

(No Model.)

J. L. W. OLSEN.
APPARATUS FOR HEATING OVENS BY GAS.

No. 518,624.

Patented Apr. 24, 1894.

Fig: 1.

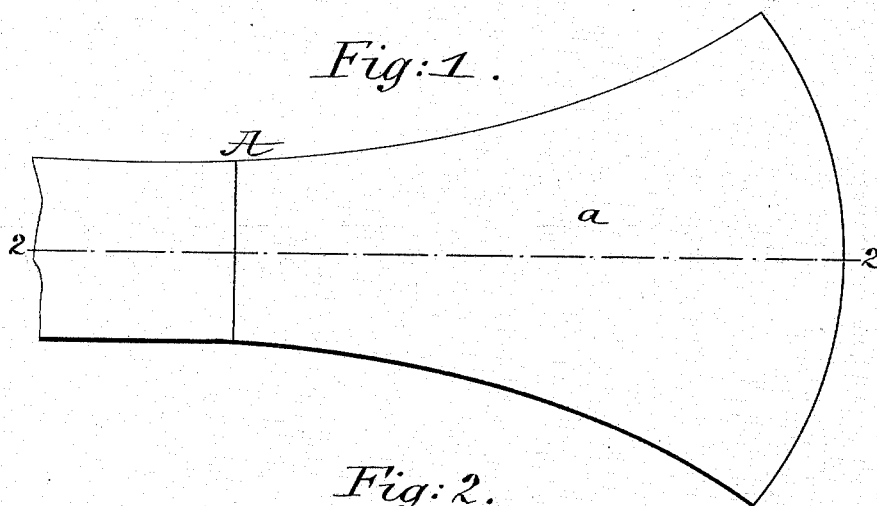


Fig: 2.

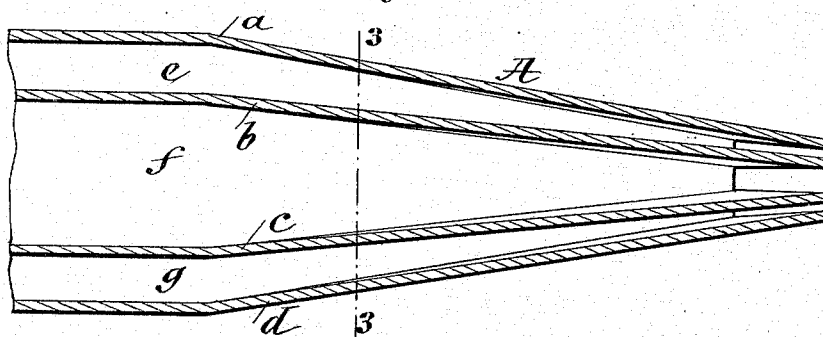


Fig: 3.

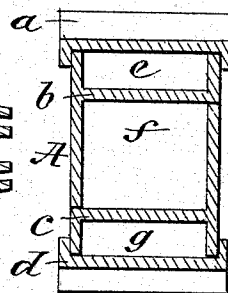


Fig: 4.

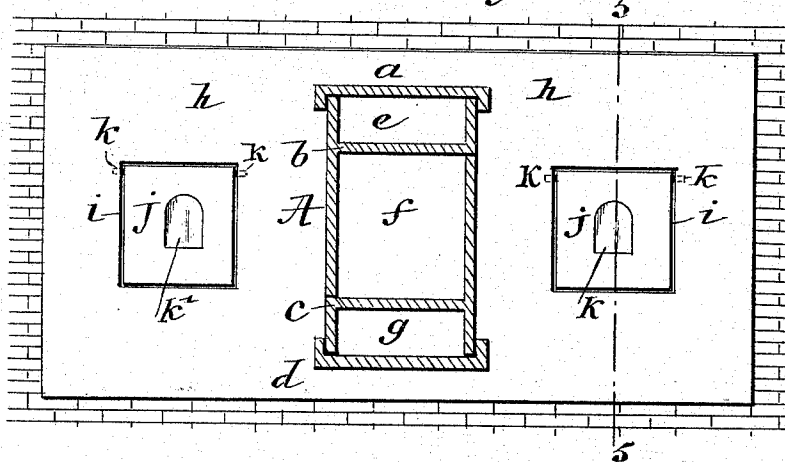
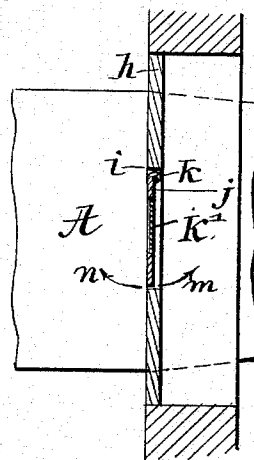


