2 Sheets—Sheet 1.

P. MARTIN.

Oil-Stove.

No. 199,456. Patented Jan. 22, 1878.

Fig. 1.

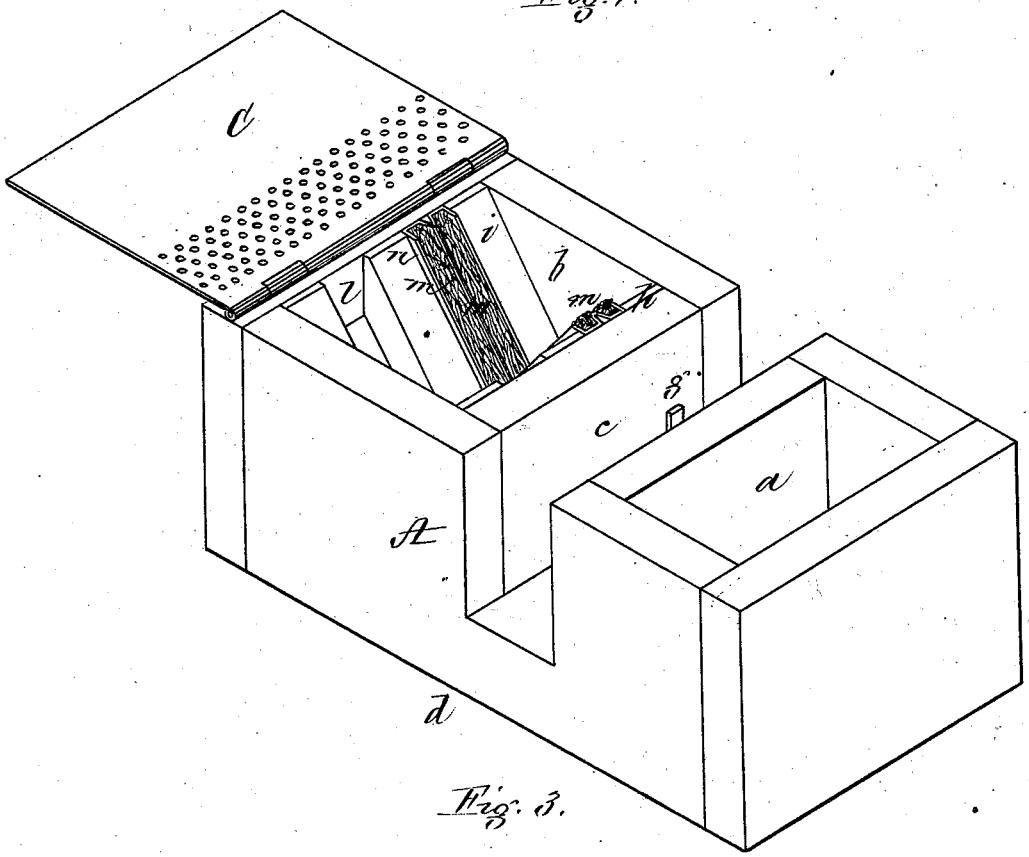
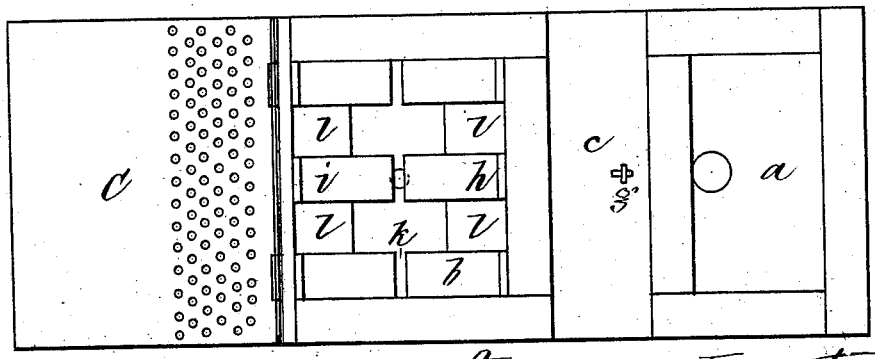


Fig. 3.



