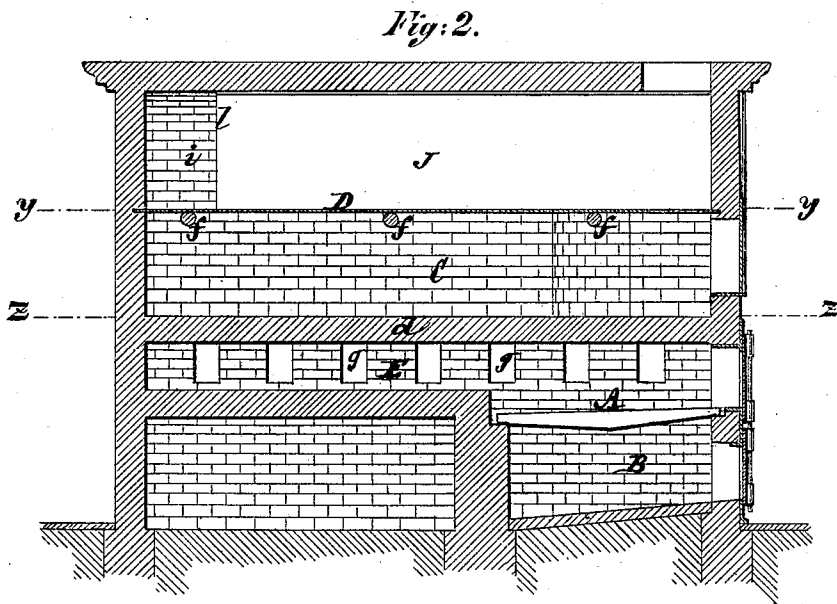
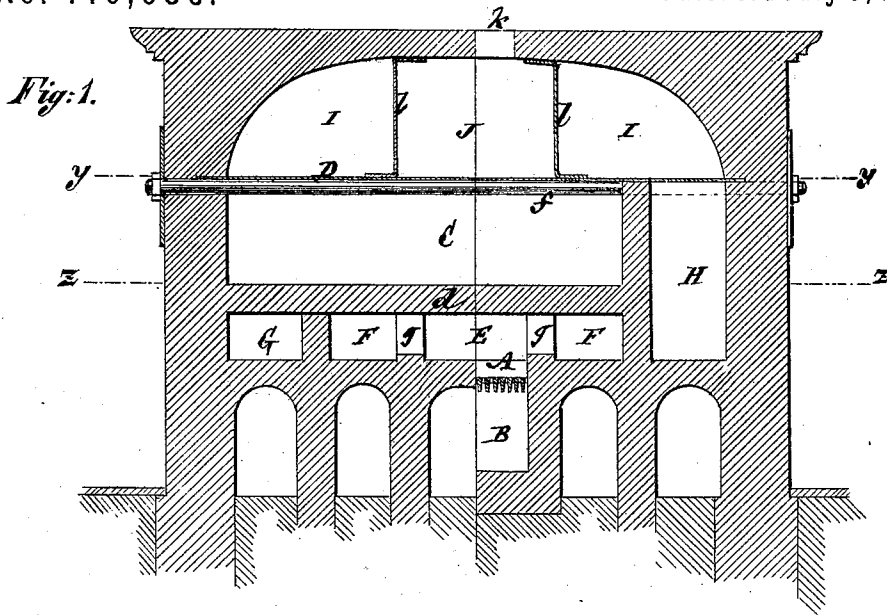


D. DONALD.
Bakers' Ovens.

No. 140,686.

Patented July 8, 1873.



Witnesses:

Fred Hays
Edw. Clark

David Donald
by his Attorneys
Brown & Allen

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Fig. 5.

