

No. 709,869.

Patented Sept. 30, 1902.

P. BRANDNER.

CHIMNEY OR OTHER CURVED FIREPROOF STRUCTURE.

(Application filed Mar. 3, 1902.)

(No Model.)

FIG. 2.

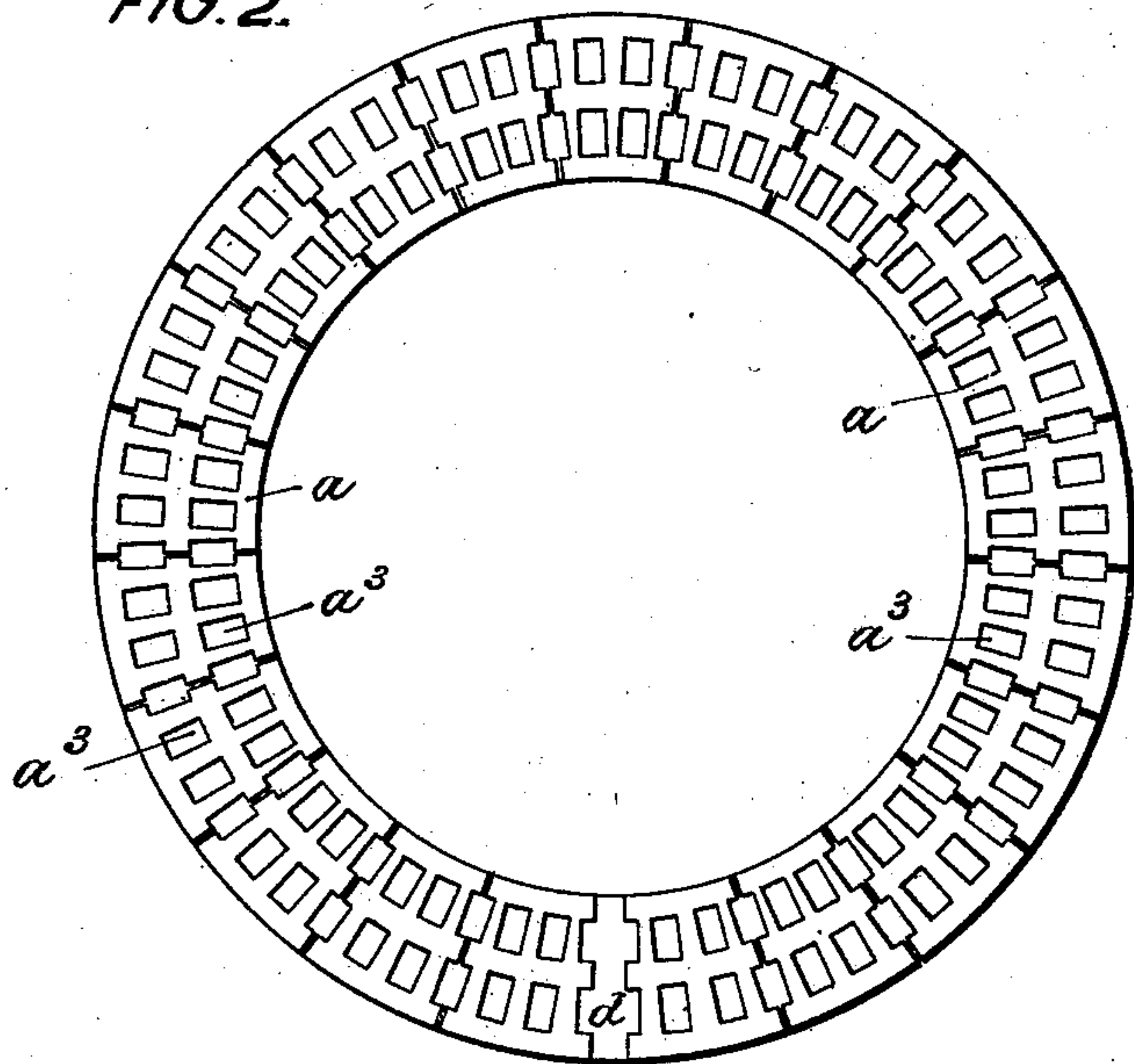


FIG. 1.

