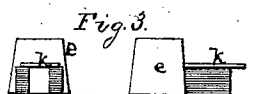
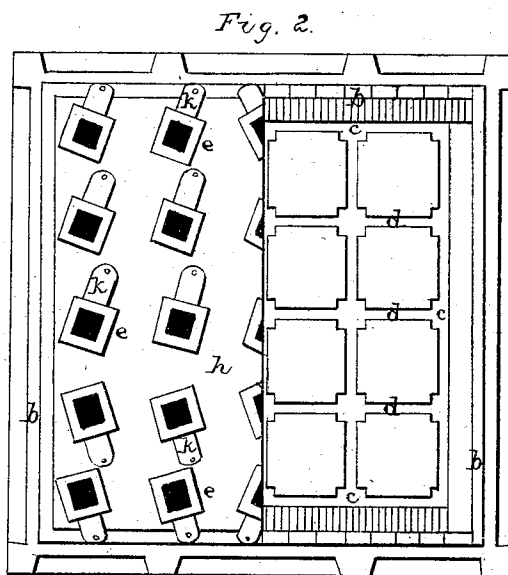
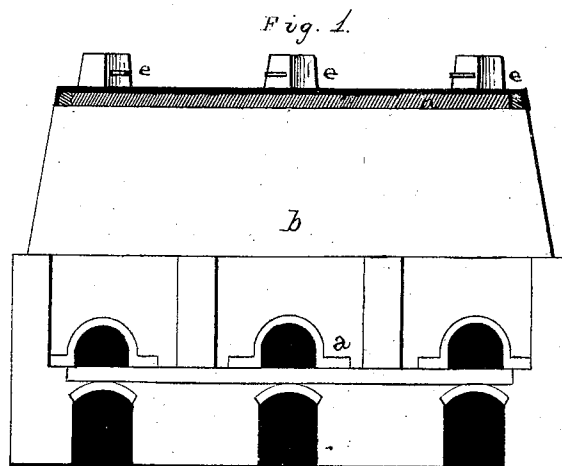


P. J. WALSH & W. J. TAYLOR.

Brick-Kilns.

No. 136,568.

Patented March 4, 1873.



WITNESSES.

J. S. Dodge
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INVENTORS.

Patrick J. Walsh
William J. Taylor.
Per H. S. Abbot
att'y.

UNITED STATES PATENT OFFICE.

PATRICK J. WALSH AND WILLIAM J. TAYLOR, OF OIL CITY, PA.

IMPROVEMENT IN BRICK-KILNS.

Specification forming part of Letters Patent No. 136,568, dated March 4, 1873.

To all whom it may concern:

Be it known that we, P. J. WALSH and W. J. TAYLOR, of Oil City, county of Venango, and State of Pennsylvania, have invented certain new and useful Improvements in Burning Brick, of which the following is a specification:

The nature of our invention relates to the construction of kilns for burning brick; and consists in so constructing the plating that, as the bricks in the kiln contract as they are burned, the plating will sink down with them inside of the outer wall without cracking or breaking, and thus prevent the escape of the heat. It also consists in placing the chimneys in an angling position, so that the valves will be in such a position as to be easily reached from the side, as will hereafter be more fully set forth.

In the accompanying drawing, Figure 1 represents a side elevation of the kiln. Fig. 2 is a plan view of the same, part of the plating being removed so as to show the flues. Fig. 3 is a detailed view.

a represents the furnace, upon which the bricks to be burned are piled. The outer walls *b* of the kiln consist of a single layer of the bricks, laid upon their sides, plastered over on the surface with clay so as to prevent the escape of the heat, and which incline slightly inward toward the top. Inside of this casing the bricks are piled or backed up above the furnaces to the top.

In the old way of making kilns it is customary to have plating over the whole top made of a layer of brick alone without a layer of clay; but as soon as the bricks begin to contract and sink down, from the effect of burning, this plating separates and becomes displaced, and through the open spaces the heat rapidly escapes and is lost.

In order to obviate this trouble we cover over the top with a layer of brick and clay, *h*, which lies inside the outer walls *b*, as shown in Fig. 2, so that, as soon as the mass begins to contract and sink, this plating sinks evenly

down with it, and, as the outer walls are inclined inward, they follow the mass downward, and thus the whole plating is preserved without a single break through which the heat can escape. Upon the top of this plating *h*, over each intersection of the flues, is built a chimney, *c*, of a suitable size, placed in an angling direction, and provided with a damper or valve, *k*. These chimneys are placed in this angling position so that the valves can be reached from the side with the poker without having to lean over the intermediate chimneys.

By closing the valves upon one side the heat at once passes to the opposite one, and can thus be turned to any desired part at an instant's notice, so that every brick in the kiln can be evenly burned.

From practical experience in our own yard, we find that we can burn more brick in from three to four days less time than is usually done, at a greatly-reduced expense in time and labor.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The plating *h*, consisting of a layer of brick daubed down tightly with a layer of clay or mud, so that it will maintain its form intact, sinking bodily inside of the outer wall as the mass of bricks contracts from the effect of heat, substantially as set forth.

2. The chimneys *c*, provided with valves and valve-rests, placed in an angling position, so as to enable them to be operated from the side, and the smoke and fumes of sulphur avoided, substantially as set forth and shown.

In testimony that we claim the foregoing as our invention we hereunto affix our signatures this 17th day of December, 1872.

PATRICK J. WALSH.
WILLIAM J. TAYLOR.

Witnesses:

GEO. MEARNES,
DANIEL REED.