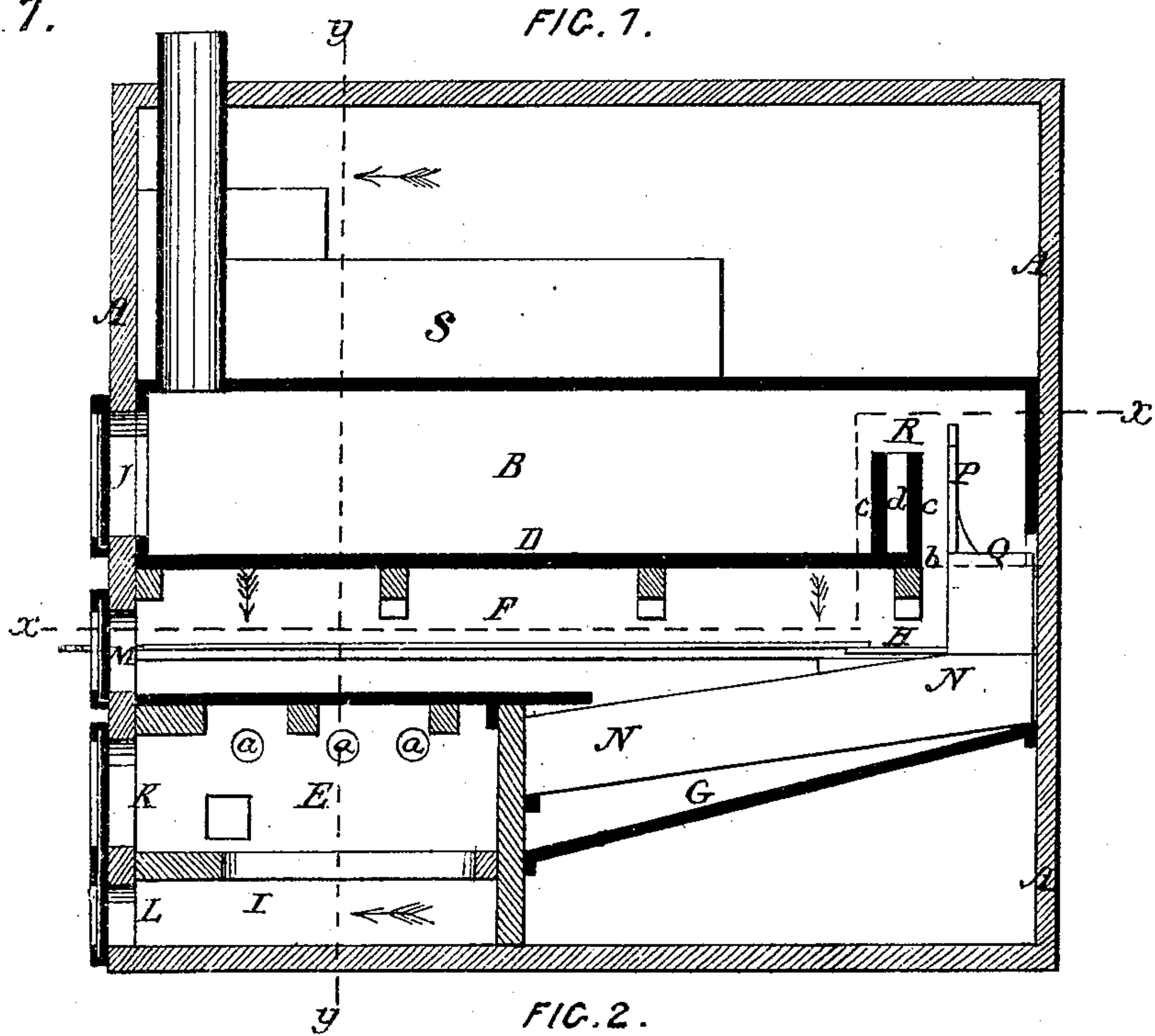


G. E. BAILEY.  
Bakers' Oven.

No. 129,080.

Patented July 16, 1872.

PLATE 1.



WITNESSES.

W. J. Peyton.

James L. Norris.

INVENTOR.

