

(No Model.)

W. H. MARTIN.
BRICK KILN FURNACE.

No. 472,738.

Patented Apr. 12, 1892.

FIG. 1.

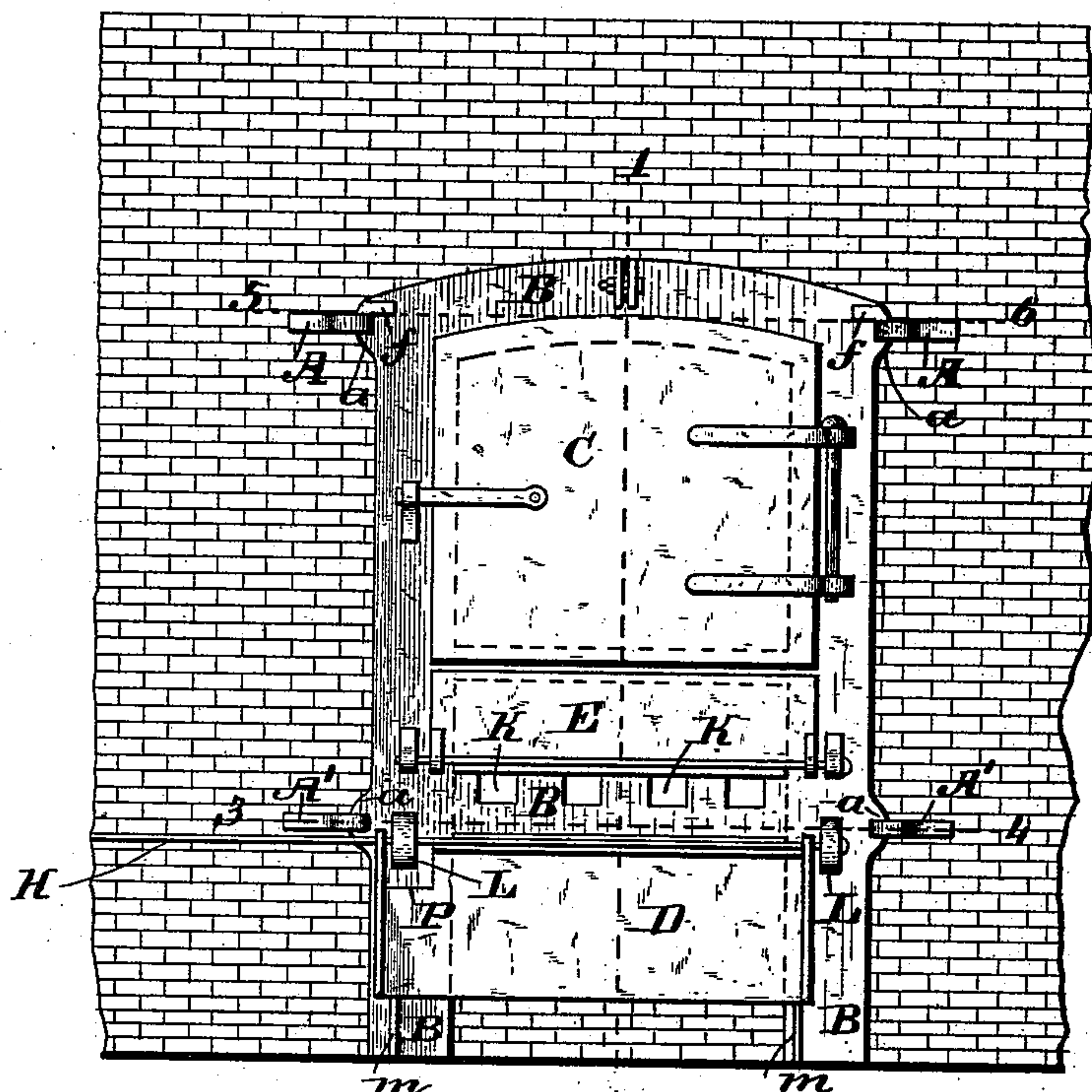
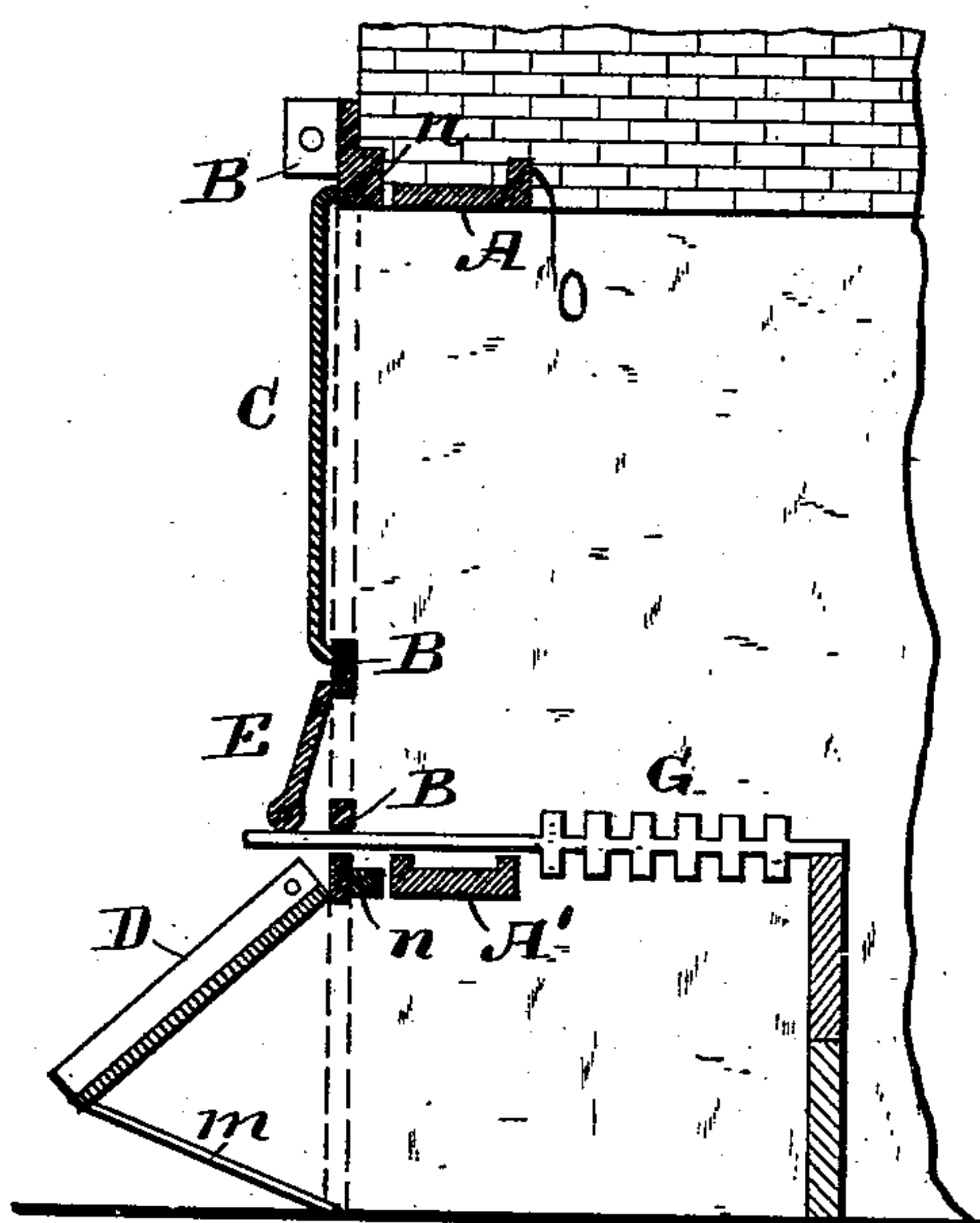


FIG. 2.



