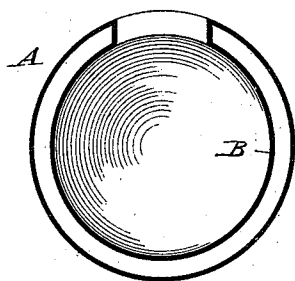
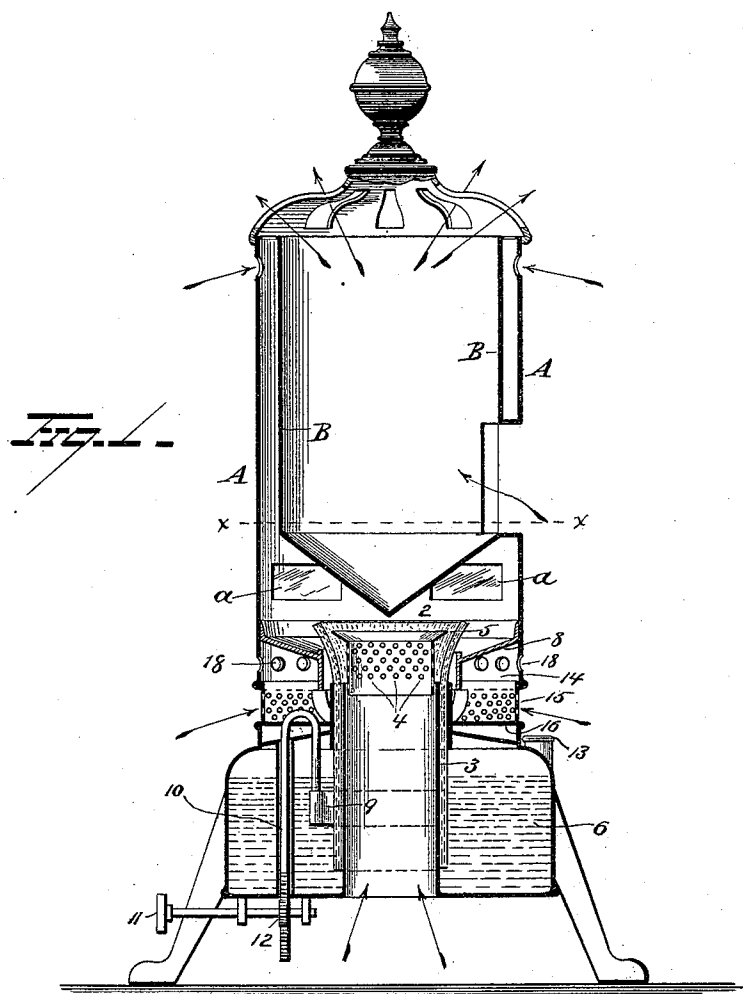


(No Model.)

A. C. BARLER.
OIL STOVE.

No. 463,613.

Patented Nov. 24, 1891.



Witnesses
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UNITED STATES PATENT OFFICE.

AUGUSTUS C. BARLER, OF FREMONT, NEBRASKA.

OIL-STOVE.

SPECIFICATION forming part of Letters Patent No. 463,613, dated November 24, 1891.

Application filed December 24, 1890. Serial No. 375,678. (No model.)

To all whom it may concern:

Be it known that I, AUGUSTUS C. BARLER, of Fremont, in the county of Dodge and State of Nebraska, have invented certain new and useful Improvements in Oil-Stoves; and I do hereby 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.

My invention relates to an improvement in oil-stoves, the object being to provide means for heating and circulating air, and in so doing exposing it to as large a heating-surface as possible in a comparatively restricted space, and also with the same flame furnish light for illuminating purpose through a series of openings or one continuous circle in the outside cylinder filled with mica, glass, or other suitable transparent material.

With this object in view my invention consists in certain novel features of construction and combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view of my improved stove in vertical section, and Fig. 2 is a horizontal section on line *x x* of Fig. 1.