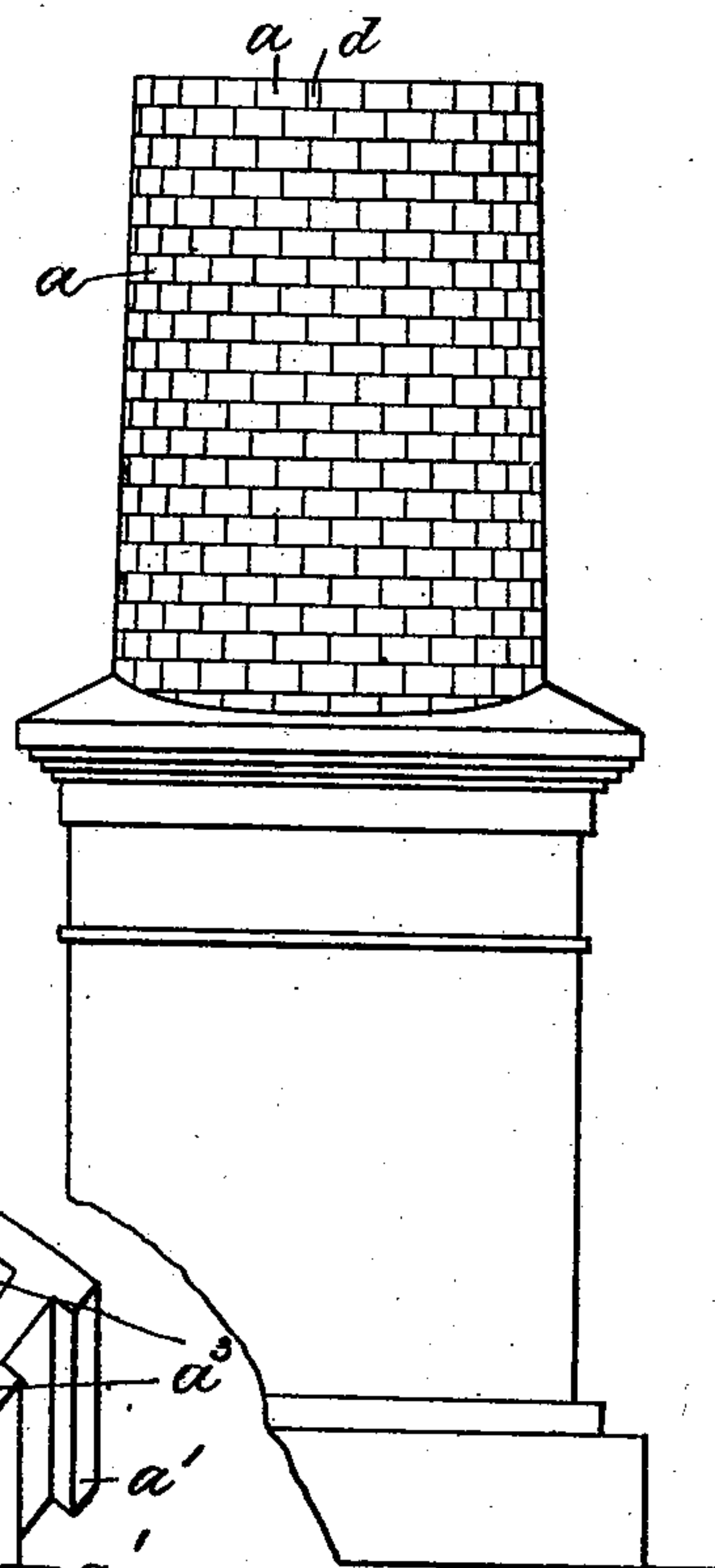


FIG. 3.

