(No Model.) 3 Sheets—Sheet 1.

# E. B. FINCH.

## OIL STOVE.

No. 422,758. Patented Mar. 4, 1890.

Fig. 1.

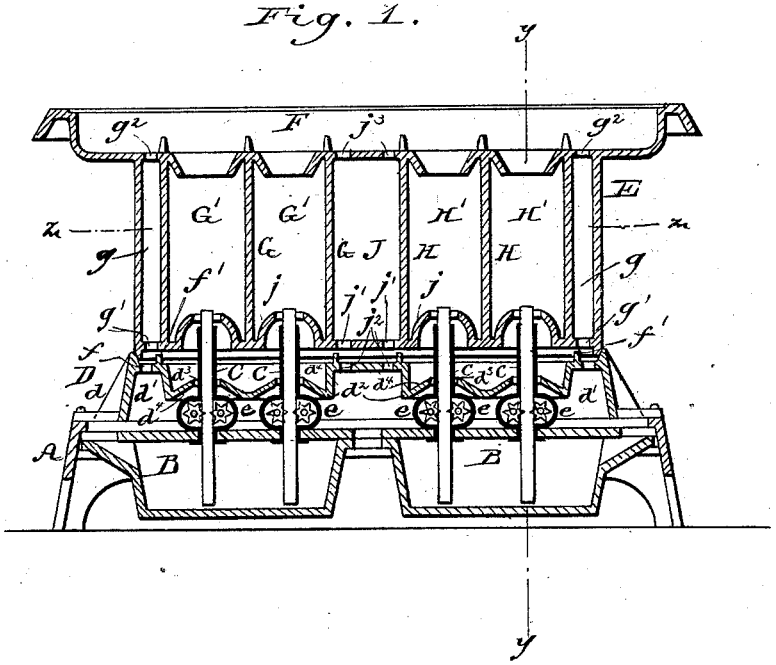
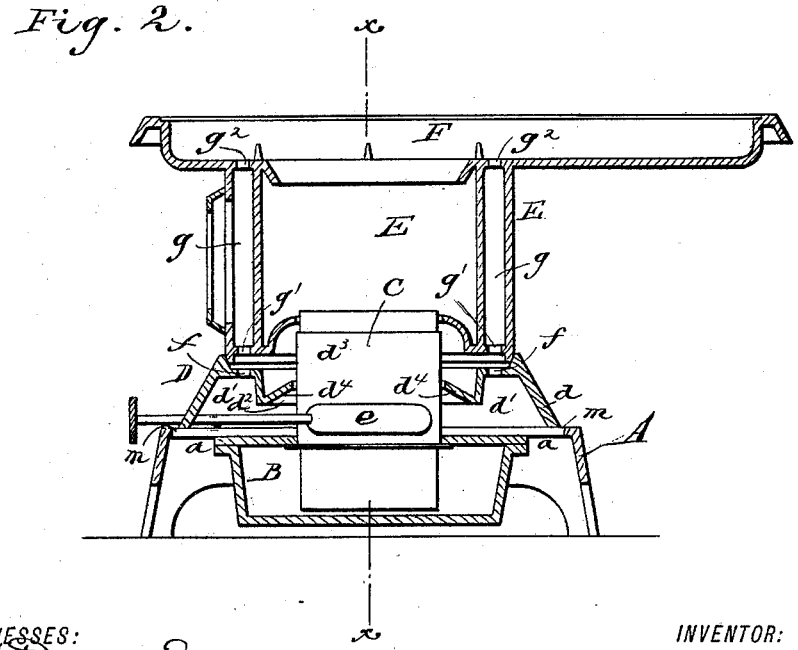



Fig. 2.




WITNESSES:

John M. Beeman

C. Sedgwick

INVENTOR:

Ed. B. Finch

BY Munn & Co.

ATTORNEYS.

(No Model.) 3 Sheets—Sheet 2.

# E. B. FINCH.

## OIL STOVE.

No. 422,758. Patented Mar. 4, 1890.

Fig. 3.

