

(No Model.)

A. F. ZIMMERLING.  
OIL STOVE FOR HEATING PURPOSES.

No. 407,390.

Patented July 23, 1889.

Fig. 1.

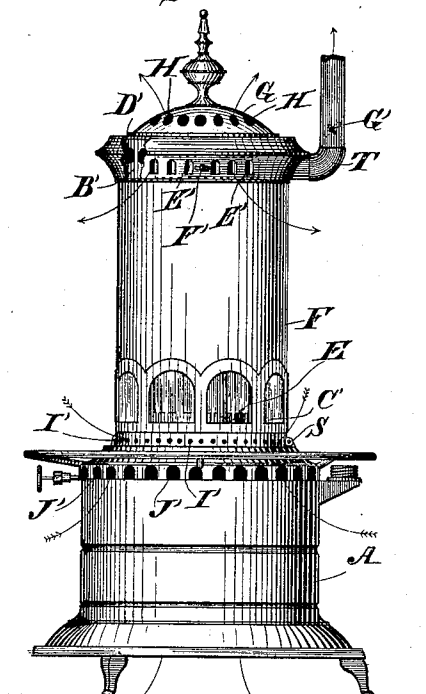


Fig. 2.

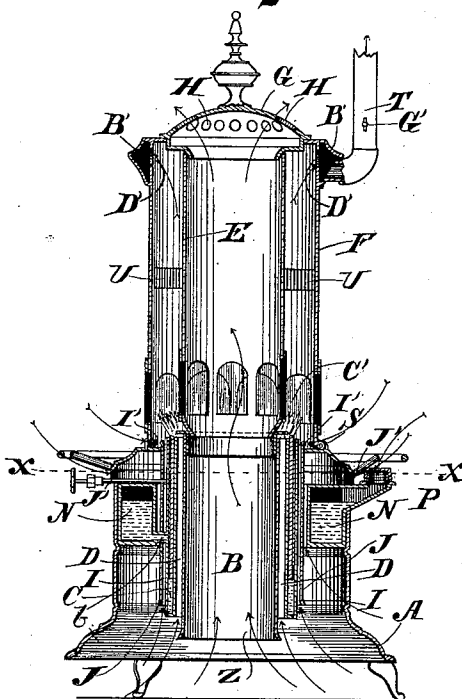
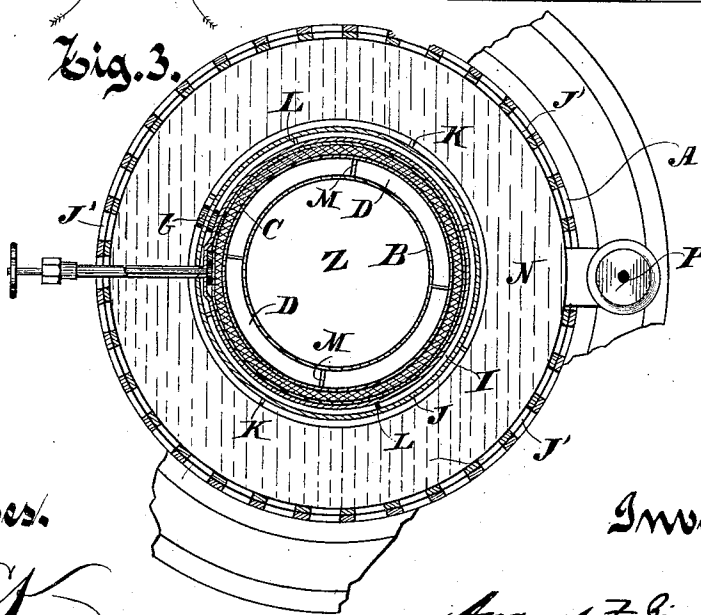


Fig. 3.



Witnesses.

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# UNITED STATES PATENT OFFICE.

AUGUST F. ZIMMERLING, OF MILWAUKEE, WISCONSIN, ASSIGNOR OF ONE-HALF TO JOHN A. DUTCHER AND PIERREPONT E. DUTCHER, BOTH OF SAME PLACE.

## OIL-STOVE FOR HEATING PURPOSES.

SPECIFICATION forming part of Letters Patent No. 407,390, dated July 23, 1889.

Application filed May 19, 1888. Serial No. 274,391. (No model.)

*To all whom it may concern:*

Be it known that I, AUGUST F. ZIMMERLING, of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented new and useful Improvements in Oil-Stoves for Heating Purposes; and I do hereby declare the following to be a full, clear, and exact description of said invention, reference being had to the accompanying drawings, and to the letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in that class of oil-stoves which are used for heating purposes.

The object of my invention is to provide an oil-stove by which air is passed through the center of the flame of a cylinder-burner and intensely heated without coming in contact with the flame or disagreeable odors of the oil, and also whereby the air passing upward around the exterior surface of the wick and flame may, as desired, be conducted either directly into the room or through an escape-pipe to the open air.

