

(No Model.)

3 Sheets—Sheet 1.

G. F. SMITH.
BAKER'S OVEN.

No. 575,911.

Patented Jan. 26, 1897.

Fig. 1.

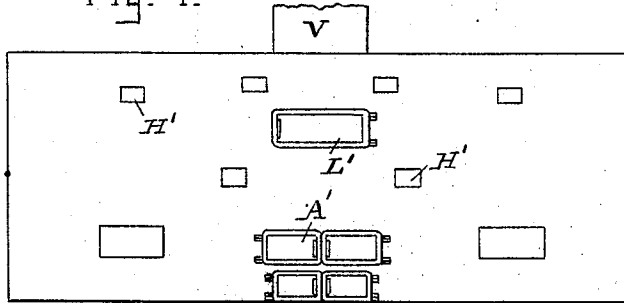


Fig. 2.

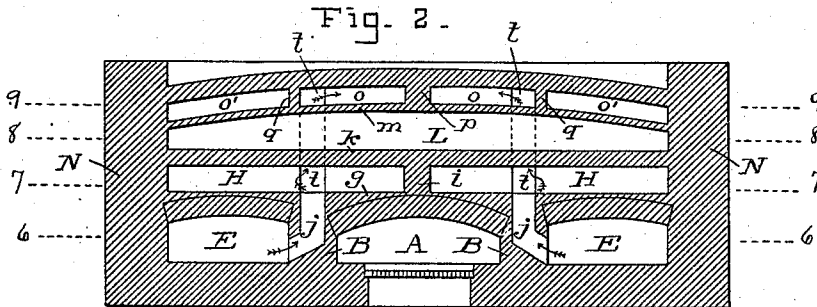


Fig. 3.

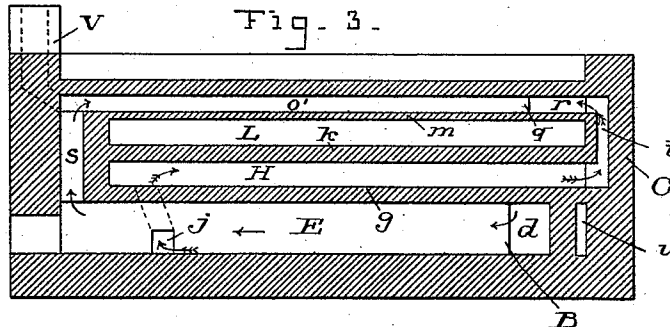


Fig. 4.

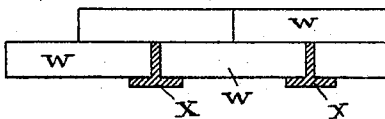
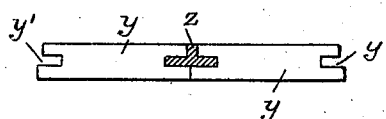


Fig. 5.



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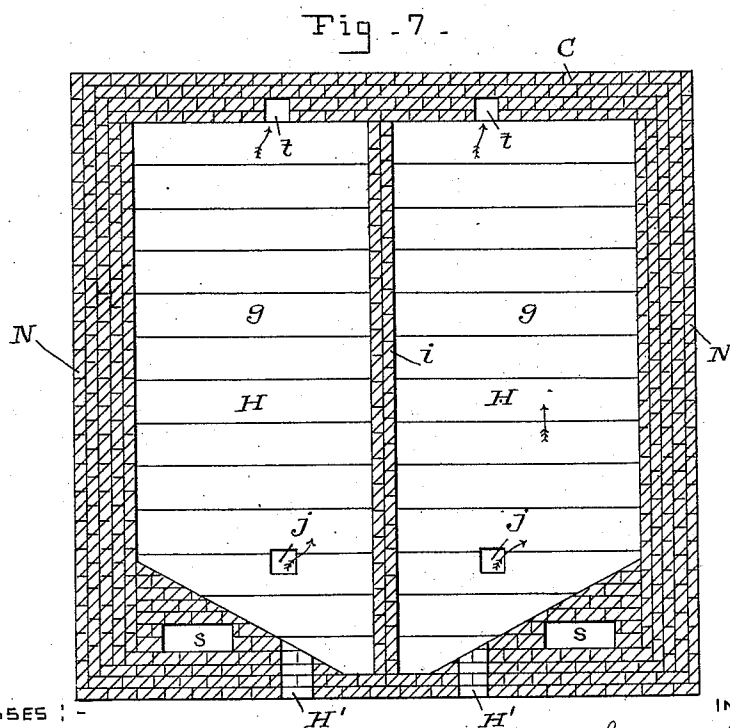
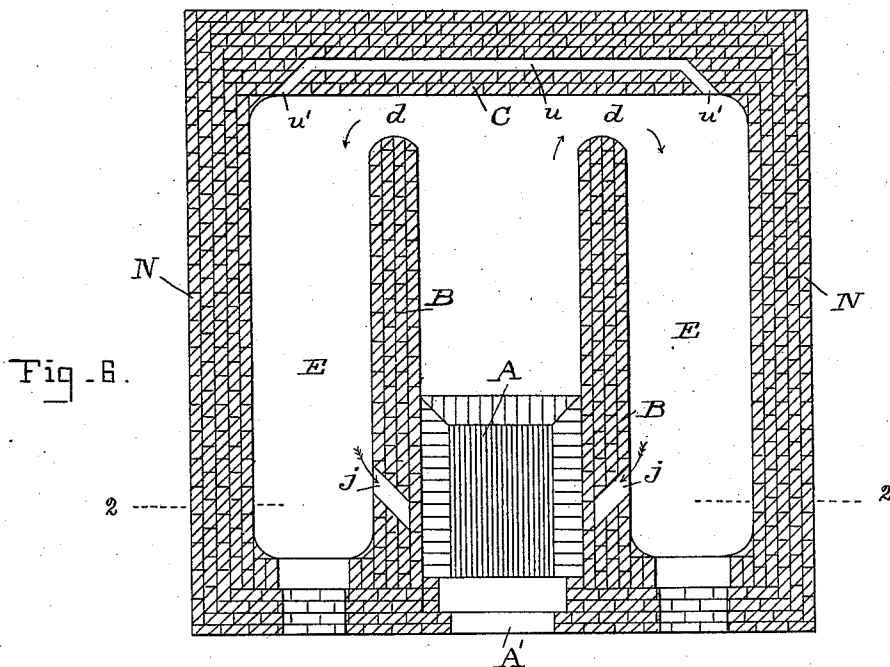
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Fig. 8.

