

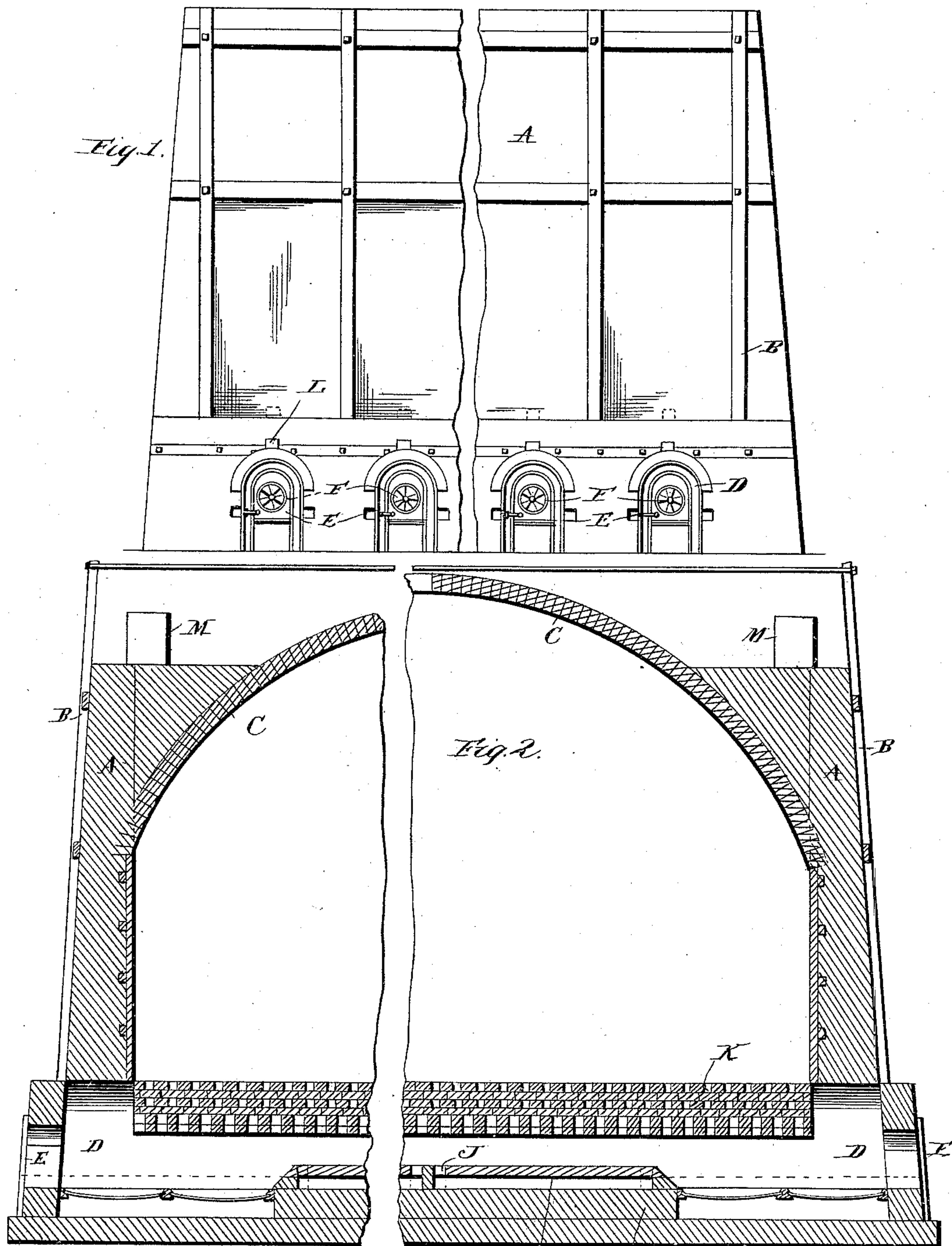
(No Model.)

