

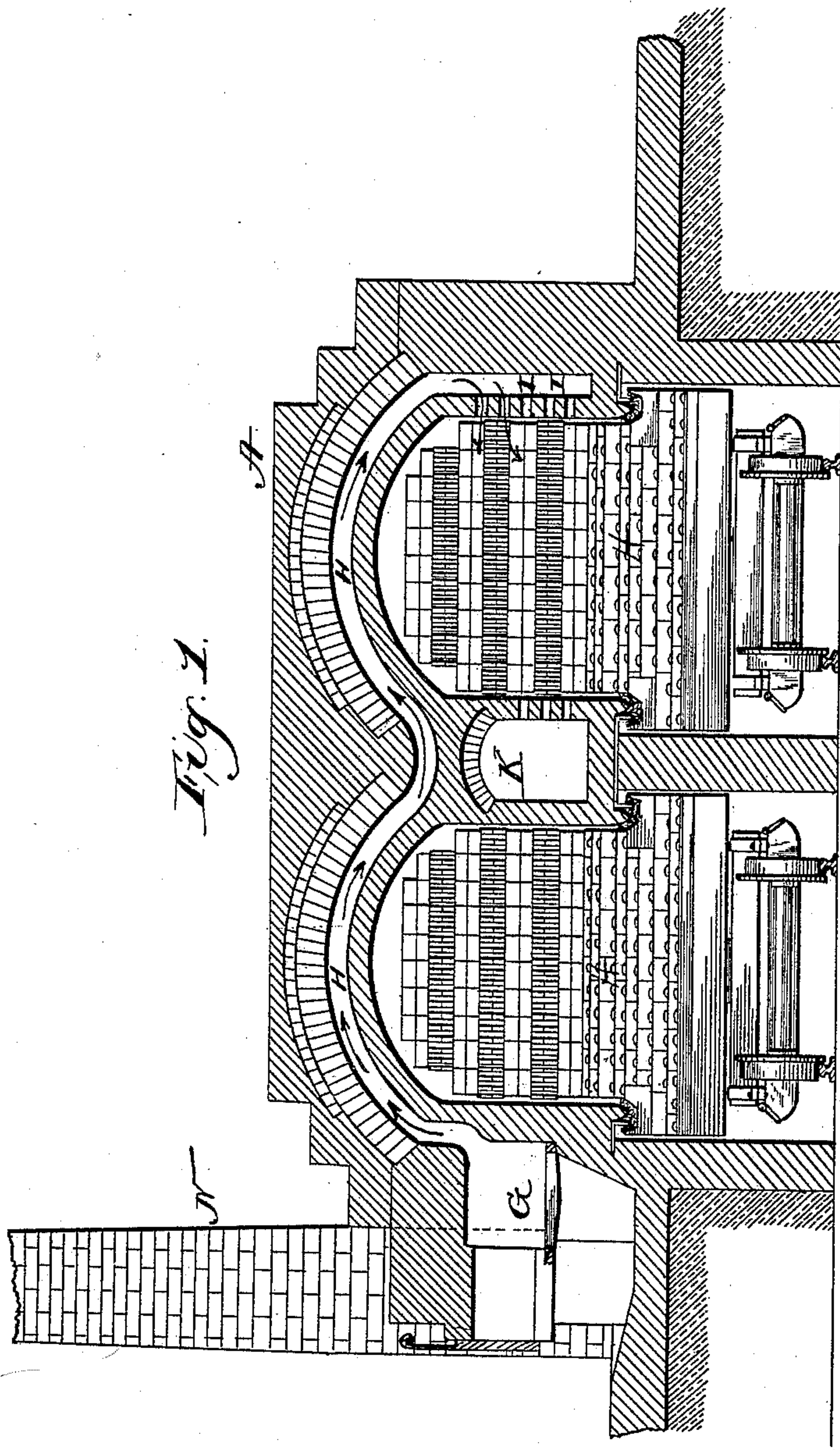
(No Model.)

2 Sheets—Sheet 1.

J. C. ANDERSON.  
BRICK KILN.

No. 424,250.

Patented Mar. 25, 1890.



