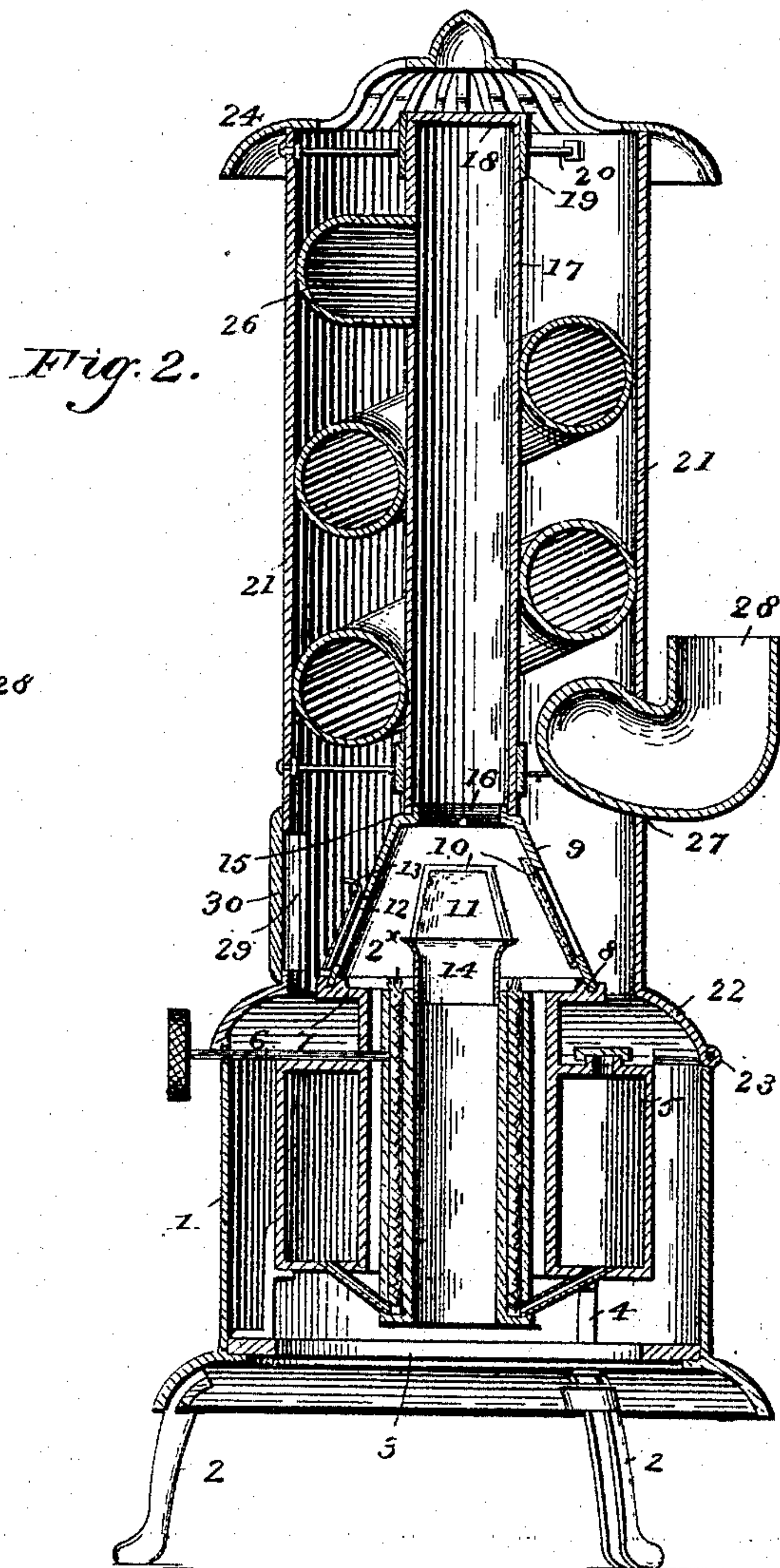
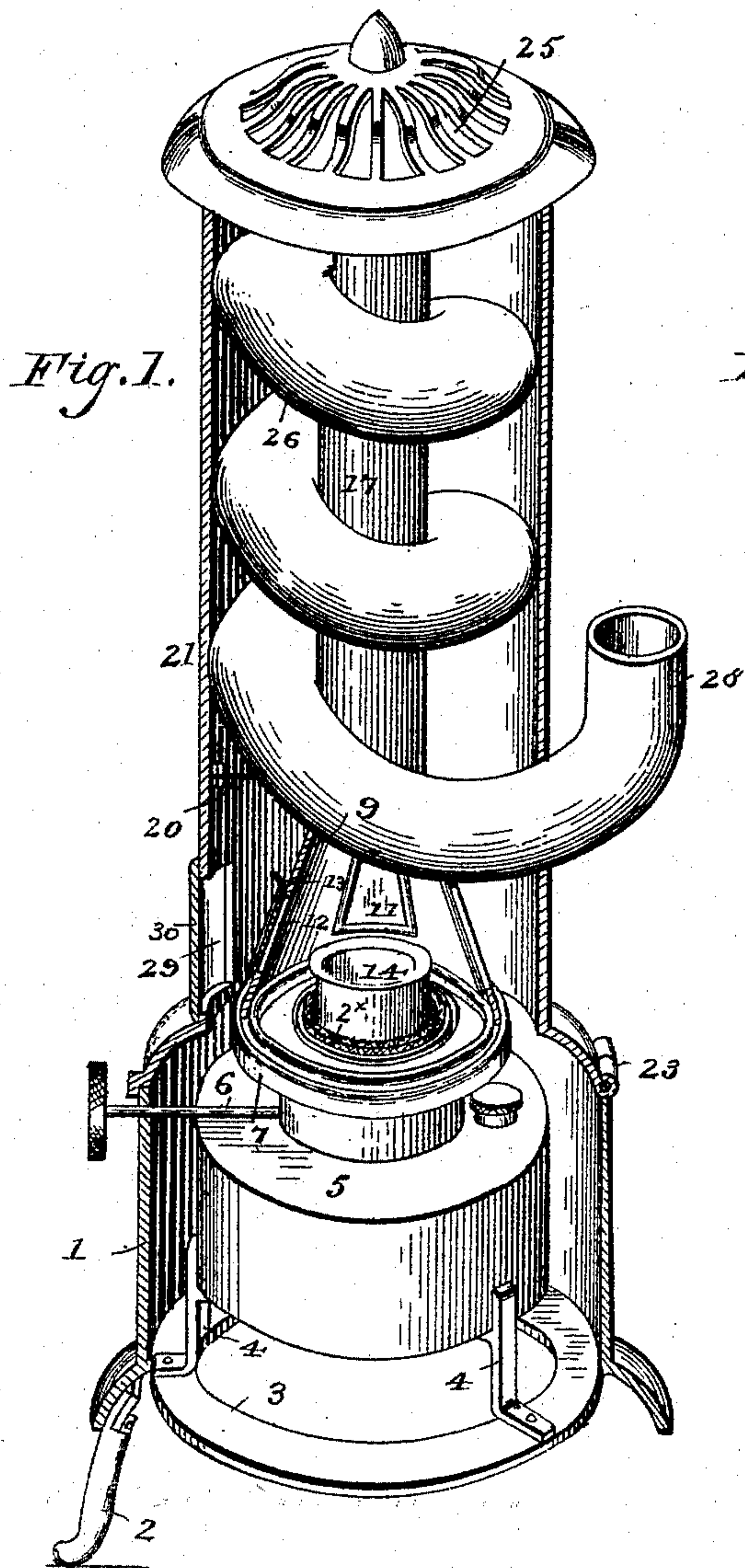