2 Sheets—Sheet 1.

W. RENNIE.  
BRICK KILN.

No. 433,368.

Patented July 29, 1890.



Witnesses:  
*C. Gaeder*

*R. H. Bishop*

Inventor  
*William Rennie*  
By  
*W. Fitzgerald*  
Attorney

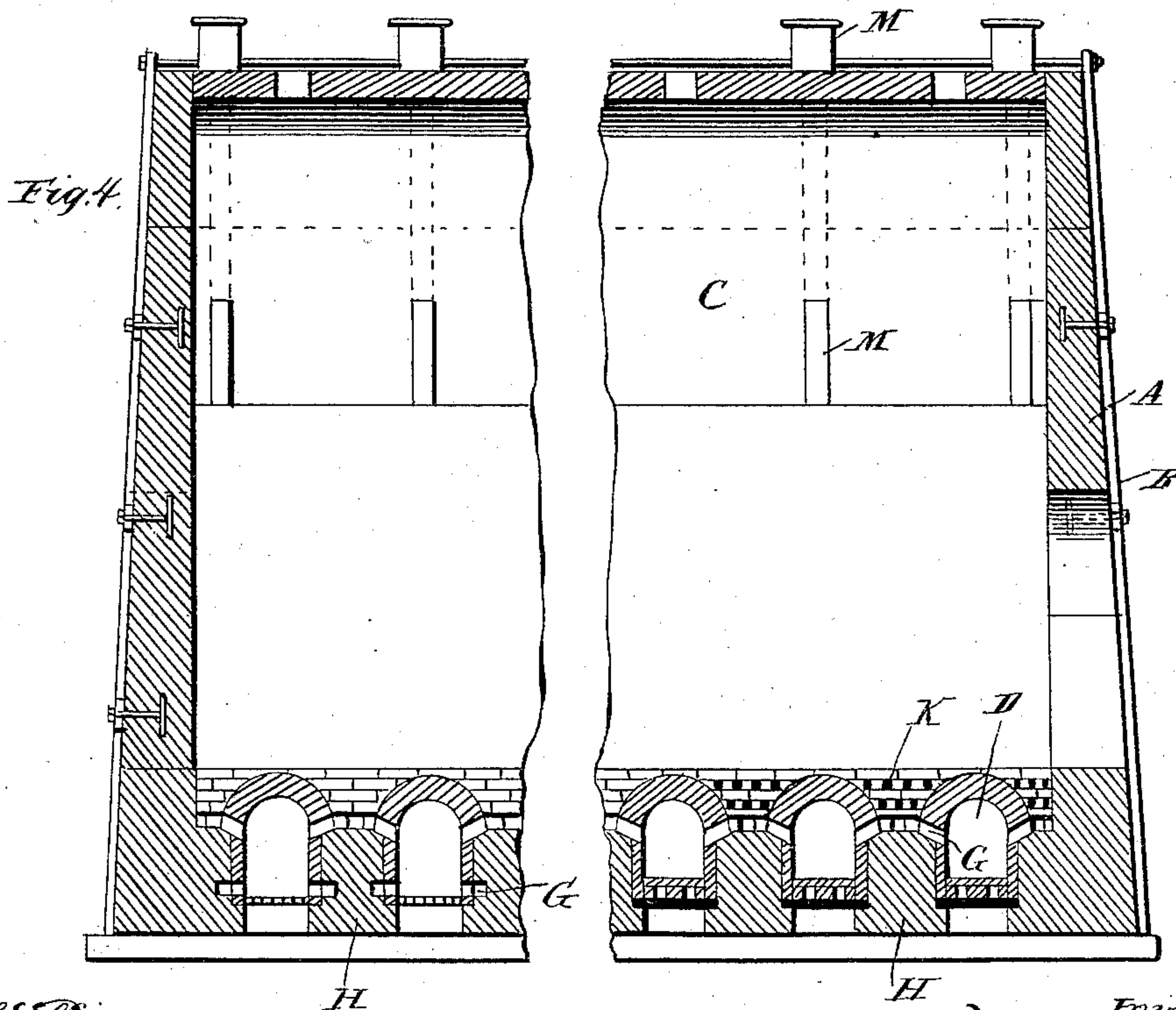
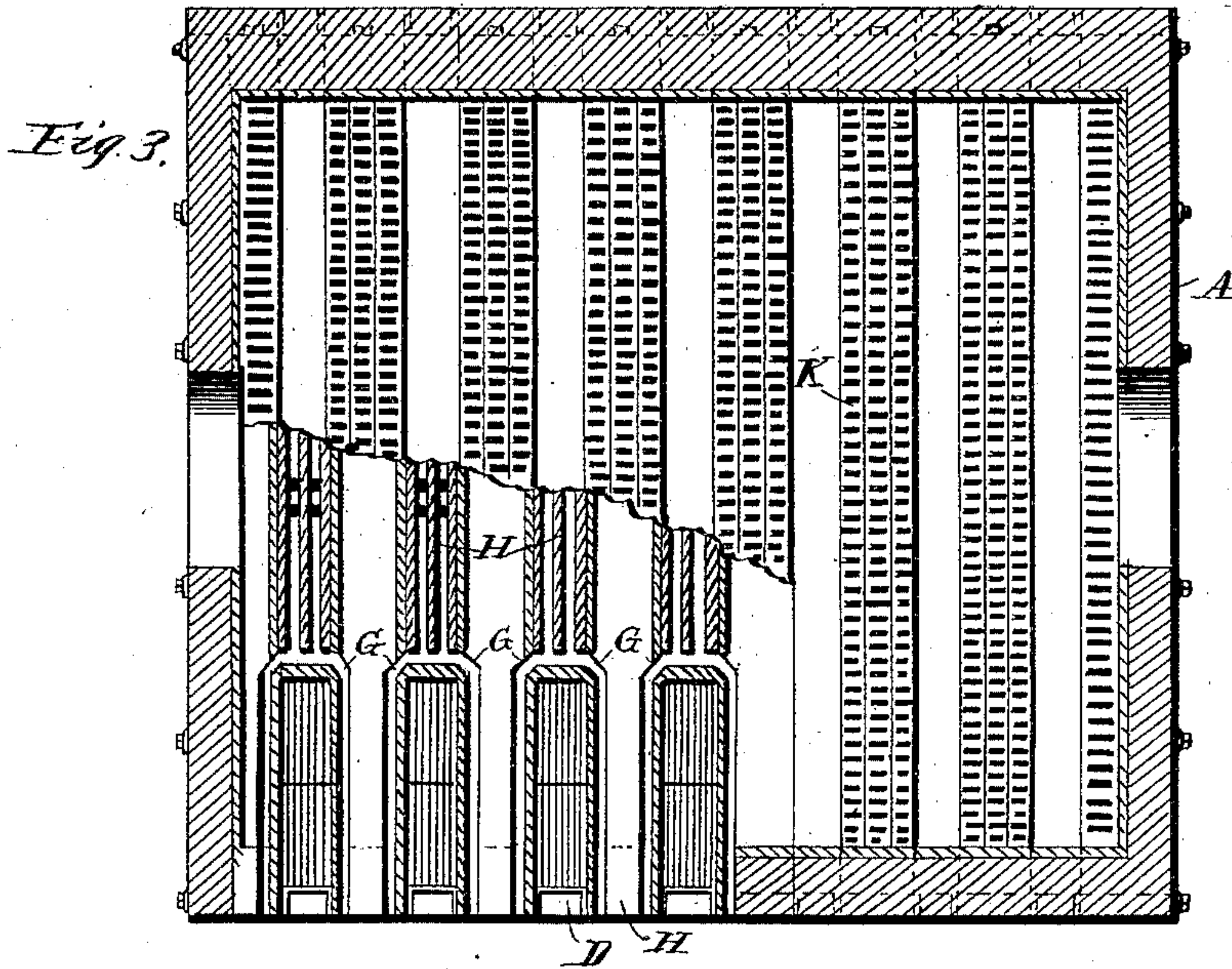
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# UNITED STATES PATENT OFFICE.