Witnesses,
W. J. Cambridge
Augustine Crosby

Inventor,
Pearl Martin,
Per Pieschemacher & Stearns,
Attorneys.

2 Sheets—Sheet 2.

P. MARTIN.

Oil-Stove.

No. 199,456. **Patented Jan. 22, 1878.**

Fig. 2.

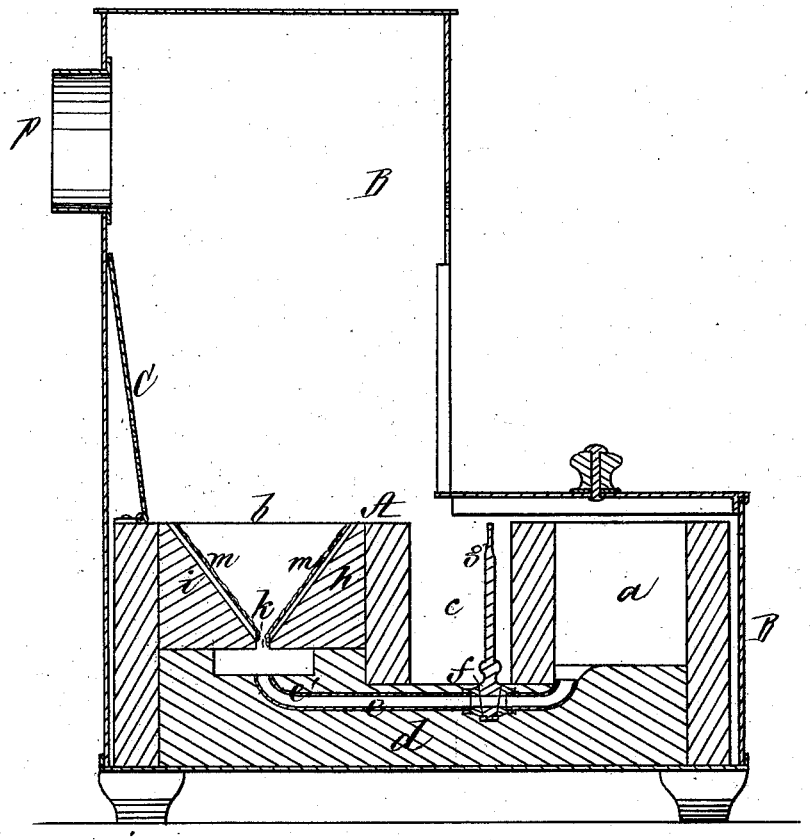


Fig. 4.

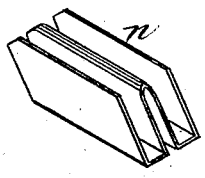
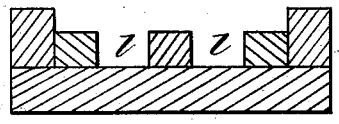


Fig. 5.



Witnesses,
W. J. Cambridge
Augustine Cosby

Inventor,
Pearl Martin,
Per Teschemacher & Stearns,
Attorneys.

UNITED STATES PATENT OFFICE.

PEARL MARTIN, OF MEDFORD MASSACHUSETTS.

IMPROVEMENT IN OIL-STOVES.

Specification forming part of Letters Patent No. **199,456,** dated January 22, 1878; application filed November 23, 1877.

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 for Burning Crude Unrefined Hydrocarbon and other Oils, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of an oil-stove constructed in accordance with my invention, and removed from its casing. Fig. 2 is a vertical section through the center of the same, inclosed within its casing. Fig. 3 is a plan of the stove detached from the casing, the wicks being removed; Fig. 4, perspective view of one of the wick-holders which I employ, and Fig. 5 sectional detail.

My present invention has for its object to provide a stove for burning crude unrefined hydrocarbon or other oils; and my invention consists in a fire-pot having two or more inclined grooved sides, provided with one or more continuous or separate wicks of asbestus or other suitable material, the wick or wicks of the fire-pot being supplied with oil from an oil-receptacle located near it, or in any other suitable manner, the fire-pot and oil-receptacle being preferably connected in the same apparatus, and inclosed, or not, in a casing, by which construction and arrangement an extended wick-burning surface is presented, and the heating capacity of the stove increased.