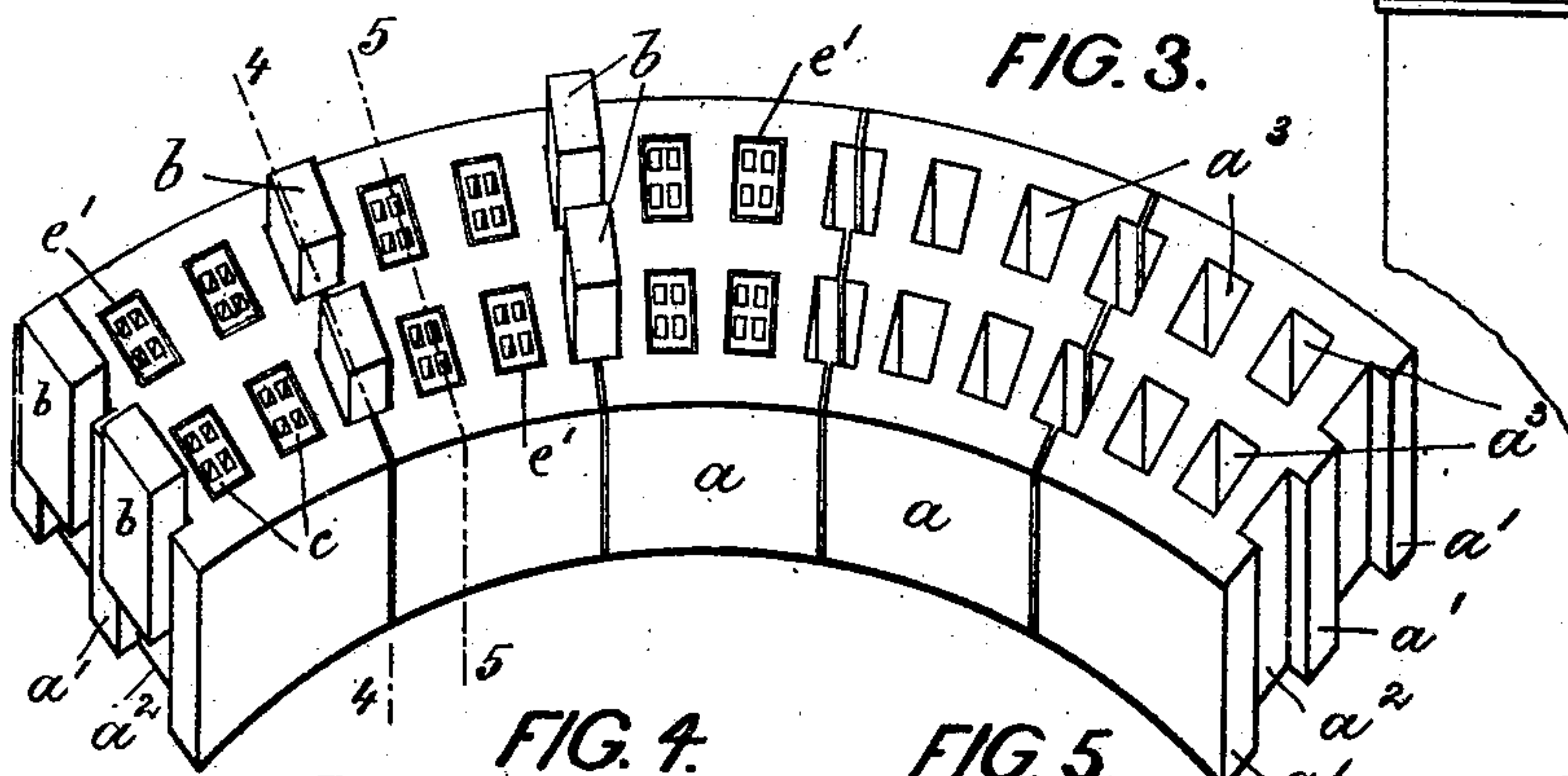


FIG. 4.

