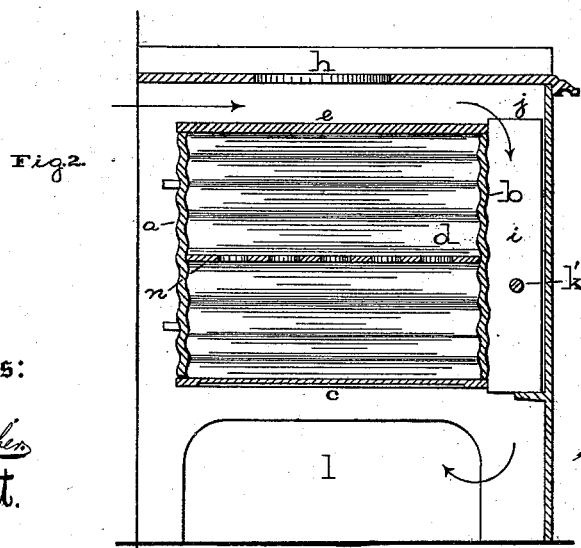
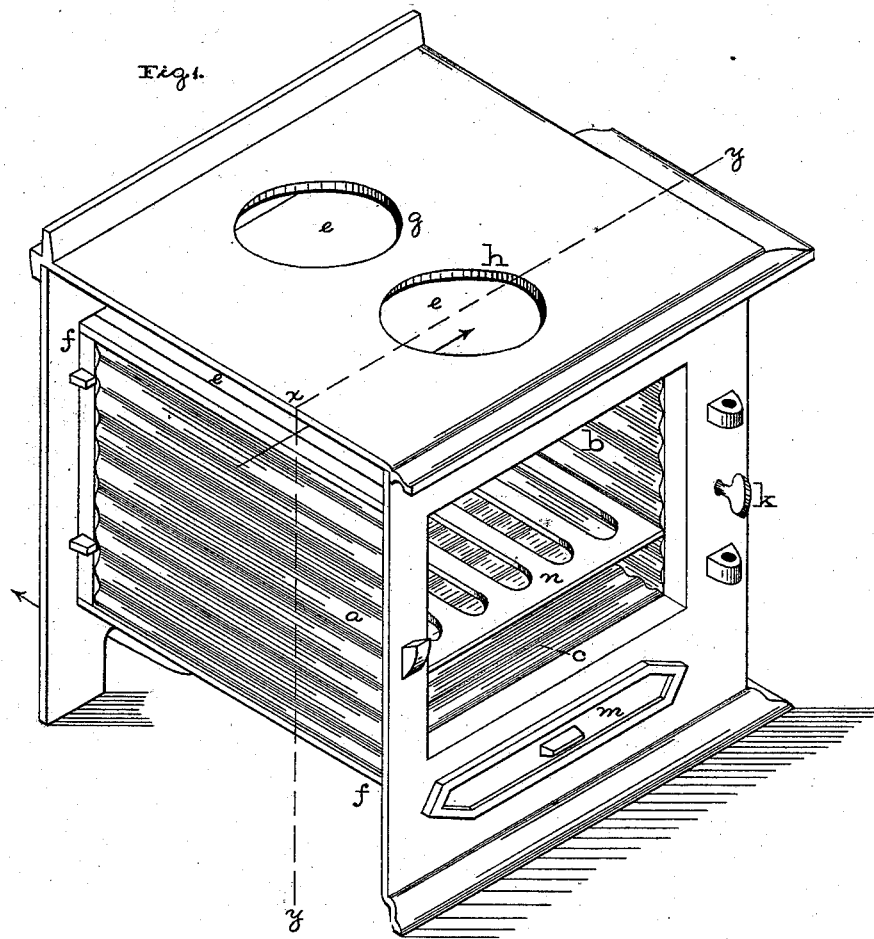


C. CALDWELL.  
Stove-Oven.

No. 217,511.

Patented July 15, 1879.



Witnesses:

H. D. Hicken  
J. A. Burt.

Inventor:

Charles Caldwell

# UNITED STATES PATENT OFFICE

CLARK CALDWELL, OF PHILADELPHIA, PENNSYLVANIA.

## IMPROVEMENT IN STOVE-OVENS.

Specification forming part of Letters Patent No. **217,511**, dated July 15, 1879; application filed May 17, 1879.

