

2 Sheets—Sheet 1.

No. 442,548.

Patented Dec. 9, 1890.

Fig. I.

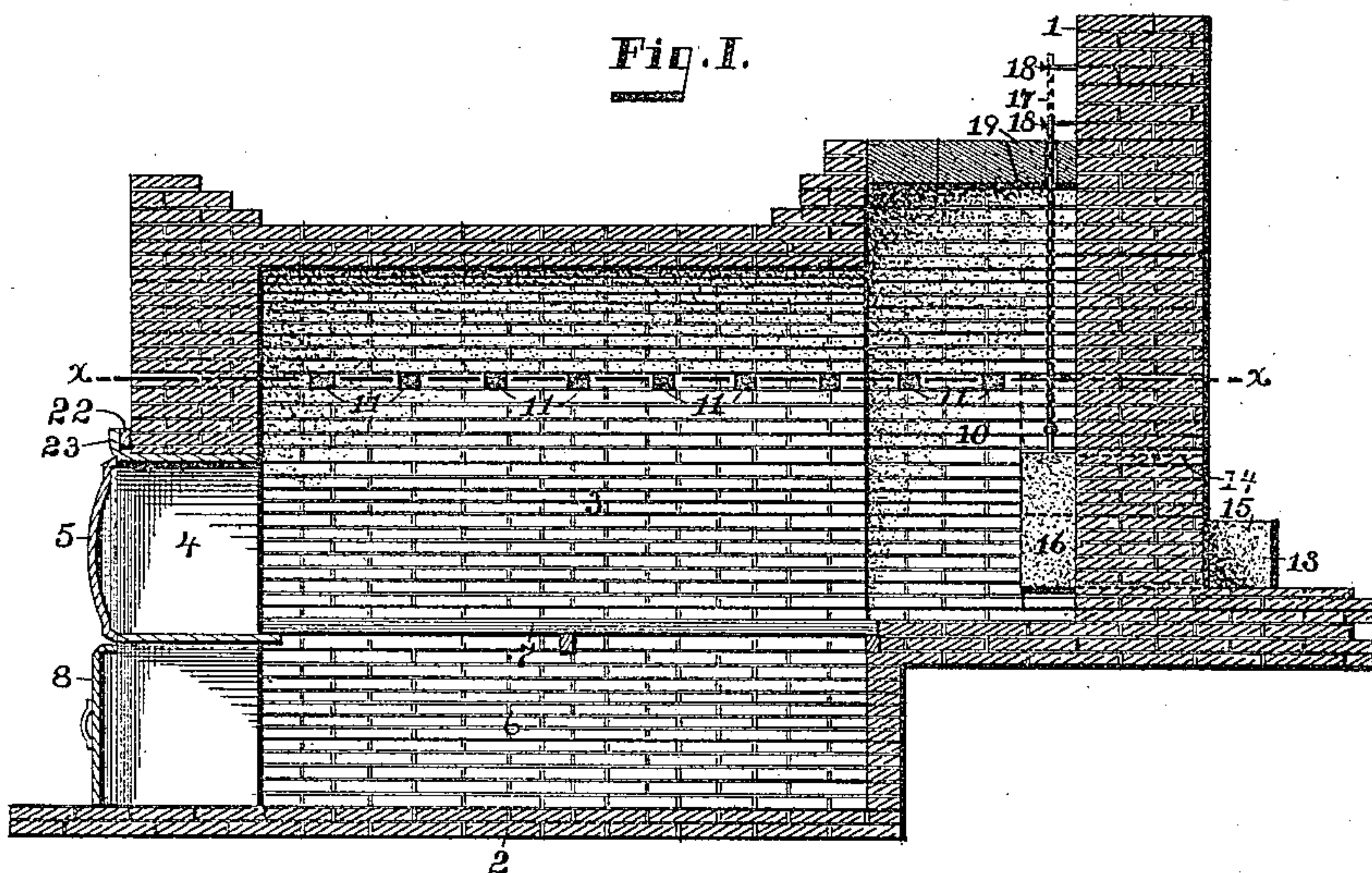


Fig. II.

