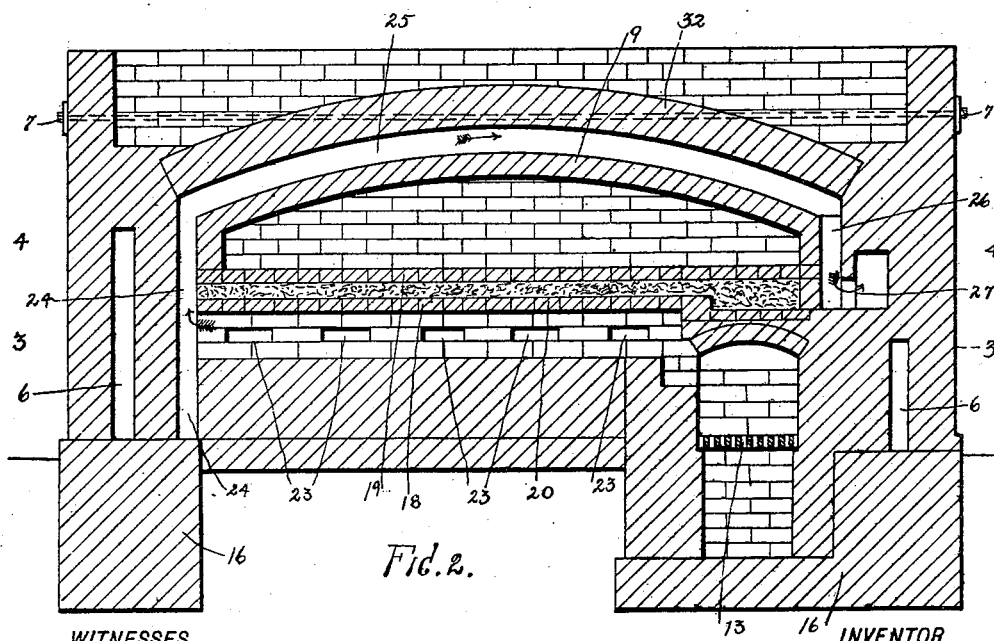
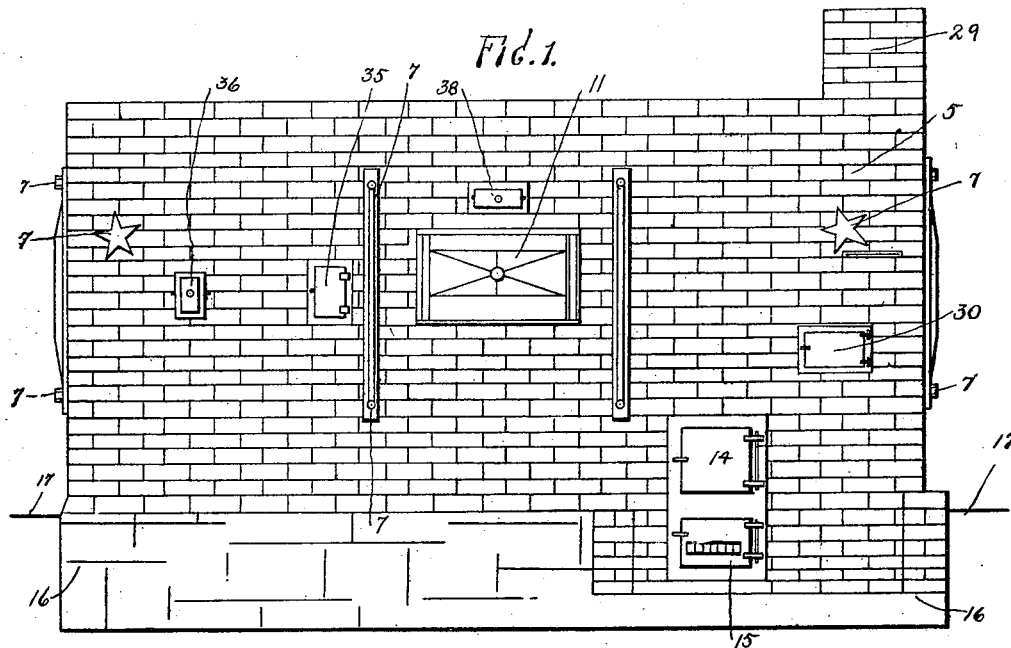


C. E. HOGBERG.  
BAKER'S OVEN.

(Application filed Aug. 8, 1900.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES  
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ATTORNEYS

No. 676,464.

