

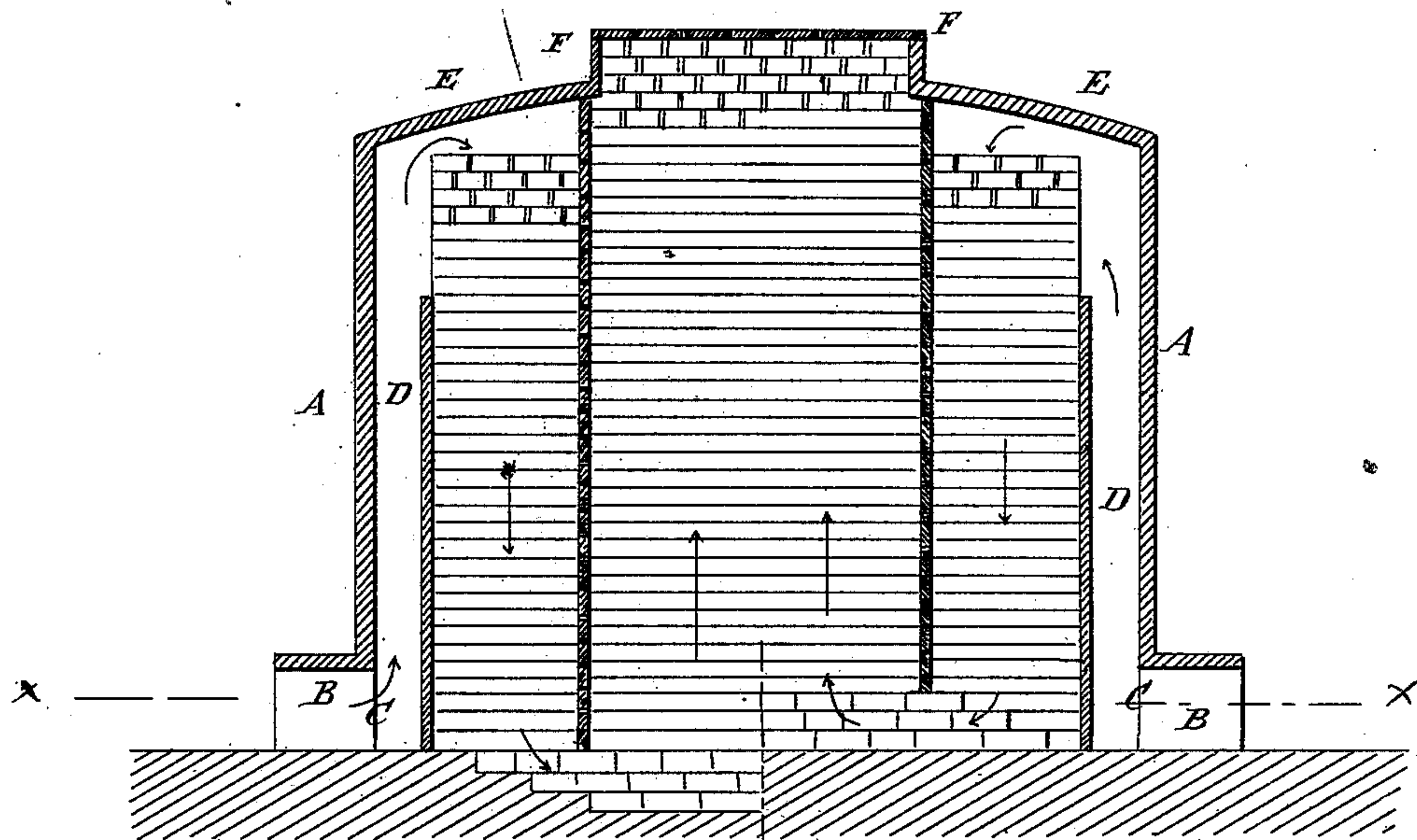
(No Model.)