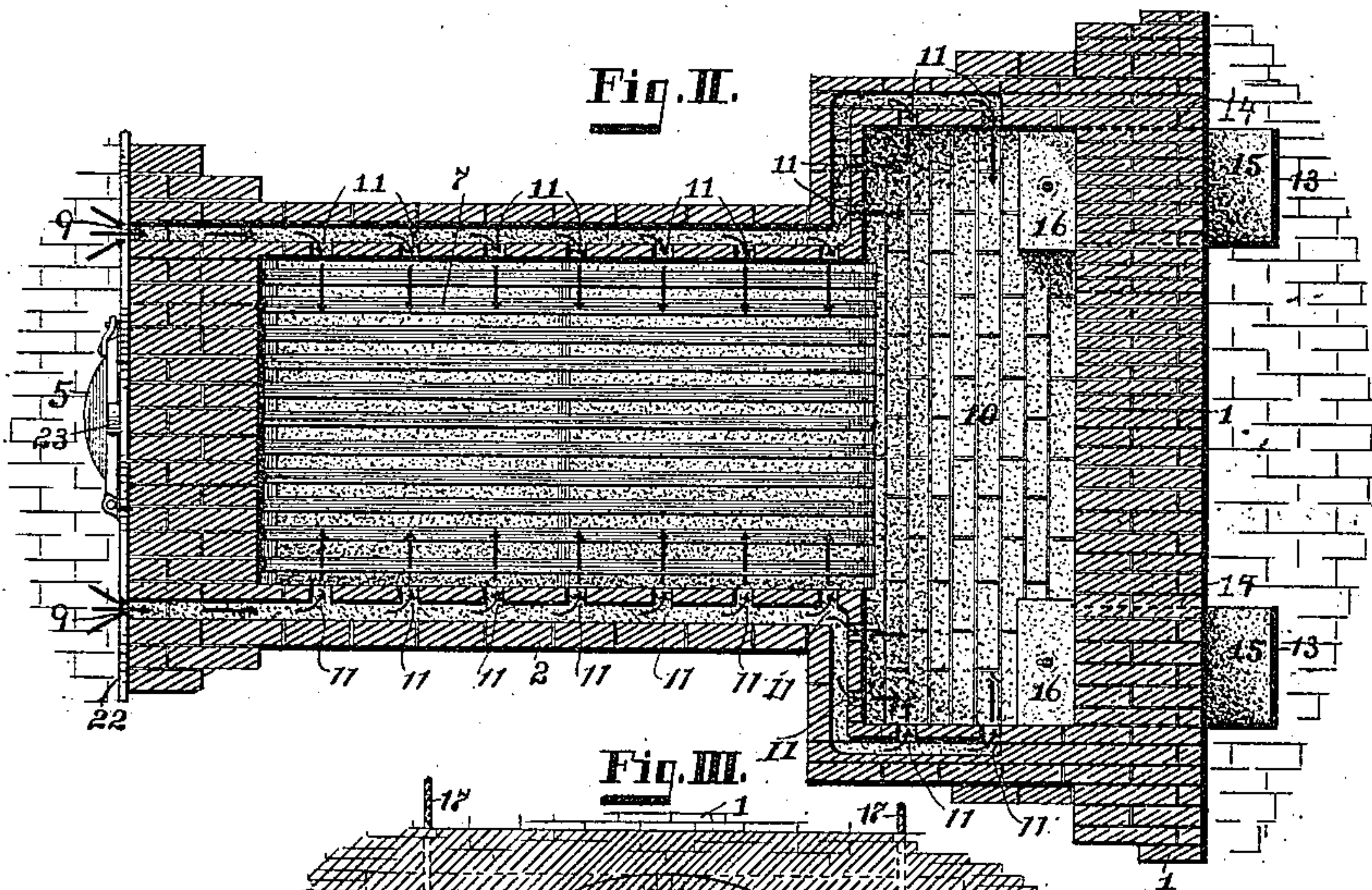