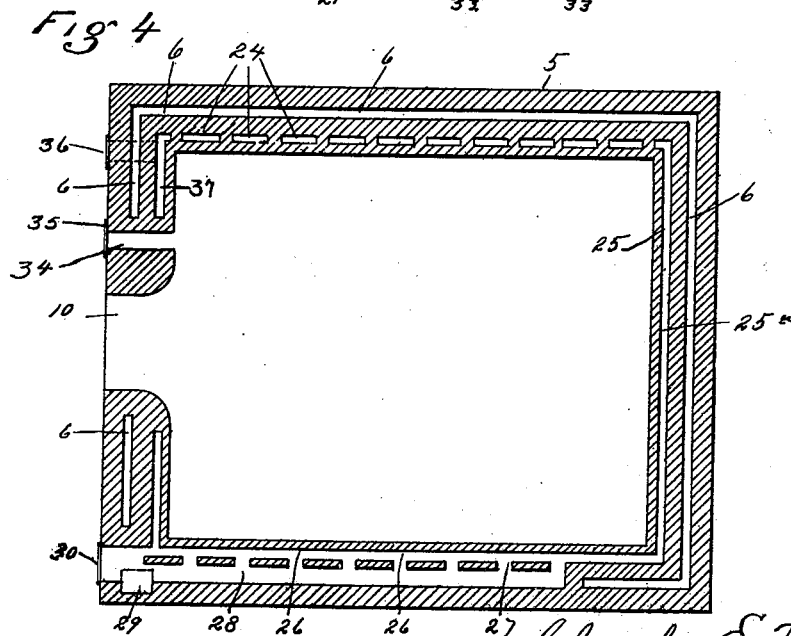
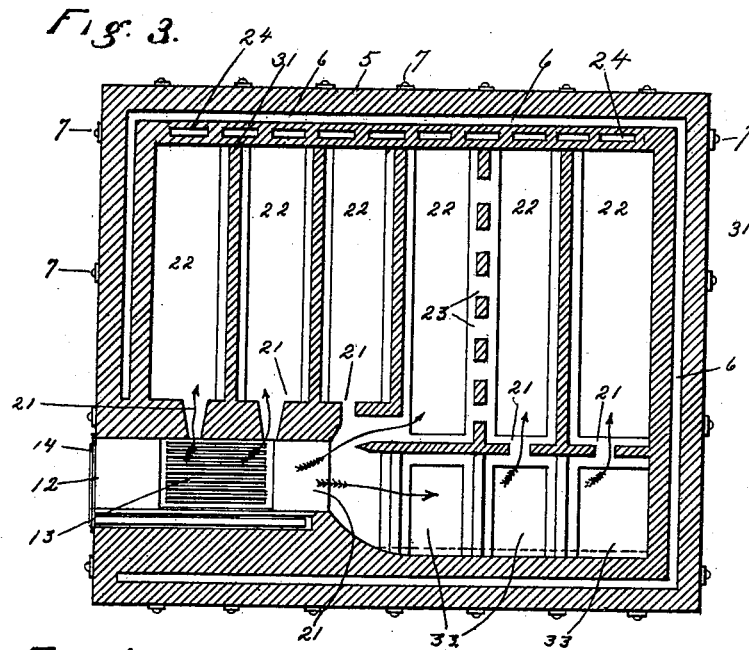
Patented June 18, 1901.

C. E. HOGBERG  
BAKER'S OVEN.

(Application filed Aug. 8, 1900.)

