

(No Model.)

W. SWINDELL.
REGENERATOR FURNACE.

No. 295,209.

Patented Mar. 18, 1884.

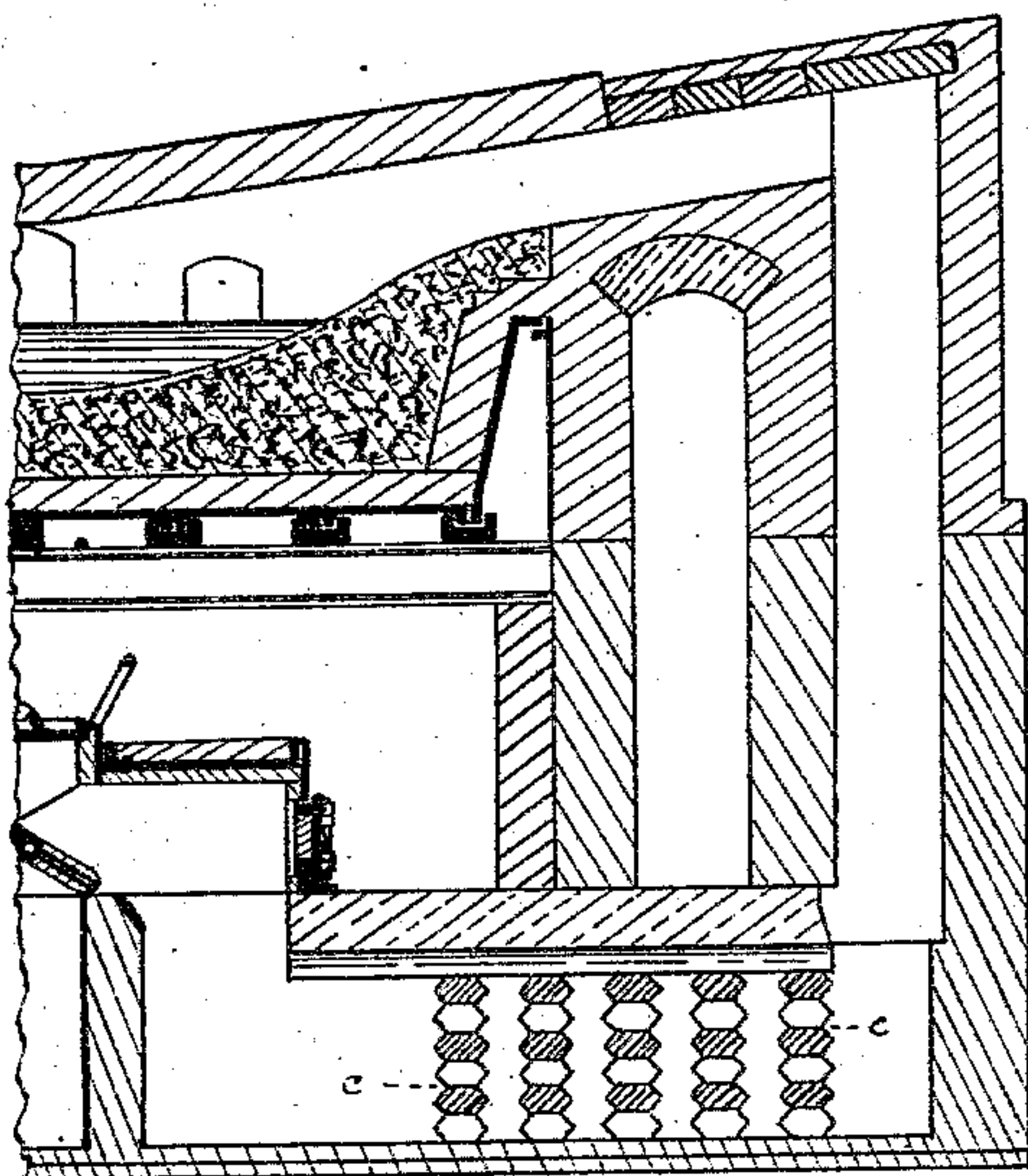


Fig. 1.

