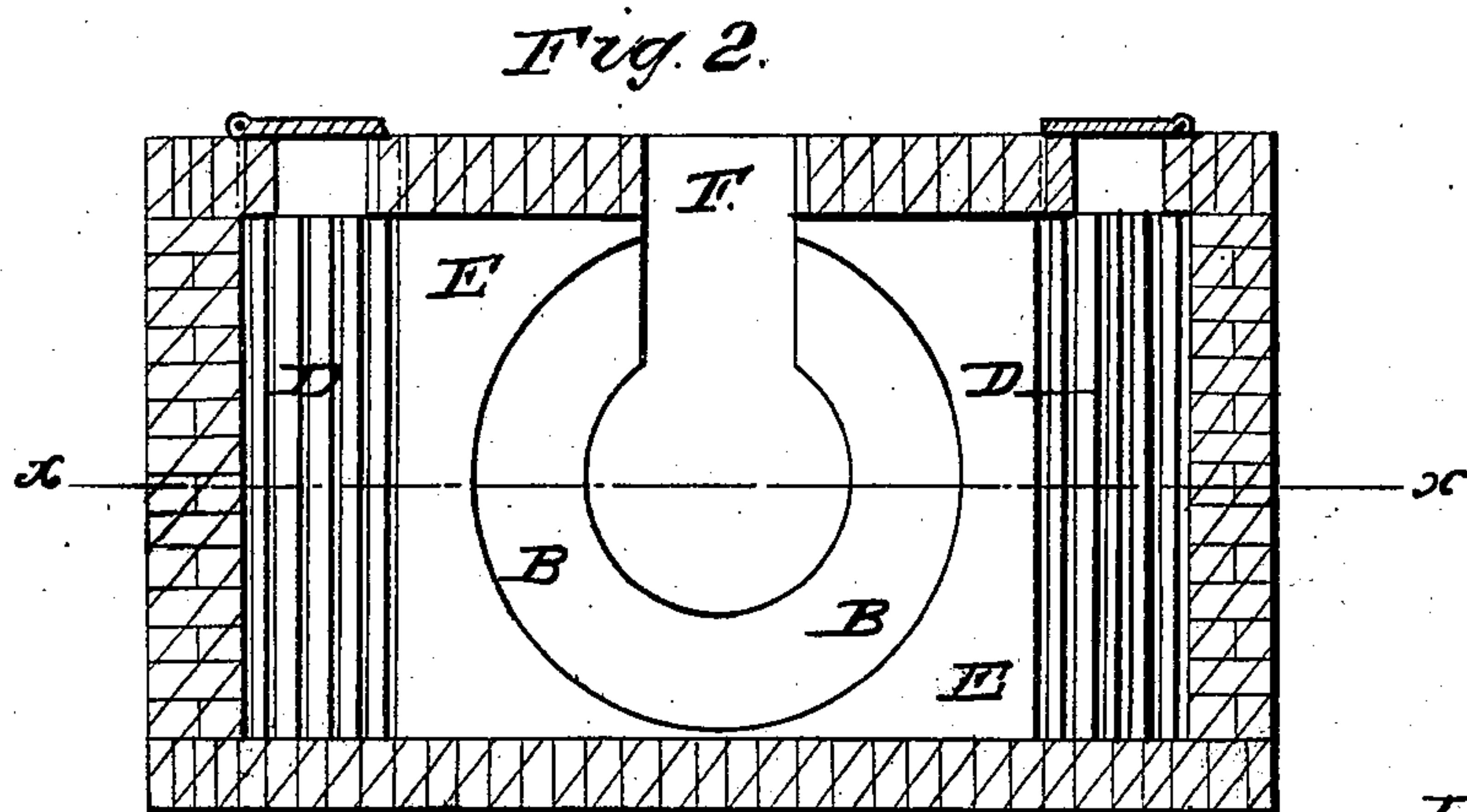
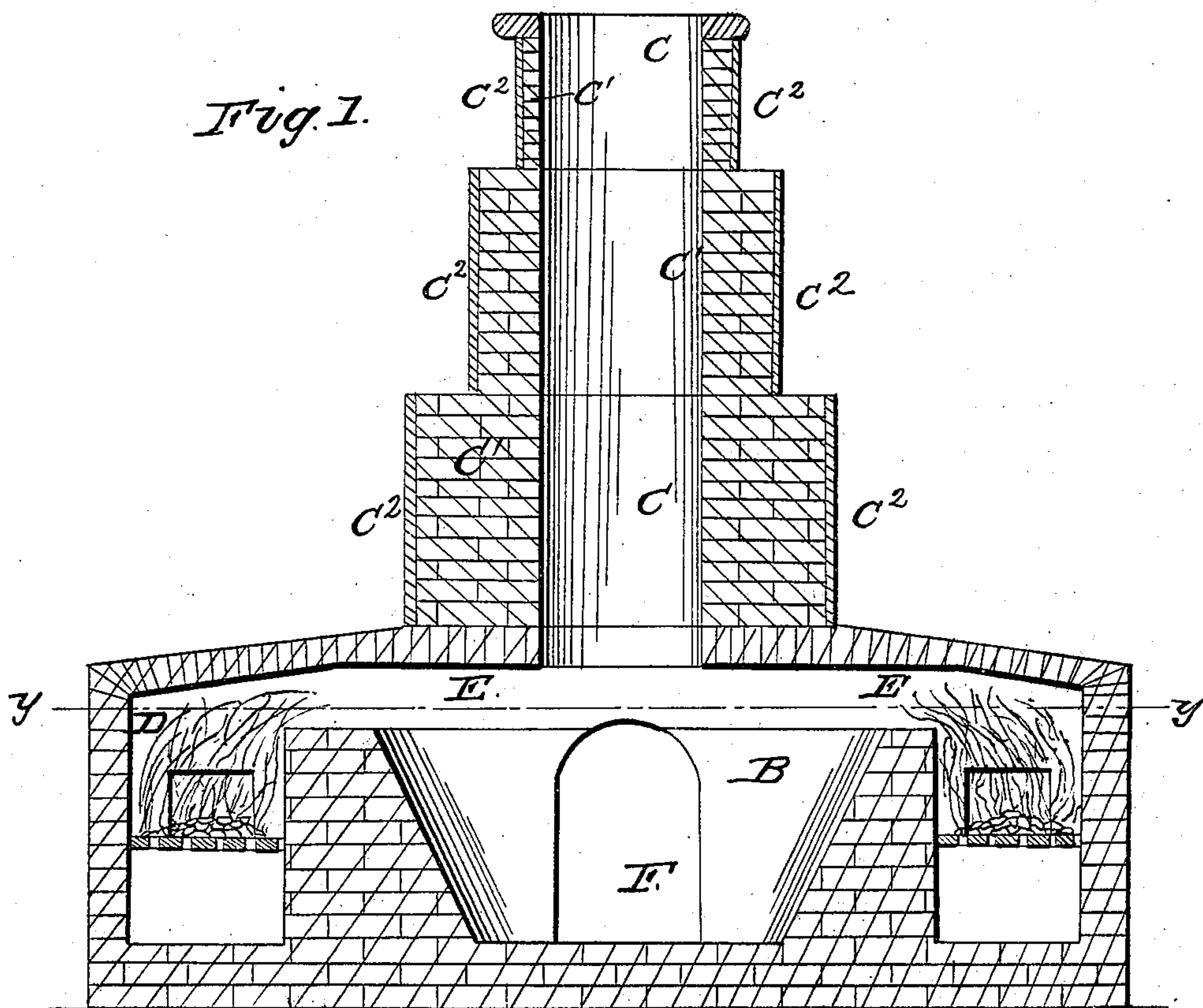