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 my improved stove for burning crude hydrocarbon or other oils. This stove consists of an oil-receptacle, *a*, of rectangular form, located near a rectangular fire-pot, *b*, a narrow space, *c*, intervening between them, in order that the fire may not unduly heat the contents of the receptacle *a*, the fire-pot and the oil-receptacle both rising from a common base, *d*, and communicating with each other by a passage, *e*, formed therein. This passage is provided with a tube, *e'*, the portion of which contiguous to the oil-receptacle is formed of metal, while the portion leading into the fire-pot is of glass, on account of its being a non-conductor of heat, the metal portion of the tube being provided with a stop-cock, *f*, which may be opened or closed by operating a handle, *g*, extending up therefrom into the space *c*. The front and rear sides *h i* of the interior of the fire-pot are inclined from its top down toward each other, the lower ends of the inclined sides being separated by a narrow space, *k*, extending transversely across the fire-pot, which space is enlarged below, and extends under the inclined sides, being formed in cross-section as shown in Fig. 2, the center of the space *k* being located directly over the outlet of the tube *e'*, through which the oil in the receptacle *a* is conducted to the fire-pot. Each of the inclined sides *h i* is provided with one or more grooves or recesses, *l*, the bottoms of which incline down to the outsides of the space *k*, and within these grooves or recesses are placed wicks *m*, 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.

Each wick is laid within a casing or holder, *n*, of sheet metal, of the form seen in Fig. 4, fitting snugly within its groove *l*, by which arrangement the oil, as it flows from the receptacle *a* through the tube *e'* into the space *k* in the fire-pot, is taken up by the wicks *m*, the flame from the two opposite inclined sides uniting, and being drawn upward in the direction of the flue or aperture *p* in a suitable casing, B, adapted to the shape of the stove, and provided with a cover extending over the oil-receptacle, the unconsumed smoke and gases passing up the chimney or other flue.

The top of the fire-pot is provided with a hinged metal plate, C, which is thrown back, as seen in Fig. 2, when a fire is required, the plate, when closed, serving as an extinguisher to put out the fire when not wanted, the rear portion of the plate being provided with perforations, to allow of the escape of the smoke and gas after the flame is extinguished.

Instead of placing separate and independent wicks within metal casings or holders *n*, the wicks may be laid up directly within the inclined grooves *l* of the fire-pot, the holders

being dispensed with; but I find it more convenient to employ them, and the wicks may be made continuous, so that one will occupy the entire area of one or both of the inclined sides of the fire-pot, in which latter case a greater amount of burning-surface would be insured, and the degree of the heat be intensified.

Instead of a fire-pot having two of its opposite sides inclined and provided with wicks, as shown, more than two of its interior sides may be inclined and provided with wicks, and the oil-receptacle may be located to one side of, or above or below, the fire-pot.

The above-described apparatus may be made of soap-stone, iron, &c., and is specially designed for burning liquid fuel in the shape of heavy unrefined hydrocarbon, vegetable, or animal oils, either separately or mixed together; and my stove may be of circular, elliptical, or other form than rectangular, and be employed for heating or cooking purposes, in which latter case the top of the casing would be only a short distance above the fire, and be provided with pot-holes, as in ordinary stoves for burning coal or other fuel.

What I claim as my invention, and desire to secure by Letters Patent as an improvement in oil-stoves, is—

1. A fire-pot, *b*, having two or more inclined grooved sides, provided with one or more continuous or separate wicks of asbestus or other suitable material, in combination with an oil-reservoir, substantially as described.

2. The oil-receptacle *a*, in combination with the fire-pot *b*, having two or more inclined grooved sides, provided with one or more separate or continuous wicks, substantially as and for the purpose set forth.

3. A sheet or other metal wick-holder, *n*, in combination with a fire-pot, *b*, having two or more inclined grooved sides, provided with one or more grooves, *l*, and an oil-receptacle, as and for the purpose described.

4. A casing, B, in combination with the fire-pot *b*, having two or more inclined grooved sides, and an oil-receptacle, *a*, as and for the purpose described.

Witness my hand this 15th day of November, 1877.

PEARL MARTIN.

In presence of—
N. W. STEARNS,
P. E. TESCHEMACHER.