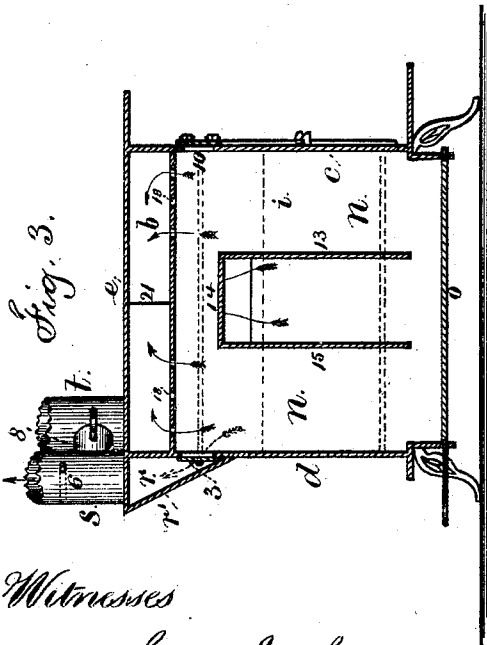
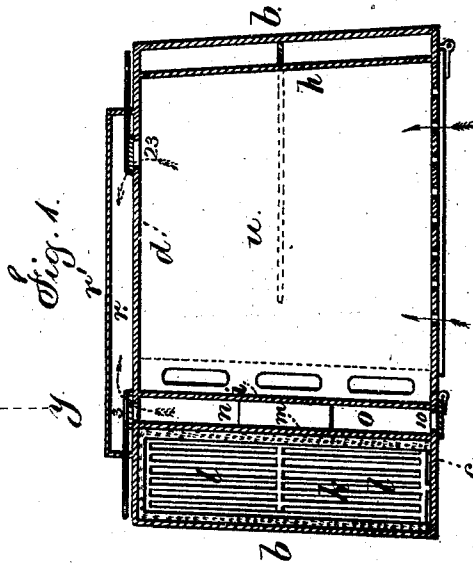
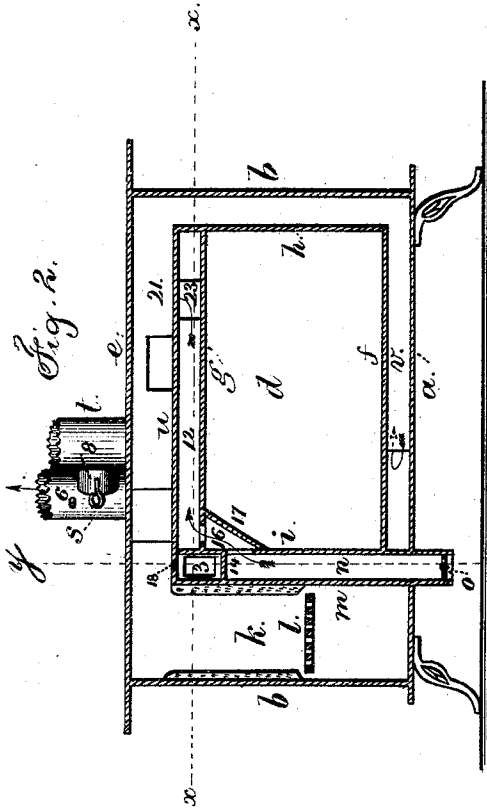


COOKING-STOVE.

No. 171,070.

Patented Dec. 14, 1875.



Witnesses

Chas H. Smith
Harold Linnell

Inventor
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Att'y.

UNITED STATES PATENT OFFICE.

ISAAC VAN BUNSCHOTEN, OF NEW YORK, N. Y., ASSIGNOR TO JOSEPH CHRISTIAN, OF SHARPSBURG, PA., AND SAMUEL CHRISTIAN, OF PUTNAM VALLEY, N. Y.

IMPROVEMENT IN COOKING-STOVES.

Specification forming part of Letters Patent No. 171,070, dated December 14, 1875; application filed October 27, 1875.

To all whom it may concern:

Be it known that I, ISAAC VAN BUNSCHOTEN, of the city and State of New York, have invented an Improvement in Cooking-Stoves, of which the following is a specification:

The object of this invention is to prevent the fire acting too powerfully upon articles placed in the oven, and at the same time to economize the surplus heat at the side of the oven next the fire, and at the top of said oven, and employ the same in warming atmospheric air that is conveyed into the same apartment or into one above, for the purpose of heating the same.

