

(No Model.)

W. N. GRAVES.

BRICK KILN.

No. 294,223.

Patented Feb. 26, 1884.

Fig. 1.

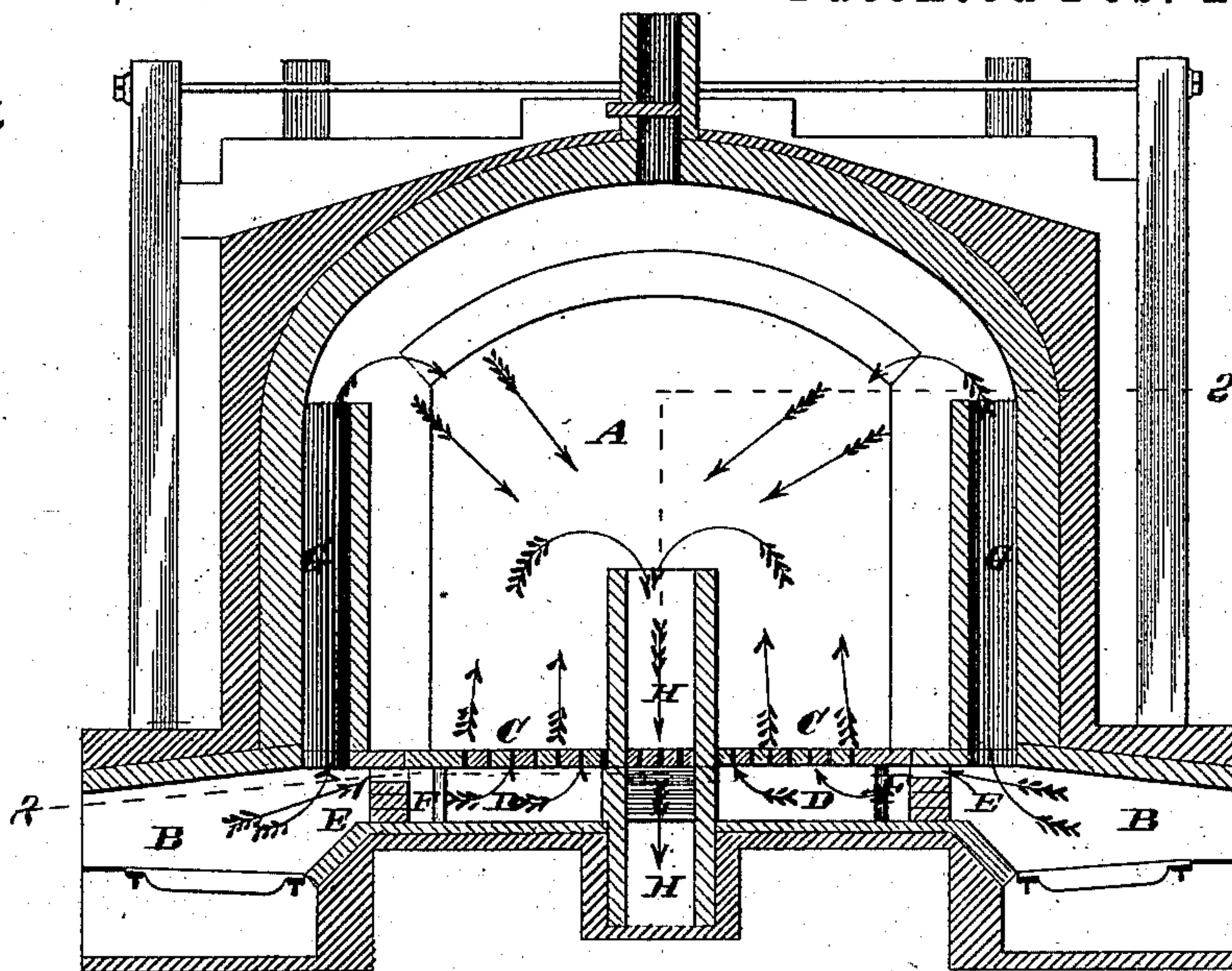
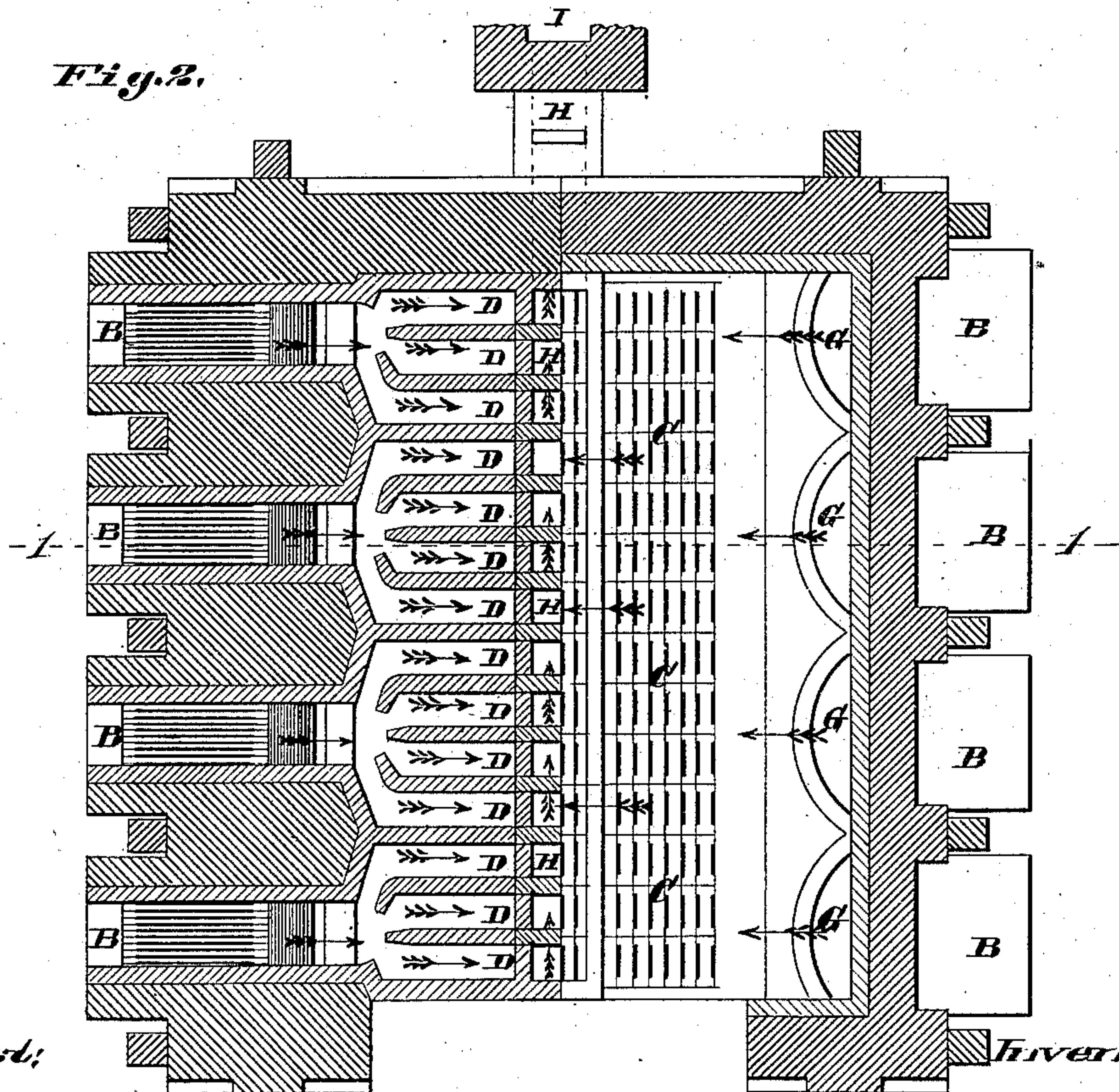