The construction of my invention is explained by reference to the accompanying drawings, in which—

Figure 1 represents a side view thereof. Fig. 2 is a vertical section, and Fig. 3 is a horizontal section drawn on line X X of Fig. 2.

Like parts are represented by the same reference-letters throughout the several views.

A is an annular base having a large central aperture Z communicating vertically through it from its lower end to the heating chambers or drums E and F above. The aperture Z is subdivided into several compartments by the cylindrical wick-tube C, interior cold-air duct or wall B, and the exterior air duct or cylinder J, whereby air is led in contact with the flame in the combustion-chamber C' upon both sides of the wick-tube through the air-passages D and I, respectively, while a large volume of air is simultaneously led through the central air-duct B within the center of the flame to the central hot-air duct or chamber E above without contact with said flame or the odors of the oil. Surrounding the wick-tube is an annular oil-

reservoir N, which is connected with the wick-tube and air-ducts, and said parts may, if desired, be removed from the supporting-base A, to which they are temporarily attached. The wick in the wick-tube is adjusted by the ordinary and well-known mechanism used for such purpose, and the description thereof is therefore unnecessary. The oil-reservoir N is provided with a duct P, through which it is filled with oil, and the oil is led therefrom to the wick-tube through the duct b. Affixed to the upper end of the drum F is an annular chamber B', which communicates with the combustion-chamber C' through apertures D'. To provide for conducting away such odors as may sometimes arise from the combustion of oil, an air-duct T is provided, which communicates from said combustion-chamber through said annular chamber B' to the exterior air, while the larger central volume of air which is heated within the cylindrical wick-tube passes out through the series of apertures H formed in the cover G. The annular chamber B' is provided with a series of apertures E', through which, if desired, the hot air from the combustion-chamber C' may be conducted into the room, to accomplish which end the slide F', which closes said apertures E', is opened and the damper G' is closed. When, however, it is desired to prevent the air from the chamber C' from entering the room, the slide F' is moved in the opposite direction, closing said apertures E', and said damper G' is opened, when it is obvious that the room may be heated without receiving disagreeable odors from the oil.

In addition to the several air-ducts leading from the bottom of the stove, two series of horizontal air-ducts I' and J' are provided, which communicate through the base above and around the oil-tank to the combustion-chamber, whereby the oil-tank is prevented from becoming heated.

The reservoir N, which rests of its own gravity in the upper part of the surrounding base A, is rigidly connected with and supports all the within walls and ducts which it surrounds and which parts are connected there-

with. First within the reservoir N is supported therefrom the annular wall or duct J by the horizontal pins K. Next in turn within the wall J is the cylindrical wick-tube C, which is supported from the wall or duct J by the horizontal pins L. Next within the wick-tube C is the cold-air duct or cylinder B, which is supported from said wick-tube by the horizontal pins M. The heating drums or chambers E and F are preferably secured to the top of the base by hinge S, which, when the pipe T is detached, permits said drums or chambers to be turned back to a horizontal position when desirous to reach the wick-tube or other interior parts. The chamber or drum E is supported from the chamber F by the connecting-bars U.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, in an oil heating-stove, of an annular base A, a reservoir N, located within the opening of said base A, annular wall J, cylindrical wick-tube C, located within said annular wall J, the center of which wick-tube forms an air-space communicating from the exterior air through the annular base A to the combustion-chamber above the wick-tube, inlet cold-air duct B, located centrally within said wick-tube C, at a slight distance therefrom, forming thereby an air-space I between said wick-tube C and said air-duct B, drum or exterior cylinder F, resting at its lower end upon the base A, exterior to said wick-tube, interior drum or cylinder E, communicating at

its lower end with the upper end of the said cold-air duct B, and its upper end through the perforated cover G, cover G, annular air-chamber B', affixed to the upper end of said drum F, and having communication therewith through the apertures D', said annular chamber B' being provided with air-escape aperture E', communicating with the room and with air-duct T, communicating with the exterior air, substantially as and for the purpose specified.

2. In an oil-stove for heating purposes, the combination of the base A, drums or air-ducts E and F, arranged one within the other, forming thereby an annular combustion-chamber C', communicating at its lower end with the base A upon the respective sides of the wick-tube, and at its upper end with the annular chamber B', whereby an air-passage is formed on either side of said wick-tube, and also thereby forming a central hot-air duct E, communicating from the base A through the center of the flame with the perforated cover G, cover G, annular chamber B', provided with a series of apertures E', air-controlling slide F', and air-escape pipe T, provided with air-controlling damper G', substantially as and for the purpose specified.

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

AUGUST F. ZIMMERLING.

Witnesses:

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C. T. BENEDICT.