# G. W. WALKER.

## COOKING-STOVES.

No. 195,191. Patented Sept. 11, 1877.

Fig. 1.

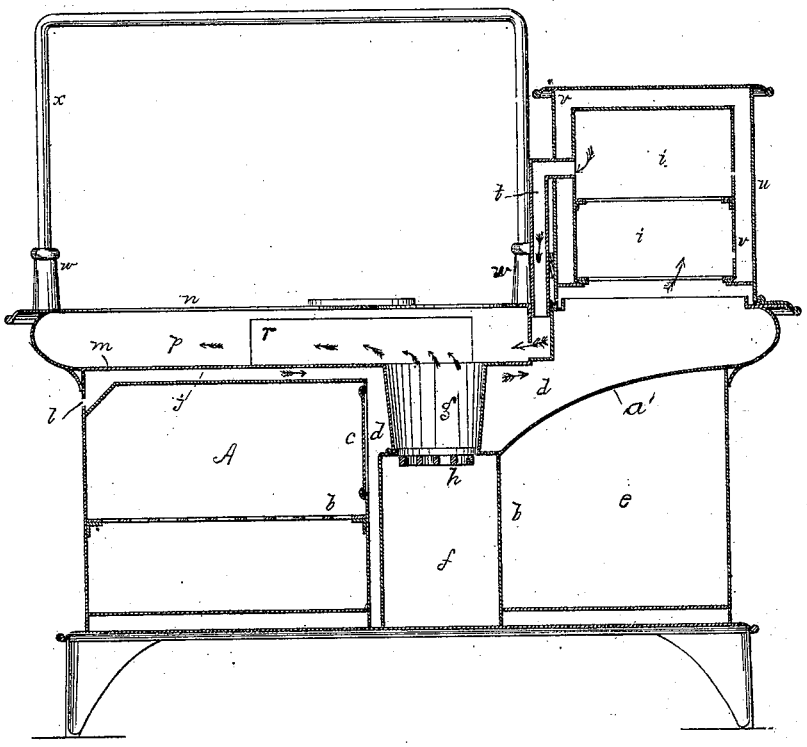
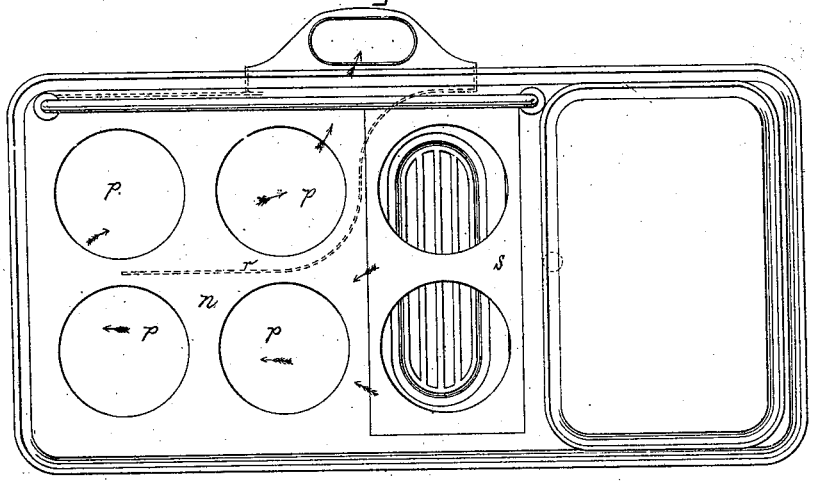



Fig. 2.




Witnesses.
E. C. Perkins.
W. J. Pratt.

Inventor.
George W. Walker
by Crosby & Gregory
Attys

# UNITED STATES PATENT OFFICE.

GEORGE W. WALKER, OF MALDEN, MASSACHUSETTS.

## IMPROVEMENT IN COOKING-STOVES.

Specification forming part of Letters Patent No. **195,191**, dated September 11, 1877; application filed July 5, 1877.