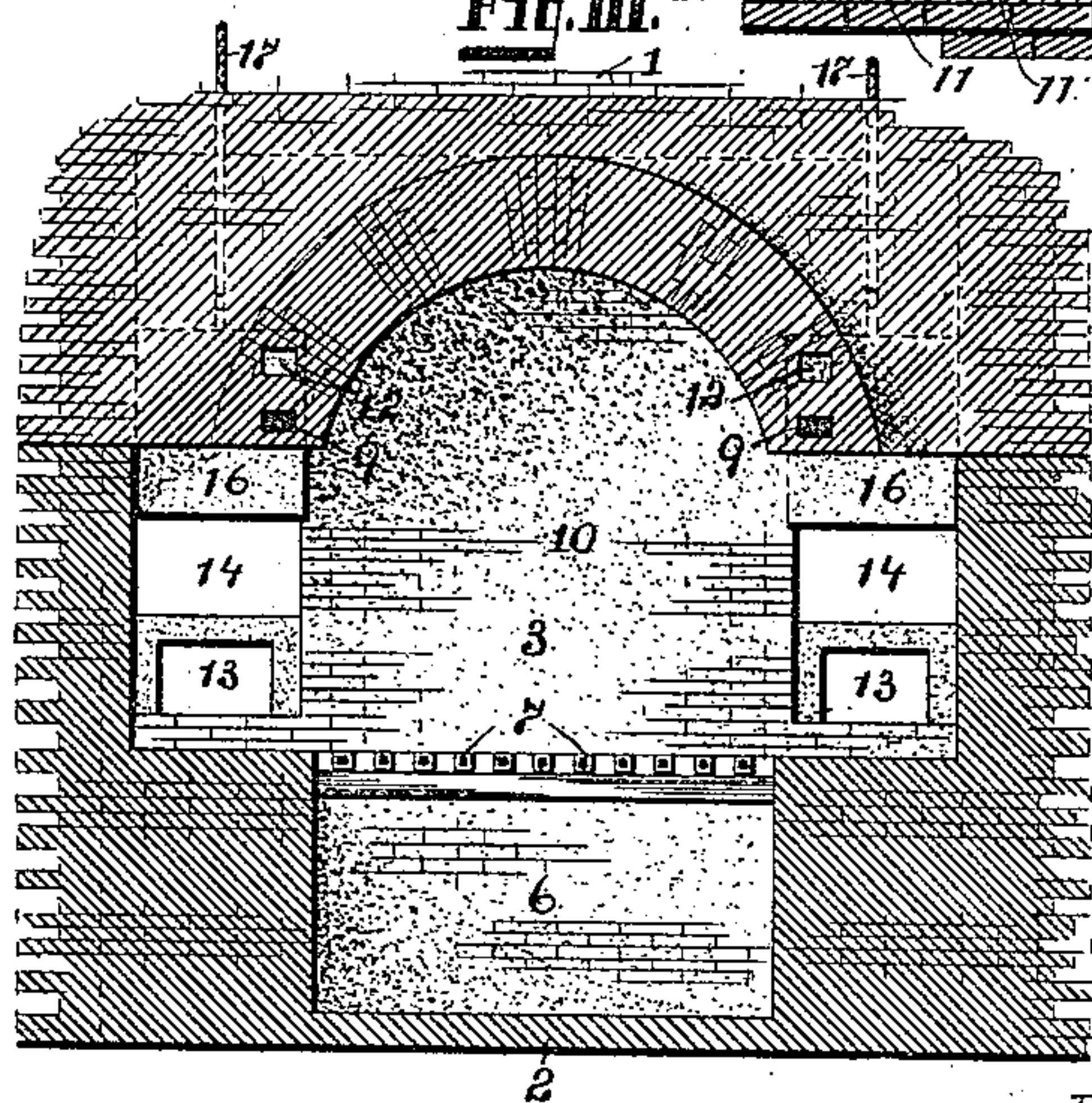


