P. MARTIN.

Oil-Stove.

No. 208,108. Patented Sept. 17. 1878.

Fig. 1.

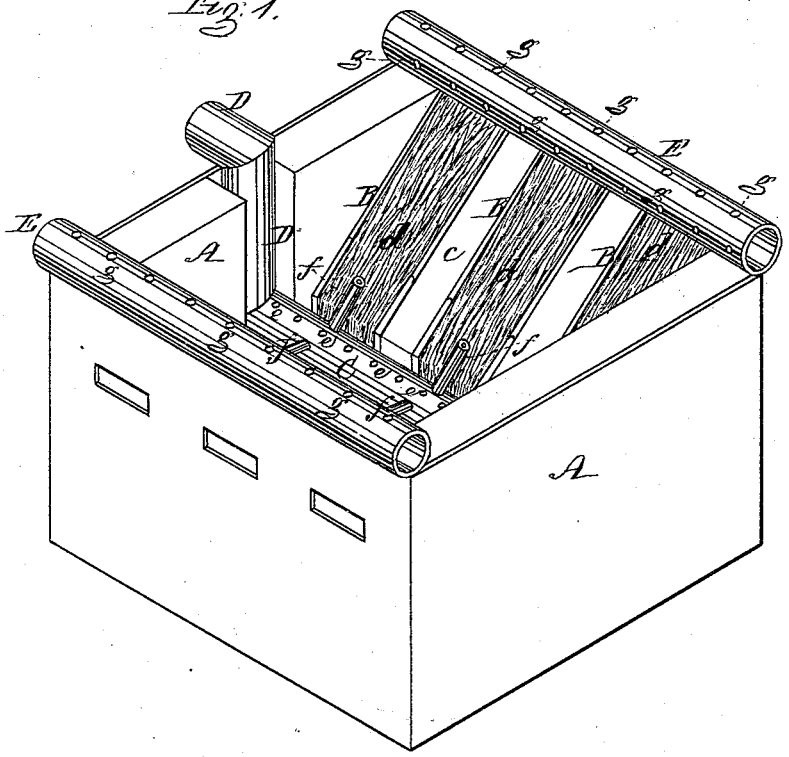


Fig. 2.

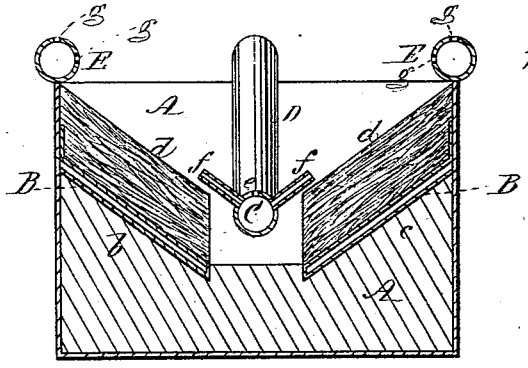
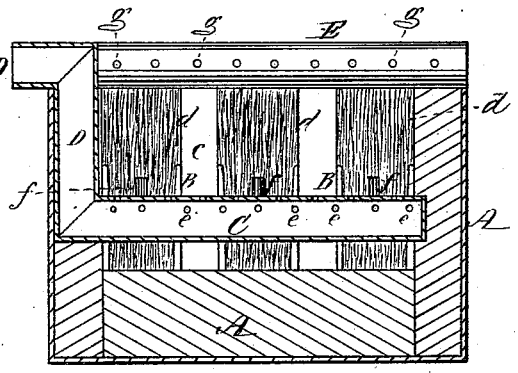


Fig. 3.



Witnesses;

W. J. Cambridge

J. E. Cambridge

Inventor;

Pearl Martin

Per Teschemacher & Stearns.

Attys.

UNITED STATES PATENT OFFICE.

PEARL MARTIN, OF MEDFORD, ASSIGNOR OF ONE-FOURTH HIS RIGHT TO SELWYN Z. BOWMAN, OF SOMERVILLE, MASSACHUSETTS.

IMPROVEMENT IN OIL-STOVES.

Specification forming part of Letters Patent No. **208,108**, dated September 17, 1878; application filed July 8, 1878.

