

M. C. ARMOUR.
Kerosene-Stove.

No. 223,977.

Patented Feb. 3, 1880.

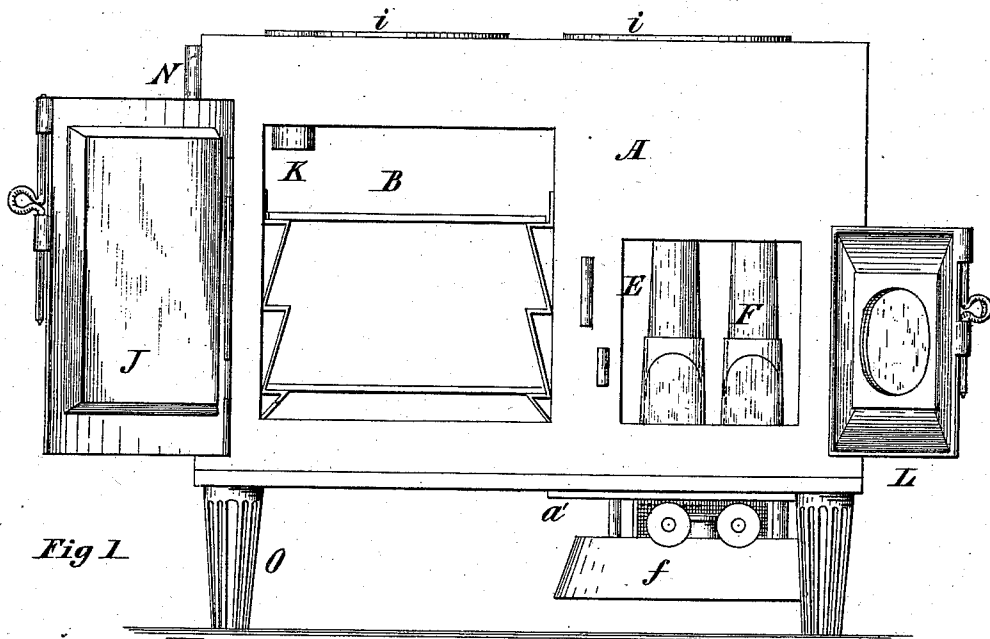


Fig 1

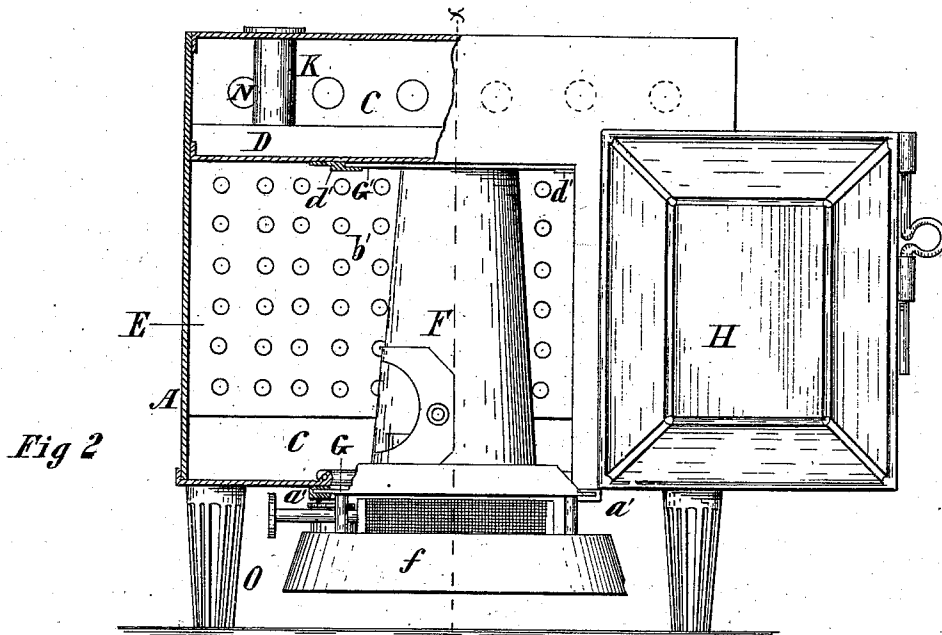


Fig 2

Witnesses

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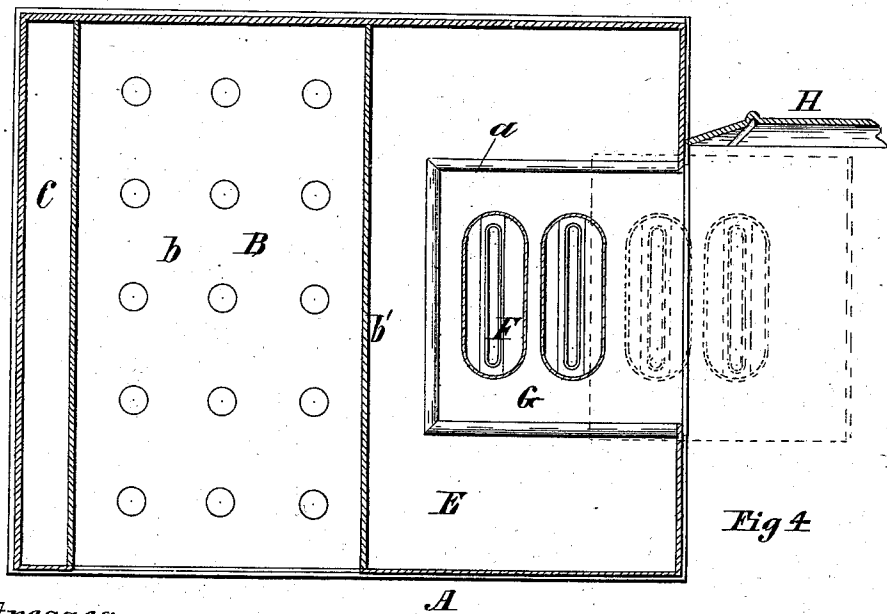
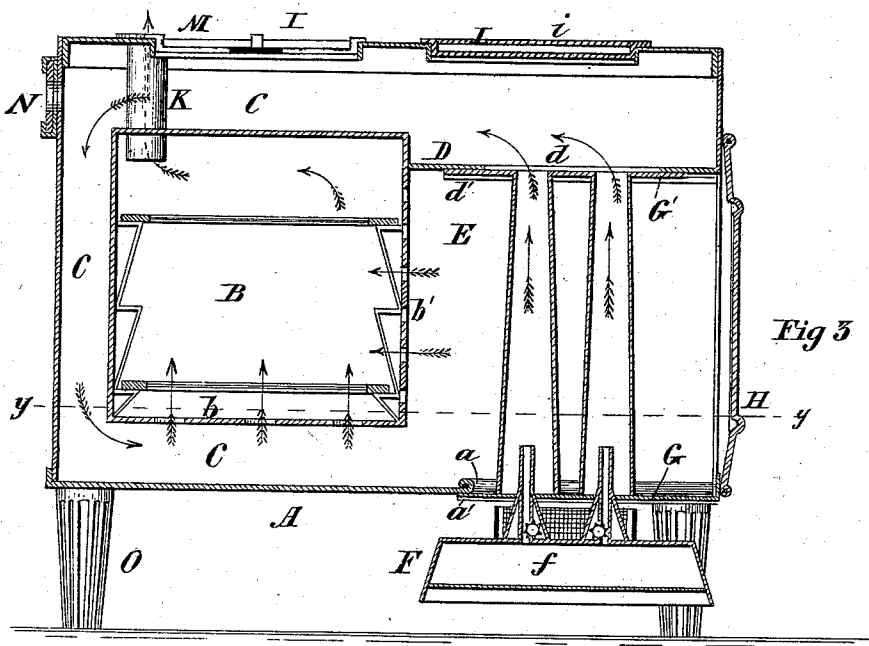
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UNITED STATES PATENT OFFICE.

MICHAEL C. ARMOUR, OF CHICAGO, ILLINOIS.

KEROSENE-STOVE.

SPECIFICATION forming part of Letters Patent No. 223,977, dated February 3, 1880.

Application filed August 7, 1879.

To all whom it may concern:

Be it known that I, MICHAEL C. ARMOUR, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Kerosene-Stoves, which is fully described in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 represents a front elevation of a stove embodying my improvements, the oven and heating-chamber doors being thrown open; Fig. 2, an end elevation of the same, partly in section, showing the removable lamp; Fig. 3, a vertical section of the same, taken on the line *x x*, Fig. 2; and Fig. 4, a plan section of the same, taken on the line *y y*, Fig. 3.

My invention relates to an apparatus for cooking, designed for the use of kerosene-oil.

The invention consists in the novel construction and arrangement of the heating-chamber, oven, and circulating-passage, whereby the hot air and gases are carried around and through the oven when it is desired to bake, or may escape directly through the boiler-holes when it is not desired to use the oven.

The invention consists in constructing the lamp and supporting it in the stove so that it may be entirely removed whenever desired.

It also consists in special features of construction, all of which will be hereinafter fully described, and defined more distinctly in the claims.

In the drawings, A represents the shell or outer casing of the stove. Within this case is arranged the oven B, at one end thereof, and extending entirely across from one side to the other, but with a free space, C, entirely around the oven, as shown in Fig. 3 of the drawings.

The bottom *b* of the oven is perforated or provided with a series of openings, and the inner wall, *b'*, is also provided with a series of apertures.

A partition or diaphragm, D, extends from the inner wall, *b'*, of the oven entirely across the remaining portion of the chamber within the casing, being located at or near the top of the oven. This partition provides a chamber, E, which is to some extent a heating-chamber, and contains the lamp. In the diaphragm D

is a large central opening, *d*, and on its under side are two guideways, *d'*.