WILLIAM RENNIE, OF SING SING, NEW YORK.

## BRICK-KILN.

SPECIFICATION forming part of Letters Patent No. 433,368, dated July 29, 1890.

Application filed February 3, 1890. Serial No. 339,101. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM RENNIE, a citizen of the United States, residing at Sing Sing, in the county of Westchester and State of New York, have invented certain new and useful Improvements in 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.

My invention relates to improvements in brick-kilns; and it has for its object to so improve the construction of the kiln that the flame and smoke will be spread in the kiln and the gases in the furnace completely consumed, the bricks being thus properly burned without producing any soft, pale, or over-burned bricks.

The invention consists in certain novel features hereinafter described and claimed.

In the accompanying drawings, which fully illustrate my invention, Figure 1 is a front elevation of my improved brick-kiln. Fig. 2 is a transverse vertical section. Fig. 3 is a horizontal section, and Fig. 4 is a sectional view taken at right angles to Fig. 2.

Referring to the drawings by letter, A designates the walls, which are braced and strengthened by the brick-stays B and binding-plates in the usual manner, and C designates the crown-arch extending between the ends of the kiln, as clearly shown in Fig. 2.

The furnaces D are arranged along the ends of the kiln, and may be of any desired number, according to the size of the kiln, and the furnace-doors E are provided with rotary blowers or dampers F to regulate the draft. On each side of each of the furnaces are formed in the walls the air-inlet tubes or passages G, which extend longitudinally through the walls H, built up between the furnaces and the bridge-walls I in rear of the fire-chambers, and extend inward to about the center of the bridge-walls, where they are provided with vertical branches J, through which the heated air escapes to the floor of the kiln.

The floor of the kiln is arranged above the fire-chambers and the bridge-wall, and is supported by the walls H, as shown. The floor of the kiln is composed of alternate courses of fire clay and brick, which are arranged to provide the air spaces or passages K to facilitate the entrance of the hot air into the kiln.

Peep-holes L are provided in the end walls of the kiln above the furnaces, so that the progress of the burning process may be easily ascertained at all times, and chimneys M lead from the crown-arch to the outer air.

In practice the bricks are piled in the kiln on the floor of the same in the usual manner, and fires are built in the furnaces, as will be readily understood. The flames and products of combustion will pass inward over the bridge-wall and under the floor of the kiln and will pass upward through the floor to the bricks, so as to burn the same. Fresh air will enter through the inlet-passages G and pass through the same to the branches J, from which they escape into the space below the floor of the kiln, where they will be raised to a high temperature and all gases ignited and consumed. The floor of the kiln, it will be readily understood, will be heated to a high degree, so that the gases which may remain unconsumed will be burned on passing through the floor, and the quantity of fuel necessary to maintain the fire will be reduced to a minimum. It will be noticed that the flame and smoke in passing through the floor will be forced to take a circuitous course, and consequently will be spread out and caused to act on all the bricks equally.

My improved kiln is very simple in its construction, and its advantages are thought to be obvious.

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

The improved brick-kiln herein described and shown, consisting of the outer walls A, the crown-arch extending between the said walls, the chimneys leading from and through the crown-arch to the open air, the longi-

5 tudinal walls H, separating the furnaces, the bridge-walls arranged between the walls H, the said walls H and the bridge-walls having longitudinal passages leading from the outer walls to the centers of the bridge-walls, and the floor supported by the walls H and composed of successive courses of bricks having their ends and edges overlapping, so as to pro-

vide a number of open spaces, substantially as and for the purposes set forth. 10

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

WILLIAM RENNIE.

Witnesses:

JOHN PATTERSON,  
JOHN RENNIE.