

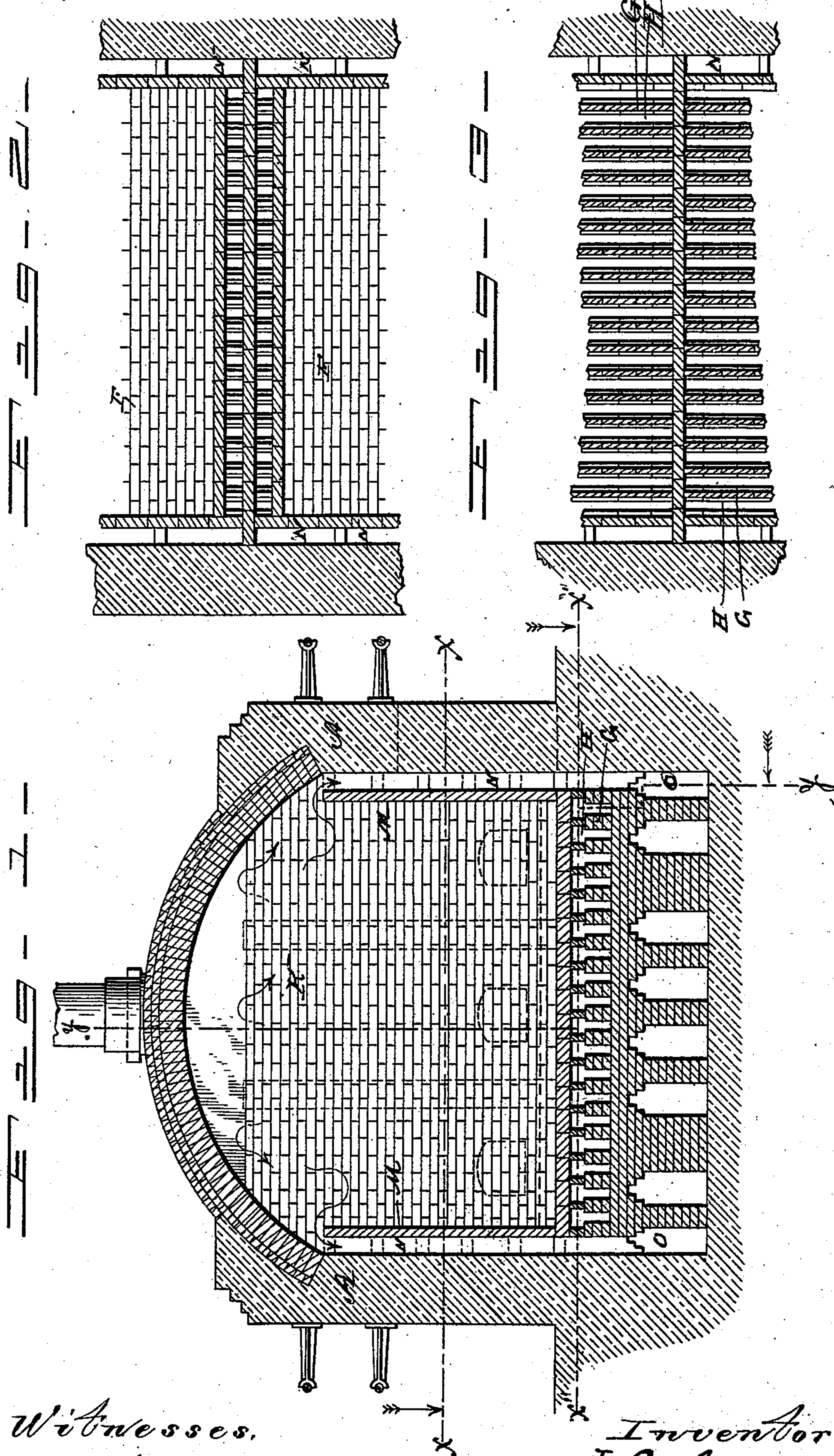
(No Model.)

2 Sheets—Sheet 1.

J. C. ANDERSON.
KILN FOR BURNING BRICK, &c.

No. 379,925.

Patented Mar. 27, 1888.



Witnesses,
Lenny Trautman
L. P. Simabough

Inventor,
J. C. Anderson,
By
L. P. Simabough,
att'y.