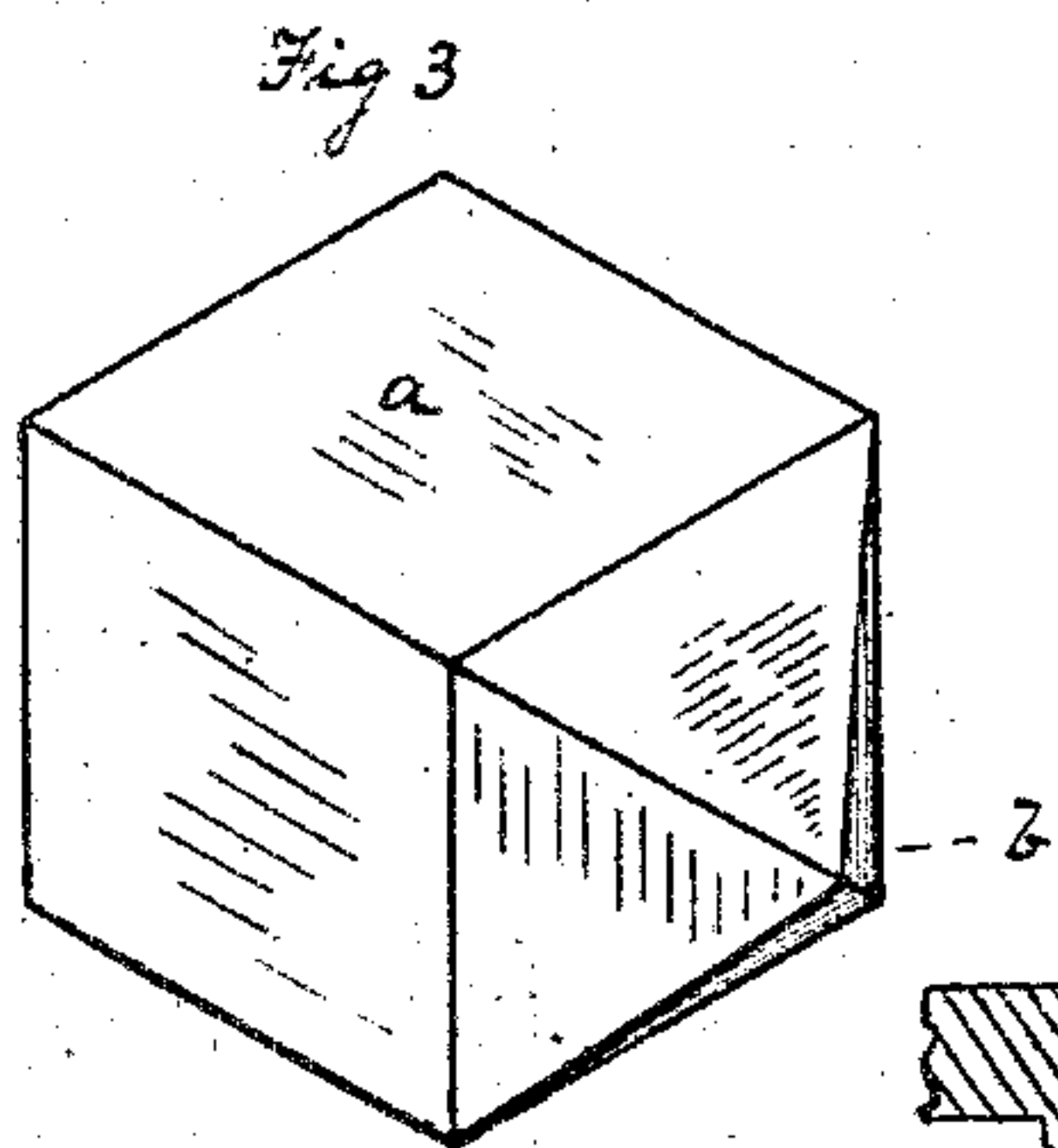


Fig. 3.

