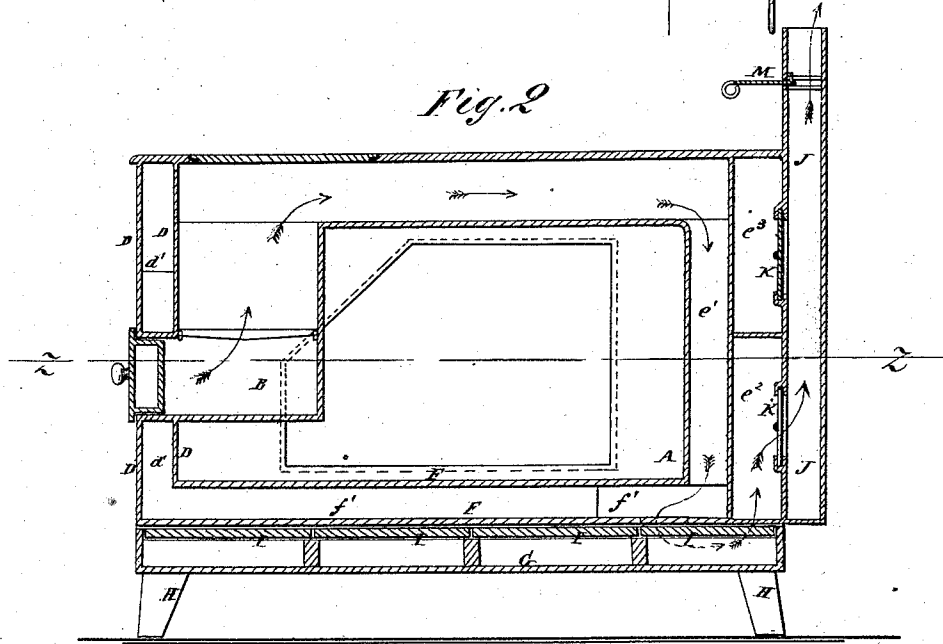
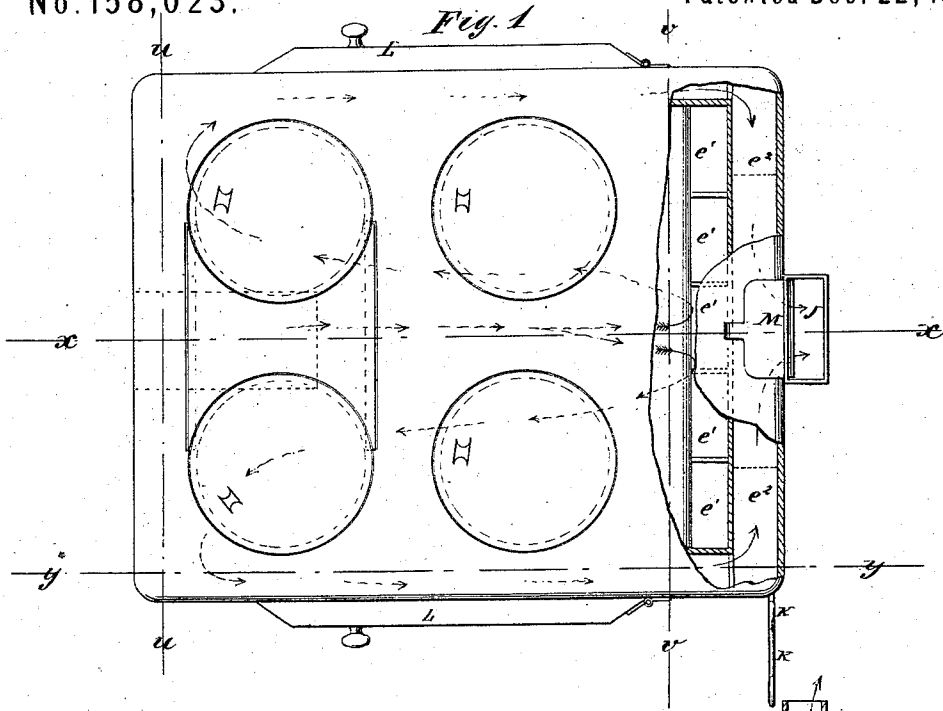


E. O. BRINCKERHOFF.
Cooking-Stoves.

No. 158,023.

Patented Dec. 22, 1874.