(No Model.)

2 Sheets—Sheet 2.



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# UNITED STATES PATENT OFFICE.

CHARLES ENOCH HOGBERG, OF RED WING, MINNESOTA.

## BAKER'S OVEN.

SPECIFICATION forming part of Letters Patent No. 676,464, dated June 18, 1901.

Application filed August 8, 1900. Serial No. 26,239. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES ENOCH HOGBERG, a citizen of the United States, residing at Red Wing, in the county of Goodhue and State of Minnesota, have invented certain new and useful Improvements in Bakers' Ovens, of which the following is a full and complete specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to bakers' ovens; and the object thereof is to provide an oven of the class described and a furnace therefor whereby the operation of baking may be performed with an economy of fuel and a speed of operation superior to the same qualities possessed by ordinary apparatus of this class.

With this and other objects in view my invention consists in the construction and arrangement of parts hereinafter set forth.

In the accompanying drawings, forming part of this specification, in which like numerals of reference denote corresponding parts in the several views, Figure 1 is a front elevation of a baker's oven and furnace constructed according to my invention; Fig. 2, a transverse vertical section thereof; Fig. 3, a transverse horizontal section thereof upon the line 3 3 of Fig. 2; and Fig. 4 a similar section thereof on the line 4 4 of Fig. 2.

In the practice of my invention I provide a furnace which is preferably rectangular in form and a front elevation of which is shown in Fig. 1, the outer walls 5 thereof being composed, preferably, of brick, and three of said furnace-walls are provided with vertical spaces 6, in which asbestos or other fireproof or heat-containing packing is placed. The walls are stayed together to produce a rigidity of the entirety by stay-bolts 7, which pass therethrough. The oven-chamber 8 is preferably rectangular in form and is arranged centrally of the furnace and provided with the usual arched top 9, and entrance to the oven is had through the front opening 10 (shown in Fig. 4) by means of the oven-door 11. The fire-pit 12 (shown clearly in Fig. 3 and provided with grate-bars 13) is arranged forwardly of the furnace, and access thereto is had by a furnace-door 14, and access to the ash-pit beneath the grate-bars 13 is by means of an ash-pit door 15, arranged beneath the

fire-pit door 14, as clearly shown in Fig. 1 of the drawings.

The furnace-walls 5 are supported upon suitable foundations or bases 16, the surface-level of the earth being shown at 17 in Figs. 1 and 2, whereby the grate-bars are arranged approximately at a level with the surface of the earth and the ash-pit beneath said surface-level. A pair of parallel transverse partitions 18 and 19 are arranged beneath the oven-chamber 8, and the space between them is filled with earthenware bits, broken crockery, or other substance which readily conducts heat and is indicated in Fig. 2 of the drawings at 20.

The fire-pit 12 communicates by means of ports 21 with a plurality of transverse furnace-chambers 22, two of which communicate by means of rearwardly-extending passages 23, as shown in Figs. 2 and 3, whereby the heat and fumes from the fire-pit 12 are freely circulated beneath the transverse partition 18 and thoroughly heat the oven-chamber 8 from beneath. As shown in Fig. 2, the furnace-chambers 22 communicate with a plurality of uptakes 24, arranged at one side of the furnace, as shown in Figs. 2 and 4, and which communicate in turn with transverse flue-chambers 25, which communicate at the other side of the furnace with a downtake 26, which communicates by means of flue-passages 27 with a flue 28, the forward end of which communicates with a chimney 29, and the forward end of the flue 28 is closed by a door 30, by means of which access may be had to said flue for the purpose of cleaning the same. One of the flue-chambers 25—the rear-most thereof—communicates with the rear-most of the uptakes 24 and also with the flue 28 by means of a passage 25<sup>a</sup> and is arranged rearwardly of the oven-chamber 8, as is clearly shown in Fig. 4. The furnace-chambers 22 are separated by walls 31. The flue-chambers 25 are formed between the arched oven-top 9 and the arched furnace-roof 32, as clearly shown in Fig. 2.