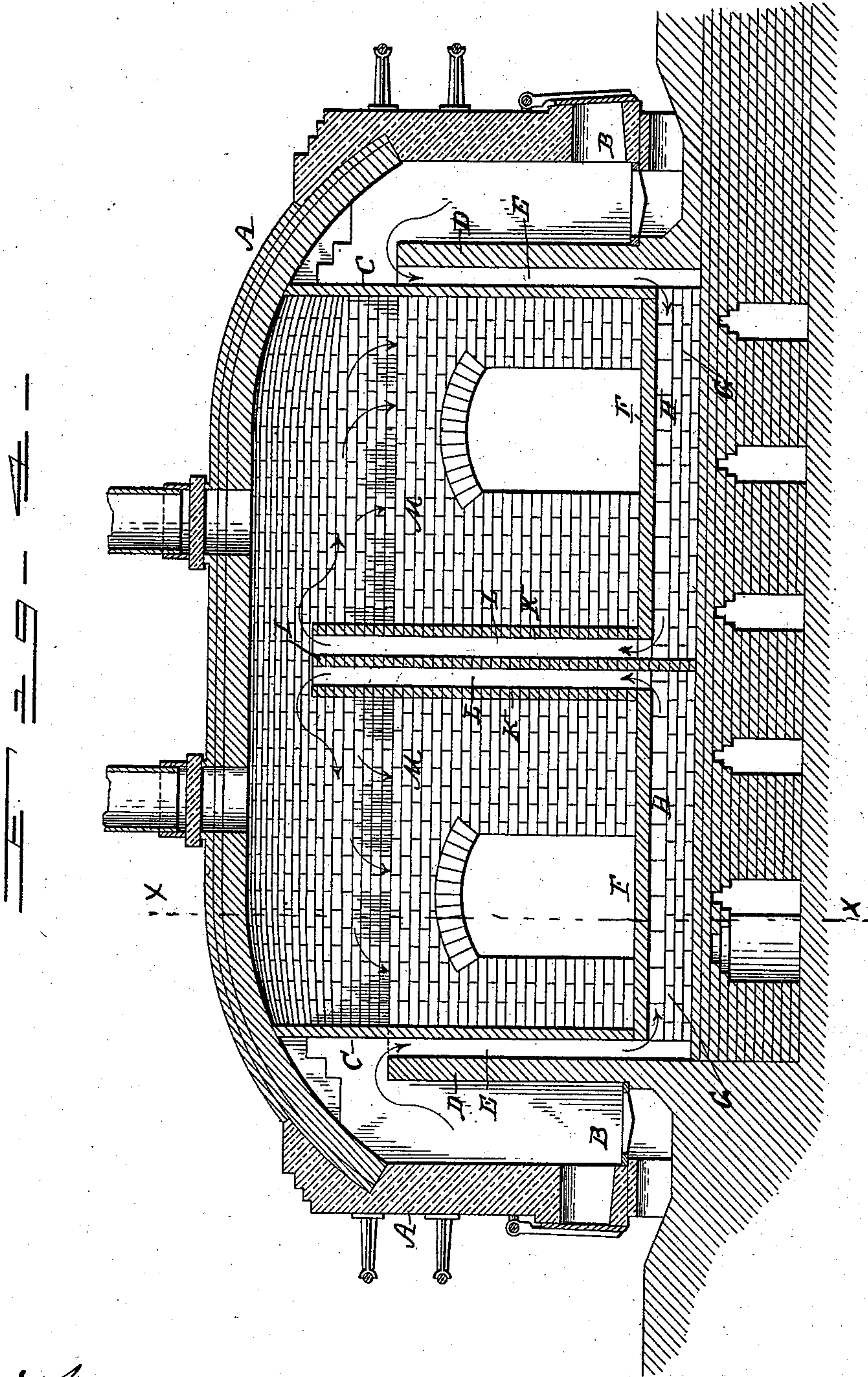
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Witnesses,
Henry Frankfurter,
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Inventor,
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UNITED STATES PATENT OFFICE.

JAMES C. ANDERSON, OF HIGHLAND PARK, ILLINOIS.

KILN FOR BURNING BRICK, &c.

SPECIFICATION forming part of Letters Patent No. 379,925, dated March 27, 1888.

Application filed August 6, 1887. Serial No. 246,310. (No model.)

To all whom it may concern:

Be it known that I, JAMES C. ANDERSON, a citizen of the United States of America, residing at Highland Park, in the county of Lake and State of Illinois, have invented certain new and useful Improvements in Kilns for Burning Brick, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to improvements in kilns for burning brick, tile, and other articles made from clay.

