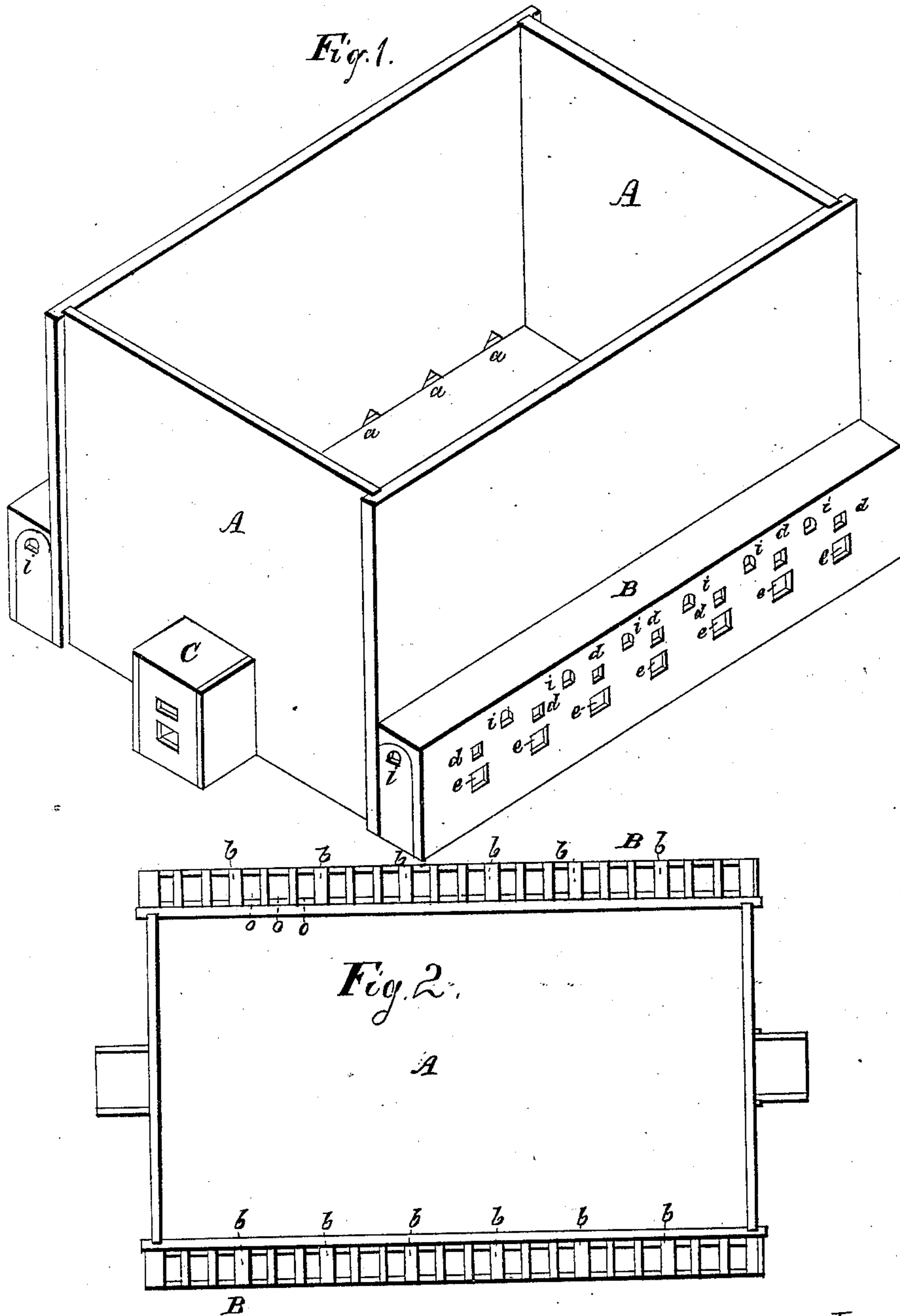


S. D. RADER.

Brick Kiln.

No. 82,248.

Patented Sept. 15, 1868.



Witnesses

J. Alfred Blair  
J. Meier

Inventor

S. D. Rader  
Per  
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# United States Patent Office.

S. D. RADER, OF WILLIAMSPORT, PENNSYLVANIA.

*Letters Patent No. 82,248, dated September 15, 1868.*

## IMPROVEMENT IN BRICK-KILNS.

*The Schedule referred to in these Letters Patent and making part of the same.*

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, S. D. RADER, of Williamsport, in the county of Lycoming, and State of Pennsylvania, have invented certain new and useful Improvements in Brick-Kiln; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification, and in which—

Figure 1 is a perspective view, and

Figure 2 is a plan view.

The nature of my invention consists in the construction of a series of furnaces along the sides of a brick-kiln, and one at each end, by which not only is a great saving in time and fuel effected, but the heat is equalized throughout the whole kiln, thereby producing brick of uniform hardness, and superior in quality to those burnt in the ordinary manner.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation.

A represents a brick-kiln, built in any of the known and usual ways, with a series of openings, *a a*, through the sides of the same, near its bottom.

These openings, in ordinary kilns, are used as furnaces for receiving the fuel and generating the heat by which the mass of brick above are to be burned to the proper degree of hardness.

I do not use the openings *a a* for that purpose, but I construct one long furnace, B, along each side of the kiln, dividing these long furnaces into smaller ones, *g g*, by partitions *b b*, which partitions do not, however, extend as high up as the arched top of the furnace B, but only part of the way, being placed under the openings *a a* in the kiln.

The gratings *c c* are placed crossways, and the openings *d d* to the furnaces, through which the fuel is put in, as well as the openings *e e* to the ash-pits, underneath the grating, are all provided with doors.

The furnaces B B are provided with a series of openings, *i i*, corresponding in position with, that is, are opposite to, the openings *a a* in the kiln, but smaller in size, and the object of these openings is to introduce currents of air, and drive the flame and heat into the openings *a a*. The doors to the furnaces may be closed after the fuel is received, or partly closed, as draught is required, as the openings *i i* supply air enough to maintain combustion. The furnaces B B are further provided, at each end, with a similar opening, *i*.

At each end of the kiln A, and in the centre thereof, is another furnace, C, which supplies heat to an arch running across the kiln, crossways of the arches in setting the brick. This also gives draught for the long furnaces for the middle of the kiln.

In setting up the brick in the kiln, after the arch is formed, I set the third row from the walls close together all around the kiln, and all the way upto the platting, so as to keep the heat out to the walls, and then the brick will burn hard to the walls, and to the top of the kiln.

The middle arch can be dispensed with, but in that case the kiln must be less in width between the long furnaces.

This kind of kiln is adapted for burning red brick, fire-brick, tiles, or crockery, or for any other purpose to which the common kiln can be applied.

It is also admirably adapted for drying purposes.

I am aware that a patent has been granted to E. W. Bingham, for a brick-kiln, dated June 23, 1868, somewhat similar to my invention, and I therefore disclaim the devices or combination of devices contained in said patent; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

The arrangement of the kiln A, end-furnaces C, and long side-furnaces B, composed of a series of small fireplaces *o o o*, and provided with draught-holes *i i*, at the side and ends, all constructed substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing as my own, I affix my signature in presence of two witnesses.

S. D. RADER.

Witnesses:

T. H. ALEXANDER,

J. W. MISTER.