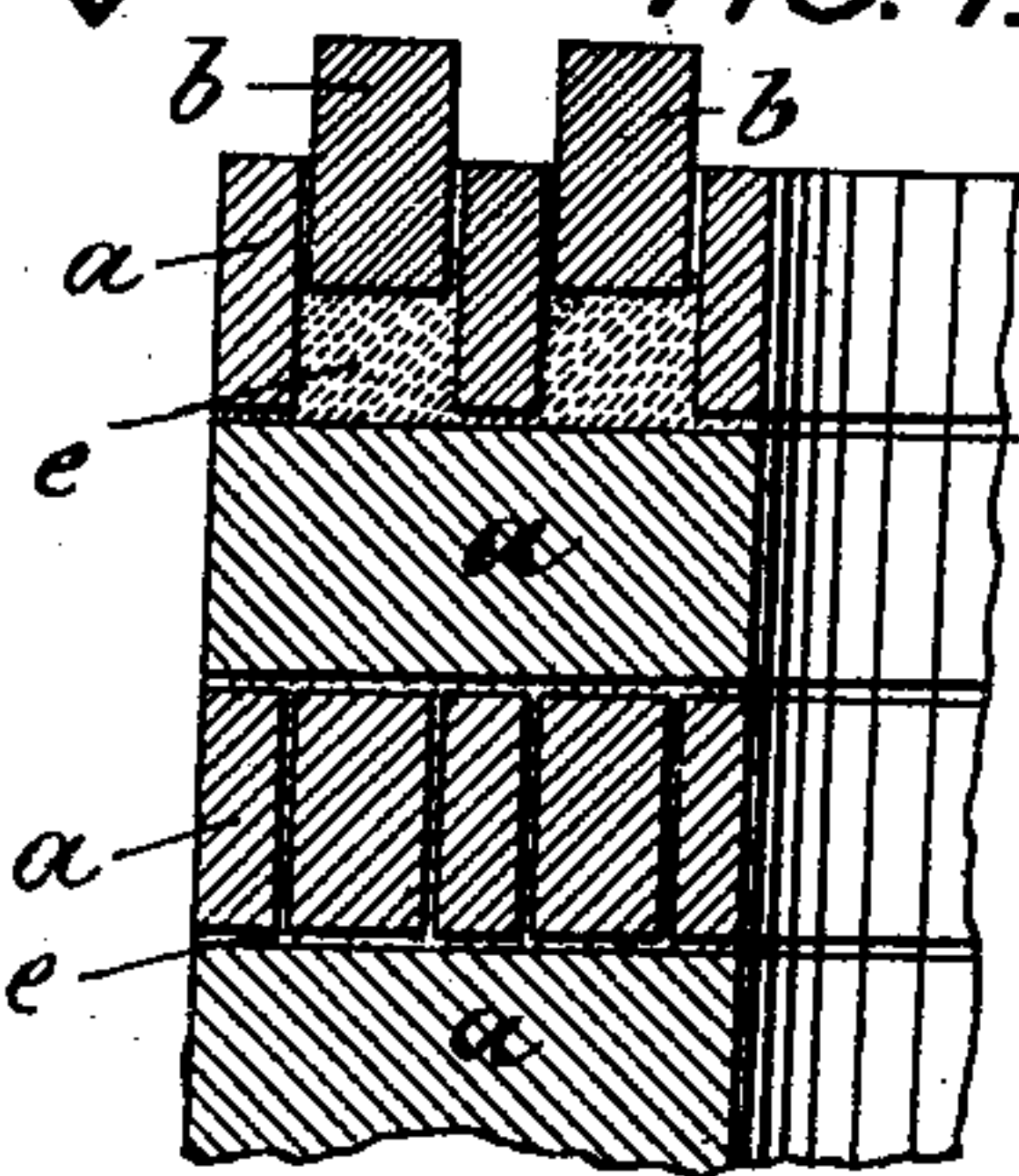


FIG. 5.

