G. W. SWETT.

Cooking Stove.

No. 90,889. Patented June 1, 1869.

Fig. 1.

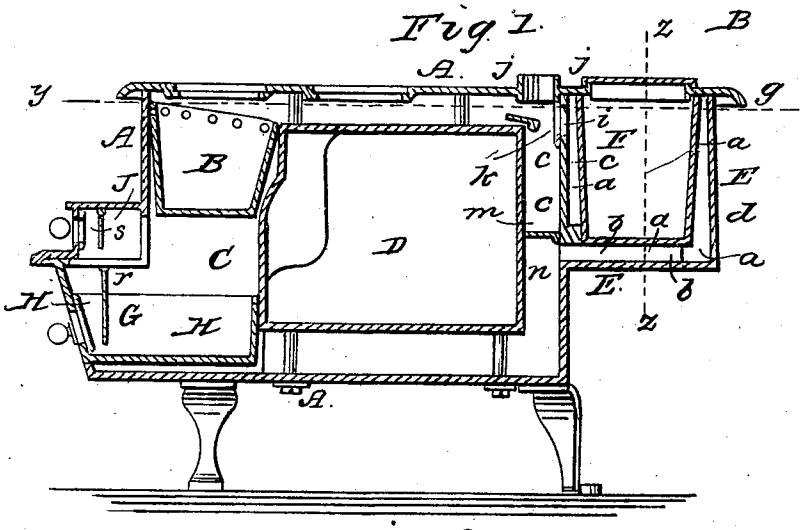


Fig. 2.

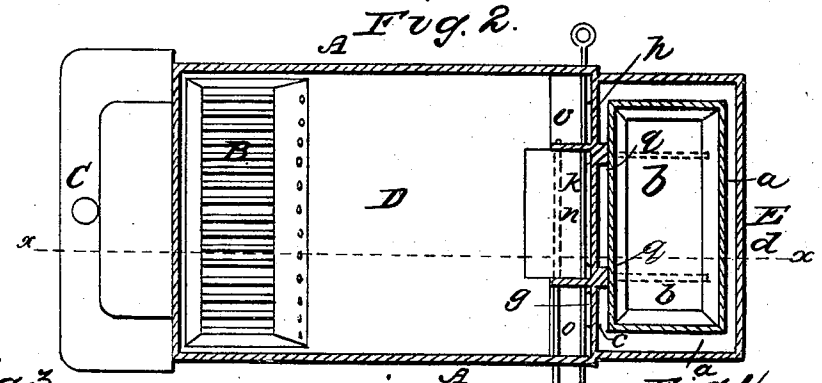


Fig. 3

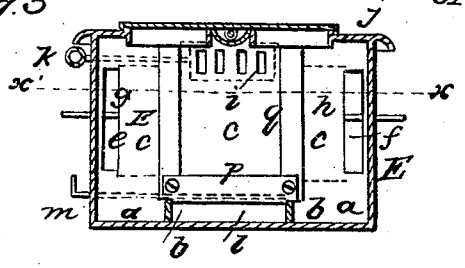
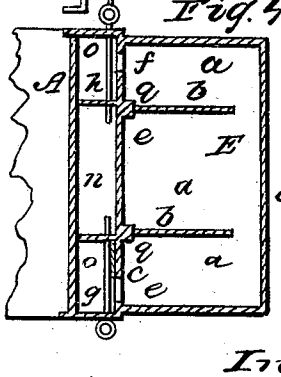


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

GEORGE W. SWETT, OF TROY, NEW YORK.

COOKING-STOVE.

Specification forming part of Letters Patent No. **90,889**, dated June 1, 1869.

To all whom it may concern:

Be it known that I, GEORGE W. SWETT, of Troy, in the county of Rensselaer and State of New York, have invented a new and Improved Cooking-Stove; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification, in which—

Figure 1 represents a vertical longitudinal section of my improved stove, the plane of section being indicated by the line *x x*, Fig. 2. Fig. 2 is a horizontal section of the same, taken on the plane of the line *y y*, Fig. 1. Fig. 3 is a vertical transverse section of the same, taken on the plane of the line *z z*, Fig. 1. Fig. 4 is a detail horizontal section of the same, taken on the plane of the line *x x*, Fig. 3.