G. ATKINS.

Lime Kiln.

No. 87,131.

Patented Feb. 23, 1869.



Witnesses  
*Wm A Morgan*  
*G. C. Cotton*

Inventor  
*G. Atkins*  
*per Murray & Co*  
*attorneys*



GEORGE ATKINS, OF SHARON, PENNSYLVANIA.

*Letters Patent No. 87,131, dated February 23, 1869.*

**IMPROVED LIME-KILN.**

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, GEORGE ATKINS, of Sharon, in the county of Mercer, and State of Pennsylvania, have invented a new and useful Improvement in Lime-Kilns; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical section of my improved lime-kiln, taken through the line *x x*, fig. 2.

Figure 2 is a horizontal section of the same, taken through the line *y y*, fig. 1.

Similar letters of reference indicate like parts.

My invention has for its object to furnish an improved lime-kiln, simple in construction, easily and conveniently operated, and which will burn the lime thoroughly with a comparatively small amount of fuel; and

It consists in the construction and combination of the various parts, as hereinafter more fully described.

The kiln is constructed somewhat similar to a double heating-furnace, with two or more fire-grates.

B is the bosh, which is made in the shape of an inverted truncated cone, and having a much greater diameter than the diameter of the stack C.

D are the furnaces, which project from or are formed at the sides of the kiln, are arched over, and from which the products of combustion pass directly into the upper part of the bosh B, through the wide flues E, at the base of the stack C.

F is the discharge-door, through which the burned lime is withdrawn from the said bosh B.

The stack C is formed in sections of different external diameters, each upper section being of a less external diameter than the preceding lower section.

The stack C is lined with fire-brick, *c'*, and the several sections are bound with sheet-iron, *c''*, as shown in fig. 1.

By this construction, the part of the stack C that is exposed to the greatest heat, is made the heaviest, or thickest, and the walls of the said stack become lighter, or thinner toward the top, as the intensity of the heat diminishes.

I am aware that the several devices, and mainly also their combination, are not new, and therefore I do not claim them separately nor in combination; neither do I claim, broadly, banding the cupola of a lime-kiln with iron, as I am aware this has been done before; but

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

The construction and arrangement of the furnaces D, extending the entire width of the base, the large flue E, occupying all the interior space of the base above the bosh, the bosh B larger at its top than the base of the stack, which is composed of sections *c'*, of unequal diameters, each banded with metal, *c''*, and supported upon the base by the crown of the latter, as herein described, for the purpose specified.

Witnesses:

GEORGE ATKINS.

E. T. HIGGS,  
E. S. BUDD.