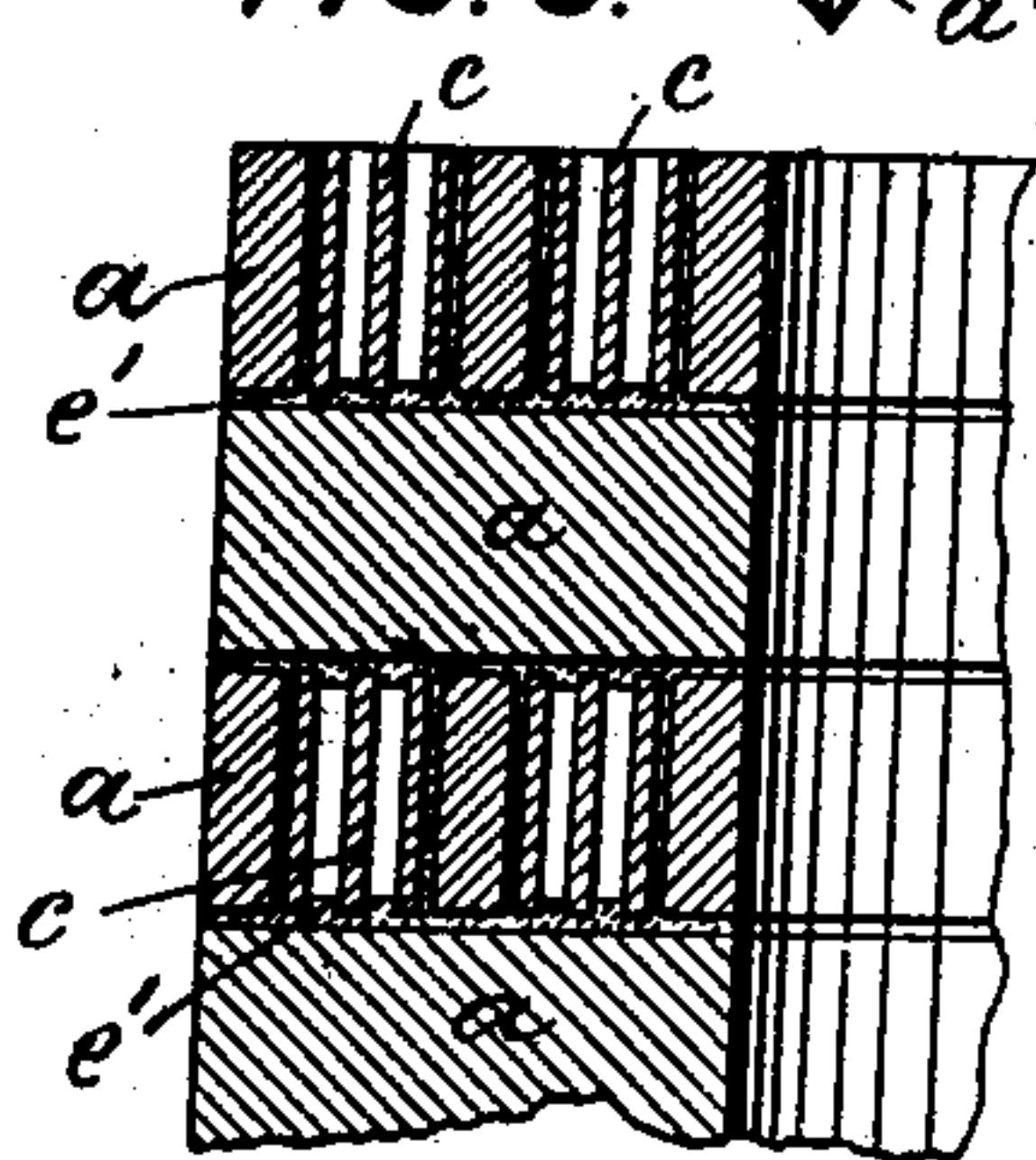