Fig. III.



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(No Model.)

2 Sheets—Sheet 2.

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BRICK KILN.

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Fig. IV.

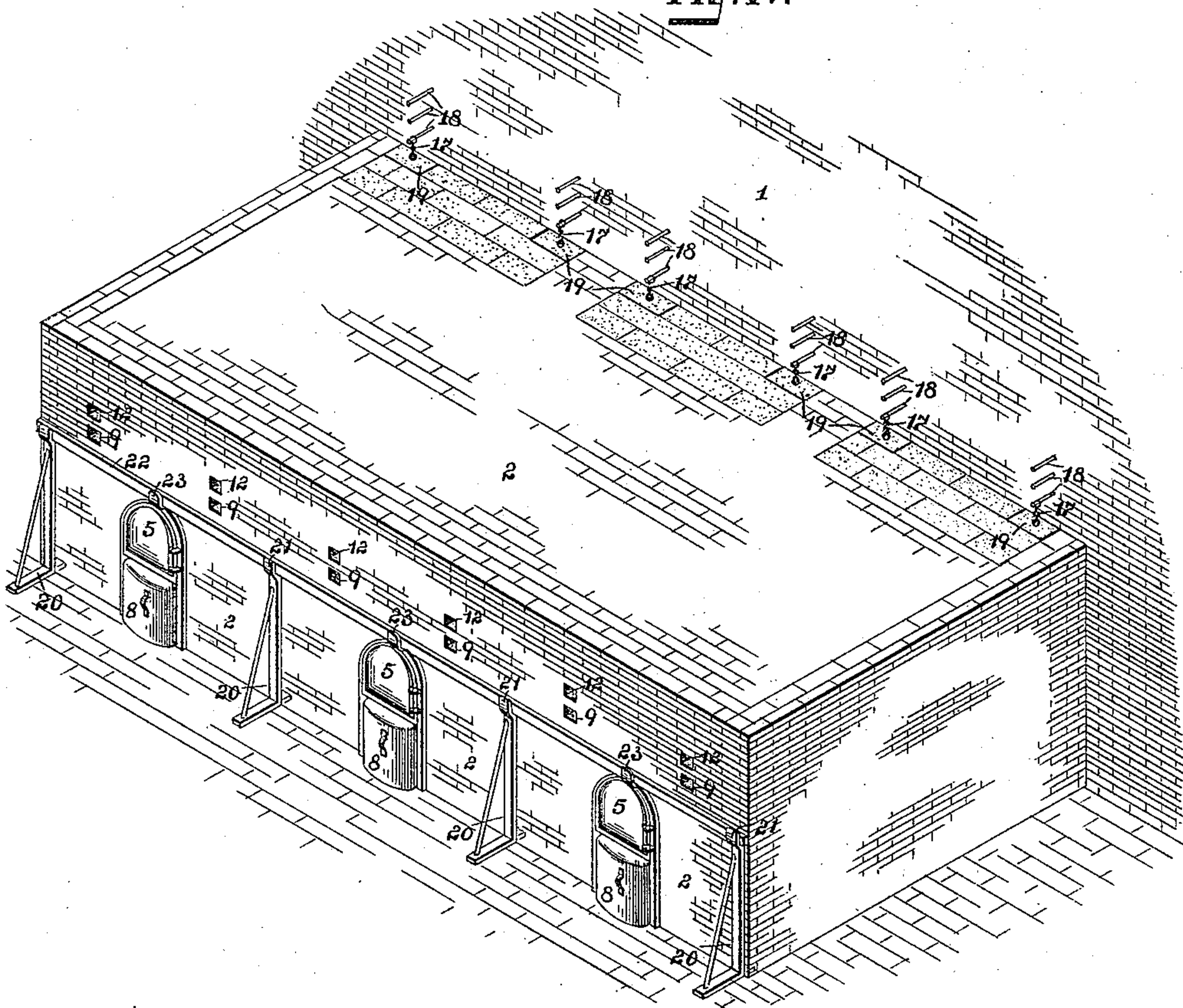


Fig. V.

