

A. CALIFF.

Improvement in Lime-Ovens.

No. 114,104.

Patented April 25, 1871.

Fig.1.

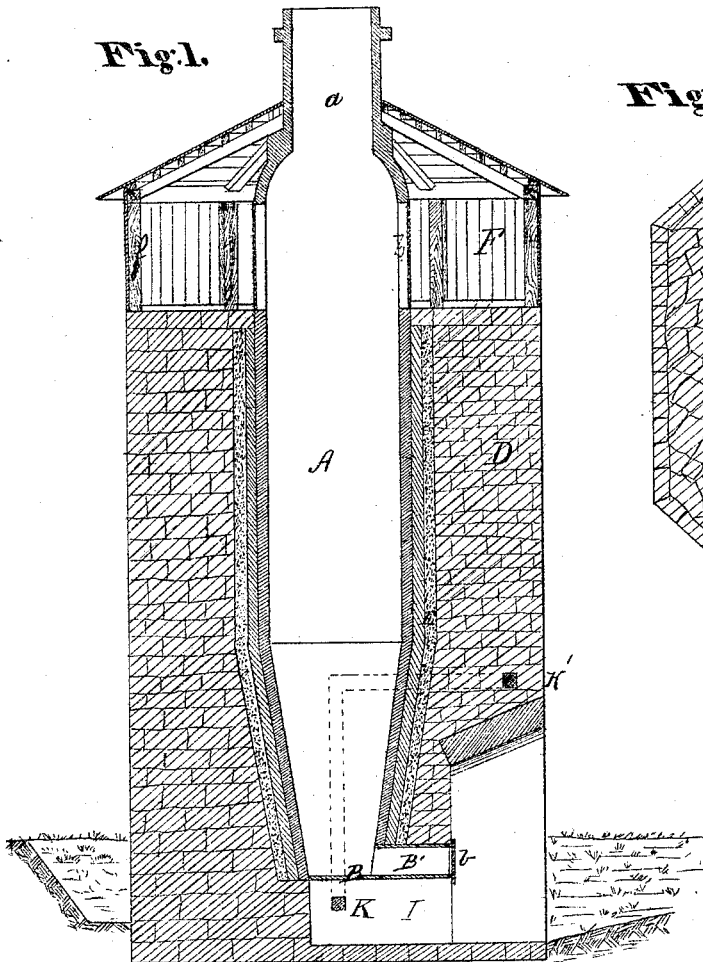
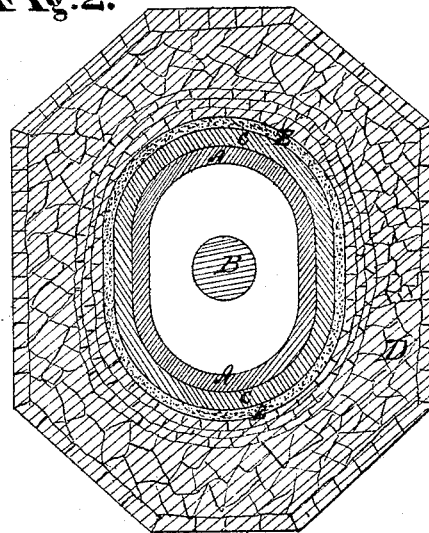


Fig.2.



Witnesses.

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AUGUST CALIFF, OF DANVILLE, ILLINOIS.

Letters Patent No. 114,104, dated April 25, 1871.

## IMPROVEMENT IN LIME-OVENS.

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, AUGUST CALIFF, of Danville, in the county of Vermilion and State of Illinois, have invented a new and valuable Improvement in Lime-Ovens; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing making a part of this specification and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a vertical section on line *a b*, fig. 5.

Figure 2 is a vertical section on line *c d*, fig. 5.

Figure 3 is a view in elevation of fire-place opening.

Figure 4 is a horizontal section on line *c f*, fig. 2.

Figure 5 is a horizontal section on line *g h*, fig. 2.

These improvements relate to the form and material of construction of a lime-kiln, as hereinafter fully described.

A represents the cupola, surmounted by a brick chimney, *a*, with doors *b* on either side opening into said cupola. The latter is constructed of fire-brick, is oval in its horizontal section, with perpendicular sides or walls less than two-thirds its length, and thence narrows and becomes conical toward the grate B.

C is a wall of common brick surrounding the fire-brick, and of equal thickness and form, and constructed with wings, *c*, projecting into an outer wall of stone or brick, D, of greater thickness. The latter may be octagon-shaped on its outer surface.

Between the walls C and D is a space, E, in which

is erected a wall of sand to protect the outer wall and render the inner structure air-tight.

F represents an air-tight compartment on top of the kiln, surrounding the chimney and properly roofed. It is provided with a door or entrance, *f*.

B is the grate.

B', a passage from grate-door *b* to the grate.

I is the ash-pit.

K K' represent air-passages, with openings in outer wall and underneath the grate for admitting a flow of air to create proper combustion.

The fire is started by putting in, first, shavings and wood; then a layer of coal; next a layer of lime; and then alternate layers of coal and stone. The fire after being started is continuous.

The object of the wall C is to retain the shape of the burner while the fire-brick is being replaced, after having become burned out or decayed.

Having described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

In the lime-kiln herein described, the combination of the outer wall D, the fire-brick wall A, the backing *e*, of common brick, and the sand-layer E, all arranged in the manner and for the purpose specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

Witnesses:

WOOD F. TOWNSEND  
WM. A. YOUNG.

AUGUST CALIFF.