ATTEST.

J. Henry Kaiser,
Joseph C. Stack.

FIG. 6.

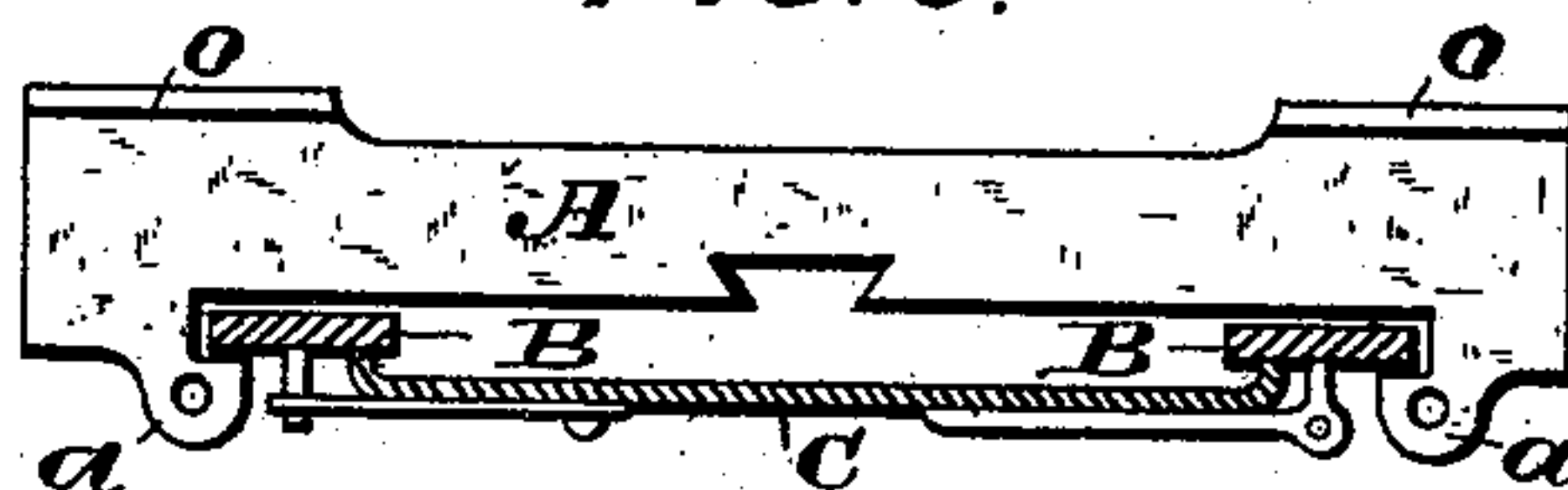


FIG. 3.

