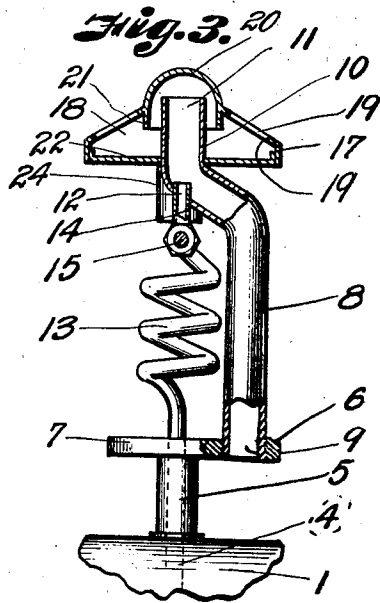
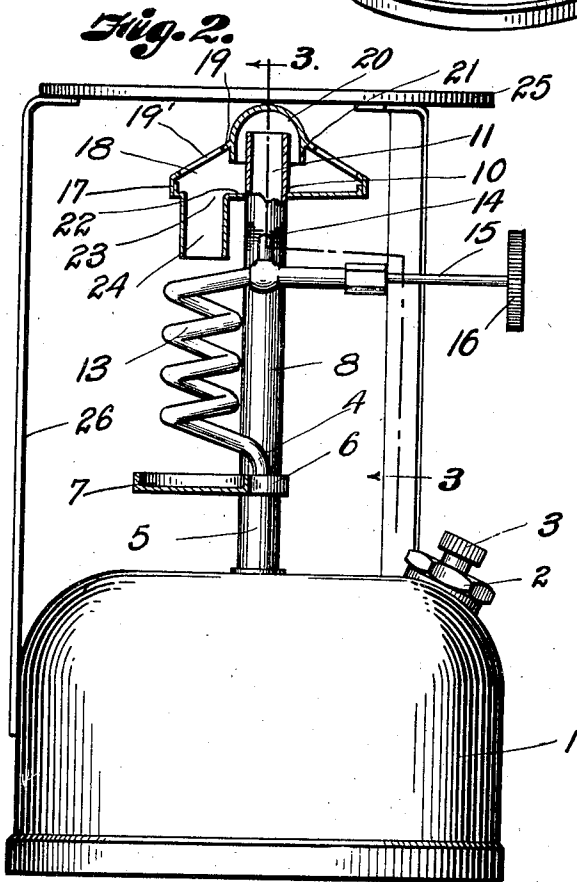
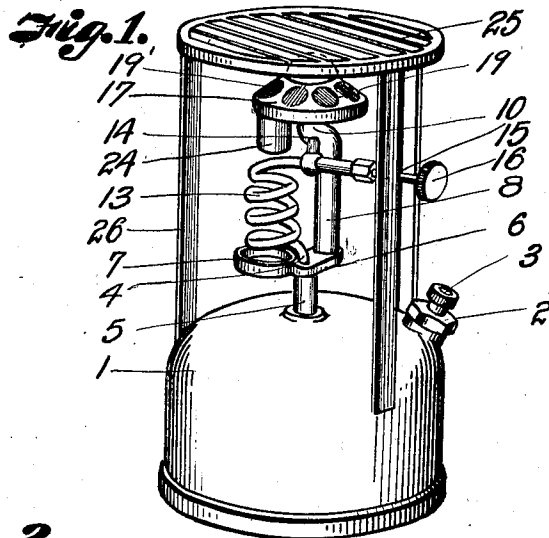


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W. C. COLEMAN.
STOVE AND BURNER THEREFOR.
FILED DEC. 23, 1921.



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UNITED STATES PATENT OFFICE.

WILLIAM C. COLEMAN, OF WICHITA, KANSAS.

STOVE AND BURNER THEREFOR.

Application filed December 23, 1921. Serial No. 524,544.

To all whom it may concern:

Be it known that I, WILLIAM C. COLEMAN, a citizen of the United States, residing at Wichita, in the county of Sedgwick and State of Kansas, have invented certain new and useful Improvements in Stoves and Burners Therefor; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to stoves for burning hydrocarbon fuels, in which the fuel is put under pressure and admitted to a mixing zone where the air necessary to provide the requisite amount of oxygen to support combustion is mingled with the hydrocarbon content of the fuel to make an ignitable mixture. Means is provided whereby the burner may be conveniently primed or preheated so as to convert the liquid content of the fuel into a vapor or gaseous phase, preparatory to mixing with the air.

The novel arrangement of the invention will be clearly understood by reference to the following description in connection with the accompanying drawings, in which—

Fig. 1 is a perspective view of a stove constructed in accordance with my invention.

Fig. 2 is a side elevational view, parts of the air tube and mixing chamber hood being shown in section, and

Fig. 3 is a sectional view on the line 3—3 of Fig. 2.