Fig. 2.



Attest:

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UNITED STATES PATENT OFFICE.

WILLIS N. GRAVES, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-HALF TO
THE HYDRAULIC PRESS BRICK COMPANY, OF SAME PLACE.

BRICK-KILN.

SPECIFICATION forming part of Letters Patent No. 294,223, dated February 26, 1884.

Application filed February 12, 1883. (No model.)

To all whom it may concern:

Be it known that I, WILLIS N. GRAVES, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Brick-Kilns, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, and in which—

10 Figure 1 is a vertical section, taken on line 1 1, Fig. 2; and Fig. 2 is a horizontal section, taken on line 2 2, Fig. 1.

My invention relates to a kiln having an open floor, as fully described hereinafter, and 15 pointed out in the claims.

Referring to the drawings, A represents the brick-chamber and B the furnaces, a suitable number being on each side of the kiln. C represents the perforated floor of the kiln-chamber, beneath which are flues D, communicating with the fire-chambers through small openings, E, made by building up walls F in the flues. The fire-chambers B also communicate with the upper portion of the kiln-chamber by side flues or pockets, G, extending upwardly to near the top of the chamber. Extending entirely across the kiln-chamber is a flue, H, of sufficient height to locate its mouth in a central position between the 30 sides and top and bottom of the chamber. This flue extends down through the floor of the kiln and the flues D, as shown plainly in Fig. 1, thus dividing this part of the kiln, and it communicates with the chimney I. I have said that this flue extends entirely across the kiln-chamber, and it does in my preferred form; but I do not wish to confine myself to extending it entirely across, for it may be made in sections with closed ends, or the single flue 40 may not extend quite all the way across. Now, it will be seen that the only course there is for the products of combustion to take from the kiln-chamber to the chimney is through the flue H, and thus the products of combustion 45 passing through the flues D, beneath the floor, and through the floor, must ascend through the mass of bricks, as shown by the arrows in Fig. 1, before they can escape, and the products passing to the top of the kiln-chamber by way 50 of the flues G have to descend through the mass of bricks, as shown by the arrows, same

figure, to escape. Thus from the time the fires are started until the burning is completed simultaneous up-and-down drafts are had through the bricks, which in practice have 55 been found to give most satisfactory results. As the shortest course is through the bottom of the kiln-chamber, it will be understood that the amount of draft in either direction can to a great extent be controlled by increasing or 60 diminishing the size of the openings E by adding to or removing bricks from the tops of the walls F.

I claim as my invention—

1. The process of burning bricks in a kiln-chamber, which consists in drawing the products of combustion from the top and bottom to the center of the chamber, as set forth. 65

2. A brick-kiln having means to draw the products of combustion simultaneously from 70 the top and bottom to the central portion of the chamber, as set forth.

3. A brick-kiln in which the products of combustion attack the contents of the chamber from the top and bottom of chamber simultaneously, and pass out through the central 75 portion of the contents, as set forth.

4. A brick-kiln having an exit-flue whose mouth is located at the central portion of the main chamber between the top and bottom and 80 sides, as set forth.

5. In a brick-kiln, the combination of a main chamber having vertical side flues extending to near the top thereof, and a perforated floor to admit the products of combustion, and a central flue having its mouth located between the top and bottom and sides 85 of the chamber, as set forth.

6. In a brick-kiln, the combination of a main chamber having a perforated floor, fire-chambers on each side of the main chamber, 90 vertical flues on each side of the main chamber, forming a communication between the fire-chambers and the top of the main chamber, horizontal flues beneath the perforated floor, communicating with the fire-chambers, 95 and a central flue extending up into the body of the main chamber and in communication with the chimney, as set forth.

7. In a brick-kiln, the combination, with 100 the main chamber having a perforated floor, of the fire-chambers located on each side, a

central flue extending into the body of the chamber to form the exit for the products of combustion, vertical and horizontal flues carrying the products of combustion to the top
5 and floor of the chamber; and walls built up in the horizontal flues to regulate the amount of draft therethrough, as set forth.

8. In a brick-kiln, the combination of main chamber A, vertical side flues, G, extending
10 to near the top thereof, fire-chambers B on

each side, perforated floor C to the main chamber, horizontal flues D beneath the floor, having openings E, formed by walls F, central flue, H, extending up into the body of the main chamber, and the chimney I, as set forth. 15

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Witnesses:

SAML. KNIGHT,
GEO. H. KNIGHT.