

(No Model.)

A. S. DINSMORE.

OIL STOVE.

No. 282,504.

Patented Aug. 7, 1883.

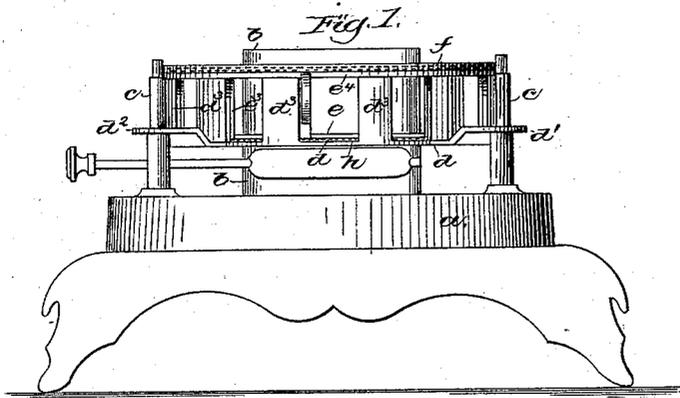


Fig. 2.

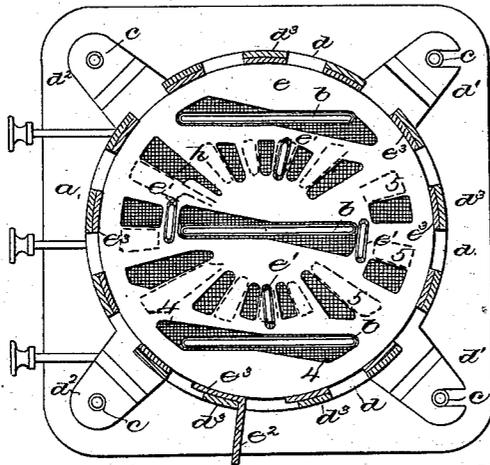


Fig. 4.

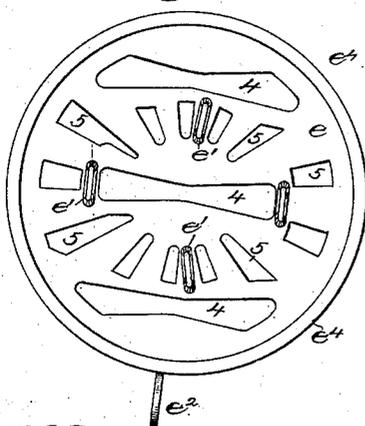
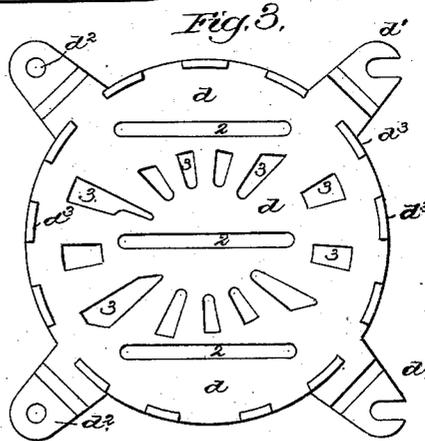


Fig. 3.



Witnesses.

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# UNITED STATES PATENT OFFICE.

ALFRED S. DINSMORE, OF BOSTON, MASSACHUSETTS.

## OIL-STOVE.

SPECIFICATION forming part of Letters Patent No. 282,504, dated August 7, 1883.

Application filed February 19, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, ALFRED S. DINSMORE, of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Oil-Stoves, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

My invention, relating to oil-stoves, is intended as an improvement upon the stove shown and described in Letters Patent granted to me September 26, 1882, the said stove consisting of an oil-reservoir and stove-body supported above it, with an insulating-plate between the said reservoir and body, and a damper controlling the flow of air through the space between the insulating-plate and stove-body to the under side of a perforated diaphragm, through which the air passes upward to support the combustion of the flames. The said damper is for the purpose of regulating the operation of the stove when exposed to various atmospheric conditions, the damper being open when the stove is burning in a quiet atmosphere, and being closed to impede the ingress of air and prevent the flickering of the flames when the stove is burning in strong drafts or currents of air. As shown in the said patent, the insulating-plate has openings of considerable size around the wick-tubes, which always afford a passage for upward currents of air from the space below the insulating-plate. In the present invention the main or stationary insulating-plate fits closely around the wick-tubes, and does not have the said passages for upward currents afforded in the former construction. The said plate is, however, provided with a series of openings, and a secondary movable or draft-controlling plate is employed having corresponding openings, and having a slight rotary movement on the main plate, so that the openings of the two plates may be caused to register together and afford a passage for the air; or by the opposite movement the one plate may be made to cover the openings of the other plate, and thus cut off the passage of air. The two plates are shown as provided with a series of upward projections around their periphery, which operate by the rotation of the secondary plate like the damper in the former application, and the said projections and openings are so ar-

ranged that when the damper or space at the side of the plate is opened the passages through the bottom of the plate are closed, and the reverse. Thus when the stove is to be burned in a quiet atmosphere, the secondary plate is turned so as to admit the air at its sides, and the openings at the bottom of the plate are wholly closed, thus cutting off the downward rays of heat, which would tend to heat the oil-reservoir; but when the stove is to be burned out of doors or in strong air-currents, the damper at the sides is closed, preventing the too rapid ingress of air, and consequent flickering of the flame, while the passages in the bottom of the plate are opened to admit sufficient air to support combustion, and the said air-currents will, under these circumstances, keep the oil-reservoir sufficiently cool. A perforated plate may be inserted between the main and secondary insulating-plates to break up the currents of air when permitted to pass through the passages in the said plates.