Witnesses  
Myself  
H. M. Sterling

Inventor  
J. C. Anderson  
By  
S. M. Ginsburgh  
att'y



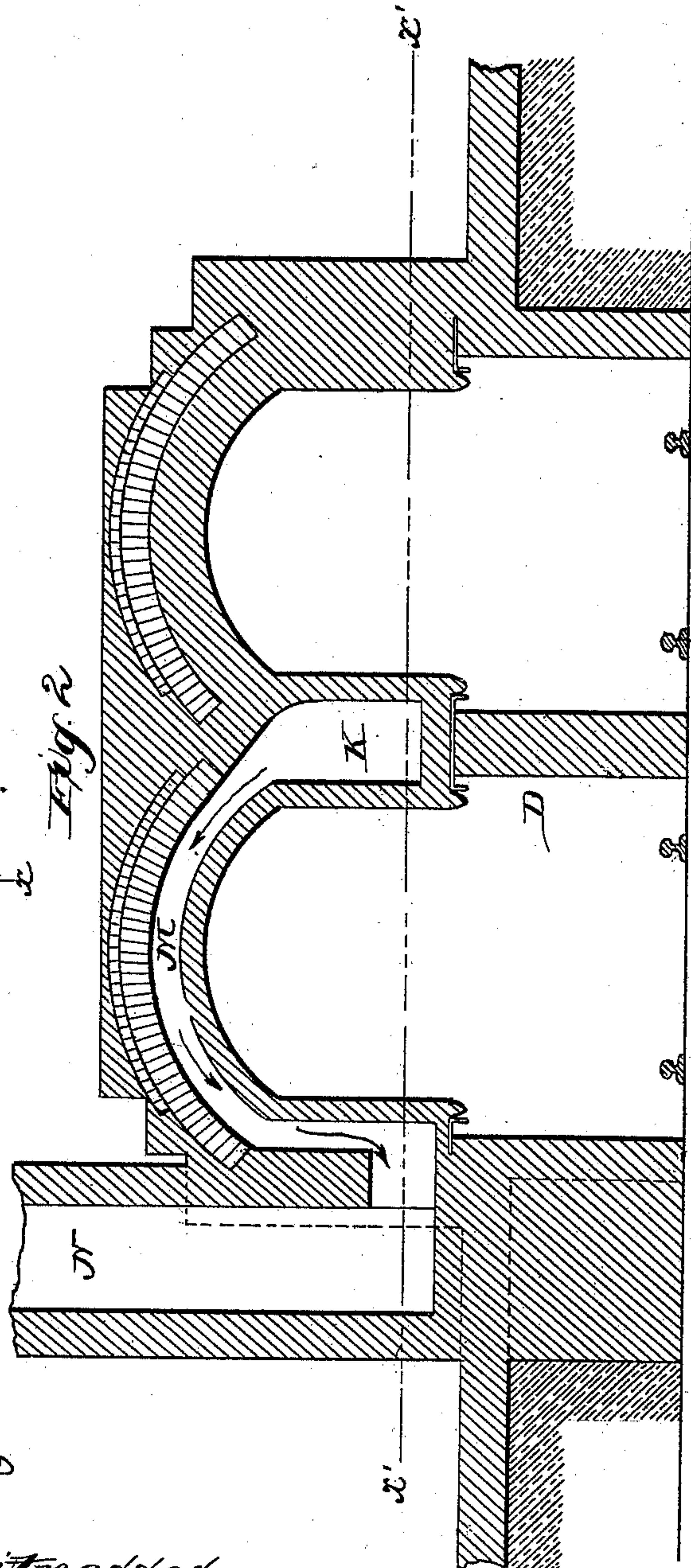
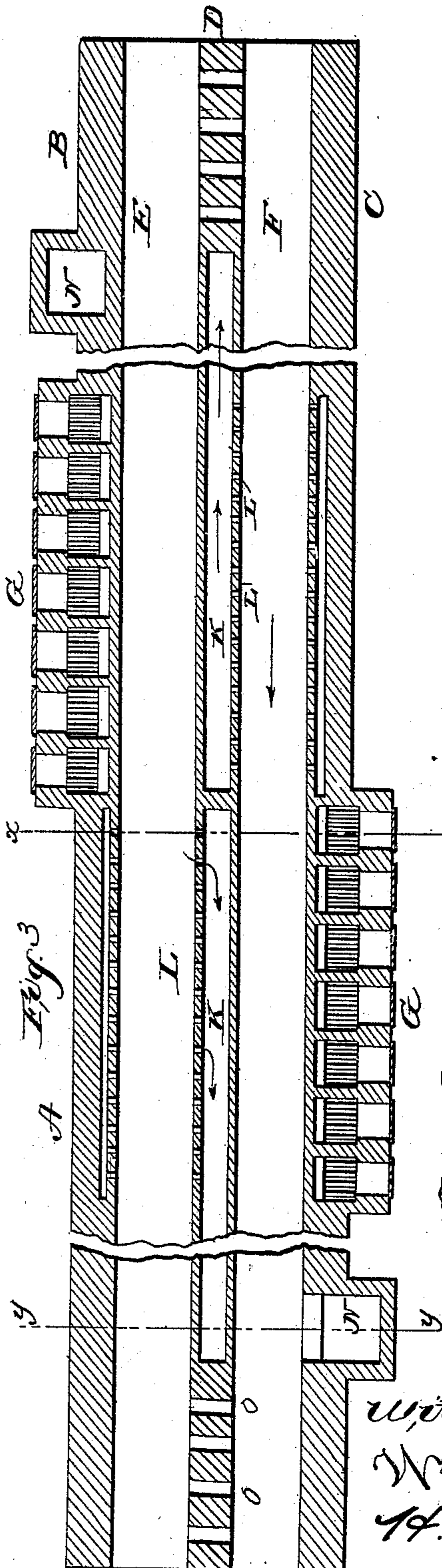
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# UNITED STATES PATENT OFFICE.