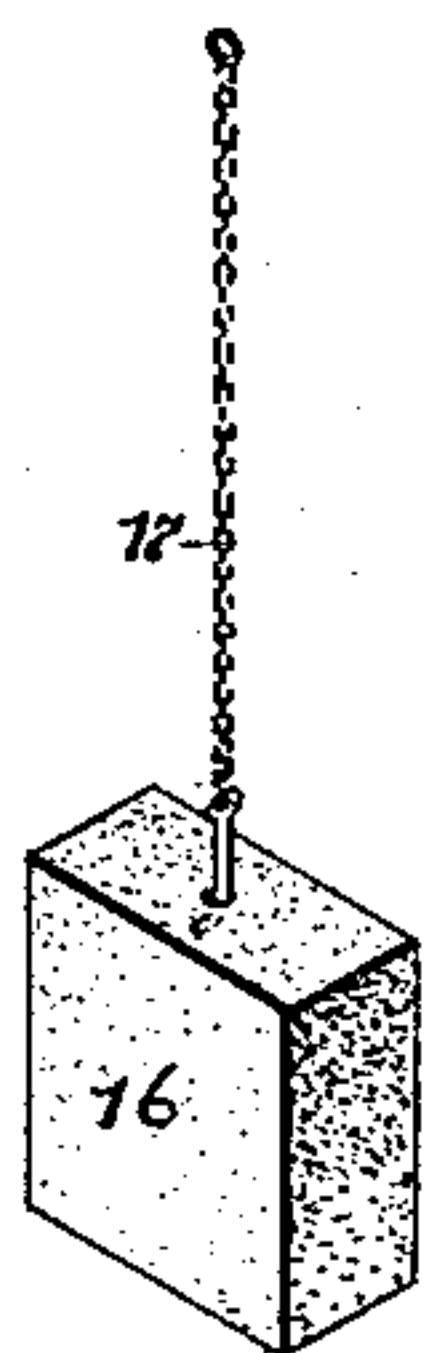


Fig. VI.