(No Model.)

C. BRANDT.
OIL HEATING STOVE.

No. 500,751.

Patented July 4, 1893.



Witnesses

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Inventor

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By his Attorneys,

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UNITED STATES PATENT OFFICE.

CARL BRANDT, OF CEDAR FALLS, IOWA.

OIL HEATING-STOVE.

SPECIFICATION forming part of Letters Patent No. 500,751, dated July 4, 1893.

Application filed March 17, 1893. Serial No. 466,445. (No model.)

To all whom it may concern:

Be it known that I, CARL BRANDT, a citizen of the United States, residing at Cedar Falls, in the county of Black Hawk and State of Iowa, have invented a new and useful Oil Heating-Stove, of which the following is a specification.

This invention relates to heating oil stoves, and has for its object to provide a device of this character that will feed the air through the burner and cause it to rise through a vertical tube in a heated condition and be fed downwardly through a spiral coil outside of the said vertical tube to the exterior of the stove at one side, and at the same time cause an inflow of a current of air from the bottom of the stove upwardly through and around the said parts and out of the top to thereby quickly heat the air contained within a compartment and equalize the temperature thereof.

With these and other objects in view, the invention consists of the construction and arrangement of the parts thereof as will hereinafter be more fully described and claimed.

In the drawings: Figure 1 is a sectional perspective of an oil heating stove embodying the invention. Fig. 2 is a transverse vertical section of the same.

Similar numerals of reference indicate corresponding parts in the several figures of the drawings.

Referring to the drawings, the numeral 1 designates a cylindrical casing having supporting feet 2, attached to the same to suitably elevate the same, and at the bottom of the inner side of said casing is located an annular flange 3, which supports vertical brackets 4, that embrace and hold an oil burner and reservoir 5, of suitable formation but preferably of the construction known as "center draft," wherein the exterior air is permitted to flow centrally up through and externally of a curved wick located within a wick-tube that passes through the reservoir, and has an oil-feeding connection with the bottom of the same. The wick-elevating shaft 6 passes out through the casing 1, so that it may be readily engaged to regulate the height of the wick 2^x and control the flame. A horizontally-disposed plate 7, of circular form, is supported from the reservoir of the burner

on a level with the upper end of the wick tube and is formed with a circular groove 8 in the upper surface thereof adjacent to the periphery of the same in which is secured the lower edge of a conical dome 9, having openings therein covered with isinglass 11, or other suitable material, and at one side is formed with an opening 12 that is covered by a slide 13, whereby access may be had to the wick to ignite or extinguish the same, or for any purpose that may be found desirable.

