(No Model.)

J. JOHNSON.

KILN FOR BURNING BRICK.

No. 258,583. Patented May 30, 1882.

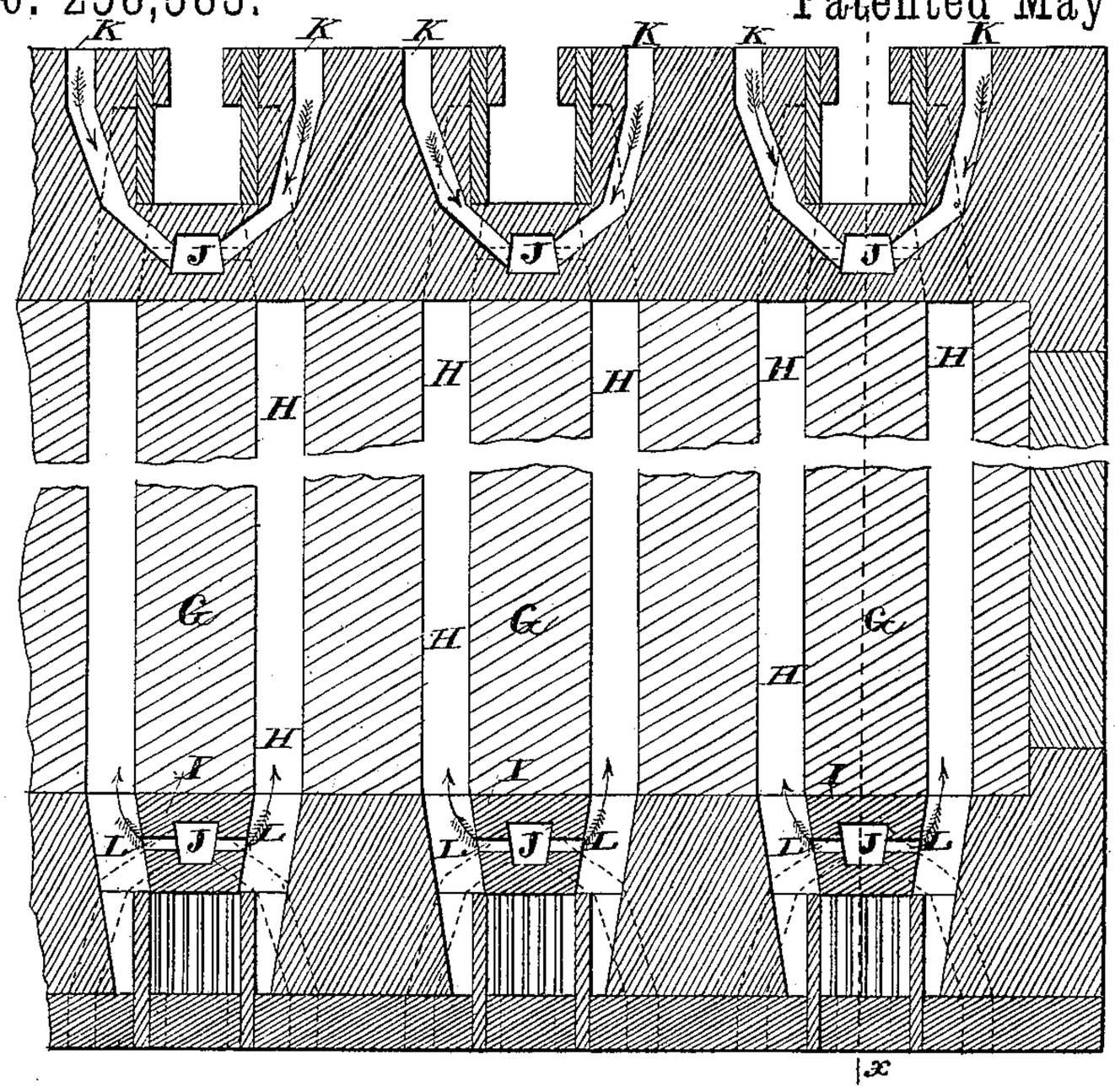

Fig. 1.

Fig. 2.

