereof to the needle-valve chamber 5.

What I claim is:

- 15 1. In a fluid vapor stove, a font, a generating chamber located adjacent said font, said chamber having a removable top, said top serving as a primer for heating said chamber, means for conducting fuel from
20 said font to said chamber, and a burner ring surrounding said chamber and said primer and communicating with said chamber.

2. In a fluid vapor stove, a font, a generating chamber having a top, said top serving
25 as a primer, and a wick tube connecting said font and chamber, a valve chamber located beneath and carried by said generating chamber, whereby both of said chambers may be heated from said primer.

- 30 3. In a fluid vapor stove, a font, a generating chamber having a top serving as a primer, a wick tube connecting said font and chamber, a valve chamber located beneath and carried by said generating chamber, a
35 burner ring, and a mixing chamber interposed between said ring and valve chamber and also carried by said generating chamber whereby all of said chambers may be heated from said primer.

- 40 4. In a fluid vapor stove, a font, a burner,

a wick tube connecting said font and burner, a wick-receptacle located in said font beneath said wick tube, and a residual fluid passage located in said font adjacent said wick-receptacle and communicating therewith. 45

5. In a fluid vapor stove, a font, a burner, a wick tube connecting said font and burner, a wick-receptacle located in said font beneath said wick tube, and an annular residual fluid passage in said font surrounding said wick-receptacle and communicating therewith. 50

6. In a fluid vapor stove, a font, a burner, a wick tube connecting said font and burner, a wick-receptacle located in said font beneath said wick tube, a residual fluid chamber located in said font adjacent said wick-receptacle, said wick-receptacle having openings communicating with said residual fluid passage above the bottom thereof, whereby
60 the wicks may utilize the fuel to the level of the bottom of said apertures.

7. In a fluid vapor stove, a font, a burner, a wick tube connecting said font and burner, a wick-receptacle located in said font beneath said wick tube, and a residual fluid chamber located in said font adjacent said wick-receptacle, said wick-receptacle having openings communicating with said residual fluid passage and above the bottom thereof, whereby the wicks may utilize the fluid to the level of the bottom of said apertures, the walls of said receptacle being raised above the bottom of the font and serving to prevent the wick from entering said fluid passage. 75

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Witnesses:

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