From the end of the wick tube a spreader 14 rises vertically and extends partially up into the dome 9 to spread the flame for evident and well-known purposes. The upper edge of the dome 9 is formed with a seat 15, at the inner termination of which is a vertical flange 16 that removably projects upwardly into a central tube 17, that has its upper end closed, as at 18, and the upper and lower ends of said tube are embraced by collars 19 having arms 20 extending therefrom, and rigidly secured to a drum 21, of elongated cylindrical form, and wherein the said tube 17 is centrally located. The lower end of the drum 21 is flared, as at 22, and hinged at the back, as at 23, to the casing 1, so that the said drum and tube 17 may be tilted backward to give access to the burner, and in this movement the lower end of the tube 17 moves from the seat 15, the flange 16 being made of such length vertically as to permit the release of the said tube. On the upper end of the drum 21 is a cap 24, having a series of radial openings 25, which thereby make the upper part of the said drum open so that the air passing upwardly therethrough may escape freely into a compartment in which the stove may be placed.

Communicating with the upper part of the tube 17 is the upper end of a spiral coil 26, consisting of pipe of about the diameter of the tube 17 and traveling downward around the said tube, but independent of the latter except at the point where it connects therewith. The lower end of said coil 26 passes out through an opening 27, in the drum 21, that is located in a plane adjacent to the upper end of the dome 9, and the terminating end of the said pipe then extends upwardly in a vertical plane, as at 28, to permit the

egress of the heated air into the compartment. It will be seen that the coil 26, traveling through the drum 21 in the manner set forth and as clearly shown, necessarily heats the interior of the said drum, and the air flowing upward around the burner and its reservoir, through the bottom of the casing, and passing out of the top of the drum necessarily becomes heated by contacting with, and flowing around, the said coil and also over the dome 9 which being located close to the flame will necessarily impart a great amount of heat, which will be taken up and absorbed by the air. This double form of heating air is highly beneficial in that it requires only so much oil as is ordinarily employed in heating a single column of air for the same length of time and under the same circumstances, with the additional advantage that owing to the rapidity of operation of the stove, as set forth, the temperature of a room both above and below will be more quickly and uniformly equalized, and it will become necessary in a short space of time to regulate the burner in such manner as not to give forth so much heat, and therefore save the oil and decrease the expense for fuel in heating purposes. It will be seen that the downward travel of the current of heated air directly from the burner through the coil 26 is accelerated and assisted by the current of air coming through the bottom of the casing and passing up around the burner and around the parts of the coil because the temperature of the coil will thereby be properly regulated continuously and uniformly to cause a proper flow of the heated current of air out through the lower end of the said coil. The lower part of the drum 21 is formed with an opening 29, supplied with a covering door 30, that is so positioned as to be in line with the opening 12 and slide 13 of the dome 9, and as previously stated, the said parts may be opened to gain access to the burner, especially for igniting purposes.

It will be understood that the drum, as well as the casing, may be suitably embellished with designs, and supplied with openings with transparent coverings at such points as may be found desirable and in the same manner as is ordinarily done in stoves and heating devices of other forms and well known to the art. It will also be seen that changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

A suitable flue-pipe may be connected to the outer end 28 of the coil pipe, in order to have communication with a chimney or other escape to conduct unpleasant odors that may arise from the burning oil out of a room and

prevent the same from entering a compartment in which the stove may be placed, or said flue-pipe may be employed for conducting such other particles of combustion as may arise through the tube and pass out through the coil, as may be found desirable and necessary.

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

1. In an oil heating stove, the combination of a burner, a dome mounted over said burner, a tube with an upper closed end fitted on said dome, a drum surrounding said tube and dome, and a coiled pipe having its upper end communicating with the upper part of the said tube and coiled around the latter downwardly, passing out of the side of the drum, to deliver the air-current from the burner into a compartment, substantially as described.

2. In an oil heating stove, the combination of a burner with a dome thereon that extends above the same, a casing surrounding said burner, a drum connected to said casing and open at the top, the lower end of said casing being open, a tube fitted to the upper end of said drum and closed at its upper end to thereby inclose the flame of the burner, and a coil of pipe communicating at its upper end with the upper part of the tube and extending around the latter downwardly and passing out the side of the said drum, substantially as described.

3. In an oil heating stove, the combination of a lower casing with an open bottom, a burner and reservoir located in said casing, a drum hinged to the upper part of said casing at one side and formed with an open top, and an opening at the lower part of one side thereof, a dome mounted on said burner and inclosing the flame, said dome having an opening in one side covered by a slide and an upper seat with an upwardly-projecting flange at the inner part thereof, a tube centrally located in and rigidly held by the said drum and having its upper end closed and its lower end open and resting on the said seat of the dome, and a spiral coil pipe having its upper end communicating and opening into the upper part of the said tube and its lower end passing out the side of the drum, the said tube being located centrally of the said coil and surrounded by the latter, substantially as described.

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

C. BRANDT.

Witnesses:

JOHN H. SIGGERS,
GEO. C. SHOEMAKER.