

No. 609,919.

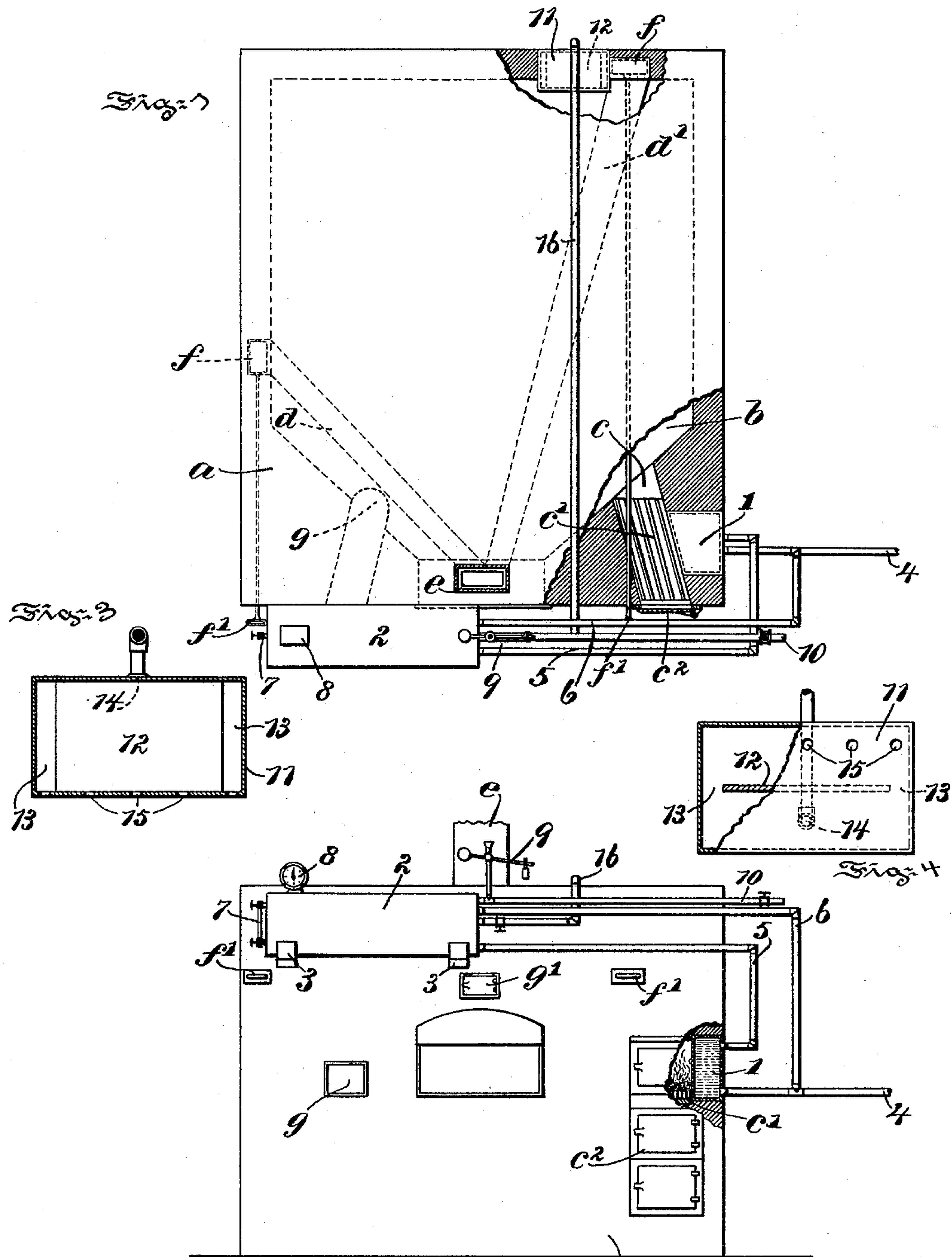
Patented Aug. 30, 1898.

W. E. STOEFFLER.

BAKER'S OVEN.

(Application filed July 24, 1897.)

(No Model.)



Witnesses:
 W. B. Jackson
 E. M. Gilligan

Fig. 2

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UNITED STATES PATENT OFFICE.

WILLIAM E. STOEFFLER, OF PHILADELPHIA, PENNSYLVANIA.

BAKER'S OVEN.

SPECIFICATION forming part of Letters Patent No. 609,919, dated August 30, 1898.

Application filed July 24, 1897. Serial No. 645,776. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. STOEFFLER, a citizen of the United States, residing at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Bakers' Ovens, of which the following is a specification.

The object of my invention is to provide a comparatively inexpensive, safe, and efficient attachment applicable to the most usual and inexpensive type of bakers' ovens and which adapts them without any increased consumption of fuel to produce bread of as good quality as can be baked in the most expensive ovens, which by reason of their high first cost and subsequent consumption of large quantities of fuel are possible only in large establishments.

To this end my invention, stated in general terms, comprises an ordinary baker's oven provided in the wall of its fire-box with a water-back and in the rear wall of its baking-chamber with a box for discharging live dry steam and equipped with an exposed or accessible boiler and its complemental accessories and pipe connections, as is hereinafter more fully set forth.

The nature, characteristic features, and scope of my invention will be more fully understood from the following description, taken in connection with the accompanying drawings, forming part hereof, and in which—

Figure 1 is a top or plan view of an ordinary baker's oven with parts of the superstructure broken away so as to illustrate parts embodying features of my invention. Fig. 2 is a front elevational view of the furnace with parts broken away for a like purpose. Fig. 3 is a sectional view of a steam-box hereinafter described, and Fig. 4 is a front view of the steam-box with parts broken away so as to illustrate the interior construction.