Similar letters of reference indicate corresponding parts.

This invention relates to a certain improvement in the construction of cooking-stoves of that class in which a hot-water reservoir is arranged on the back of the stove, and has for its object to provide a complete circulation of hot smoke around said reservoir. The channel around the air-reservoir is so arranged that a very complete circulation is obtained, and to have the heat of the escaping smoke utilized to the best advantage.

A in the drawing represents the body of my improved cooking-stove. B is its fireplace; C, the ash-pit, and D the oven. On the back of the stove is arranged a projecting case, E, in which the water-reservoir F is suspended. There is, around and below the reservoir F, formed a channel, *a*, in the case A.

The reservoir rests on two horizontal ribs, *b b*, that extend from the back plate, *c*, of the stove nearly to the back plate, *d*, of the case, but not quite to the latter, as shown in Fig. 4. These two ribs intersect the passage or space under the reservoir.

The plate *c* has four openings leading to the channel *a*. Two of these openings, *e* and *f*, are on the sides of the stove, and vertical, as shown in Fig. 3, and can be closed by means of slides *g* and *h*, respectively, as shown. The third opening, *i*, is in the middle of the stove, directly under the top plate, *j*, of the same, and can be more or less closed by a slide or damper, *k*. It may consist of a series of slots or apertures, as in Fig. 3. The fourth opening, *l*, is through the plate *c*, directly above the bottom of the case E, and between the ribs *b b*, and can be closed by a damper, *m*.

The openings *i* and *m* are in the central smoke-passage, *n*, of the stove, while the openings *e* and *f* are in the side chamber, *o*, of the same, as shown.

The two ribs *b* are, in front of the reservoir, connected by a longitudinal rib, *p*, which closes the space between the lower part of the reservoir and the plate C, and the ends of this rib *p* are connected with two vertical ribs, *q*, that are arranged on the outer face of the plate *c*, as shown. When the parts are thus arranged the aperture *i* will not be necessary.

The smoke is made to enter through the side openings, *e* and *f*, and will then not be able to escape from the smoke-chamber *a* unless it passes around the back of the reservoir into the space between the ribs *b* and out through the opening *l;* or the smoke may have to enter *a* through *l*, and to escape through *e* and *f*. In either case the water-reservoir will be entirely enveloped by smoke, and the water will be thoroughly heated.

The aperture *l* may be dispensed with, in which case the rib *p* is also left off, while the ribs *q* will reach to the ribs *b*. The smoke will then, by the ribs *b* and *q*, be prevented from passing directly from the apertures *e f* to the aperture *i*, but will have to enter at the back end of the space between *b b*, and ascend between the ribs *q q*, before it can escape through *i*. In this manner, also, perfect circulation is obtained.

Two openings in the sides of the stove are already used, as well as one in the middle, but never were they used together with my arrangement of ribs to produce the perfect circulation above referred to.

When the damper *m* is swung horizontally, as in Fig. 1, to form a partition in the central passage, *n*, of the stove, the side openings, *e f*, and side ribs, *q q*, may be dispensed with, as the ascending smoke will then enter through

the aperture *l*, and will have to pass along between the ribs *b* before it can reach the escape-opening *i*.

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

1. The ribs *b b*, arranged in the case E, that contains the water-reservoir, for the purpose of guiding the heating-gases so that they cannot escape without having entirely surrounded the water-reservoir, said ribs *b* being arranged in combination with the rib *p*, or with the ribs *q q*, or with both, substantially as described.

2. The apertures *e* and *f* in the back of the stove, when arranged in combination with the aperture *i* or *l*, and with the ribs *b*, substantially as described, all operating as set forth.

GEORGE W. SWETT.

Witnesses:
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ALEX. F. ROBERTS.