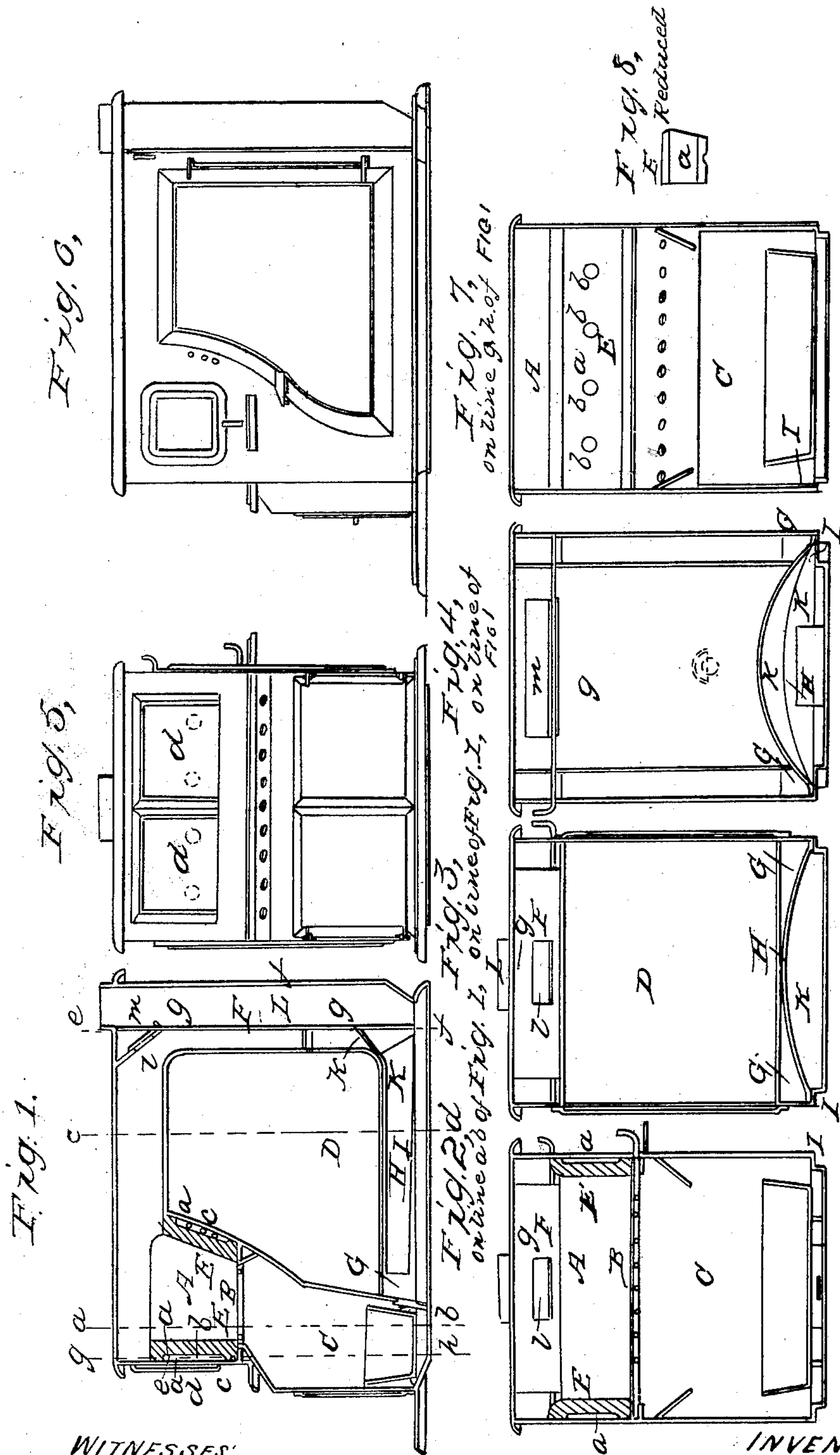


M. POND.  
Cooking Stove.

No. 45,432.

Patented Dec. 13, 1864.



WITNESSES:  
F. P. Hale Jr.  
J. F. Lamson

INVENTOR:  
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# UNITED STATES PATENT OFFICE.

MOSES POND, OF BOSTON, MASSACHUSETTS.

## IMPROVED COOKING-STOVE.

[Specification forming part of Letters Patent No. 45,432, dated December 13, 1864.]