I accomplish these objects by providing an air-flue between the fire and the oven, said flue opening at the bottom through the bottom plate of the stove, and being provided with a damper, and the upper part of this flue opens into a flue at the side of the stove, that is provided with a pipe for the air to pass into the same apartment, or into a pipe leading to one above. I also provide a connection to the smoke-flue, whereby the heated atmosphere can be discharged into the chimney when it is not required in the room. The top of the oven is double, and air admitted into the space passes into the aforesaid side flue, and mixes with the atmosphere that is heated in the flue between the fire and the oven.

In the drawing, Figure 1 is a plan of the flues, sectionally, at the line *x x*. Fig. 2 is a vertical section, longitudinally, of the oven; and Fig. 3 is a section at the line *y y*.

The bottom plate *a*, end plates *b*, front plate *c*, back plate *d*, and top *e* form the exterior of the cooking-stove. The bottom plate *f*, top plate *g*, and side plates *h i* compose the oven-plates. The fire-chamber *k* is provided with a grate, *l*, and there is a plate, *m*, at the side of the fire-chamber next to the oven, which plate incloses a flue, *n*, that opens through the bottom plate *a* of the stove, and is provided with a damper, *o*, that regulates the amount of atmospheric air admitted into said flue. At the back of the stove there is an opening through the plate *d*, that allows the heated air to pass from the flue *n* into the flue *r*, that

is inclosed by the plate *r'* outside the plate *d*, and there is a damper, 3, that serves to regulate the opening through the plate *d*. The heated air escapes from the flue *r* by the pipe *s*, in which there is a damper, 6, to regulate the amount of air passing out into the room containing the stove, or that which passes, by a prolongation of said pipe *s*, into an apartment above. If the damper 6 is closed, and the damper in the branch pipe 8 to the smoke-flue *t* is opened, the heated air will go by the stove-pipe into the chimney.

There may be a second opening at the upper part of the flue *n*, as at 10, the same being in the front plate *c* of the stove. A damper may be applied to this opening.

Above the top oven-plate *g* there is a second plate, *u*, leaving a narrow air-space, 12, and atmospheric air is admitted into this space from a portion of the flue *n*, that is divided off by the plates 13 14 15, and from this flue there is an opening into the space 16, that is separated from the oven by the plate 17, and there are holes through the top oven-plate, so that air passes freely from the space 16 to the flue or space 12, from which it goes into the flue *r* through an opening, 23, that is provided in the back plate *d*, at which opening there is a regulating-damper.

The products of combustion pass above the oven, as usual, and descend in the flue between the plates *h* and *b*; thence pass along below the oven, and return around a partition-plate, *v*, and ascend between *h* and *b*, and thence pass over the oven, between the plate 21 and the back plate, to the smoke pipe or flue *t*. This arrangement of flues for the products of combustion is similar to that in stoves heretofore made.

The holes at 18 serve to admit atmosphere from the air-space *n* into the fire-space to commingle with the products of combustion, and, in so doing, cool the stove and regulate the temperature of the oven. If the ascending air-flue is closed by its damper 3, the atmosphere will pass freely through these holes 18.

I claim as my invention—

1. The air-flue *n*, between the fire-space and

oven, passing through the bottom plate of the stove, and provided with a damper, and opening at the upper part through the front or back plate of the stove into the flue *r*, as set forth.

2. The air-space 12, between the plate *u* and top oven-plate *g*, and having an outlet for the heated air through the back plate *d*, in combination with the flue 16, plate 17, and opening into the air-flue *n*, as and for the purposes set forth.

3. The combination, with the air-space 12 above the top of the oven, of the flue *r* at the

back of the stove, and the opening 23 through the back plate *d*, as set forth.

4. The combination of the flue *r*, at the back of the stove, with the flue *n* between the oven and fire-space, the damper 3, pipe *s*, and branch pipe 8 to the smoke-flue *t*, for the purposes set forth.

Signed by me this 18th day of October, A. D. 1875.

ISAAC VAN BUNSCHOTEN.

Witnesses:

GEO. T. PINCKNEY,
CHAS. H. SMITH.