Rearward of the fire-pit 12 are provided a series of vertical smoke-flues 33, which communicate with the fire-pit by passages 21 and which also communicate with the adjacent furnace-chambers 22 by similar passages 21.

It will be seen from the above description

that the oven-chamber is completely surrounded by the fire-pit 12, furnace-chambers 22, uptakes 24, flue-chambers 25, downtake 26, and flue 28, whereby a greater portion of the heat passes into the oven and operates therein for the purpose desired, whereby economy of fuel is produced. The passages 6 in the walls 5 of the furnace, which were above described as being filled with some heat-insulating material, may, if desired, serve simply as air-chambers.

A light-passage 34 is formed through the forward wall 5 of the furnace, communicating with the oven-chamber 8 and provided with a door 35, and in Fig. 1, 36 indicates the door of a clean-out passage communicating with a clean-out passage 37, which in turn communicates with the various furnace-passages. Another door 38 is arranged above the oven-door 11 and communicates with a clean-out passage, which communicates with the flue-chambers 25. If desired, I may arrange hot-water pipes 39 within the furnace-walls and adjacent the fire-pit or otherwise. The passage of the hot air, fumes, smoke, &c., from the fire-pit and the course thereof throughout the furnace and around the oven-chamber are denoted by arrows in the several views. By means of the circulation of said hot air, fumes, and smoke, as above described and as denoted in the drawings, the efficiency of the furnace and oven is of a high percentage. It will be noticed that the oven-chamber is entirely inclosed and the moisture from the baking substances cannot pass therefrom, and hence the furnace-chamber will be maintained charged with the fumes or steam from the baking substances, which will avoid the necessity of placing water-pans within the oven-chamber, as is customary at present.

I do not limit myself to the specific construction and arrangement of parts above specified, but reserve the right to vary the same within the scope of my invention.

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

1. An improved baker's oven, comprising a furnace-casing having an oven-chamber arranged centrally therein, a fire-box arranged at the front and at one side of said furnace-casing, a plurality of lateral or transverse furnace-flues in communication with said fire-box and beneath the oven-chamber, some of which are in communication, a plurality of transverse furnace-flues above the oven-cham-

ber and in communication at one side with the first-named furnace-flues below the furnace-chamber, and at the opposite side with an uptake or chimney, and a plurality of vertical flues arranged rearwardly of the fire-box and in communication therewith, and also in communication with the furnace-flues below the oven, substantially as shown and described.

2. An improved baker's oven, comprising a furnace-casing, an oven-chamber located centrally therein, a fire-box at the front and one side of said casing, transverse furnace-flues beneath the oven-chamber and in communication with the fire-box, transverse furnace-flues over the oven-chamber and in communication at one side with the first-named furnace-flues by means of uptakes, and at the opposite side with an uptake or chimney, a transverse furnace-flue arranged rearwardly of the oven-chamber and in communication at one side with one of said uptakes, and at the opposite side with said chimney, and a plurality of vertical flues arranged rearwardly of the fire-box and in communication with said fire-box and with the transverse furnace-passages beneath the oven-chamber, substantially as shown and described.

3. An improved baker's oven, comprising a furnace-casing, the walls of which are provided with air-passages, an oven-chamber located centrally in said furnace-casing, a fire-box located at one side and at the front thereof, and beneath said oven-chamber, a plurality of furnace-chambers arranged beneath said oven-chamber and transversely of the furnace-casing and in communication with the fire-box, a plurality of transverse furnace-chambers arranged over the oven-chamber and in communication at one end with the first-named furnace-chambers beneath the fire-box, and at the opposite end with a chimney, a plurality of smoke-flues arranged rearwardly of the fire-box and in communication therewith, and also in communication with a portion of said chambers beneath the oven-chamber, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 4th day of August, 1900.

CHARLES ENOCH HOGBERG.

Witnesses:

WM. M. ERICSON,  
F. M. WILSON.