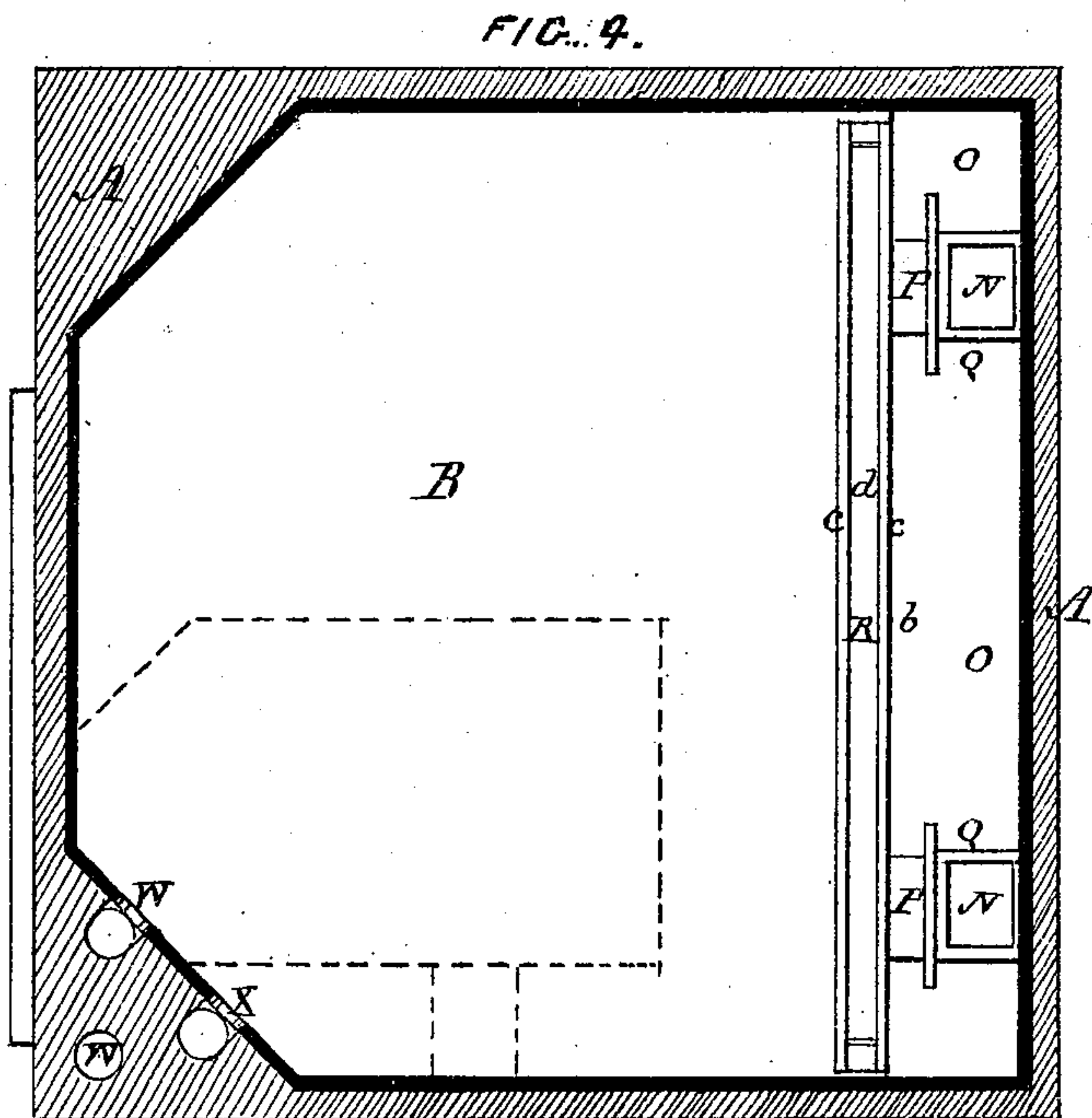
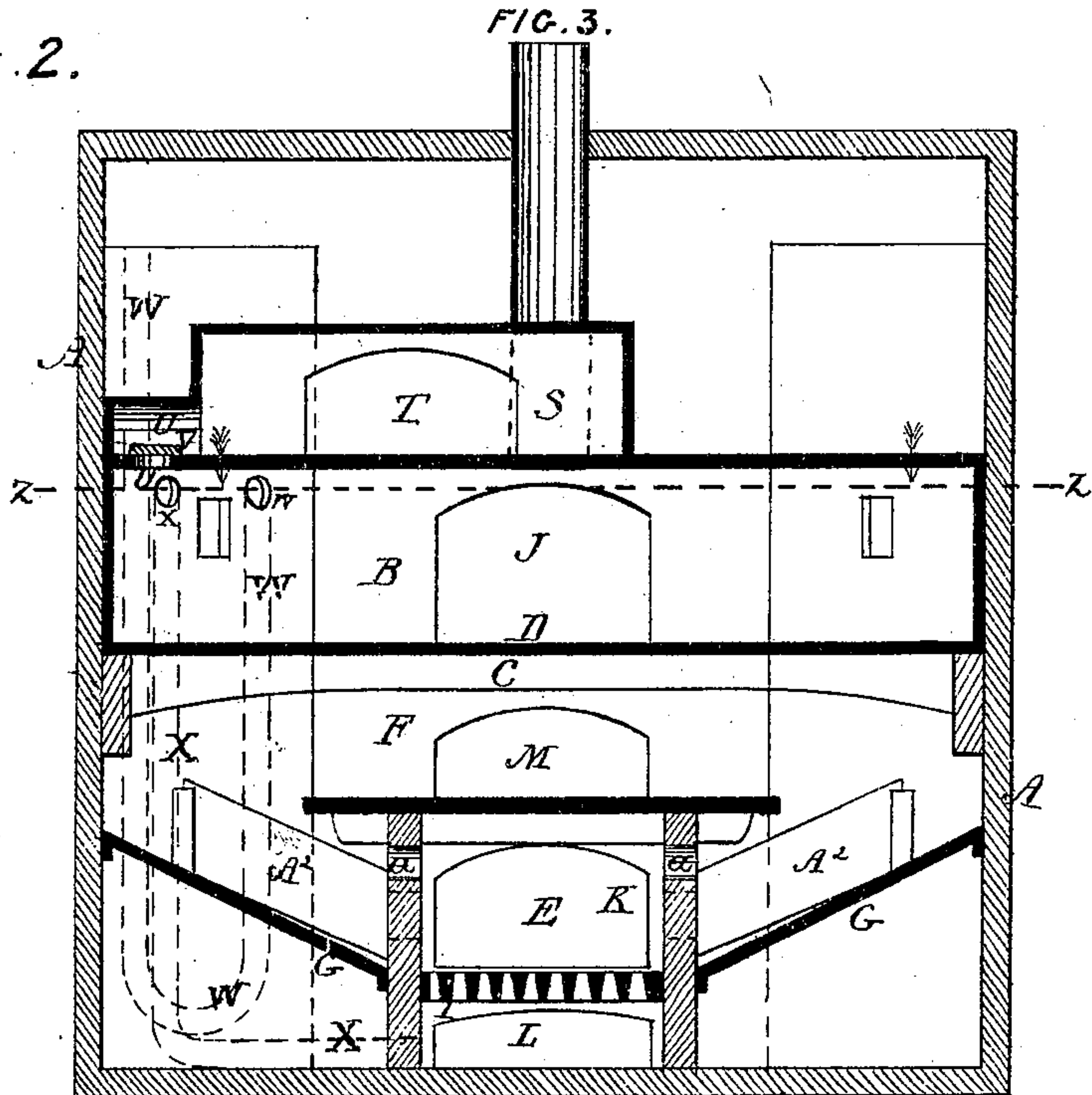
George E. Bailey per  
Brown Brothers  
Attorneys