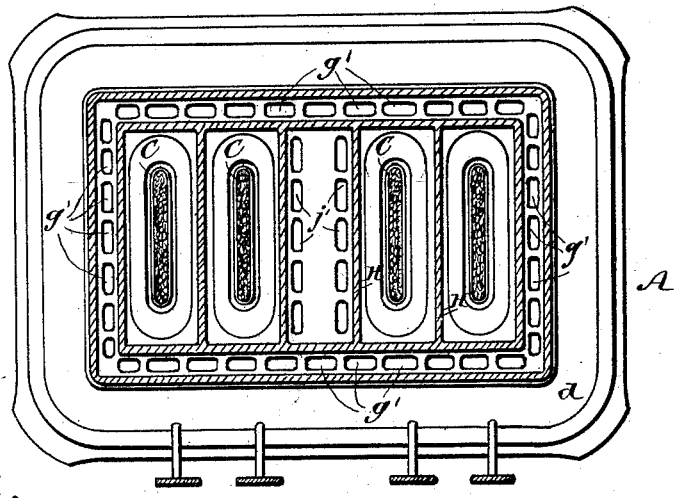
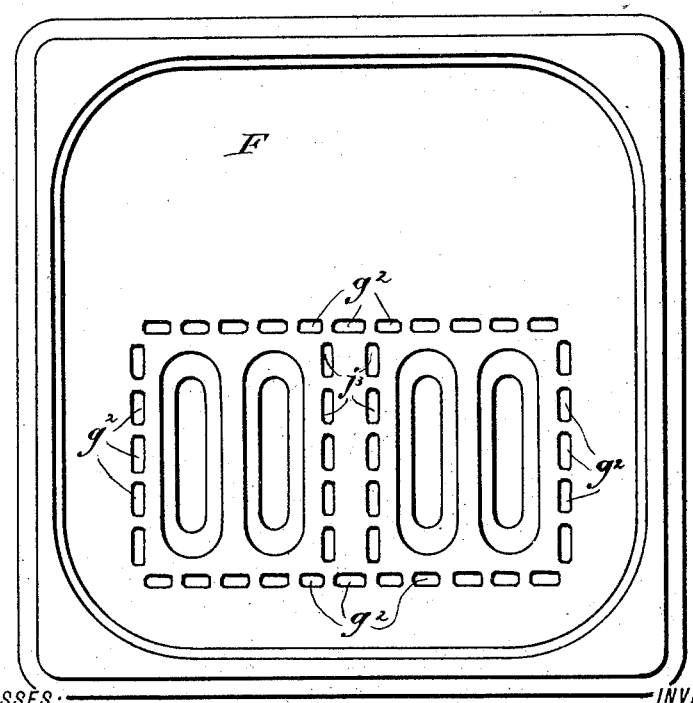



Fig. 4.




WITNESSES:

John W. Dawson

C. Sedgwick

INVENTOR:

E. B. Finch

BY Munn & Co.

ATTORNEYS.

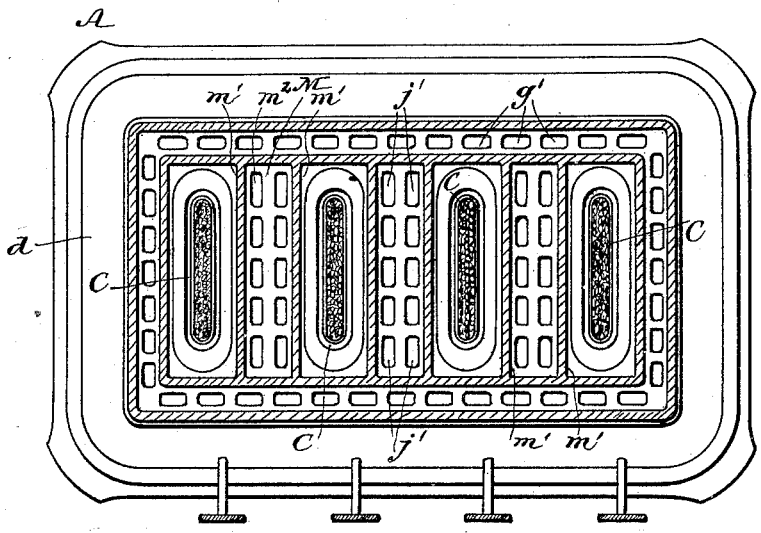
(No Model.) 3 Sheets—Sheet 3.

# E. B. FINCH.

## OIL STOVE.

No. 422,758. Patented Mar. 4, 1890.

Fig. 5.




WITNESSES:
John A. Reamer
C. Sedgwick

INVENTOR
E. B. Finch
BY
Munn & Co.
ATTORNEY

# UNITED STATES PATENT OFFICE.

EDWARD B. FINCH, OF NEW YORK, N. Y.

## OIL-STOVE.

SPECIFICATION forming part of Letters Patent No. 422,758, dated March 4, 1890.

Application filed March 26, 1889. Serial No. 304,785. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD B. FINCH, of the city, county, and State of New York, have invented a new and Improved Oil-Stove, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional elevation of my improved oil-stove, taken on the line *x x* of Fig. 2. Fig. 2 is a similar view taken on the line *y y* of Fig. 1. Fig. 3 is a sectional plan view on line *z z* of Fig. 1. Fig. 4 is a plan view of the stove with the covers and cover-supports removed; and Fig. 5 is a sectional plan view on line *z z*, Fig. 1, showing a modification.