Figure 1 is a side elevation of the oil-reservoir and draft-controlling plates constructed in accordance with this invention; Fig. 2, a sectional plan view thereof, the ornamental base of the oil-reservoir being omitted; and Figs. 3 and 4, plan views of the main and secondary insulating-plates detached.

The oil-reservoir *a*, with the wick-tubes *b*, and pillars *c*, for supporting the insulating-plate and stove-body, are of any usual construction. The main or stationary insulating-plate *d* (see Fig. 3) is provided with notched lugs *d'* and lugs *d''*, having holes to engage the supporting-pillar *c*, the main body of the insulating-plate being depressed to a somewhat lower level with relation to the said pillars than was shown in my former patent, thus affording a larger space above and around the periphery of the said plate for the admission of air. The main insulating-plate *d* is provided with openings 2, fitting closely to the wick-tubes *b*, and with a series of openings, 3, arranged with spaces between them about equal to the said openings. The plate *d* also has an annular series of upward projections, *d'*, around its periphery, with spaces between them equal in width to the said projections. The secondary plate *e* fits within the projections *d'* of the main plate *d*, and is provided with openings 4, to receive the wick-tubes *b*, the said openings

being widened at their ends, as shown, so as to permit a slight rotary movement of the plate *e* upon the plate *d*, the said plate *e* having a handle, *e*<sup>2</sup>, extending out between two of the projections *d*<sup>3</sup> of the plate *d*, for giving this rotary movement. The plate *e* also has a series of openings, 5, of the same shape and size of the openings 3 of the plate *d*, so arranged as to be brought into coincidence with the said openings 3, or removed from such coincidence by the rotary movement of the said plate *e* on the plate *d*. The plate *e* also has a series of upward projections, *e*<sup>3</sup>, around its periphery, corresponding with the projections *d*<sup>3</sup> of the plate *d*, and constituting a damper to control the admission of air entering laterally above the insulating-plate to pass up through the perforated plate *f*, Fig. 1, surrounding the wick-tubes *b*, and covering the base of the stove-body in the usual manner. The plate *e* is also provided with upwardly-extended lugs or projections *e*<sup>1</sup>, for supporting the perforated plate *f*.

The plates *d e* may, if desired, have between them a perforated plate, *h*, (see Figs. 1 and 2,) for partially arresting the currents of air passing upward through the openings 3 and 5 when in coincidence with one another. The plates *d e*, with their projections *d*<sup>3</sup> *e*<sup>3</sup> and openings 3 and 5, are so arranged that when the projections are in coincidence the openings will not be, as shown in Fig. 2, the bottom or horizontal part of the insulating-plate then being wholly closed, and cutting off rays of heat from the oil-reservoir and permitting the air to enter at the sides of the stove, as is desired, to afford a free draft and perfect combustion in a quiet atmosphere. When, however, the stove is to be burned in strong lateral air-currents, the plate *e* is moved to its other position, closing the passage between the projections *d*<sup>3</sup> and opening the passages in the bottom of the plates, which will then admit a sufficient amount of air to support combustion, while the oil-reservoir will be kept cool by the air-currents.

If the stove is to be used entirely in strong air-currents, one of the plates, *d* or *e*, may have an upwardly-extending flange entirely about its periphery, instead of the series of projections *d*<sup>3</sup> *e*<sup>3</sup>, so that the lateral air-currents will be cut off all the time, and the air will be admitted only through the bottom of the plate, and may be controlled by the movement of the plate *e*, as described, it being sometimes possible to wholly close the passages 3 5 in very violent wind-currents, when sufficient air will leak in to support the combustion of the flames.

The plate *e* is provided with a flange, *e*<sup>1</sup>, connecting the upper ends of the projections *e*<sup>3</sup>, and overlying the upper ends of the projections *d*<sup>3</sup> of the plate *d*.

It will be seen that the plate *e* is readily removable from the plate *d*, making it easy to clean both plates when needed.

By the term "insulating-plate" I mean any plate or diaphragm located between the oil-reservoir and stove-body, such a plate serving to intercept the downward rays of heat from the flames at the bottom of the stove-bottom, and thus protect or insulate the oil-tank from their heating effect.

I claim—

1. The oil-reservoir provided with wick-tubes adapted to receive a stove-body above it, combined with the insulating-plate surrounding the said wick-tubes, provided with openings through it, and means to control the flow of air through the said openings, substantially as described.

2. The combination, with an oil-reservoir provided with wick-tubes and adapted to receive a stove-body above it, of the main insulating-plate surrounding the said wick-tubes and provided with openings, and the secondary plate movable on the main plate and provided with corresponding openings, whereby a passage may be afforded or not through the said plates, as desired, substantially as and for the purpose described.

3. The main insulating-plate adapted to be held stationary upon the oil-reservoir of an oil-stove, combined with a secondary plate movable upon the said main plate and adapted to control both the passage of air through the said plate from below, and also to control the admission of air laterally above the said plate, substantially as described.

4. In an oil-stove, the main or stationary insulating-plate having air-passages, combined with the movable secondary plate adapted to control the flow of air through the said passages, and the perforated plate for breaking up the currents thus permitted to flow, substantially as described.

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

ALFRED S. DINSMORE.

Witnesses:

JOS. P. LIVERMORE,  
FRED A. POWELL.