WITNESSES:

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Fig. 3

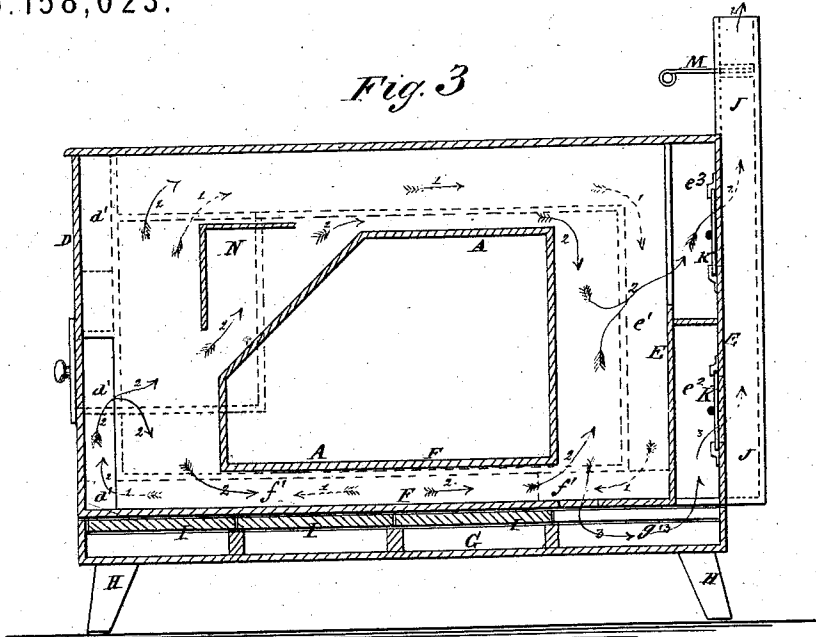
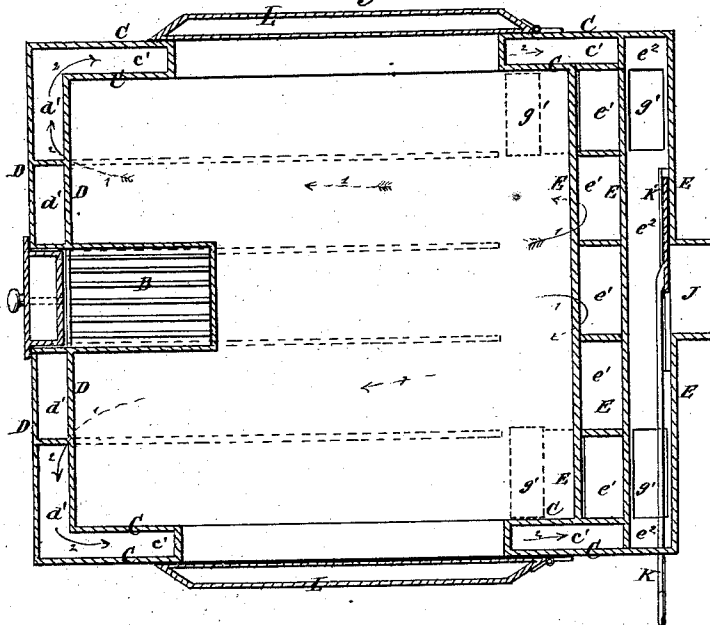


Fig. 4



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Fig. 5

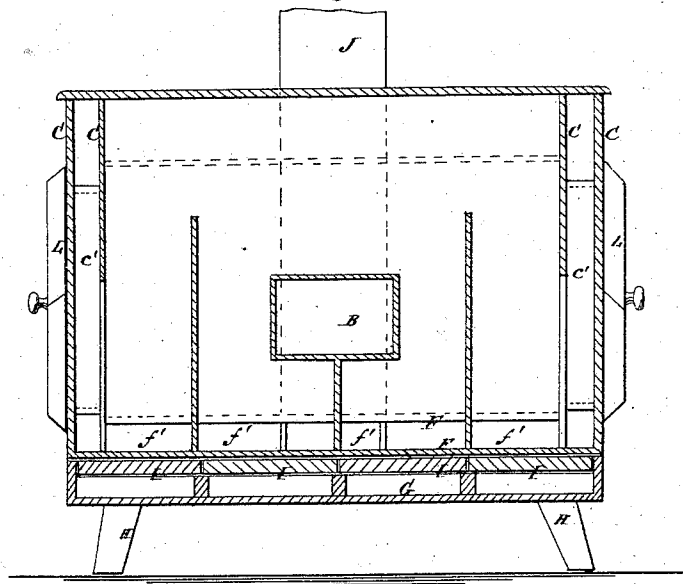
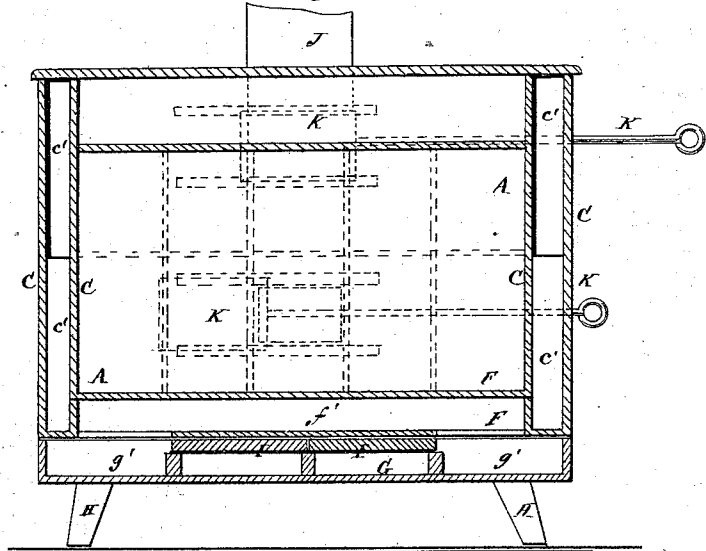


Fig. 6



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UNITED STATES PATENT OFFICE.