JAMES C. ANDERSON, OF HIGHLAND PARK, ILLINOIS.

## BRICK-KILN.

SPECIFICATION forming part of Letters Patent No. 424,250, dated March 25, 1890.

Application filed November 7, 1889. Serial No. 329,582. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES C. ANDERSON, a citizen of the United States, residing at Highland Park, in the county of Lake and State of Illinois, have invented new and useful Improvements in Brick-Kilns; and I do hereby declare the following to be a full, clear, and exact description of said invention, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in kilns for burning brick, tile, and other articles; and the object of my invention is to burn these articles without bringing the same into direct contact with the fiercest and most destructive portions of the flame.

My invention consists in passing the flame as it is generated in the furnace or combustion-chamber through a jacketed space formed in the arches of both tunnels, so as to rob the same of the branding or hurtful elements, and afterward passing the heat through the brick body and burning by direct contact, and then conducting the tail of the flame through a flue formed in the central wall of the kiln to the stack.

Referring to the drawings, Figure 1 is a vertical transverse sectional view taken on the line *xx* of Fig. 3 and looking in the direction of the arrow. Fig. 2 is a similar view taken on the line *yy* of Fig. 3. Fig. 3 is a longitudinal sectional view taken on the line *x'x'* of Fig. 2.

The double-tunnel kiln shown in the drawing is in its general construction the same as that shown, described, and claimed in my Patent No. 379,041, and dated March 4, 1888, the only points of difference being in the arrangement of the jacketed spaces or flues leading over the tunnels and the flues for conveying the waste products of combustion to the stacks.

A indicates the kiln, which is composed of two parallel walls B and C and a central or partition wall D, dividing the kiln into two longitudinal chambers or tunnels E and F, each covered by separate arches, which rest upon and are supported by the partition-wall D and the outer walls B and C.

The inner walls or linings of the kiln at the furnaces, together with the central or parti-

tion wall, are composed of fire-brick or other fire-resisting material, while the outer walls are built of ordinary brick.

G are furnaces located in the outer walls of and occupying a position near the center of each tunnel, said furnaces being of the ordinary kind, having the usual grate-bars, ash-pits, doors, and draft-regulators. That portion of both tunnels adjacent to each furnace is double-walled, so as to form a chamber or flue H, leading from the furnace over the tops of both tunnels and down outside of the adjacent tunnel, as shown in Fig. 1, when it opens through numerous perforations I into the adjacent tunnel, exposing the brick on the cars in this portion of the kiln to the direct action of the regenerative flame, while the brick on the top of the cars opposite the furnaces receive the heat transmitted through the arch or lining of the tunnel. The products of combustion, after passing through the brick in the opposite tunnel, as above described, enter a chamber or flue K, made in the partition-wall, through perforation L, and are carried over the top of the tunnel to the stack U through the flue M.

Thus far I have described the operation of one furnace only; but the same operation takes place in the other furnace, its action serving to burn the brick in the adjacent tunnel.

The central or partition wall D from the furnaces to each end of the kiln is provided with numerous openings O, which virtually make these portions of the kiln one chamber, and through which the heat given off through the burned brick is transmitted to the adjacent tunnel to raise the temperature of the brick in this portion of the tunnel to a red heat before they are pushed forward to receive the more intense heat from the furnaces, or which is transmitted through their respective arches.

It will be readily understood from the foregoing description that the first or hottest part of the flame is passed over both arches of the tunnel through the jacketed space H, which heat is transmitted through the inner walls of the arches to the brick on the upper part of the cars, and that said heat in passing through the inner walls is robbed of its branding or hurtful elements, while the milder por-



tion of the flame is brought into direct contact with the brick or other articles, and the waste products of combustion are carried to the stack through the flues K and M.

5 It is obvious that burners for the supply of coil-oil or other hydrocarbons may be substituted for the furnaces G, said burners being adapted to spray or otherwise distribute the oil into the jacketed spaces H, where it is  
10 consumed.

What I claim, and desire to secure by Letters Patent, is—

1. In kilns for burning brick on movable cars in a double tunnel-way, the flues extending over the top of and spanning both tunnel-ways, then leading into the burning chamber on the side most remote from the fire-boxes, whereby the first part of the flame is made to give up a larger part of its heat to  
15 both of the tunnel-ways before entering the burning-chamber, substantially as described.  
20

2. In kilns for burning brick of the character described, the tunnels provided with jacketed spaces in the arches thereof, which communicate with the furnaces, and with the interior of the tunnel farthest from the furnace, and with a flue centrally located between the tunnels which leads to the stack. 25

3. In kilns for burning brick of the character described, the flues or jacketed spaces H, communicating with the furnaces and with the opposite tunnel through the openings I, in combination with the openings L, flues K and M, and stack N, as and for the purpose set forth. 30 35

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

J. C. ANDERSON.

Witnesses:

C. L. BEATTY,

J. F. ANDERSON.