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PLATE 2.



WITNESSES.

W. J. Peyton.  
James L. Norris.

INVENTOR.

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Attorneys



# UNITED STATES PATENT OFFICE.

GEORGE E. BAILEY, OF MANSFIELD, MASSACHUSETTS.

## IMPROVEMENT IN BAKERS' OVENS.

Specification forming part of Letters Patent No. 129,080, dated July 16, 1872.

*To all persons to whom these presents shall come:*

Be it known that I, GEORGE E. BAILEY, of Mansfield, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in Bakers' Ovens; and that the following is a full, clear, and exact specification of the same, reference being had to the accompanying plates of drawing.

This invention relates more particularly to bakers' ovens such as described in the schedule annexed to Letters Patent granted to me, dated December 5, 1871, and numbered 121,573; but its features are more or less applicable to bakers' ovens of other construction. The invention consists: First, of providing the flues leading from the fire-pot to the oven, and at their ends leading into the oven, with a fender or guard whereby the smoke, heat, &c., escaping from said flues are "fended,"—that is, guided upward and sidewise into the oven chamber, and thereby prevented from a too direct impingement against the material being baked at such portion of the oven. Second, in arranging along the opening making the communication between oven and chamber, under the oven and around the fire-pot, a fender or guard that is constructed of double walls, with a space between, whereby is prevented a too strong radiation and a too direct impingement of heat at such portion of the oven against the material being there baked. Third, of the combination, with an oven-chamber, of a supplementary oven-chamber arranged above it and adapted to be put into and out of communication therewith. Fourth, in the arrangement of an escape for the gases, vapors, &c., induced by baking in the oven-chamber, whereby, without any escape of heat, the gases, steam, &c., can pass freely off.