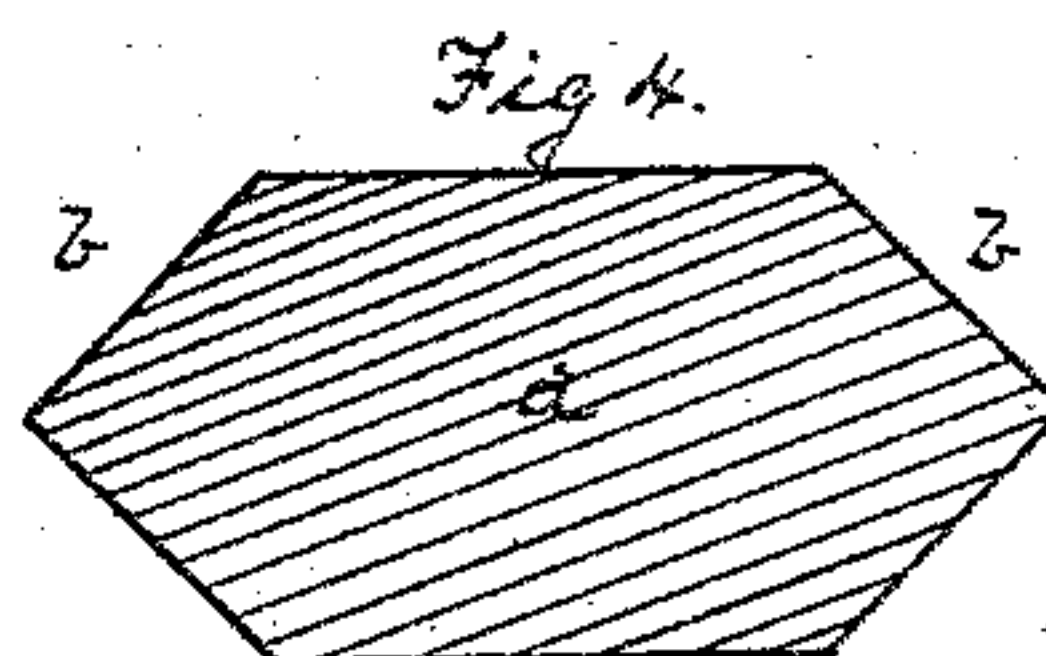


Fig. 4.