### *To all whom it may concern:*

Be it known that I, CLARK CALDWELL, of Philadelphia, Pennsylvania, have invented a new and useful Improvement in the Ovens of Cooking-Ranges and Cooking-Stoves, of which improvement the following is a specification.

My invention is applicable to cooking-ranges and cooking-stoves (whether single or double) commonly known as "flat-top"—that is to say, to ranges and stoves in which the hot air and products from the fire-box pass first over the top, then down the sides, and then under the bottom of the oven on their way to the chimney.

I make no change in the location, general form, or relative size of the oven.

A defect in ovens as heretofore made consists in the fact that the top of the oven gets too hot, while the bottom does not get hot enough, the effect being that in the preparation of viands they cook too fast on top and too slowly toward the bottom. The object of my invention is to overcome this defect.

My invention consists in making the two side plates, the back plate, and the bottom plate corrugated, and the top plate plain or flat, as shown in the accompanying drawings, in which—

Figure 1 is a perspective view of my improved oven, the door, which is of the usual construction, being removed from its hinges; Fig. 2, a sectional elevation of the same on the lines *x y* of Fig. 1.

I make the sides *a* and *b*, the bottom *c*, and back *d* of corrugated, cast, or sheet iron plates. The top plate, *e*, I make with a plain or flat surface, all being fastened together in the usual manner.

The fire-box (not shown) is of the usual construction. It is located at *f f*, Fig. 1, the fire-bricks or lining (not shown) coming directly against the side plate *a*.

*g* and *h* are holes where boiling is done, as usual.

*i*, Fig. 2, is a scraper for clearing ashes from the corrugations of the side plate *b*, and from the side flue, *j*, of the oven. It consists of a plate scalloped on one edge, to correspond with the corrugations of the oven's side *b*, and plain on its opposite edge, to fit

against the outside or flue plate, as shown in Fig. 2.

*k*, Fig. 1, is the handle of the scraper-rod *k'*, which rod is of length sufficient for moving the scraper from back to front and front to back of the flue *j*.

*l* is the bottom flue or ash-place, into which the ashes fall.

*m* is the stopper or door for closing the ash-place *l*.

The arrows in Fig. 2 indicate the course of the hot products from the fire in the fire-box, showing them to pass over the top plate of the oven, down the side flue, *j*, into the flue or ash-place *l*, under the bottom plate of the oven, and thence out into the chimney, all as usual.

*n* is a movable shelf, of which there may be several, if required. There is no peculiarity in the form of the shelf *n*; but as the corrugations in the side plates *a* and *b* constitute the grooves in which the shelf slides, the shelf can be set higher or lower, as desired. This construction enables me to dispense with the projecting ledges usually cast on or attached to the oven's side plates for supporting the shelf.

For obvious reasons the top plate, *e*, tends to get hotter than the side plates *a* and *b*, bottom *c*, and back *d*; in order to counteract which tendency, and with the view of equalizing the radiation from the top, sides, back, and bottom of the oven, I make the top plate, *e*, plain, to keep the heating-surface of this plate at its minimum, and I make the side, bottom, and back plates *a*, *b*, *c*, and *d* corrugated, so as to increase their heating-surfaces.

The ashes that lodge and accumulate in the corrugations of the side plate *b*, unless removed from time to time, would act as a non-conductor of heat, and thus, in a measure, lessen the heating capacity of this plate. Their removal is effected by means of the scraper *i*, the scalloped edge of which enters the corrugations of the side plate and clears them of ashes.

I am aware that Letters Patent were granted to E. Johnson, Jr., October 21, 1862, for an improvement in cooking-stoves, wherein the oven-plate (including the top of the oven) con-

sists of one entire piece of corrugated sheet-iron. I make no claim to an oven having any one or more of its sides, and also its top, corrugated.

I claim—

1. The combination of the corrugated side, bottom, and back plates *a b c d* with the plain or flat plate *e*, forming the top of the oven of a cooking-range or cooking-stove, substantially as set forth, for equalizing the heat at the top and bottom of the oven.

2. The combination of the corrugated side plate *b* and the scalloped scraper *i*, in the manner and for the purpose substantially as set forth.

CLARK CALDWELL.

Witnesses:

THOS. A. BURTT,

JNO. A. BELL.