Fig: 5.



WITNESSES:

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UNITED STATES PATENT OFFICE.

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APPARATUS FOR HEATING OVENS BY GAS.

SPECIFICATION forming part of Letters Patent No. 518,624, dated April 24, 1894.

Application filed August 17, 1893. Serial No. 483,338. (No model.)

To all whom it may concern:

Be it known that I, JOHAN LUDVIG WALDEMAR OLSEN, of Copenhagen, Denmark, have invented certain new and useful Improvements in Apparatus for Heating Ovens by Gas, of which the following is a specification.

This invention relates to improvements in the Letters Patent issued to me on the 29th of December, 1891, No. 466,127, for an improvement in an apparatus for heating ovens by gas. The apparatus described in the above-mentioned patent, has the disadvantage that fresh air is not conducted in the proper way and in sufficient quantity to the gas-flame. The object of my present invention, is to avoid these difficulties.

This invention consists of an apparatus for heating ovens by gas, comprising a burner provided with gas and air-channels, and leading into the oven, and freely oscillating doors located in supplementary air-inlet openings in the oven, at the sides of the burner.

In the accompanying drawings, Figure 1 is a plan-view of the gas-burner. Fig. 2 is a vertical longitudinal section through the burner, on line 2—2, Fig. 1. Fig. 3 is a vertical transverse section, on line 3—3, Fig. 2. Fig. 4 is a view of the front of the oven, the burner being shown in section, and Fig. 5 is a section, on line 5—5, Fig. 4.

Similar letters of reference indicate corresponding parts.

The burner A is constructed of four plates *a*, *b*, *c*, *d*, having suitable ribs or flanges so that when the plates are built up, as shown, channels *e*, *f*, *g* are formed. Channel *f* is for conducting gas and the outer channels *e* and *g* are for conducting air directly to the points of combustion of the gas, so that the flame cannot turn backward on account of not having a sufficient air supply. The bottom, top and intermediate walls of the burner are tapered toward each other, and the burner and its channels are flared or curved laterally at their outer ends, so as to impart a fan-shape to the burner and make the same wider at

the points of issuance of the gas and air than toward the interior.

The front *h* of the oven into which the burner extends, see Figs. 4 and 5, is provided at each side of the burner with supplementary air-inlet openings *i*, in which are pivoted at their upper ends so as to oscillate or swing freely within said openings, in both directions, the doors or gates *j*.

k indicates the pivots of the doors and *k'* sight-holes in the doors, for taking an observation of the burner. With this construction, when the burner is in operation, a sufficient quantity of air can at all times pass into the oven, as said doors will automatically open inward, as indicated by the arrow *m* in Fig. 5, and when the pressure in the oven becomes greater than the exterior pressure, by reason of the gases given off by the bread being baked, the doors will automatically open outward, as indicated by the arrow *n*, and the hot air can then pass out of the oven through the openings *i*.

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

An apparatus for heating ovens by means of gas, which consists of a supporting-plate adapted to be set into an opening of the wall of the oven, a burner passing through a central opening of said plate and having gas and air-channels, and pendent doors hinged at their upper ends in side-openings of the plate, so as to open inwardly and admit air under the action of the draft, or to open outwardly to permit the gases to escape from the oven when the internal pressure of the gases becomes too great, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

J. L. W. OLSEN.

Witnesses:

I. HOFMAN BAU,
FRITZ TÖYBERG.