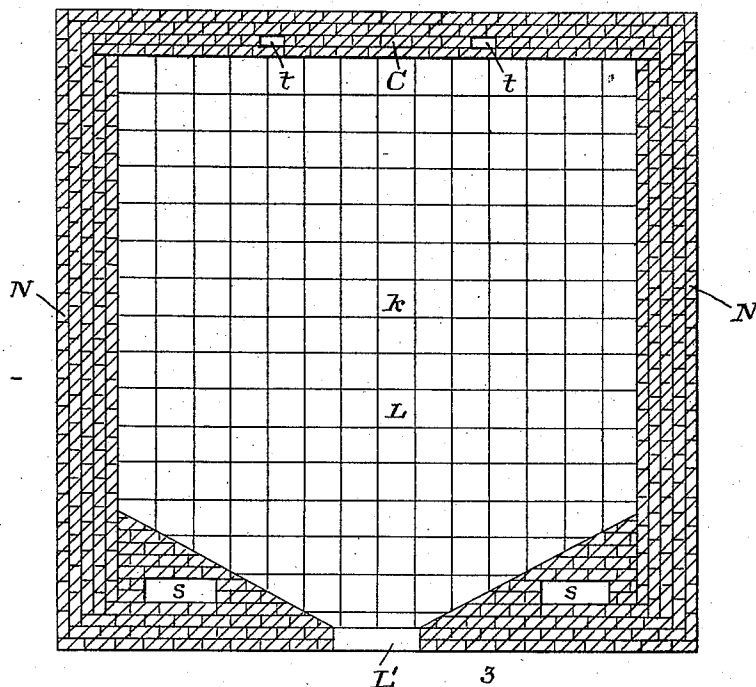
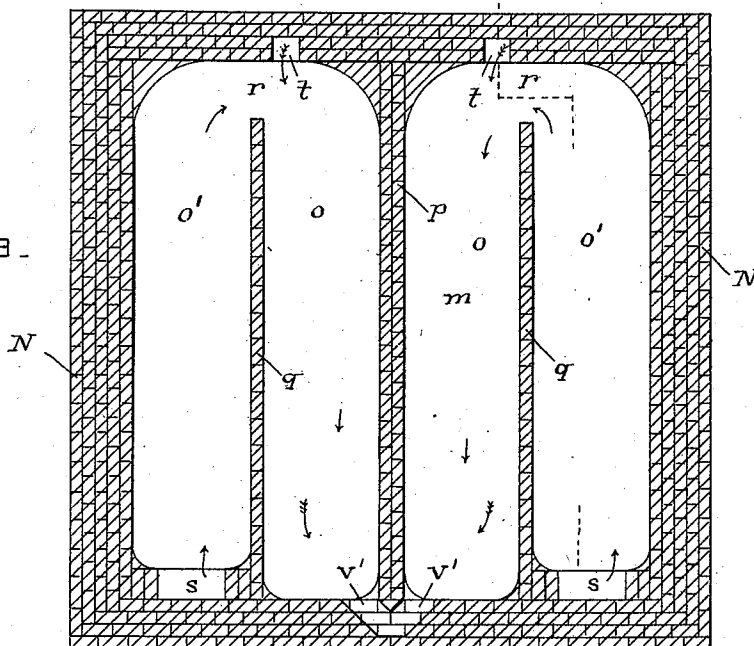


Fig. 9.



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UNITED STATES PATENT OFFICE.

GEORGE F. SMITH, OF BALTIMORE, MARYLAND.

BAKER'S OVEN.