EDWIN O. BRINCKERHOFF, OF NEW YORK, N. Y.

IMPROVEMENT IN COOKING-STOVES.

Specification forming part of Letters Patent No. 158,023, dated December 22, 1874; application filed November 21, 1874.

To all whom it may concern:

Be it known that I, EDWIN O. BRINCKERHOFF, of the city, county, and State of New York, have invented a new and useful Improvement in Cooking-Stoves, of which the following is a specification:

Figure 1, Sheet 1, is a top view of my improved cooking-stove, part of the top plate being broken away to show the rear flues. Fig. 2, Sheet 1, is a vertical longitudinal section of the same, taken through the line $x x$, Fig. 1. Fig. 3, Sheet 2, is a vertical longitudinal section of the same, taken through the line $y y$, Fig. 1. Fig. 4, Sheet 2, is a horizontal section of the same, taken through the line $z z$, Fig. 2. Fig. 5, Sheet 3, is a vertical cross-section of the same, taken through the line, $u u$, Fig. 1. Fig. 6, Sheet 3, is a vertical cross-section of the same, taken through the line $v v$, Fig. 1.

Similar letters of reference indicate corresponding parts.

The invention will first be fully described, and then pointed out in the claims.

A is the oven, into the middle forward part of which projects the fire-chamber B. C are the side walls, and D are the front walls, which are made double, and with flue-spaces between them. E are the rear walls, which are made triple, and with two flue-spaces between them. The bottom wall is also made double or of two plates, F F, with flue-spaces between them. The bottom F of the stove rests upon a bed-plate, G, to which the feet H are attached, and which is lined with tiles I, to prevent the downward radiation of heat. The tiles I are omitted in the rear corners to form diving-flues g' , for the passage of the products of combustion, as hereinafter described.

The products of combustion, as they rise from the fire-box B, pass over the entire top of the oven, and descend through the space e^1 between the inner and middle rear walls E. The space e^1 may be divided into a number of vertical flues by vertical division-plates, if desired, as shown in Figs. 1 and 4. The products of combustion pass from the space e^1 into the space f' , between the bottom plates. The space between the middle and outer rear walls E is divided into two parts by a horizontal partition. From each part of this space

an opening leads into the chimney or exit flue J, which openings are covered with dampers K K'. When the upper damper, K, is closed and the lower damper, K', is opened the products of combustion pass from the flues $e^1 f'$, through openings in the rear corners of the bottom plate F of the stove, into the diving-flue g' , thence into the lower space e^2 , and thence into the exit-flue J, as shown by the arrows in Fig. 2, and by arrows 3 in Fig. 3. This is the arrangement when the stove is used for boiling or other cooking operations upon the top of the stove.

When the oven is to be heated for baking, roasting, &c., the lower damper, K', is closed, and the upper damper, K, is opened. This causes the products of combustion to pass forward through the space f' , which space is divided into a number of flues by vertical division-plates placed longitudinally with respect to the stove, as shown in Fig. 5, and in dotted lines in Fig. 4. At the front end of the flues f' the products of combustion pass up into the space d' , between the front walls D of the stove, which space is divided into several vertical flues by vertical division-plates, as shown in Figs. 4 and 5, which division-plates should be in line with and serve as continuations of the division-plates of the space f' . The division-plates of the space d' do not extend quite to the top of the said space d' , so that the products of combustion may pass across their upper ends, and pass through openings leading from the lower part of the said space d' into the spaces e' , between the side walls C. As the products of combustion enter the spaces e' they divide and pass around the oven-door frames, part passing below and part above said oven-door frames, as indicated by arrows 2 in Fig. 3. At the upper rear part of the spaces or flues e' , the products of combustion pass through openings into the upper space e^2 , between the center and outer rear plates E, whence they pass into the exit-flue J.

By this construction the products of combustion pass over the top, back, bottom, front, and sides of the oven, so that the said oven will be heated evenly and thoroughly with the least possible amount of fuel. The oven-doors L are made double and with an inclosed air-chamber to prevent the heat from escaping

from the oven by radiation. The exit-flue J is provided with a damper, M, to enable the draft to be regulated as desired. In the spaces c' above the level of the oven-door frame is placed an angular division-plate, N, to throw a portion of the products of combustion into the upper forward corners of said spaces c' .

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

1. The combination, in a cooking-stove, of flues $e^1 f' g' e^2$, with an exit-flue, J, having the dampers $K K'$, as and for the purpose described.

2. The combination, with flues $f' e^3$, of the spaces $c' d'$, arranged to pass the products of combustion, as shown and described.

EDWIN O. BRINCKERHOFF.

Witnesses:

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