*To all whom it may concern:*

Be it known that I, MOSES POND, a resident of Boston, in the county of Suffolk and State of Massachusetts, have made a new and useful invention of certain Improvements in Cooking-Stoves; and I do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 denotes a longitudinal and central section of a stove provided with my invention. Fig. 2 is a transverse section taken through the fire-place. Fig. 3 is a transverse section taken through the oven. Fig. 4 is a transverse section taken through the back flue dovetail plate or partition, and representing the arched slanting plate at the bottom thereof. Fig. 5 is a front end elevation, and Fig. 6 a side elevation, of the stove. Fig. 7 is a transverse section of the fire-place and its fire-brick lining, such section being taken through one of the air heating and receiving chambers applied to the front plate. Fig. 8 is a rear view of one of the end parts of the fire-brick lining.

The nature of my invention consists of an improved fire-proof lining or linings to the fire-place, the same having a channeled, recessed, or chambered back, substantially as hereinafter described; also, in the arrangement and combination of a separate air-heating chamber with the fire-place and oven of a cooking-stove in such manner as to surround the fire-place and be capable of receiving air from the external atmosphere and heating it and afterward discharging it into the oven, the said air-heating chamber having not only one or more air-induction passages leading into it, but one or more air-eduction passages leading from it into the oven; also, in the combination and arrangement of one or more air-heating chambers with the front plate of the stove, and with the oven and the chambered lining or main air-heating chamber, and the passages for leading air into and through the said chamber or chambers and lining and into the oven; also, in the combination of a slanting arched plate at the bottom of the dividing back flue plate with such flue plate, and the curved partition leading underneath the oven, as hereinafter described, the purpose of the slanting arched plate being to enlarge the oven-flue, so as to increase the

draft of the stove and prevent such flue at its turn from becoming obstructed by soot or the spent products of combustion.

In the drawings, A denotes the fire-place, B the grate, C the ash-chamber, and D the oven, of a stove, they being arranged together as shown in Fig. 1.

The fire-place has a fire-brick, stone, or other suitable lining, E, which in its rear surface is to be chambered or recessed, as shown at *a*, the chamber *a* being horizontal, and extending throughout each side and end portion of the lining. One or more air-holes, *b*, made through the front plate, *c*, of the stove lead air into the chamber *a* of the lining, which, after having circulated about the lining or between it and the plates of the stove, will escape into the oven by or through one or more orifices, *c'*, made through its front side. The holes *b* are covered by one or more guard-plates, *d*, which are so applied to the front plate of the stove as to form between it and such guard plate or plates one or more auxiliary air heating chambers or channels, *e*, open at bottom. The air rushing upward into such auxiliary chamber or chambers *e* will become more or less heated therein before passing into the induction hole or holes *b*. Thus, while these auxiliary chambers *e* serve to heat the air, the plate or plates *d* act as guards for the induction-holes and to prevent heat radiated from the front plate of the stove from being an inconvenience to an attendant while standing or stooping immediately in front or close to the stove.

Over the top plate of the oven there is a flue, F, which also descends in rear of the oven, as shown at F', and opens into flues G G, which course directly underneath the oven and from the rear to the front thereof, such flues being formed in part by an arched plate, H, which is extended underneath the oven and rests at its two opposite edges on the bottom plate, I, of the stove. With such bottom plate the arched plate forms a return-flue, K, which at its rear leads into an ascending discharge-flue, L, (formed by the back plate, *f*, of the stove and a dividing back flue plate, *g*,) and at its front opens out of the flues G G.

The junction of the plates H and *g* is effected by a slanting arched plate, *k*, arranged as shown in the drawings, such slanting plate *k* serving the purpose or purposes hereinbefore

stated. An opening, *l*, in the upper inclined part of the plate *g* is provided with a damper, *m*, such opening being for the purpose of discharging the smoke into the escape-flue without first causing it to circulate against the rear and bottom of the oven.

In the operation of the above described stove the air which goes through the recesses or chambers of the lining serves to absorb heat from the lining, and thereby prevents such lining from becoming overheated.

I claim—

1. The improved stove as made with the air-

heating chamber arranged around the front, the rear, and the ends of the fire-pot or fire-place, and in the fire-proof lining thereof, such chamber opening into the atmosphere and the oven, substantially in manner as described.

2. The combination and arrangement of the slanting arched plate *k*, with the flue-plates *H* and *g*, arranged with the oven and bottom plate of the stove, substantially as specified.

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Witnesses:

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