SPECIFICATION forming part of Letters Patent No. 575,911, dated January 26, 1897.

Application filed October 3, 1896. Serial No. 607,737. (No model.)

To all whom it may concern:

Be it known that I, GEORGE F. SMITH, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Bakers' Ovens, of which the following is a specification.

This invention relates to an improved baker's oven.

The object is to provide a brick or tile bake-oven that can be fired while baking, for use of bakers, confectioners, and hotels.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of the oven; Fig. 2, a vertical cross-section on the line 2 2 of Fig. 6. Fig. 3 is a vertical longitudinal section on the line 3 3 of Fig. 9. Figs. 4 and 5 show the construction of the oven-bottom and oven-top, respectively. Fig. 6 is a horizontal section of the oven through the furnace on line 6 6. Fig. 7 is a horizontal section of the flues above the furnace, below the bottom of oven, on line 7 7. Fig. 8 is a horizontal section through the bake-oven chamber on line 8 8. Fig. 9 is a horizontal section through the flues on top of the oven on line 9 9.

The oven is made of brick. The furnace A is in the bottom and has an opening or door A' through the front wall. At each side of the furnace is a rear-extending wall B, which does not connect with the back wall C, but a passage *d* is left open between the rear ends and said back wall. The two walls B form a central passage extending back from furnace. At the outer side of each of said walls B is a horizontal flue E, extending from the said rear passage *d* to the front wall. These are the lowermost flues. Above the furnace and the said two lower flues are the bottoms *g* of the two horizontal flues H, (see Figs. 2, 3, and 7,) which are below the bottom of the oven-chamber. A central longitudinal wall *i* separates these two flues, and these flues heat the bottom *k* of the oven-chamber. A vertical angular flue *j* connects from each lowermost flue E and extends in the wall B upward through the flue-bottom *g* into the flue H. Above the two flues H is the tiled oven-bottom *k* and the oven-chamber L, which

latter has an opening or door L' in the front wall.

The oven-chamber has an arched top *m*, projected across from the two side walls N. This arched top contains broad horizontal flues. A longitudinal division-wall *p* extends down the center and separates two flues *o o'* at one side from two at the other side. The two flues at each side are separated from each other by a partition *q*, extending from the front wall to near the back wall C, but leaving a passage *r* around the end of the said partition.

Two vertical flues *s* are provided at the front, one at each corner, and each communicates from the lowermost horizontal flue E to the uppermost flue *o'* in the top arch. By this construction the top of the oven is heated, or at least the front part of the top, by currents of heat and products of combustion passing from the furnace through the rear passage *d*, flues E, and the vertical flues *s* into the uppermost flues *o'*. These currents are indicated by darts in the drawings.

At the back are two vertical flues *t*, which communicate from the flues H below the bottom of the oven-chamber to the flues *o* above the oven-chamber. By this latter construction in part the bottom of the oven is heated by currents of heat and products of combustion passing from the lowermost flues E through the vertical angular flues *j* into the flues H below the oven-bottom and thence out by way of the back vertical flue *t* to the flues in the oven-top. These currents are indicated on the drawings by arrows.

The back fire-wall has a transverse dead-passage *u*, extending horizontally, whose ends *u'* open into the lowermost flues E.

A smoke stack or flue V is provided to carry off the smoke. This may be located in such position as may be most convenient for the oven. In the present instance the smoke-flue V is located at the front. Its position relative to the flues *o* in the oven-top is indicated in Fig. 9 by the passages *v'*.

The construction of the flat oven-bottom *k* and arched oven-top *m* is shown in detail in Figs. 4 and 5. The bottom is made of two courses of tiles *w*, supported by T-shaped angle-bars *x*, and the top is made of a single

course of tiles *y*, which have grooved edges *y'* and T-shaped angle-bars *z*. The lateral flanges of these bars take into the said grooves and support the tiles without the exposure of the bars within the oven.

The flues *II* below the oven are shown in Fig. 7 to have ports *H'* at the front end for cleaning out said flues. These ports must of course be closed by caps or doors when the oven is in operation. The other horizontal flues must also have ports at the outer wall to enable them to be cleaned. These ports are indicated in Fig. 1.

Having thus described my invention, what I claim is—

A bake-oven having in combination the furnace, *A*, having at two sides a wall, *B*, extending rearward; a lower horizontal flue, *E*, at each outer side of said two walls; a rear

open passage, *d*, connecting the central furnace-passageway around the ends of the said walls, *B*, to each of the lower flues; an oven-chamber; a longitudinal flue, *H*, below the bottom of the oven-chamber; a longitudinal flue in the top of the oven-chamber; a vertical flue, *s*, at the front communicating from the lowermost flue to the uppermost flue in the top; a flue, *j*, connecting the said lowermost flue, *E*, with the flue below the bottom of the oven-chamber, and a vertical flue, *t*, communicating from the last-named flue to the flue in the top of the oven-chamber.

In testimony whereof I affix my signature in the presence of two witnesses.

GEORGE F. SMITH.

Witnesses:

CHARLES B. MANN, Jr.,
CHAPIN A. FERGUSON.