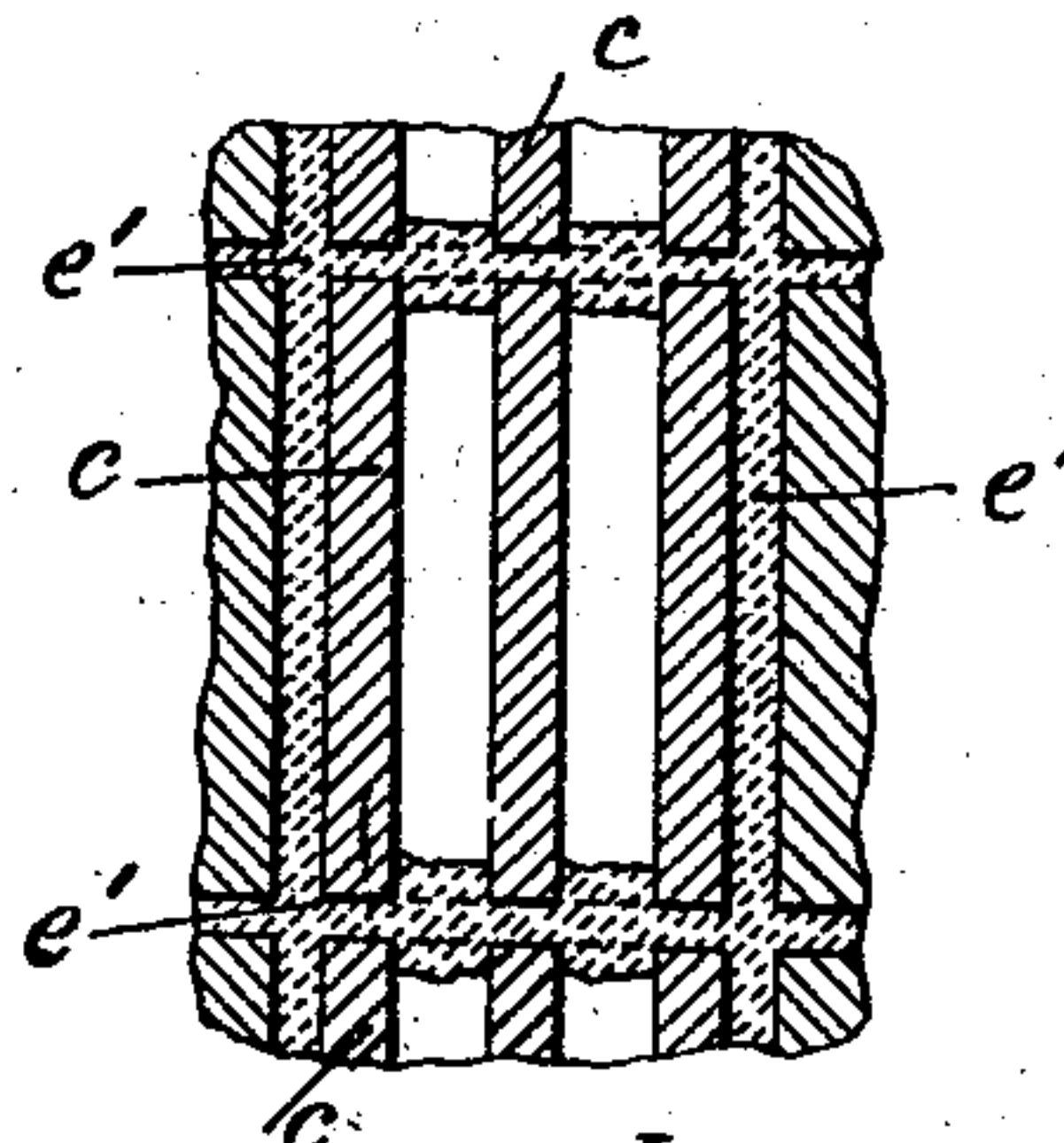