E. DAVENPORT.  
Tile and Brick Kiln.

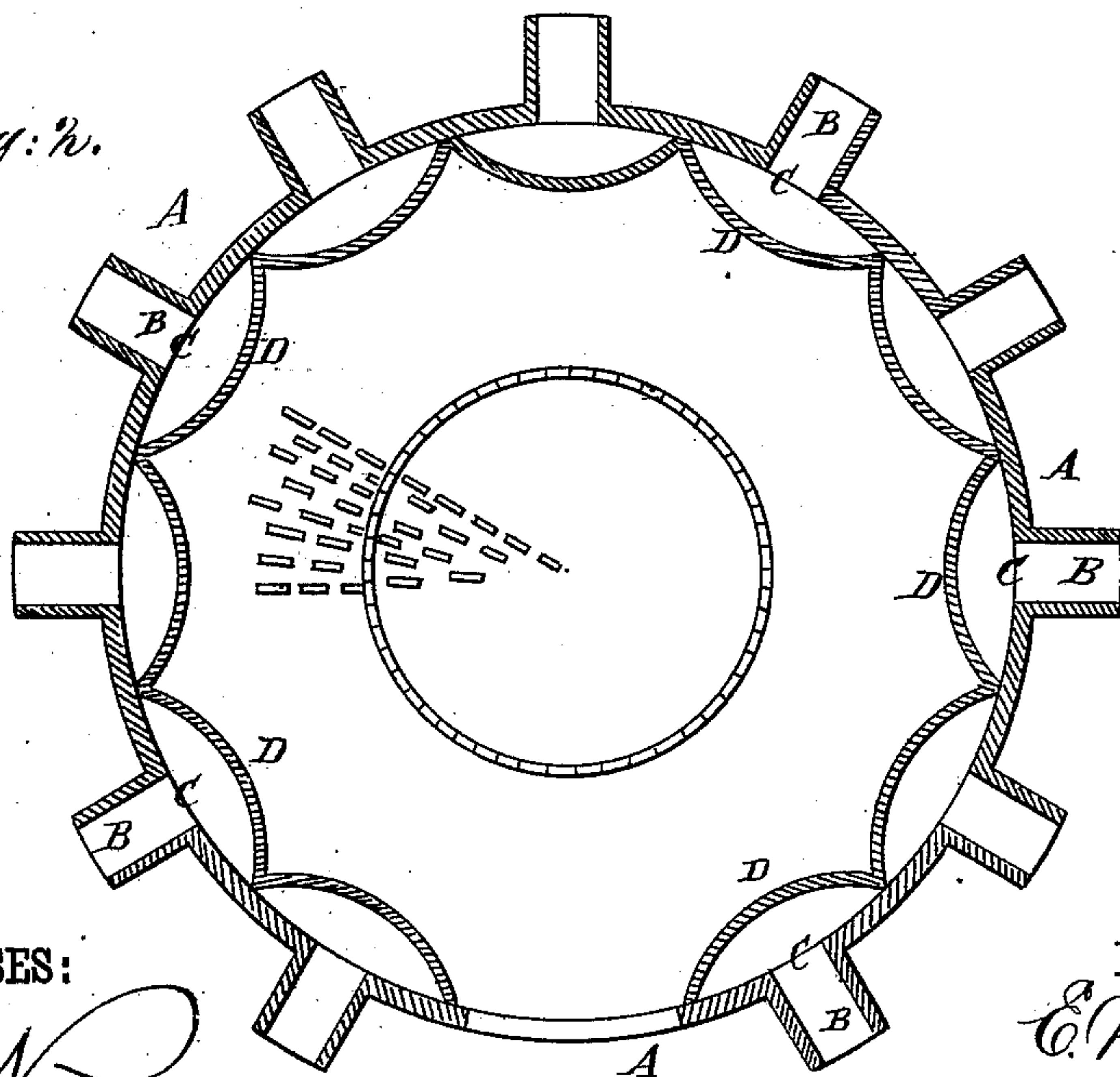
No. 235,216.

Patented Dec. 7, 1880.

*Fig: 1.*



*Fig: 2.*



WITNESSES:

*Chas. Nida*  
*W. S. Suggs*

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# UNITED STATES PATENT OFFICE.