The fount 1 is provided with a filler opening 2, which may be closed by a cap provided with a nipple 3 so that the end of a pressure pump may be connected thereto to supply the fount with the necessary pressure to force the liquid therefrom. Extending into the fount 3 and located preferably at the central portion thereof is a discharge tube 4, surrounded by a hollow post 5, carrying a bracket 6, part of which constitutes a liquid receiving, priming pan 7. The bracket 6 supports an open ended air tube 8, through the lower end 9 of which air may enter at a point above the top of the fount. The air tube 8 has an off-set portion 10 with a discharge opening 11 in line with the discharge opening 12 of the tube 4. The tube 4 is provided with an intermediate coiled portion 13,

the coils being substantially horizontal and the space surrounded by the coils being axially aligned with the pan 7. The discharge end 12 of the pipe 4 communicates with the end 11 at 14, and the rate of discharge can be controlled by a needle valve, the stem 15 of which is provided with an end wheel 16. The point of the needle valve is not shown, but such constructions are well understood, it being obvious that when the needle valve is unseated, the pressure in the tank or fount 1 will force the liquid through pipe 4, through coil 13, up through the discharge end 14, through the discharge end 11 of the tube 8, and into the mixing hood.

The mixing hood is shown as consisting of a truncated cone 17, entirely enclosing a mixing space or chamber 18, and the inclined upper face of the hood is provided with openings 19, adapted to be closed by removable disks which may be slitted or perforated according to the whim of the manufacturer.

The central portion of the hood is provided with a cap or baffle 20, terminating in a depending flange 21, concentric with, but spaced from, the discharge end 11, so that when the liquid passes through the open end 11, it will strike the grooved inner face of the cap 20 and be deflected onto the floor of the hood 17.

The floor is preferably inclined or grooved so that the liquid will flow toward the discharge opening 23, surrounded by a depending tubular portion 24 concentric with the space between the coils 13. Therefore, when it is desired to start the stove and the needle valve is unseated, the oil will be forced in a liquid phase against the cap 20 and directed onto the floor, because the flange 21 will prevent its spreading radially. As it is discharged through the coils 13 into the pan 7, it may be ignited so that it will heat the coils 13, causing the additional liquid forced into the coils to vaporize or change from the liquid to the vapor phase. Then the vaporized hydrocarbon will pass into the hood through the upper end 11 of the tube 8.

The discharge end 12 of the pipe 4 will serve as an injector nozzle, drawing air through the end 9 of the pipe 8 and allowing it to discharge into the hood where the air and hydrocarbon content in the vapor phase will mix to constitute a fuel so that it may be ignited through the openings in

the caps or disks 19', covering the openings 19.

The fount 1 constitutes a base for a pot or pan support, which is illustrated as a grid or grate 25, supported by the legs or standards 26, carried by the fount 1. The grid or top of the stove 25 is, of course, above the burner so that the part of the pan to be heated will be adapted to receive the maximum heat from the burner.

Such a device as I have heretofore described and illustrated in the accompanying drawings will be inexpensive to manufacture, will be efficient in use and is particularly applicable for use as a camp stove or tourists' stove, for which purpose it is particularly recommended.

What I claim and desire to secure by Letters Patent is:

1. In a device of the class described, a liquid-containing fount having means for introducing air pressure thereinto, a discharge pipe leading from the fount and having a portion thereof coiled to provide a central vertical space, a priming pan beneath the space surrounded by the coils, a vertical air pipe having an off-set portion into which the first named pipe discharges, the air pipe having a discharge end above the discharge end of the first named pipe, a hood into which the air pipe discharges, the hood being formed with vapor emitting orifices, and a feed discharge, the feed discharge being in axial alignment with the space formed by the coils.

2. A device of the class described comprising a liquid containing fount having means for introducing air pressure upon the body of the liquid within the fount, a liquid fuel discharge pipe extending vertically from the fount and coiled intermediate its ends to provide a vertical space confined by the coils, a valve for valving the orifices in the pipe, an air tube supported by the fount and having a discharge end, the discharge end of the pipe communicating with the tube, a hood into which the tube discharges, the hood being provided with a fluid directing baffle, orifices about the same, a port in the

floor of the hood aligning with the space surrounded by the coils, and a priming pan beneath the coils whereby the fuel may initially flow from the hood to the priming pan so that when it is ignited, it will heat the coils to change the fuel from the liquid phase to a vapor phase.

3. A device of the class described comprising a liquid containing fount having means for introducing air pressure onto the body of the liquid, an open ended air tube supported by the fount and carrying a hood at its upper end, the hood being provided with a floor to provide a mixing chamber having gas orifices therein, a liquid fuel discharging pipe communicating with the fount and with the tube, and means for valving the pipe.

4. A device of the class described comprising a liquid containing fount having means for introducing air pressure onto the body of the liquid, an open ended air tube supported by the fount and carrying a hood at its upper end, the hood being provided with a floor to provide a mixing chamber having gas orifices therein, a liquid fuel discharging pipe communicating with the fount and with the tube, means for valving the pipe, standards carried by the fount, and a grid carried by the standards.

5. A device of the class described comprising a liquid containing fount having means for introducing air pressure thereinto, a fuel pipe extending upwardly from the fount and communicating therewith, the pipe having its intermediate portions coiled in lateral convolutes, a hood provided with a floor and having vapor fuel openings in its upper face, means for admitting air to the hood, means for introducing the liquid fuel into the hood, means for valving the pipe, a priming pan beneath the coils, and a downwardly extending port communicating with the floor of the hood and in axial alignment with the space confined by the convolutes of the coils.

In testimony whereof I affix my signature.

WILLIAM C. COLEMAN.