*To all whom it may concern:*

Be it known that I, GEORGE W. WALKER, of Malden, in the county of Middlesex and State of Massachusetts, have invented an Improvement in Stoves, of which the following is a specification:

This invention has reference to cooking-stoves, and has for its object to heat an elevated oven from the radiated heat of a fire-pot, as will be more fully described.

The invention consists in the combination, with an oven elevated in whole or in part above the top of the stove, of a hot-air chamber and a fire-pot located therein, whereby heat radiated from the fire-pot into the chamber is permitted to rise directly into the oven.

Figure 1 represents in longitudinal section a stove provided with my improvements, and Fig. 2 is a top view thereof.

The outer casing and shape of the stove may be of any desired configuration or design.

A represents the lower oven; *b*, a shelf therein, and *c* a door communicating with the hot-air chamber *d*. The hot-closet is represented at *e*, and the ash-pit at *f*.

The fire-pot *g*, made preferably of cast-iron, suitably supported at its top by a flange, is extended into the chamber *d*, so that the heat generated by the burning fuel in the grate *h* will radiate through the fire-pot into such chamber, from which it ascends directly into the oven *i*, elevated in whole or in part above the fire-pot.

Air is admitted to this hot-air chamber in regulated quantities through an air-passage, *j*, having inlets *l*. This air-passage is located between the top of the lower oven A and the bottom *m* of the flue-space *p*, the latter being located just below the stove-top *n*, and being adapted to conduct through it the products of combustion issuing from the fire-pot.

The flue-space *p* is divided by a short partition, *r*. (Shown in dotted lines in Fig. 2.)

The fire-pot may be connected with the fire-pot covering-plate *s*, so that it and the fire-pot may be removed together from the stove, or they may be removed separately. The radiated heat from the fire-pot, rising into the elevated oven through the hot-air chamber, causes the contents of the oven to be baked evenly at bottom and top.

A hot-air flue, *t*, called the "oven-outlet flue," leads from near the top of the oven to the flue *p*, and discharges the hot air of the oven into the gases rising from the fire-pot. The inlets *l* permit the introduction into the chamber *d* from outside the stove of enough air to keep up a proper circulation of air from such chamber into the oven.

The air admitted at *l* is heated in the chamber *j* by contact with the bottom plate *m*, and is thereby admitted quite hot, so as not to reduce the intensity of the heat in such chamber below that required for baking or roasting. This heated air containing oxygen, added to the gases rising from the products of combustion issuing from the fire-pot, materially aids in consuming all the carbonic oxide, greatly increasing the heat, and reducing the quantity of smoke.

About the oven *i* is arranged an outer casing, *u*, so as to form an inclosed air-space, *v*, to prevent undue radiation of heat from the oven.

It will be noticed that there are no flues for the passage of the products of combustion about either oven, and therefore it becomes unnecessary to frequently clean out soot which accumulates in the flues of the stoves having such flues, especially when soft coal is employed.

This stove, while being good for all kinds of fuel, is specially advantageous for the use of soft coal, to consume which much oxygen and considerable space for combustion are necessary. All the soot and fine ashes collect upon the plate *m*, from which they may be quickly swept into the fire-pot and ash-pit.

At the back of the stove are sockets *w* to receive the rack *x*—preferably a rod of iron wire, bent as shown, and inserted into the sockets. This rack is of great convenience to dry towels, &c.

Without an air-inlet into the chamber *d* and an outlet from the interior of the oven *i*, the heated air radiated from the fire-pot could not be kept in circulation through the oven so as to bake properly.

Hot air in the chamber *d* may be admitted into the lower oven through the door *c* whenever desired. The hot-closet *e* is warmed by radiation of heat through the plates *a' b'*.

I claim—

1. The combination, with the oven, elevated as described, of a hot-air chamber and a fire-pot located therein, whereby the radiated heat from the fire-pot may rise into the oven, substantially as described.

2. The combination, with the elevated oven, of a hot-air chamber, a fire-pot located therein, and an air-inlet to lead heated air into such chamber.

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

GEO. W. WALKER.

Witnesses:
G. W. GREGORY,
W. J. PRATT.