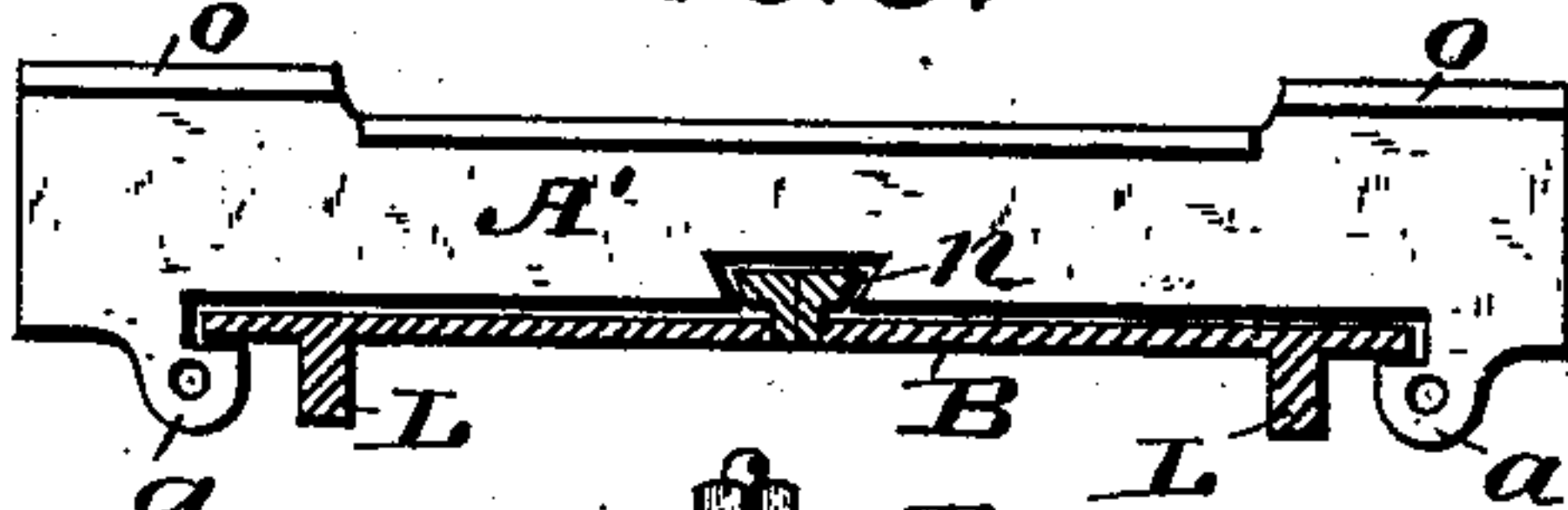
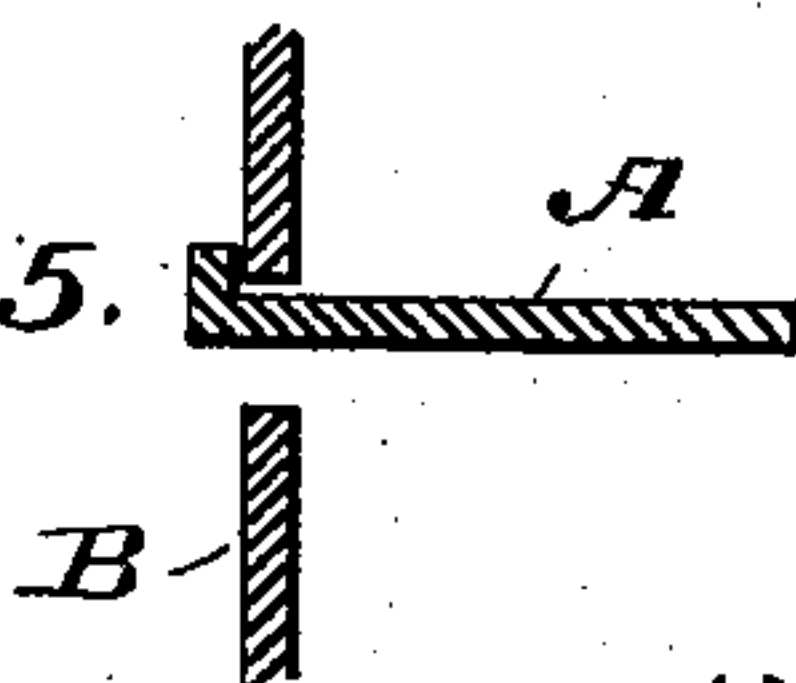


FIG. 4.



FIG. 5.



INVENTOR.

William H. Martin

By.

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UNITED STATES PATENT OFFICE.

WILLIAM H. MARTIN, OF COVINGTON, KENTUCKY.

BRICK-KILN FURNACE.

SPECIFICATION forming part of Letters Patent No. 472,738, dated April 12, 1892.

Application filed May 2, 1890. Serial No. 350,401. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. MARTIN, a citizen of the United States, residing at Covington, in the county of Kenton and State of Kentucky, have invented a new and useful Improvement in Brick-Kiln Furnaces, of which the following is a specification.