In the accompanying plates of drawing my improvements in bakers' ovens are illustrated.

In Plate 1, Figure 1 is a central longitudinal vertical section; Fig. 2, a longitudinal section in plane of line *x x*, Fig. 1. In Plate 2, Fig. 3, a transverse vertical section in plane of line *y y*, Fig. 1, Plate 1. Fig. 4, a horizontal section in plane of line *z z*, Fig. 3.

A in the drawing represents an outer casing, which may be made of bricks or other masonry, or any other suitable material; B, the oven-chamber proper, located within the masonry A; D, the floor to oven, constructed

by preference of tiles and soap-stone, as ordinarily, which tiles are arranged upon parallel transverse horizontal girders or beams C, supported by the masonry A; J, door for entering oven B; F, a chamber within masonry A below the floor D to oven B, and between this chamber F and the oven B there is an open and free communication at the rear of oven-floor D; E, the fire-pot, arranged by its walls within the chamber F at the front thereof. This fire-pot is considerably less in width than the chamber F and only extends toward the rear of the chamber for a portion of its depth. The fire-pot E is closed upon its upper side, and between its upper side and the oven the chamber F extends unobstructed; and it is furthermore, upon its sides, made with apertures *a*, making a communication between fire-pot E and chamber F; K, door opening into fire-pot, and I ash-pit, and L its door; M, a door opening into chamber F and into the portion thereof between top of fire-pot and bottom of oven-floor; G, the floor to chamber F, which floor is made inclining from the boundaries of oven-floor to the walls of fire-pot E; N, flues or passages leading from fire-pot to the corners, or nearly so, of the opening O, along the rear of oven-floor; and H, damper-slides in said passages N, which passages are entirely distinct and separate from and not in contact with the oven-floor; P, fenders or guards, one to each flue N. These guards are arranged at the open ends Q of the flues N and are in a more or less vertical position projecting into the oven-chamber through the opening O of its floor, as very plainly shown in Fig. 4. R, a fender at and along the rear edge *b* of oven-floor D. This fender R is made of double walls *c* with a space, *d*, between, that may be either left open or filled with ashes or any other suitable non-conductor of heat. S, a supplementary oven-chamber above oven-chamber B; T, door to enter oven-chamber S; and U an opening and passage forming a communication between the two ovens B and S; V, a slide for closing passage U when desired; W, a passage leading from a point at or near the top of the oven-chamber B downward, and, by preference, although not necessary, thence upward opening into the external air. This passage W is shown by dotted lines in Fig. 3, Plate 2. X, a passage leading



from a point at or near the top of the oven-chamber B and at its front end downward into the ash-pit, or in lieu thereof into the fire-chamber.

The operation of the oven hereinabove described is substantially similar to that described in the Letters Patent aforesaid, and therefore needs no description herein, except so far as the parts forming this invention affect the same.

By the fenders P to the open ends of the flues N the heat, &c., issuing therefrom is prevented from a too direct contact with the material being baked at the rear of the oven. The same may be also said of the rear fender or guard R, its double-wall construction being obviously advantageous. The arrangement of the passage W or the passage X secures the escape of the gases, steam, &c., from the oven-chamber without letting the heat pass off, for the reason that as the heat ascends and not descends, it forces, by its pressure, the gases, steam, &c., through the passage W downward, their heavier specific density facilitating the same. The passage W, as also the passage X, may be used either alone or together, the running of the escape-flue or passages to the fire-pot securing a combustion of the gases, and in that respect being superior to the arrangement of passage W, but it is found best to run the gases, &c., off into

the open air. The supplementary oven-chamber S is desirable for the baking of brown bread. In the drawing, flues A<sup>2</sup>, leading from the fire-chamber to the oven-chamber B, are shown, these flues serving the same purpose as the flues N, but as the Letters Patent hereinbefore referred to are based upon flues N, which may enter the oven-chamber at any point, no especial claim is herein intended to be based upon the additional direction for them shown.

Having thus described my invention I shall state my claims as follows:

1. The guards or fenders P to flue passages N, substantially as described, for the purpose specified.
2. The rear guard or fender R, constructed of double walls c, substantially as and for the purpose described.
3. The supplementary oven-chamber S in combination with the oven-chamber B, substantially as and for the purpose specified.
4. The flues or passages W or X, or both, entering oven-chamber at or near its top and thence outside of the oven-chamber, passing downward, substantially as and for the purpose described.

GEO. E. BAILEY.

Witnesses:

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