I shall first describe a type of oven to be found in the majority of comparatively small shops and to which my invention is particularly applicable, although it can be applied to different types of ovens.

Referring to the drawings, *a* is a baker's oven, suitably constructed of masonry and the like. It is provided with a baking-chamber

b, communicating with a fireplace *c*. The fireplace *c* is provided with a suitable grate *c'*, ash-pit, and doors *c''*. The chamber *b* has communication with flues *d* and *d'*, formed in its roof or crown, and these flues in turn communicate with a chimney *e* and are or may be provided with dampers *f*, having operating-handles *f'*. Provision may also be made, as at *g*, for a light and at *g'* for a door, through which the flues can be cleaned. In use a fire is kindled in the fire place or box *c*. The hot products of combustion traverse the baking-chamber *b*, flues *d d'*, and escape by way of the chimney or offtake *e*, thus heating up the baking-chamber.

Having thus pointed out the construction and indicated the mode of operation of a known type of oven to which my invention is applicable, I will now proceed with a description of the latter. In the wall of the fire place or chamber *c* I provide one or more water-backs, one, 1, being shown. This water-back is of usual or any preferred construction and is preferably located flush with the wall of the fireplace *c* in such position as to receive heat from the fire that would otherwise be absorbed by the brickwork. At some suitable point outside of the oven I locate a boiler 2. This boiler is of the type usually employed in kitchens, and it may be supported upon a suitable bracket, shelf, or cornice, as 3. The fact that the boiler is exposed is important, because it permits of its ready examination.

4 is an inlet-pipe that receives water from a street-main, elevated cistern, or tank or other suitable source of supply and leads into the water-back 1. From the water-back 1 extends a pipe 5, that leads to the boiler 2 and serves to convey hot water from the water-back to the boiler. From the boiler 2 leads a pipe 6, that communicates with the water-back 1 by way of the pipe 4. The pipe 4, water-back 1, pipe 5, boiler 2, and pipe 6 constitute a circulating hot-water system that is perfectly safe and very reliable. Hot water and steam may be taken from this circulating system for heating the dwelling, supplying the same with hot water, and for a purpose to be hereinafter mentioned. The boiler 2 may be provided with a sight-gage 7, a pressure-gage 8, a safety-valve 9, and a valved

blow-off pipe 10, that leads to a suitable point of discharge—for example, into the open air. In the rear wall of the baking-chamber *b* is a steam-box 11. This box is provided with a
 5 baffle-plate 12, that does not extend clear across it, so as to leave passages 13 for steam and so as to prevent the escape of entrained water and cause it to collect in the bottom of the box. The box is also provided with an
 10 inlet 14 for steam and with openings 15, through which steam is discharged into the oven. By locating the box 11 flush with the flue *d'* heat from the latter is available for superheating steam, as well as for vaporizing
 15 water that may collect in the bottom of the box.

16 is a valved pipe leading from the boiler 2 to the steam-box 11. The presence of the steam-box and its accessories affords means
 20 for supplying dry steam to the interior of the bake-oven, and this steam is known to beneficially affect the quality of the bread. The location of the steam-box at the rear of the oven and its provisions for discharging steam
 25 toward the front thereof have the effect to prevent gases and hot products rising from the fireplace from entering the oven, so that bread located comparatively near the fireplace is perfectly baked, and neither burned
 30 nor otherwise spoiled. The whole arrangement is easy and inexpensive of application, is readily accessible, and perfectly safe. Moreover, it supplies dry steam to the oven without any material increase in the consumption
 35 of fuel. By reason of the location of the box 11 at the rear of the oven steam presses forward and covers its entire contents.

It will be obvious to those skilled in the art to which my invention appertains that modifications may be made in details without departing from the spirit thereof. Hence I do not limit myself to the precise construction and arrangement of parts hereinabove set forth, and illustrated in the accompanying
 45 drawings; but,

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

1. Means for generating steam and excluding products of combustion during baking in
 50 an ordinary oven having a single fireplace arranged to preheat the baking-chamber by discharging products of combustion through it, which comprise the combination of a damper arranged to close the offtake or exit from
 55 the baking-chamber, a water-back located in the single fireplace, and connections, substantially as described, leading from the water-back to the rear of the baking-chamber and arranged to discharge steam forwardly
 60 thereby excluding products of combustion from the baking-chamber and confining them to the fireplace and permitting the fire to smolder and heat the water-back and maintain such supply of steam during baking,
 65 substantially as described.

2. Means for generating steam and excluding products of combustion during baking in
 70 an ordinary oven having a single fireplace arranged to preheat the baking-chamber by discharging products of combustion through it, which comprise the combination of a damper arranged to close the offtake or exit from
 75 the baking-chamber, a water-back located in the single fireplace, and connections including a storage-boiler and steam-box leading from the water-back to the rear of the baking-chamber and arranged to discharge steam forwardly thereby excluding products of combustion from the baking-chamber and confining them to the fireplace and permitting the fire to smolder and heat the water-back and maintain such supply of steam during
 80 baking, substantially as described.

In testimony whereof I have hereunto
 85 signed my name.

WM. E. STOEFFLER.

In presence of—

W. J. JACKSON,
 K. M. GILLIGAN.