In an application for a patent filed by me of even date herewith, Serial No. 246,309, I have pointed out the objections to kilns of ordinary construction, in which the hottest portion of the flame is brought into direct contact with the articles to be burned, thus branding the articles and overburning them in this portion of the kiln, while in other portions of the kiln the articles are not burned enough, and are what are known as "salmon bricks," and their market value is much less than the fully-burned bricks, while their durability and real strength are far inferior to that of a properly-burned brick. In the application above named I obviate this by causing the hottest portion of the flame to impinge against a wall or partition of refractory material and transmit its heat through said wall to the bricks on the end and a portion of the bottom of the kiln, and then carrying the flame or products of combustion up through the articles and out through flues or chambers in the side walls.

My present invention consists of the apparatus hereinafter described for burning the bricks in the ends, sides, and center of the kiln by the heat transmitted through walls of refractory material, and then impinging or projecting the flame onto the tops of the bricks or other articles in the kiln, as will more fully appear.

Referring to the drawings, Figure 1 is a vertical sectional view of the kiln on the line $x x$ of Fig. 4. Fig. 2 is a plan view of a central portion of the kiln, taken on the line $x' x'$ of Fig. 1. Fig. 3 is a similar view taken below the floor of the kiln on the line $x'' x''$ of Fig. 1. Fig. 4 is a vertical longitudinal sectional view taken on the line $y y$ of Fig. 1.

A indicates the kiln, which is by preference

rectangular in form, and is provided with a series of furnaces, B, located at each end, said furnaces being of any suitable or desirable construction.

C are walls or partitions, made of fire-brick or other refractory material, extending from the floor of the kiln to the top or arch of the same.

D D are bridge-walls or fire-bags located between the furnaces and the walls or partitions C, said bridge-walls being separated from the partition-walls C, so as to form chambers or flues E.

F indicates the bottoms or floors of the kiln, on which the bricks or articles to be burned are piled, said floors being also made of fire-brick and supported by a series of bricks forming piers G, so as to form flues H, leading from the chambers or flues E to the center of the kiln. The main body of the kiln is divided into two chambers by means of the vertical wall or partition I, which extends from the mason-work below the floor of the kiln to near the top or crown of the arch of the roof of the kiln.

K are vertical walls or partitions located on each end of the wall I, which extend from the floor of the kiln to about the same height as the wall I, and which communicate with the flues H, leading from the furnace.

M indicates partition-walls built up about two-thirds the height of the kiln and separated from the outer wall of the same, so as to leave the spaces or chambers N, which communicate with the stack-flues O in the base of the kiln. The partition-walls M are somewhat lower than the walls or partitions K, so that the products of combustion passing up through the flues L will be projected slightly downward through the top courses of the brick in order to reach egress-spaces N.

The action or operation of the kiln is as follows: The flames or products of combustion pass up over the bridge-walls D and down through the chambers or spaces E to the flues H, and thence to the flues L into the top of the kiln. As already indicated, the walls or partitions C and K and the floor F are made of fire-brick laid close together, so as to prevent the flames from coming in contact with the articles to be burned at the ends or bot-

toms of the kiln; but the heat is transmitted through these walls to the brick, and burns them without subjecting them to the damaging effect of the hottest portion of the flame.

5 As heretofore mentioned, the products of combustion, after they leave the flues L, are directed downward to the chambers or spaces N and impart the proper degree of heat to the brick in the top of the kiln to burn the same, after which they pass through the chambers N and extend their heat through the partitions M and burn the brick in the sides of the kiln.

What I claim is—

15 1. In a kiln for burning brick, &c., the flues E, leading from the furnaces into the flues H in the bottom of the kiln, and the flues H, communicating with the flues L in the center of the kiln, whereby the brick in the ends and bottom of the kiln are burned by the heat transmitted through the walls of the flues and the brick in the top of the kiln burned by direct contact with the products of combustion.

20 2. In a kiln for burning brick, tile, &c., the

flues E, leading from the furnace into the flues 25 H in the bottom of the kiln, and the flues H, communicating with the flues L in the center of the kiln, in combination with the flues or spaces N in the sides of the kiln, whereby the brick in the ends, sides, and bottom of the kiln 30 are burned by the heat transmitted through the walls of the flues and the brick in the top of the kiln are burned by direct contact with the products of combustion.

3. In kilns for burning brick, tiles, &c., the 35 furnaces of which are located at each end of the same, the walls C K and floor F, forming the heat-conducting chambers E, H, and L and separating them from the other portion of the kiln, whereby the heat from the furnaces is 40 conveyed to the articles in the ends and bottom of the kiln by transmission, as set forth.

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

J. C. ANDERSON.

Witnesses:

J. C. CUSHMAN,

JNO. D. ONDERDONK.