FIG. 6.



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CHIMNEY OR OTHER CURVED FIREPROOF STRUCTURE.

SPECIFICATION forming part of Letters Patent No. 709,869, dated September 30, 1902.

Application filed March 3, 1902. Serial No. 96,871. (No model.)

To all whom it may concern:

Be it known that I, PAUL BRANDNER, a citizen of the United States, and a resident of Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Chimneys or other Curved Fireproof Structures, of which the following is a specification.

This invention relates to an improved manner of constructing chimneys, shafts, arches, and similar circular or curved structures from fireproof blocks.

In the accompanying drawings, Figure 1 is a front elevation, on a reduced scale, of a partly-completed chimney constructed according to my invention. Fig. 2 is a plan of the topmost course of the blocks; Fig. 3, a perspective view of a portion of a course, showing key-stones and filling-blocks. Fig. 4 is a cross-section on line 4 4, Fig. 3; Fig. 5, a cross-section on line 5 5, Fig. 3; and Fig. 6 a cross-section of a modified arrangement of the filling-bricks.

The fireproof blocks *a*, from which the chimney is constructed, are of the shape shown in Fig. 3. Each block has an outer curved face, a concentric inner curved face, and two converging or radial sides. Each of the two converging sides is provided with a number of projecting flanges *a'* and intervening grooves *a²*. The grooves and projections on all the blocks are similarly arranged, so that when two blocks are placed side by side the flanges *a'* of one block will abut against the flanges of the adjoining block, while the two grooves will conjointly form one continuous perforation, which is adapted to receive a key-brick *b*.

The blocks *a* are hollow, being provided with perforations *a³*, which are filled with hollow or solid bricks *c* of standard size.

In building up a chimney or other curved fireproof structure I proceed as follows: The blocks *a* are set in circular courses into the mortar spread on the lower bed-joint, the vertical joints receiving mortar only on the outer ends of the flanges *a'*. All blocks of a course are set close together to insure the slipping in of the last block, between which and the adjoining block a gap *d* of greater or less width is apt to be left open. The perforations between the blocks formed by the grooves *a²* are partly filled with mortar *e*, and then the key-bricks *b*, of ordinary hard brick, are wedged into the perforations by a ham-

mer. These bricks will thus spread the blocks *a* uniformly, so as to close the gap *d*. The mortar *e* in the grooves *a²* will at the same time be forced into the vertical joints between the flanges *a'*, so that all joints will be made perfectly tight. The interior perforations *a³* are now also filled with the bricks *c*, which may be either solid or hollow. These bricks are surrounded on all sides by a mortar joint *e'* and serve to increase the strength of the structure. When hollow, they form a number of air-spaces to effect thorough insulation. If the perforations in superposed courses of filling-bricks *c* are in alinement with each other, they are separated by an intermediate course of mortar, Fig. 6. This course prevents circulation and subdivides the air-spaces into a number of insulated air-cells.

It will be seen that by my invention the blocks of each course will be spread so as to close any gap remaining between the first and the last block. Thus it is unnecessary to space the blocks by hand and it is also unnecessary to reduce the size of the last block by chipping it off. Further, the driving home of the bricks *b* not only uniformly spreads the blocks *a*, but it simultaneously fills the opening joints with mortar which is displaced by the bricks *b* from the grooves *a²*. In this way the blocks *a* will be properly spaced and the opening joints will be made tight at one and the same operation.

What I claim is—

1. A chimney or similar curved fireproof structure composed of hollow fireproof blocks having arched faces and converging grooved sides, combined with key-bricks engaging the grooves of adjoining blocks, and filling-bricks set within the perforations of the blocks, substantially as specified.

2. The method of constructing a chimney or similar curved fireproof structure which consists in setting a circular course of grooved fireproof blocks, partly filling the grooves with mortar, and then driving key-bricks into the grooves to spread the blocks and to simultaneously fill the opening joints with the displaced mortar, substantially as specified.

Signed by me at New York city, New York, this 1st day of March, 1902.

PAUL BRANDNER.

Witnesses:

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