The invention will first be described in connection with the drawings, and then pointed out in the claims.

The base A is provided with the oil-tank B in the usual manner. The tank B is made smaller than the interior of the base A to form the surrounding air-space *a*. In the top of the tank B are fitted the wick-tubes C, and upon the base A is placed the casting D, the skirt *d* of which rests upon the base A. Between the lower edge of the skirt and the base A is left a small space *m*, which lessens the liability of the base to become heated. The skirt *d* of the casting D forms a chamber *d'*, communicating with the space *a*, surrounding the tanks B, and the top $d^2$ of the casting D is elevated somewhat above the lower edges of the skirt *d* to leaves spaces between it and the top of the tank for the screw-boxes *e e*, and said top $d^2$ is slotted, as shown at $d^3$, for the passage of the wick-tubes C, and about these slots the said top $d^2$ is upturned, as shown at $d^4$, so that the air entering the space *a* and chamber *d'* to the wicks will be deflected against the wick-tubes for keeping the same cool and for warming the air. Near the skirt *d* the bottom of the casting D is opened or formed with the holes *f*, through which air from the chamber *d'* passes to the body E of the stove, which rests upon the casting D, as shown clearly in the drawings, and a flange *f'* is formed within the openings *f* to prevent the air from being deflected by the draft caused by the burning wicks.

The body E of the stove is formed with double walls, which form air-chambers *g g*. Air freely enters these chambers through openings *g' g'* at the bottom and rises up through the chambers and passes out the openings $g^2$ $g^2$ at the top of the body E. This air so passing up through the chambers *g* prevents radiation of heat from the combustion-chamber, and it becomes heated and rises to the body F, or working part of the stove, where it is utilized or saved. The interior of the body E is divided into compartments by the partitions G H, which form combustion-chambers G' G' and H' H' and the central air-flue J. Air enters the flue J through a series of openings *j'* in the bottom *j* of the body E and the corresponding openings $j^2$ in the top of the casting D, and passes up through the said flue and issues in a heated state at the opening $j^3$ into the working part of the stove. In each chamber G G' H H' is placed a burner, so that each chamber forms a chimney to its respective wick, and in this manner any one or all of the wicks may be lighted, as desired, and the combustion will be perfect whether one or all be lighted.

In Fig. 5, in addition to the single central air-flue J, the body is formed with spaced transverse partitions *m' m'*, forming flues M between the burners. Air enters these flues through openings $m^2$ at the bottom, and corresponding openings are formed at the top, the same as in air-chamber J, for the hot air to issue to the working parts of the stove.

By constructing the lower part of the stove as described, with the air-space *a* and chamber *d'*, the most of the air to support combustion must enter at the bottom of the base A, and it is thus brought in contact first with the bottom and sides of the oil-tank B, then with the top thereof, and it passes thence to the wick-tubes, and thence up through the chambers *g* to the working part F. In this manner the oil-tank is kept cool and the radiation of heat to the external air is lessened, and the heat which would otherwise be lost by radiation is carried to the working part of the stove and utilized, and by the use of the transverse air-chambers between the burners the air that rises from the bottom up through

the stove becomes heated in said chambers, and, issuing into the working part of the stove, the heat is utilized, and these air-chambers are of special advantage when only one or a part of the burners are lighted, as the radiation and loss of heat at the side or sides of the lighted burner is obviated.

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

1. The base A and casting D, mounted thereon and formed with the chamber $d'$ and openings $f$ at the top of said chamber, in combination with the body E, having chambers $g$ and openings $g'$ $g^2$, coincident with the openings $f$, substantially as and for the purposes described.

2. The body E, formed of an inner and outer wall spaced to form a chamber $g$, the latter having openings $g'$ at the bottom and openings $g^2$ at the top, in combination with the transverse partitions between the burners, the adjacent partitions G H forming a chamber J, having openings $j'$ $j^3$ at bottom and top, respectively, substantially as described.

3. The body E, formed of an inner and outer wall spaced to form a surrounding chamber $g$, the latter having openings $g'$ at the bottom and openings $g^2$ at the top, and the transverse partitions between the burners, the adjacent partitions G H forming a chamber J, having openings at the top and bottom, in combination with the base A and casting D, resting thereon and supporting the body E, and formed with chamber $d'$ and openings $f$ $j^2$ to correspond to openings $g'$ $j'$ in the body E, substantially as described.

EDWARD B. FINCH.

Witnesses:
H. A. WEST,
EDGAR TATE.