My invention relates to an improvement in brick-kiln furnaces; and it consists in casting the frame of the furnace separate from the the bearing-bars or flanges, making said frames removable or portable, thereby making a more simple, cheap, and serviceable furnace. Heretofore the door-frames of such furnace were made of cast-iron, with upper and lower bearing-bars or flanges cast upon them, causing an unequal expansion of the casting. In fact, in a short time the frame becomes warped and useless, as the door cannot be closed to prevent loss of heat and the entrance of cold air to chill and spoil the brick.

By my improvement the several pieces of iron used in building the furnace are cast separate. Contraction and expansion are therefore more equal and the construction of the furnace more simple and serviceable. With frames in use at present two sets must be had, as it is impossible to remove the frames immediately after burning a kiln without injury to the kiln-walls. With my invention one set of frames and two sets of loose flanges will be all that a brick-maker will need. Hence a saving of one-half in the cost. I use wrought or cast iron frames. By making a hinge on the lug outside the bearing-bar or flange, as shown, the fire and rustling door can be hung on the same without any frame, and the frame may be made only to reach down to the lug of the drop-apron or ash-pit door when the brick-maker wishes to set his brick-kiln to suit such economical construction.

The great objection to all portable kiln-furnaces now in use is that, being stationary on the outside of the kiln-walls when in a green state, as the bricks dry out in burning the walls will shrink, contract, and incline inward, leaving an opening between the frame and kiln-walls, thereby letting the heat escape.

In my improvement the bearing-bars or flanges which secure the frame to the kiln-

walls, being built in the walls, will follow the contraction and inward fall of the kiln-walls and having the frame secured to them will hold the same to the face of the kiln-walls, however great the shrinkage.

My invention will suit square or round kilns and can be used in permanent as well as temporary brick-kiln furnaces.

I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is an elevation of the front of the furnace. Fig. 2 is a vertical section of the iron of the furnace on lines 1 and 2 of Fig. 1; Fig. 3, a horizontal plan of the lower flange or bearing-bar. Fig. 4 shows how the frame may be screwed to the bearing-bar or flange. Fig. 5 shows how the frame may be vertically hung to the same; Fig. 6, a horizontal plan of the upper bearing-bar or flange, showing how it may be bolted and dovetailed.

Like letters of reference indicate like parts.

A indicates the upper bearing-bar or flange to support the kiln walls or arch. It may be straight or arched. It will have a turned-up flange *o* at its back to anchor it safe in the kiln-walls. The frame B will be slipped close and flush on its face and held by dovetail *n* and slots in lugs *a* on each side of the flanges or bearing-bars in a portable manner.

A' is the lower bearing-bar or flange. It will also have slots in lugs *a* on each side to hold the frame tight to its face. It will also have back upright flanges *o* to anchor it to the kiln-walls, and on it will rest the shaking grate G, the stems of which will come out through holes K in the frame B to the front, that the grate may be shaken. The lugs *a* on the flanges can be made to form a hinge to hang the doors upon when the frame B is dispensed with. The frame B can be made in one, two, or four parts and slipped on or taken off at any time without injury to the kiln-walls.

C is the fire-door.

D is the drop-apron or ash-pit door. It is hung on the rod H and can be moved up or down or sidewise, and when in a horizontal position and moved an inch or so to the left the lug L will hold it there instead of the legs M.

E is a rustling-door. By the use of this door

to cut the clinker cold air cannot enter the fire-grate to chill the brick, but must pass through the fire below. The fire-door C may be made to have this door fixed in it below.

5 *f* represents lugs cast on the face of the frame B to hold it on the bearing-bars or flanges A above.

The shaking grate G will be supported by checker-brick on the inside of the kiln.

10 I am aware of the construction described in

Patents No. 88,316 and No. 296,813, and disclaim all and everything contained in them.

What I claim is—

In a brick-kiln furnace, the bearing-bars or flanges A and A', made separate from the 15 frame, substantially as shown and described.

WM. H. MARTIN.

In presence of—

W. P. McLAUGHLIN,

JOHN GILLIGAN.