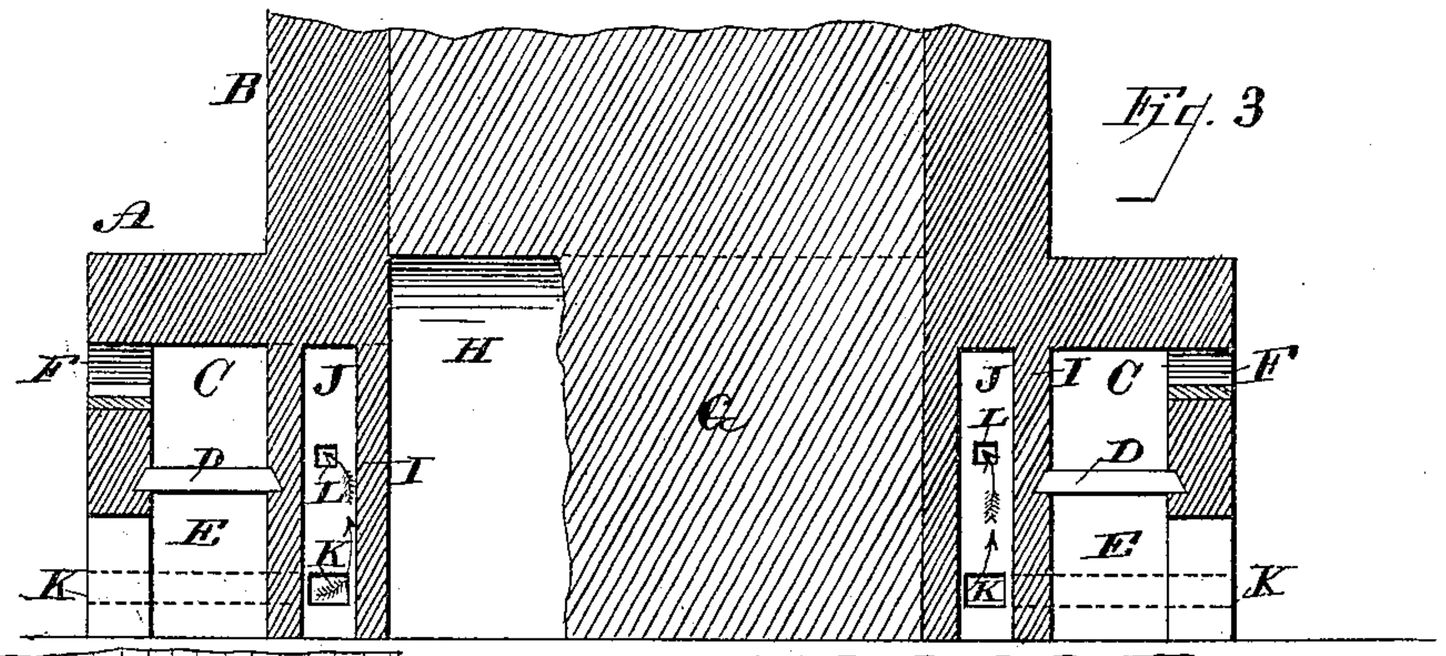

Fig. 3

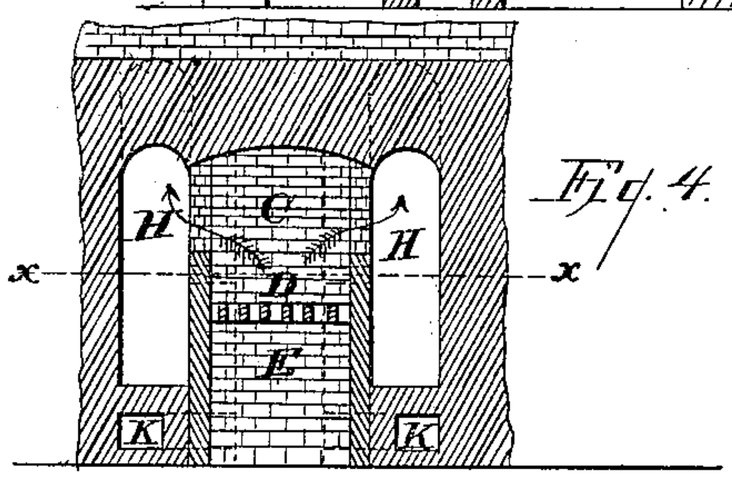

Fig. 4.