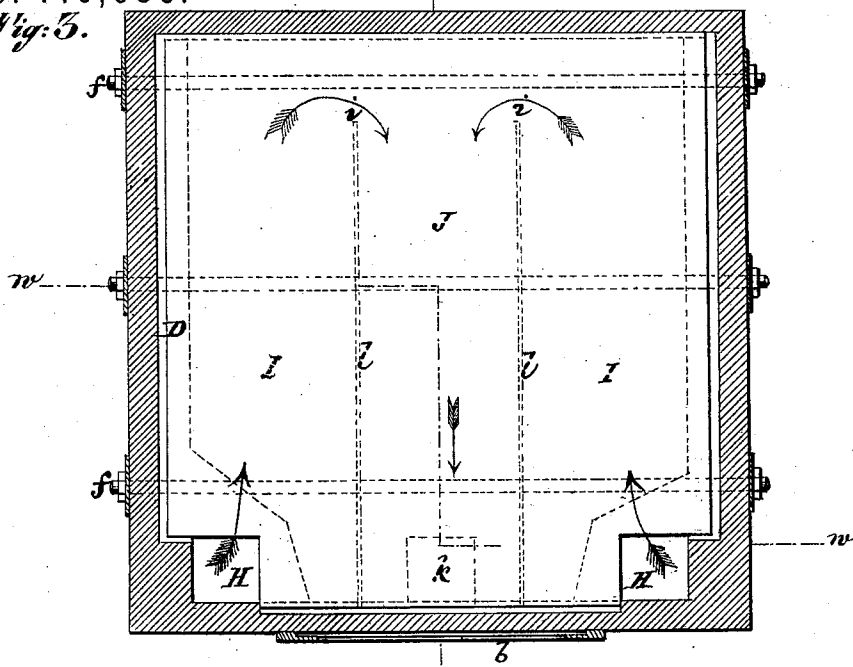
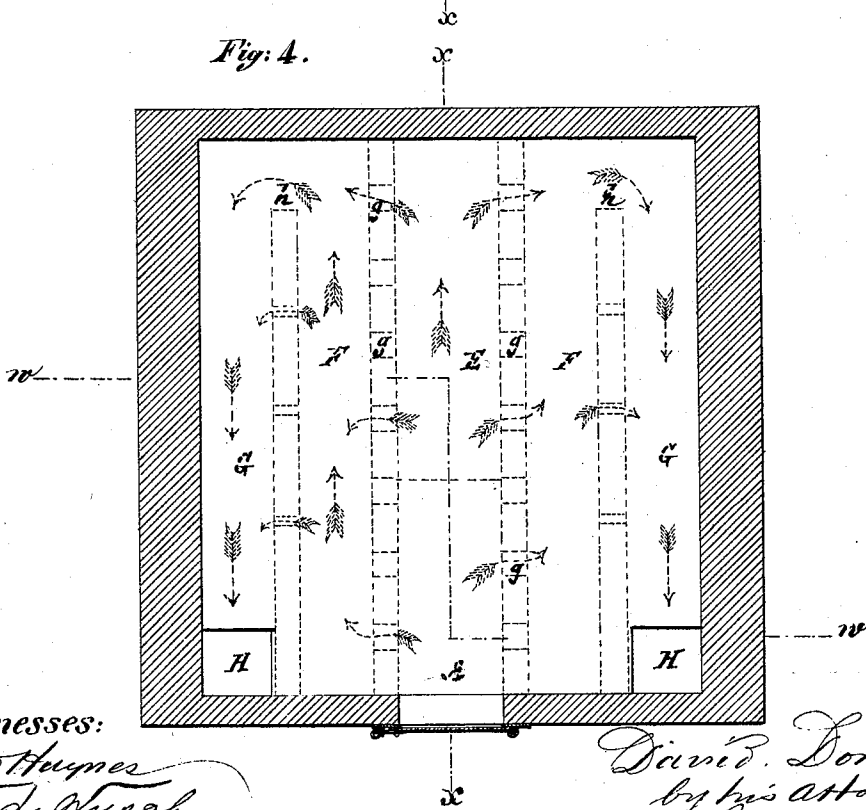


Fig. 4.



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Frederick Humes
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UNITED STATES PATENT OFFICE.

DAVID DONALD, OF WILLIAMSBURG, BROOKLYN, NEW YORK.

IMPROVEMENT IN BAKERS' OVENS.

Specification forming part of Letters Patent No. **140,686**, dated July 8, 1873; application filed April 9, 1873.

To all whom it may concern:

Be it known that I, DAVID DONALD, of Williamsburg, Brooklyn, in the county of Kings and State of New York, have invented an Improvement in Bakers' Ovens, of which the following is a specification:

The object of this invention is to produce an oven of limited capacity, suitable for family baking and other purposes, which shall be cheap of construction, effective, economical as regards fuel, and give a good top as well as bottom and general baking surface or exposure. To these ends the invention consists in a novel arrangement or combination of upper and lower circulating-flues for the gaseous products of combustion.

In the accompanying drawing, which forms part of this specification, Figure 1 represents a sectional elevation on the irregular lines *w w*, in Figs. 3 and 4, of an oven constructed in accordance with my invention, Fig. 2 is a further vertical section on the lines *x x*. Fig. 3 is a horizontal section on the lines *y y*, in Figs. 1 and 2; and Fig. 4, a further horizontal section on the lines *z z*.

Similar letters of reference indicate corresponding parts.

A is the fire-place or furnace, and B the ash-pit, of the oven. C is the baking-chamber, provided with a gate or door, *b*, in front. The walls, or main body, of the oven are built of brick or masonry, but the bottom *d* of the baking-chamber preferably of tiles, and the roof D of said chamber is formed of a plate of thin sheet metal supported by the cross rods or braces *f f*, which thus not only serve to stay or hold the side walls of the oven, but also to sustain the roof of the baking-chamber. The flame and gaseous products of combustion pass from the furnace A along a central horizontal lower flue E toward the back of the oven, and through any number of side

openings *g g* into further horizontal chambers or flues F F, arranged along either side of the flue E, and from thence through back side-openings *h h* into outside horizontal flues G G, along which they pass toward the front of the oven again, and escape up vertical corner-flues H H in the front of the oven into upper horizontal side flues I I over the roof D of the baking-chamber; and along said flues toward the back of the oven; and through openings *i i* into and along an upper horizontal central flue J to the chimney or outlet *k* in front.

This arrangement of the several flues gives a most perfect circulation and distribution of the heated gases or products of combustion, both above and below the baking-chamber, and by reason of the thin sheet-metal roof D to said chamber a most effective top-baking surface is obtained.

The partitions *l l*, which divide the flues I I J, may also be of sheet metal, and be supported by the roof-plate D, which, in its turn, is sustained by the cross ties or braces *f f*.

An oven thus constructed is at once cheap to build, durable, easy of repair when required, also economical as regards consumption of fuel, and very effective, securing not only a good bottom, but also a most perfect top-baking effect.

I claim as my invention and desire to secure by Letters Patent—

The arrangement, substantially as herein shown and described, of the fire-place A, the flue E having side openings *g g*, the flues F F G G, the back side-openings *h h*, the baking-chamber C, the vertical corner-flues or openings H H, the upper flues I I J, the side openings *i i*, and the outlet or chimney *k*.

DAVID DONALD.

Witnesses:

FRED. HAYNES,
MICHAEL RYAN.