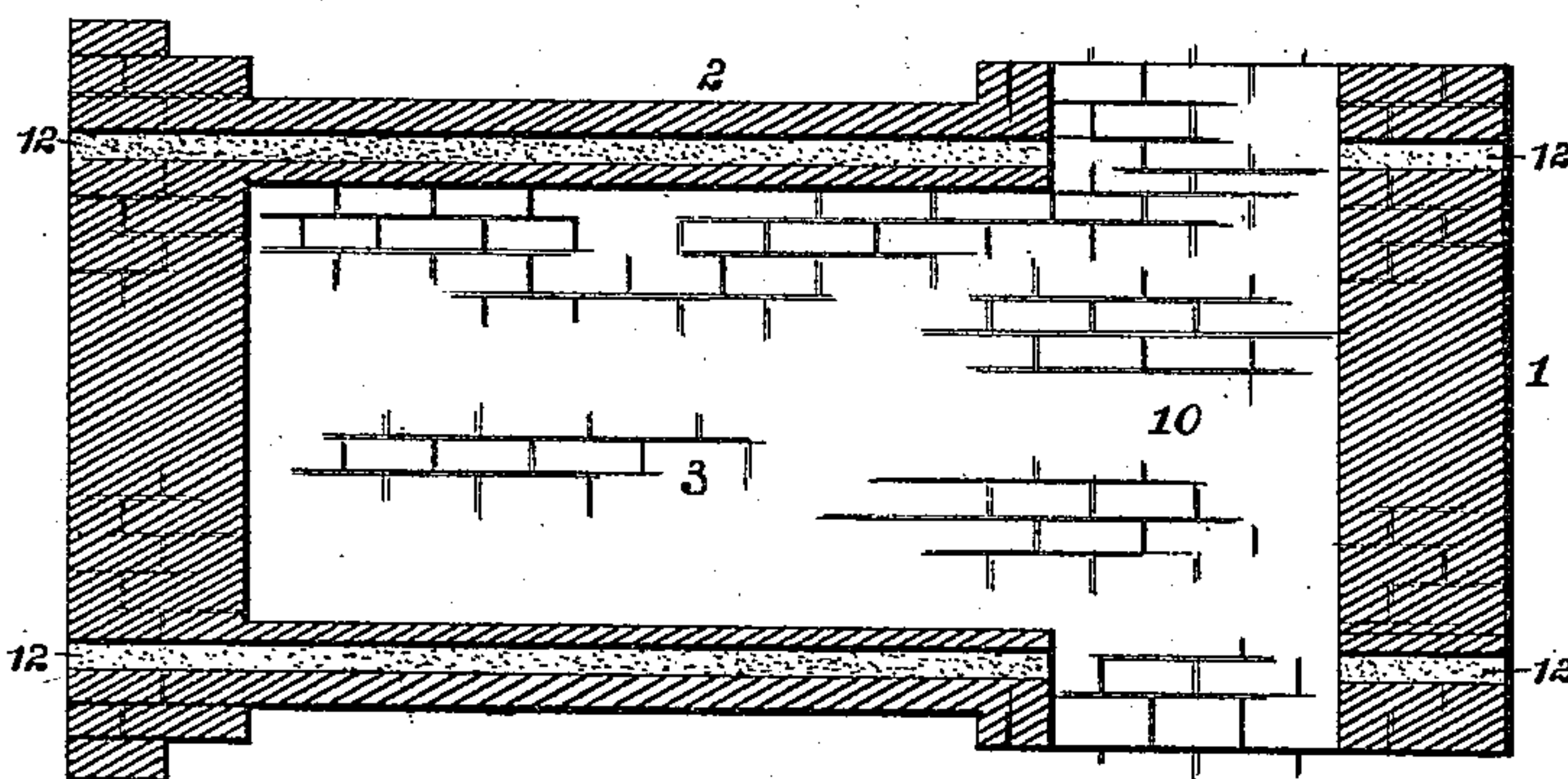
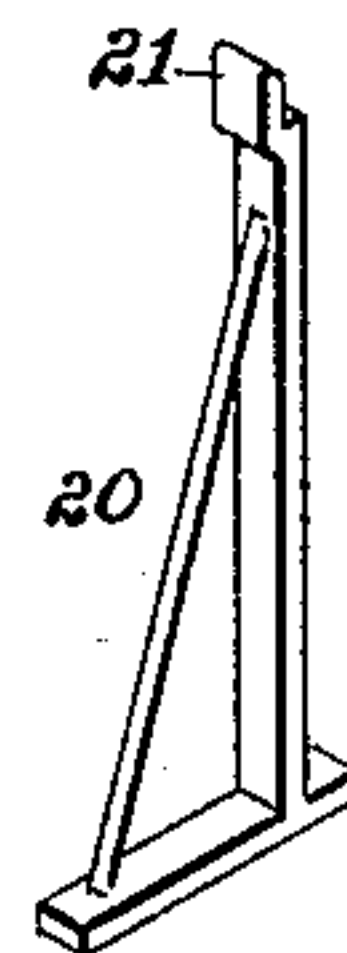


Fig. VII.



Witnesses

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UNITED STATES PATENT OFFICE.

LOUIS H. REPELL, OF KANSAS CITY, MISSOURI.

BRICK-KILN.

SPECIFICATION forming part of Letters Patent No. 442,548, dated December 9, 1890.

Application filed October 11, 1889. Serial No. 326,707. (No model.)

To all whom it may concern:

Be it known that I, LOUIS H. REPELL, of Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Brick-Kilns, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to an improvement in brick-kilns whereby the heat from the furnace may be properly distributed throughout the kiln, and whereby the cold air may be properly distributed throughout the kiln, in order to dry off the brick after they have been set; and my invention consists of features of novelty hereinafter described, and pointed out in the claims.

Figure I is a vertical longitudinal section of my improved kiln-furnace. Fig. II is a horizontal section taken on line *xx*, Fig. I. Fig. III is a transverse section showing the various openings in the furnace. Fig. IV is a perspective view showing a series of the furnaces and a section of the kiln-wall in the rear. Fig. V is a perspective view of the kiln-damper. Fig. VI is a horizontal section showing the peep-holes into the kiln. Fig. VII is a perspective view of one of the brackets for holding the door-frame.

Referring to the drawings, 1 represents the side wall of the kiln, against which a series of furnaces 2 are built. The furnaces are built double, each furnace supplying two openings into the kiln. The whole series of furnaces are built up solidly, as shown in Fig. IV.

