

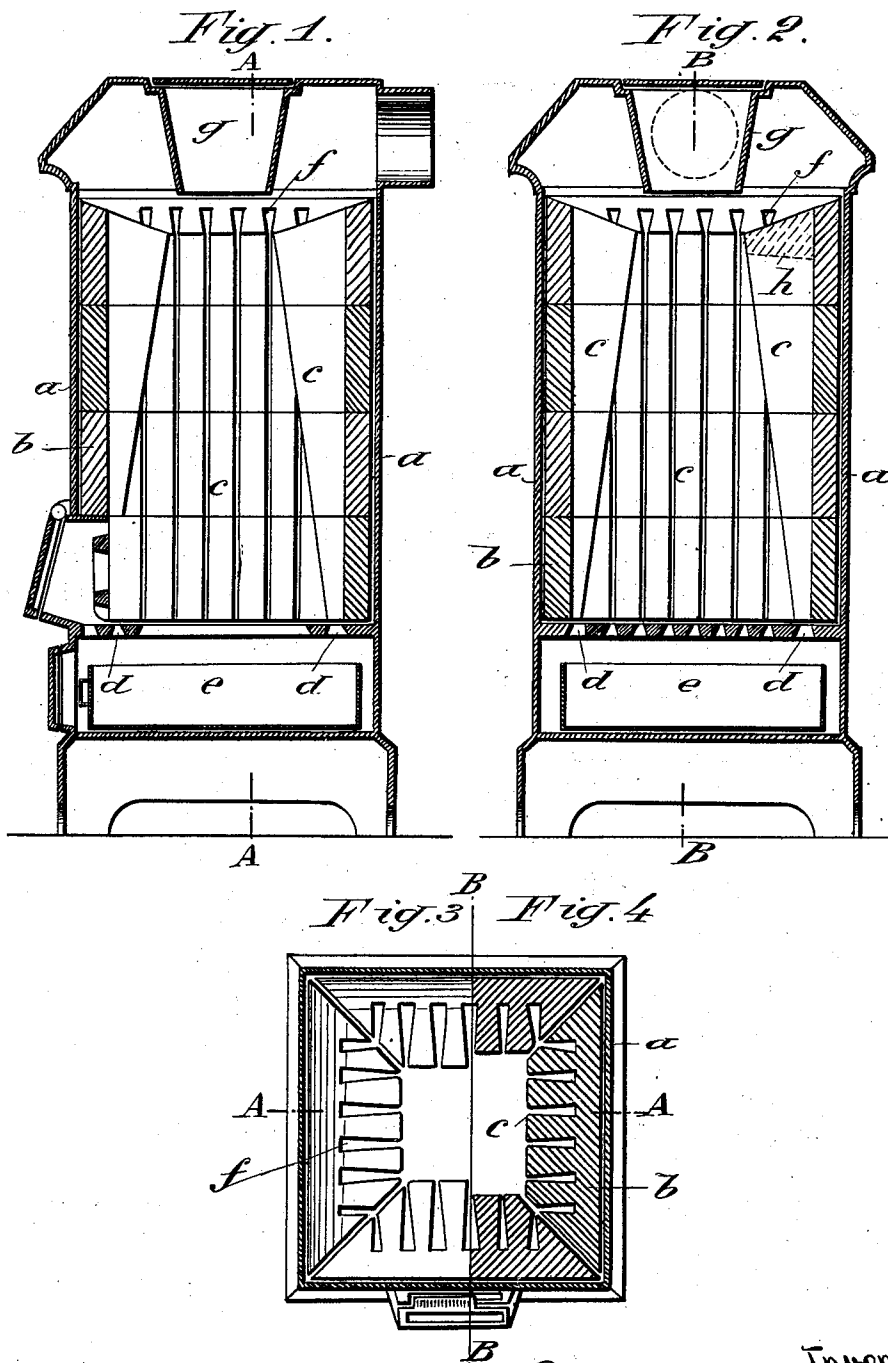
No. 691,688.

Patented Jan. 21, 1902.

R. WINTER.
STOVE.

(Application filed Apr. 24, 1901.)

(No Model.)



Witnesses:
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UNITED STATES PATENT OFFICE.

ROBERT WINTER, OF HANOVER, GERMANY.

STOVE.

SPECIFICATION forming part of Letters Patent No. 691,688, dated January 21, 1902.

Application filed April 24, 1901. Serial No. 57,246. (No model.)

To all whom it may concern:

Be it known that I, ROBERT WINTER, a subject of the Emperor of Germany, residing at Hanover, Germany, have invented certain new and useful Improvements in Stoves, of which the following is a specification.

As is well known, the stoves commonly called "Irish" or "perpetual" stoves and having an updraft are lined on the inside with masonry or fireproof clay, such lining being provided with grooves intended to receive and conduct the gas evolved in the stove to the combustion-chamber. The depth of these vertical grooves is uniform throughout, and as the higher they ascend the more gas they will receive it follows that the draft they create will be diminished in proportion to their height. To remedy this objection, escape-pipes are provided at different heights of the conduit, through which the gases formed at these points find an exit. To avoid the necessity of these escape-tubes, which add to the cost of construction, is the object of the present invention, illustrated in the accompanying drawings, wherein—

Figure 1 is a section on A A of Fig. 3. Fig. 2 is a section on B B of Fig. 3. Fig. 3 shows a top and a bottom plan view of this invention.

The inside of the stove instead of being furnished with a lining the surfaces and grooves of which are contained in parallel lines is provided with a lining of fire-resistant material, such as stone or brick, converging toward the top, the grooves of which are open in front and become deeper as they ascend. The transverse section of the lining is determined according to requirements. In the stove shown in the drawings the grooves can also receive air from the ash-box, which mixes with the heating-gases in order to promote their combustion. Consequently it will be found advantageous to make the grooves wider at the back than they are at the front. As will be easily seen, the heating-gases formed at any height within the stove will enter the grooves opened at the front and will be carried upwardly without any hindrance being caused by the gases generated in the upper layers.

It is evident that owing to the access of air from the cinder-box the gases will be easily disengaged toward the back and will there mix with the air.

In any case the heating-gas will always ascend freely, owing to the increase of the depth of the grooves toward the top. Besides the fuel can be distributed toward the bottom.

In the accompanying drawings, *a* represents the outer casing of the stove; *b*, the lining; *c*, the grooves in the said lining; *d*, the holes allowing the air from the cinder-box *e* to pass to the grooves *c*, and *g* is the filling-funnel preventing the obstruction of the openings *f* in the grooves. The same result may be obtained without this funnel by means of the stopping of the said openings, as shown by dotted lines. In this case the gas finds its exit toward the sides, as is shown at *h* in Fig. 2.

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

1. In an updraft-stove of the character described, the combination with the casing of the said stove, of a lining of fire-resistant material, converging toward the top and provided with open grooves, and rising from the bottom to the top of said lining and increasing in depth as they ascend to receive and carry away the gases generated, substantially as described and shown.

2. In an updraft-stove of the character described, the combination with the casing of said stove of a lining of fire-resistant material converging toward the top and provided with open grooves rising obliquely at the front and vertically at the back so as to carry away the gases generated, and a grate upon the edge of which the masonry of the lining rests, having apertures in said edge communicating directly with the back part of said grooves.

In testimony whereof I have hereunto set my hand in presence of two witnesses.

ROBERT WINTER.

Witnesses:

LEONORE KASCH,
C. C. STEVENSON.