

J. R. BOWERS.
Fire-Proof Arches for Brick-Kilns.

No. 213,805.

Patented April 1, 1879.

Fig. 2.

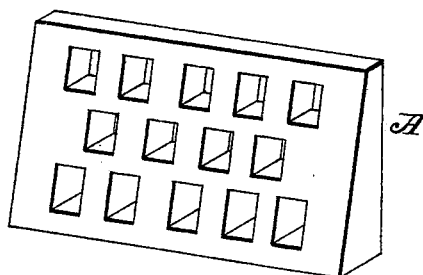
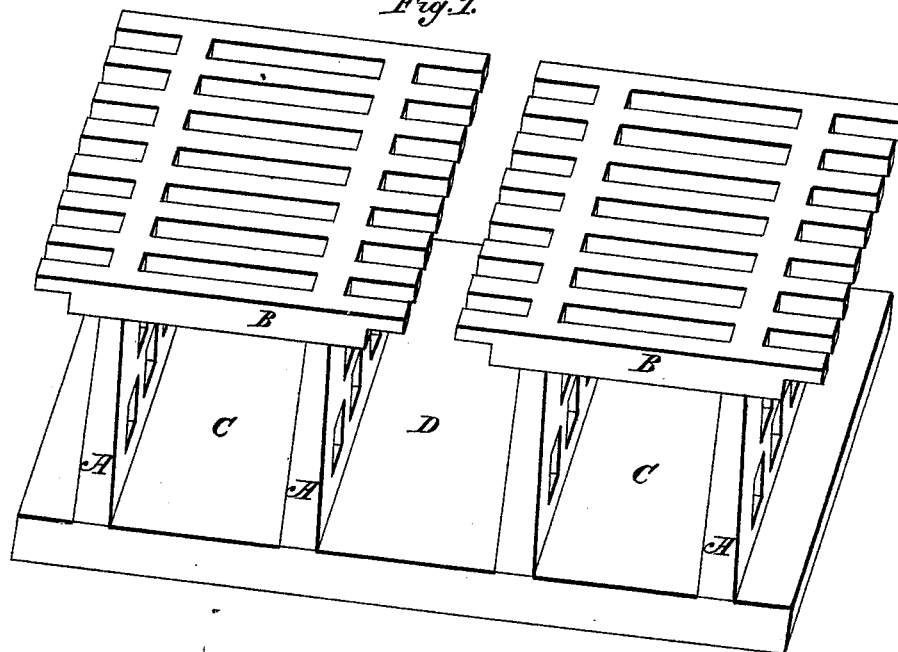


Fig. 1.



Attest:
H. H. Schutt.
C. H. Parker

Inventor:
Joseph R. Bowers,
By A. R. Brown
att'y.

UNITED STATES PATENT OFFICE.

JOSEPH R. BOWERS, OF CONCORD, NEW HAMPSHIRE.

IMPROVEMENT IN FIRE-PROOF ARCHES FOR BRICK-KILNS.

Specification forming part of Letters Patent No. **213,805**, dated April 1, 1879; application filed January 30, 1879.

To all whom it may concern:

Be it known that I, JOSEPH R. BOWERS, of Concord, State of New Hampshire, have invented a new Method of Constructing Movable Fire-Proof Arches for Brick-Kilns, of which the following is a specification:

The object of my invention is to construct fire-proof arches for brick-kilns, whereby the great waste and loss on account of the production of bricks of an inferior quality in the arches of brick-kilns by the present process of forming the arches of unburned brick may be avoided.

My method of constructing these arches is illustrated in the plan view, Figure 1, and sectional view, Fig. 2.

I make brick or tile of fire-proof clay and other material commonly used in making fire-proof tile or brick of convenient size, as represented in Fig. 2, and marked A, and in Fig. 1 marked A A A A. These tiles have holes in them, as shown in the above Figs. 1 and 2. I make gratings of the same material, (marked B B in Fig. 1.)

To form the arches for a brick-kiln, the tiles or brick A A A A are set up edgewise, and the gratings B B are placed on the top of the tiles, as shown in Fig. 1.

In forming a kiln for burning, the tiles are set up with the gratings on them, in sections, to any extent, according to the desired size of the kiln.

When the arches are set up for burning, the spaces marked C C in Fig. 1 may be set with unburned brick, and the unburned brick are set on top of the gratings in the usual manner of face and common brick-kilns.

The space marked D in Fig. 1 forms the arch for the fire. The holes through the tiles A A A A and through the gratings B B allow

the heat to pass readily into the body of the kiln when in the process of burning. The ends or upper jets of the gratings are left a few inches apart, so that the workmen can see a few of the bricks in the process of burning, and thus be enabled to determine when the desired heat is attained, as well as in arches constructed of unburned brick.

The arches of my construction being able to withstand heating and cooling many times, they may be reused in burning a large number of kilns.

Many of the advantages gained by my method of forming arches will be apparent, some of which I will describe: First, any unskilled workman can set up the arches so that they will all be uniform; second, they will not melt or fall in; third, there will be no obstruction to the draft on putting fuel into the arches on account of pieces of brick falling down from the jets, as occurs very often in the arches of common brick-kilns; fourth, the arches remaining perfect during the process of burning, the body of the kiln is not liable to sway over, as frequently happens in common brick-kilns, whereby many bricks are injured. In short, by using my arches, no misformed arch-bricks are produced, but bricks of a uniform quality are produced in the kiln.

I claim as my invention—

The movable fire-proof arch or lining for brick-kilns herein described, consisting of the perforated tiles A and gratings B, made of suitable fire-proof clay and arranged in sections, to operate as and for the purposes set forth.

JOSEPH R. BOWERS.

Witnesses:

N. GILES,
M. BARTLETT.