The lamp F is composed of an oil-cup, *f*, surrounded by burners.

At the base of the chimneys is a diaphragm or plate, G, projecting outward horizontally, and substantially rectangular in shape, and at the upper end of the chimneys is a similar plate, G', of similar form, and fitted to slide upon the ways *d'*.

The bottom of the outer casing is cut away under the chamber E to make an opening, *a*, corresponding in size and form to the plate G, and at the sides of this opening are ways *a'*, adapted to receive the edges of the plate G. The end plate of the case is also cut away above the opening *a* up to the diaphragm D, so that the lamp may be inserted in the chamber E by slipping the plates G G' into the guideways *a' d'*.

A door, H, closes the opening in the end of the casing, through which the lamp is inserted. The plate G closes the opening in the bottom of the casing and the plate G', and in the diaphragm D, so that when the lamp is in place the oil-cup and lower end of the burner will be below the bottom of the case, and the chimneys will open into the space above the diaphragm D, as shown in Fig. 3 of the drawings. The door H, when closed, prevents the lamp from slipping out of place.

The burners are supplied with air and the wicks regulated below the casing, and it is evident that the lamp may be removed bodily at any time by opening the door H, when it may be slid out or in, at pleasure.

The air-passage C, it will be seen, commences above the diaphragm D and extends around the oven, communicating below the latter with the chamber E. In the top of the stove are boiler-holes I, (in the drawings arranged one over the oven and another over the chamber E,) and these holes are provided with ordinary covers *i*, which completely close the openings.

Flue-pipes K extend from the top of the oven up through the space C and the top of the stove, thereby providing communication directly between the interior of the oven and the outer atmosphere.

At the front of the stove is a door, J, opening into the oven, and another one, L, opening into the chamber E, the latter being provided with a glass-protected opening, through which the lamp-flame may be seen.

Now, when the boiler-holes are closed in the top of the stove, it is evident that the hot air and gases escaping from the upper ends of the chimneys will be carried around the oven, as indicated by the arrows in Fig. 3 of the drawings, underneath the bottom thereof, through which they then pass up into the oven, rising and escaping out through the exit-flues K, draft being established by these flues. The oven is thus heated with great economy, there being very little heat lost.

When the boiler-holes are used, if it is desired to bake at the same time, the utensils should cover the holes closely, taking the place of the ordinary covers; but if it is not desired to bake, a tripod, M, or some other similar device, may be used to support the utensils a little above the openings, thereby permitting the hot gases to escape into the open air and establish the draft directly through the boiler-openings, and there will then be little or no circulation around the oven, and the latter will not be heated to any great extent.

It is evident that the air in the chamber E will be warmed by the chimneys, and this air will pass into the oven through the perforated wall *b'* and circulate through the oven, escaping from the exit-flues. This operation aids the heating of the oven for baking, and as it is continued when the circulation around the oven is suspended, as above described, the oven will be sufficiently warmed thereby for use as a warming-oven at all times.

A damper, N, may be arranged in the side of the stove, whereby communication may be made with the upper portion of the passage C, so as to permit the escape of the hot gases through the damper-openings at this point, if it should be desired, thus providing means for regulating the heating of the oven.

The stove is provided with legs O, on which it is supported.

In this structure I economize fuel, especially in baking, and the oven is always attached to the stove, and is so arranged that it may be

used as a warming-oven when not employed for baking, and at the same time the hot gases always circulate directly underneath the boiler-holes, so that the latter are available for use whether the oven is used for baking or not. An important advantage is also obtained by making the lamp removable bodily from the stove, while at the same time the chimneys are in a close chamber when the lamp is in place, the lamp thus being made, to all intents, a constituent part of the structure, while at the same time it may be removed bodily from the structure whenever occasion requires.

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

1. The casing A, in combination with the stationary oven B, arranged with a hot-air passage, C, between it and the casing, and provided with a perforated bottom, the lamp F, and the exit-flues K, substantially as described.

2. The oven B, having its inside wall, *b'*, perforated, in combination with the exit-flues K, the chamber E, and the lamp F, substantially as and for the purposes set forth.

3. The casing A, cut away, as set forth, at the bottom and side of the chamber E, in combination with a central opening, the lamp F, provided with projecting plates G G', and the ways *a' d'*, substantially as described.

4. In a kerosene-stove, the combination of the following elements: a stationary oven with perforated bottom and inner wall, a hot-air passage extending from the upper end of the chimneys underneath the boiler-holes and over and around the oven, a heating-chamber communicating with the interior of the oven through its perforated inner wall, and exit-flues leading from the upper part of the oven to the outer atmosphere, whereby the main circulation of hot gases may be either around and through the oven or directly through the boiler-openings, and at the same time a limited circulation of hot air into and through the oven is always maintained, substantially as and for the purposes set forth.

MICHAEL C. ARMOUR.

Witnesses:

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