3 represents the fire-chamber of the furnace, 4 the fuel-opening, and 5 the door to the same.

6 represents the ash-pit, over which are placed the usual gratings 7.

8 represents the damper, by which the opening into the ash-pit may be closed. In the side walls of the furnace I form air-conduits 9. The air-conduits extend along each side of the fire-chamber and along each side of a combustion-chamber 10, situated at the rear of the fire-chamber. (See Fig. II.) The air-conduits extend through the front wall of the furnace, as shown in Figs. II and IV.

11 represents a series of lateral openings

from the air-conduits into the fire and combustion chambers, which permit the air to enter into the same, as shown by arrows in Fig. II. By the use of suitable means—such as a brick, for instance—the front openings of the air-conduits may be closed if the furnaces should become overheated; or if one side of the furnace should become hotter than the other side, then one of the air-conduits can be closed until the heat has become evenly distributed.

12 represents a series of peep-holes extending through the furnaces into the kilns, by which means the operator can see and judge of the amount of heat the bricks in the kiln are being subjected to and regulate the furnaces accordingly.

Leading from the rear of the combustion-chamber are heat and air openings 13 14 from the furnace into the kiln. The lower openings 13 extend some distance into the interior of the kiln, as shown at 15.

I do not confine myself to any certain distance to which the openings 13 may extend, for if it is found desirable they may extend to the center of the kiln. The openings 14 are placed above the openings 13 and discharge the heat and air direct into the side of the kiln.

16 represents a damper by which the openings 13 14 may be closed entirely, or partly so, as may be desired. I have shown this damper composed of an ordinary tile, a chain 17 attached thereto, said chain extending through the roof of the combustion-chamber, and pins 18 attached to the side of the kiln-wall, to which the chain may be attached in order to hold the damper in any desired position; but I do not confine myself to this form of damper or the means of operating the same.

19 represents a loose tile in the roof of the combustion-chamber, through which the chain 17 passes. This tile may be readily removed if it is desired at any time to remove the damper from the furnace.

20 represents a series of brackets secured to the front wall of the furnaces. The brackets are provided at their upper ends with shoulders 21, into which rests a bar 22, which extends along the front of the furnaces. The bar 22 also rests on shoulders 23 on the top of

the door-frames, the door-frames being thus connected and held firmly in their proper places.

5 By the use of the damper 16 I can permit the heat and air to pass in through both of the openings 13 14, if desired; or if the upper part of the kiln should become too hot I can regulate the size of the openings 14, or close the same entirely, if desired, thus throwing
10 the heat to the center of the kiln through the openings 13 and allow the overheated upper portion to cool down to the proper degree of heat. By the same means I can regulate the size of the openings 13 or close the same en-
15 tirely, if desired.

By the proper use of the damper I am enabled to prevent any of the brick from becoming fire-flashed and thus ruined for certain purposes.

20 After the kiln has been set I raise the dampers up, permitting plenty of fresh air to pass into the kiln to drive out the water-smoke and properly dry the brick, thus preventing the brick from becoming steamed and soft-
25 ened, which causes them to crack and become shaky and rendered unfit for use.

I claim as my invention—

1. In a brick-kiln, the combination of the body of the kiln, fire-chamber 3 and combustion-chamber 10, two contiguous conduits 13 30 14, leading from the combustion-chamber to the kiln, one of said conduits 13 extending into the body of the kiln, and a single damper for regulating the draft in the two conduits 13 14, being adapted to close one and leave 35 the other open, or to close or open both, substantially as described.

2. In a brick-kiln, the combination of the body of the kiln, a furnace having a fire and a combustion chamber, contiguous conduits 40 or flues 13 14 on each side of said furnace, leading from the combustion-chamber to the kiln, one of said conduits extending into the body of the kiln, a damper 16 for regulating the draft in said conduits, and chain 17 for 45 controlling the damper, said chain passing through loose tile 19 in the roof of the combustion-chamber and being attached to pin 18 in the side of the kiln-wall, substantially as described.

LOUIS H. REPPELL.

In presence of—

JAS. E. KNIGHT,

F. G. FISCHER.