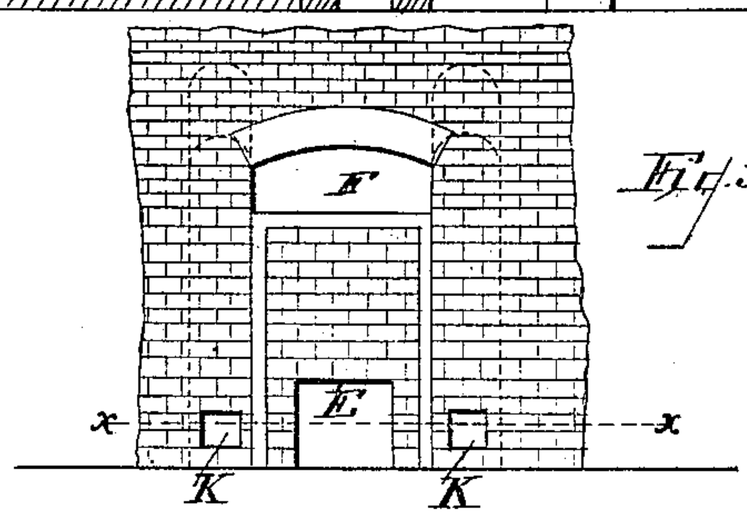

Fig. 5.

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UNITED STATES PATENT OFFICE.

JAMES JOHNSON, OF BAY VIEW, ASSIGNOR OF ONE-HALF TO MARTIN DARELAAR, OF MILWAUKEE, WISCONSIN.

KILN FOR BURNING BRICK.

SPECIFICATION forming part of Letters Patent No. 258,583, dated May 30, 1882.

Application filed March 3, 1882. (No model.)

To all whom it may concern:

Be it known that I, JAMES JOHNSON, a citizen of the United States, residing at Bay View, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Brick-Kilns; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in brick-kilns whereby the heat is more uniformly distributed, the combustion of fuel is more perfect, and the fuel is used with greater economy, while the walls of the kiln are rendered more durable.

My invention consists in the peculiar construction and arrangement of walls, heat-flues, and air-passages whereby these desirable results are attained, as more fully explained by reference to the accompanying drawings, in which—

Figure 1 represents a ground-plan of an end of the kiln, drawn on line *x x* of Fig. 5. Fig. 2 is a ground plan drawn on line *x x* of Fig. 4. Fig. 3 is a longitudinal section drawn on line *x x* of Figs. 1 and 2. Fig. 4 is a section drawn through the front projecting end of one of the furnaces. Fig. 5 is a front view of one of the furnaces of the kiln.

Like parts are represented by the same reference-letters throughout the several views.

A is the furnace, which projects in front of the main wall B of the kiln, as shown in Fig. 3. C is the combustion-chamber. D is the grate. E is the ash-pit. F is the fuel-passage through which fuel is introduced. G are the columns of green brick, as arranged preparatory to burning. H H are the fire-passages, through which the fire is conducted to the brick.

The fire and hot air in the respective combustion-chambers C is subdivided and equally distributed in the respective fire-passages H H by contact with the columns I I I when it passes backward and upward in said passages H, and from thence it is uniformly distributed among the green brick between the respective fire-passages. As the fire passes back against the front wall of the columns I the intensity of the heat becomes so great that said columns, if made solid, would be soon burned away and destroyed. To obviate such injurious effects of the heat, and to in part counteract the same, I construct the columns I with an open space, J, at their center, for the admission of cold exterior air, which air is led to said spaces through the passages K K, there being one or more passages for each air-space. The air thus admitted cools the walls of the columns and prevents them from being destroyed by the fire. When the air thus introduced into the spaces J J becomes heated by the surrounding walls it passes upward and out into the fire-passages H H through the passages L, when it unites with the smoke and thus aids in producing a more perfect combustion.

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

1. In kilns for burning brick, the hollow column I, formed in rear of the combustion-chamber, provided with one or more cold-air passages, K, communicating from said hollow space with the exterior air, substantially as and for the purpose specified.

2. In kilns for burning brick, the column I, provided with open space J, inlet air-passages K, and outlet-passages L, substantially as and for the purpose specified.

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

JAMES JOHNSON.

Witnesses:

JAS. B. ERWIN,

E. G. ASMUS.