

W. P. STUART.

Improvement in Lime-Kilns.

No. 129,617.

Patented July 16, 1872.

Fig. 1.

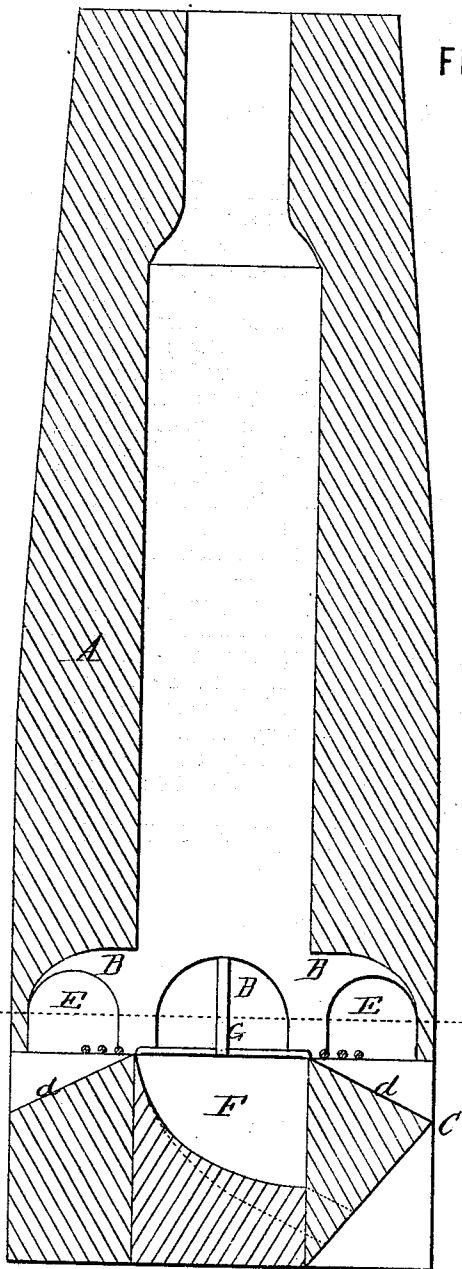
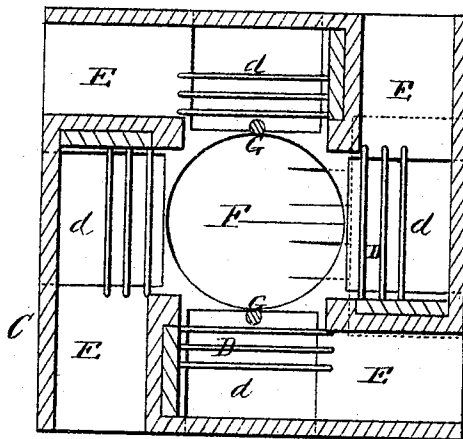


Fig. 2.



WITNESSES.

*Villette Anderson*  
*J. E. Upham.*

INVENTOR.

*William P. Stuart.*  
*Chipman & Son*  
*attys*

## UNITED STATES PATENT OFFICE.

WILLIAM P. STUART, OF HANNIBAL, MISSOURI.

## IMPROVEMENT IN LIME-KILNS.

Specification forming part of Letters Patent No. 129,617, dated July 16, 1872.

*To all whom it may concern:*

Be it known that I, WILLIAM P. STUART, of Hannibal, in the county of Marion and State of Missouri, have invented a new and valuable Improvement in a Lime-Kiln; 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 central section of my invention, and Fig. 2 is a horizontal section of the same.

This invention has relation to lime-kilns; and consists in the construction and novel arrangement of draught-flues, as hereinafter described.

In the drawing, A represents the cupola, having in the lower part the four fire-boxes B. C is a square base, constructed with an inclined ash-pit, *d*, in the middle part of each side, located directly under the fire-box of the corresponding side of the cupola. D designates the grate-bars. The construction of the ash-pits causes the ashes to keep clear of the grate-bars, lessening thereby their liability to burn out so soon and keeping the draught-space clear. E represents the draught-flues, extending from each side of the cupola to the fire-

box of the more adjacent side. The flues begin at points near the corners of the cupola, and run at right angles to lines drawn from the center of kiln through the centers of the respective fire-boxes into which the flues open. This arrangement greatly increases the draught-power of the kiln. The position of the flues with reference to the fire-boxes causes the draught to be directed toward the center of the kiln, and to carry the heat thereto, thereby producing a better result than ordinarily and with a less proportion of fuel. F designates the kiln-hearth; G, pillows to keep the rock out of the flues and fire-boxes.

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

In a lime-kiln having a fire-box, B, at each of its front sides, the draught-flues E, arranged at right angles to the respective fire-boxes into which they open, together with the inclined ash-pits *d* and the pillars G, constructed and arranged substantially as specified.

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

W. P. STUART.

Witnesses:

GEO. B. ARCHER,  
C. P. HEYWOOD.