EBER DAVENPORT, OF WAYNESVILLE, ILLINOIS.

## TILE AND BRICK KILN.

SPECIFICATION forming part of Letters Patent No. 235,216, dated December 7, 1880.

Application filed September 30, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, EBER DAVENPORT, of Waynesville, in the county of De Witt and State of Illinois, have invented a new and useful Improvement in Tile and Brick Kilns, of which the following is a specification.

Figure 1 is a sectional elevation of the improvement. Fig. 2 is a sectional plan view taken through the line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

The object of this invention is to save time, labor, and fuel in burning tiles and bricks and save expense in constructing kilns.

The invention consists in constructing a circular tile and brick kiln having furnaces and fire-walls along its side wall, with a crown-wall over its exterior part and a central circular opening over its interior part, whereby the products of combustion are deflected downward by the crown-wall and escape through the central opening, and also in the mode of setting the tiles or bricks with horizontal passages at the bottom of the kiln leading from the vertical passages beneath the crown-wall to the vertical passages beneath the central opening, and at the top of the kiln, with a space beneath the crown-wall and close together around the central opening, whereby the products of combustion are compelled to pass downward through the exterior portion of the tiles or bricks, and then upward through the interior portion, as will be hereinafter fully described.

In the accompanying drawings, A represents the outer wall of a circular kiln for burning tiles or bricks. Around the base of the wall A are built the furnaces B, for generating heat. The products of combustion from the furnaces B pass through openings C in the lower part of the wall A into the spaces or flues between the said wall A and the fire-walls D, built at the inner sides of the said wall A, as shown in Fig. 2, and extending up nearly to the top of the wall A, as shown in Fig. 1.

The outer part of the top of the kiln is covered with an arched or crown wall, E, leaving a circular opening in the center, which opening is surrounded by a low upright wall, F, as shown in Fig. 1. The central top opening is

made of such a size in proportion to the size of the kiln that about one-third of the bricks or tiles will be beneath the said opening and two-thirds beneath the crown-wall E.

In filling the kiln the tiles or bricks are set with vertical passages between them for the passage of the products of combustion, and in the lower part of the kiln, above or below the floor, with horizontal passages leading from the vertical passages beneath the crown-wall E to the vertical passages beneath the central opening in the top. Both arrangements are indicated in Fig. 1.

The tiles or bricks beneath the crown-wall E do not extend up to the said wall E, a space of from one to two feet being left for the distribution of the products of combustion. Beneath the wall F, at the top of the kiln, the tiles are set close together, so that the products of combustion cannot pass from the space beneath the crown-wall E to the central top opening, but will be compelled to pass down through the outer vertical passages. Beneath the central opening in the top of the kiln the tiles or bricks are set up to the top of the wall F, surrounding the said opening, and are covered with plating or tiles or bricks laid flat, between which the products of combustion escape into the air. With this construction the products of combustion from the furnaces B pass in through the openings C, up through the spaces or flues between the wall A and the fire-walls D, and are projected against the crown-wall E, where they are deflected downward, are distributed through the space beneath the said crown-wall E, and compelled to pass down through the vertical passages beneath the said crown-wall.

At the bottom of the kiln the products of combustion pass through the horizontal passages to the vertical passages beneath the central top opening, pass up through the said vertical passages, and escape through the said central top opening into the air. The products of combustion thus pass downward through the exterior portion of the tiles or bricks, and then upward through the interior portion.

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

5 The mode of setting the tiles or bricks in a kiln, substantially as herein shown and described, which consists in setting the tiles or bricks with horizontal passages at the bottom of the kiln leading from the vertical passages beneath the crown-wall to the vertical passages beneath the central opening, and at the top of the kiln with a space beneath the crown-wall, and close together around the central

opening, whereby the products of combustion are compelled to pass downward through the exterior portion of the tiles or bricks and then upward through the interior portion of tiles or bricks, as set forth.

EBER DAVENPORT.

Witnesses:

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