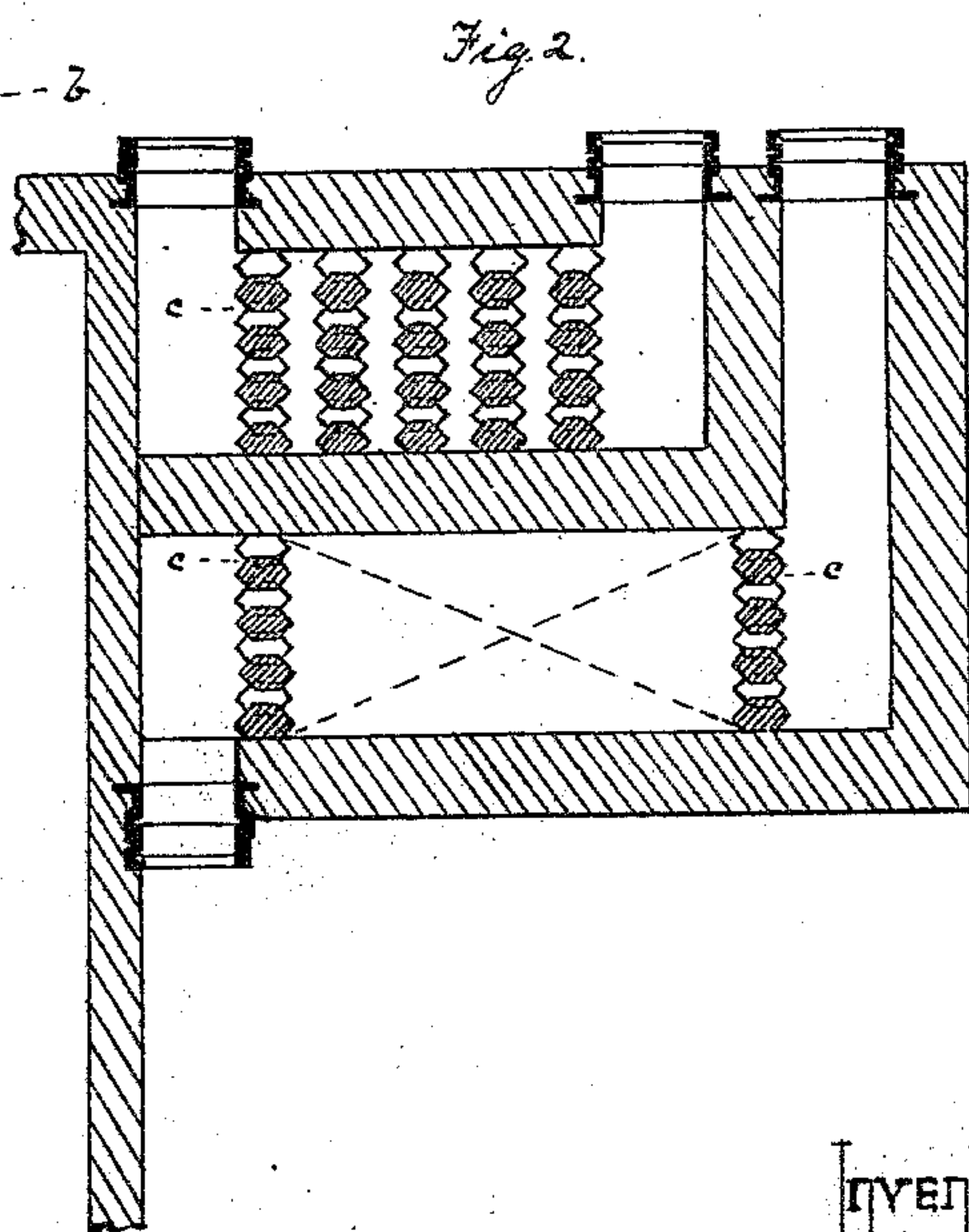


Fig. 2.

Witnesses.

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WILLIAM SWINDELL, OF ALLEGHENY, PENNSYLVANIA.

REGENERATOR-FURNACE.

SPECIFICATION forming part of Letters Patent No. 295,209, dated March 18, 1884.

Application filed October 21, 1882. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM SWINDELL, of Allegheny city, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Regenerator-Furnaces; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to an improvement in the construction of the checker-work of regenerator-furnaces; and it consists in a checker-work formed of fire-brick, both ends of which are conical, conoidal, or pointed, so as to break or divide the currents of gas or air, and to afford a larger absorbing and radiating surface, by which the air or gas is more thoroughly heated, while the force of the currents of air and gas is retarded in a less degree, and the bricks are less liable to be cut and injured by the currents of heat.

I will now describe my invention, so that others skilled in the art may manufacture and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical sectional view through the checker-work of a regenerator-furnace, showing my improvements. Fig. 2 is a horizontal sectional view of the same. Fig. 3 is a perspective view of my improved brick, and Fig. 4 is a sectional view of a brick adapted for the construction of my improved checker-work.

Like letters of reference indicate like parts wherever they occur.

The body of the bricks I preferably employ, as shown in the drawings at A, may be rectangular in form, having projecting and tapering points B at their ends, which pointed ends may be pyramidal or conical in shape, so as

to form the spaces C between the points, the inclination of the sides of the ends to each other forming additional surfaces, which absorb and radiate the heat and deflect the currents of gas or air through the spaces of the checker-work. In forming the checker-work the bricks are laid in layers, the points of the brick extending in the direction of the run of the gases.

Although I have shown the body of the brick rectangular in form they may be formed in other shapes having pointed ends. These fire-brick may be manufactured in the usual manner from fire-brick clay.

The advantages of my invention are, that the currents of air or gases are not deflected from the surface of the brick, nor are the currents retarded to the same extent as is the case in regenerators constructed with the common form of brick; but the checker-work will break the currents evenly on this account, and, also, on account of the surface exposed being greater in the direct currents, they absorb a greater amount of heat, and, for the same reason, the air and gas passing through the checker-work is more thoroughly heated than has been done heretofore.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

A regenerator-chamber having a checker-work composed of a series of layers or courses of double-pointed refractory bricks, substantially as and for the purpose specified.

In testimony whereof I have hereunto set my hand this 17th day of October, A. D. 1882.

WILLIAM SWINDELL.

Witnesses:

W. B. CORWIN,
T. B. KERR.