A represents the outer cylinder of the stove, which constitutes the main portion thereof.

a a is a series of rectangular or any other shaped openings filled with mica, glass, or suitable material, the object of which is to permit the light emitted by flame to pass through and illumine a room or chamber in which it may be, permitting the stove to be used at one and the same time for heating and illuminating purposes. These openings can be of any size and number, or one continuous circle around cylinder A, of mica, glass, or other suitable material.

B is an inner cylinder, slightly less in diameter than cylinder A and located therein, thus leaving a narrow annular space between the two for combustion of flame and the circulation of heated air and giving the largest possible amount of radiating-surface to both cylinders. The inner cylinder has a flat, oval, or conical formation, preferably conical, in order to distribute the heated air as much as possible in its ascent and also to insure a uniform heating of as much of the bottom surface as possible.

The portion thus far described constitutes the heating or radiating portion of the stove. It is supplied with air through one or more openings in the side or sides or through the bottom extending through both cylinders, and this air passes out through the open work on top of the stove, as indicated by the arrows. By this means a constant circulation of air is kept up, and air is drawn into the opening or openings from all parts of the room and allowed to pass out at the top as fast as it becomes heated. This is one source of heat. Another is from radiation from the surface of the outer cylinder.

The burner 2 is located immediately below the inner cylinder and comprises the hollow tube 3, open at the bottom to allow the air to enter, but provided with perforations 4 4 for the air to pass out to supply oxygen to the flame. On the extreme top of the tube a deflector 5 may be located, if desired, to distribute the heat over the bottom. A tubular wick encircles the central air-tube and its lower end passes into the oil-chamber 6 below, while its upper end extends into the restricted annular air-space formed around the upper end of the air-tube and between the latter and the lower end 8 of the outer cylinder A. The wick is placed in a holder 9, and the latter has connected therewith a rack-bar or other device 10, which is raised and lowered by the usual thumb device 11, the spindle of which has a small pinion 12, which operates on the rack-bar. The oil-chamber has a removable cap 13, which covers an opening into which the oil is poured to supply the oil-chamber.

An air-space 14 is formed beneath the lower end 8 of the outer cylinder and this is encircled by a perforated band 15, which permits a free circulation of air into the flame and prevents overheating. A disk 16 is placed in the lower end of this air-space 14, dividing it into two compartments. This disk prevents heat from striking the oil-chamber direct on account of the air-chamber below it, and between the two air-surfaces, one above and the other below, there is little liability of overheating.

The lower end of the outer cylinder A extends below the cast-iron bottom 8 of the cylinder, and this extended portion is provided

with perforations 18 18, which allow the air to circulate and prevent overheating. The outer cylinder A is also provided with a series of perforations at the upper end, as shown in the drawings, to assist combustion of the flame. So, to recapitulate, the flame is supplied with air from the inside and outside, and this air upon being heated passes out at the top. This heats the air, and by its passage between the cylinders the latter are heated, and in this manner the surrounding air is heated by radiation and contact with the stove. Air passing through the inner cylinder is also heated and discharged into the surrounding air.

It is evident that slight changes might be resorted to in the form and arrangements of the several parts described without departing from the spirit and scope of my invention, and hence I do not wish to limit myself to the exact construction herein set forth; but, Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the radiating portion of a stove comprising an outer and inner cylinder, of a burner-tube located below the inner cylinder and its upper end terminating

between the bottoms of the inner and outer cylinders, an oil-reservoir, and an annular air-space located between the bottom of the outer cylinder and the top of the oil-reservoir, substantially as set forth.

2. The combination, with the radiating portion of an oil-stove and an oil-reservoir, of a burner-tube, an annular air-chamber located between the oil-reservoir and the bottom of the radiating portion, and a horizontal disk located in this air-chamber at a point between its upper and lower ends, substantially as set forth.

3. The combination of the radiating portion of a stove, the same having openings in its upper and lower ends, the radiating portion consisting of an inner and outer cylinder, the inner one having a conical bottom and the other one having openings opposite this conical bottom through which the flame may be seen as it is deflected in its upward course, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

AUGUSTUS C. BARLER.

Witnesses:

W. H. LUCROFT,
J. E. FRICK.