To all whom it may concern:

Be it known that I, PEARL MARTIN, of Medford, in the county of Middlesex and State of Massachusetts, have invented certain Improvements in Stoves or Furnaces for Burning Crude, Refined, or Unrefined Hydrocarbon and other Oils, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view of the fire-pot of an oil-stove constructed in accordance with my invention. Fig. 2 is a transverse vertical section through the same. Fig. 3 is a longitudinal section through the center of the same.

This invention relates to certain improvements on the oil-stove for which Letters Patent of the United States were granted to me on the 22d day of January, 1878; and consists in the combination, with a fire-pot having one or more inclined sides provided with one or more wicks of asbestus or other fibrous material, of a perforated tube or conductor, located within the interior of the fire-pot, and adapted to discharge into the flame therein steam or air, or both intermixed, to promote the combustion of the oil.

My invention also consists in the employment of tubes communicating with and projecting out from the pipe, by which steam or air is supplied to the interior of the fire-pot, each of these tubes being so arranged as to introduce air or steam, or both combined, into the center of the flame along the length of the wick.

To enable others skilled in the art to understand and use my invention, I will proceed to describe the manner in which I have carried it out.

In the said drawings, A represents the fire-pot of an oil-stove, which is of rectangular form, the front and rear sides, *b c*, of the interior being inclined from the top down toward each other. Each of the inclined sides is provided with a series of grooves or recesses, within each of which is snugly fitted a sheet-metal casing or holder, B, for the reception of a wick, *d*, composed, preferably, of cotton, hemp, linen, jute, or other suitable fibrous material, covered with a layer of asbestus; but the entire wick may be composed of asbestus or other suitable material, if desired, the oil at the bottom of the fire-pot being taken up by the wicks and burned in the manner described in Letters Patent of the United States granted to me January 22, 1878.

The peculiar construction of these wick-holders B having been fully set forth in Letters Patent of the United States granted to me June 18, 1878, will not be here further described.

Extending longitudinally through the interior of the fire-pot A, at the center and near its bottom, is a tube or conductor, C, provided with a series of perforations, *e*, which may extend along the whole or a portion of its length, as desired. One end of the tube C is closed, while the other end communicates with a tube, D, which extends up over the top of the fire-pot, and serves to supply the tube C with steam or air, or both combined, which is discharged in streams through the perforations *e*, so as to impinge upon the flame and become thoroughly commingled therewith, whereby the combustion is promoted and the heat greatly intensified. The supply-pipe D, instead of extending up over the top of the fire-pot, as shown, may form a continuation of the tube C and extend directly through the side of the fire-pot; and, in lieu of locating the perforated tube C near the bottom of the fire-pot, it may be arranged in any other suitable position within the fire-pot, if preferred.

f f are a series of short tubes, communicating with and extending out radially from the tube C, each of these tubes being placed opposite to one of the wicks *d* and in a plane passing longitudinally through its center, the discharge-orifice at the end of each tube *f* being so located as to introduce steam or air, or both combined, into the center of the flame along the length of the wick, the oxygen thus supplied still further promoting combustion and causing the gaseous products of combustion to be entirely consumed.

At the front and rear edges of the top of the fire-pot are secured two perforated tubes, E E, which are heated by the direct action of the flame rising from the fire-pot. One end

of each of these tubes is closed, the opposite end being left open and communicating freely with the external air outside the fire-pot, which enters the tubes, and, after being heated therein, is discharged through the perforations *g* into the flame, and is diffused therein in order to assist the combustion at these points.

If desired, steam may be supplied to the tubes E E, so that steam or air, or both combined, may be discharged from the perforations *g*.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In an oil stove or furnace, the combination, with a fire-pot, A, having one or more inclined sides provided with one or more wicks of asbestus or other fibrous material, of a perforated tube or conductor, C, located within the interior of the fire-pot, and adapted to discharge into the flame therein steam or air, or both intermixed, to promote combustion, substantially as set forth.

2. The tubes *f*, communicating with and projecting out from the tube C, and so arranged opposite to the wicks as to introduce air or steam, or both combined, into the center of the flame along the length of each wick, substantially as described.

Witness my hand this 3d day of July, A. D. 1878.

PEARL MARTIN.

In presence of—
J. J. FROST,
WILLIAM DWYER.