F. COLE & D. D. L. McCULLOCH.

Lime-Kiln.

No. 160,878. Patented March 16, 1875.

Fig. 1.

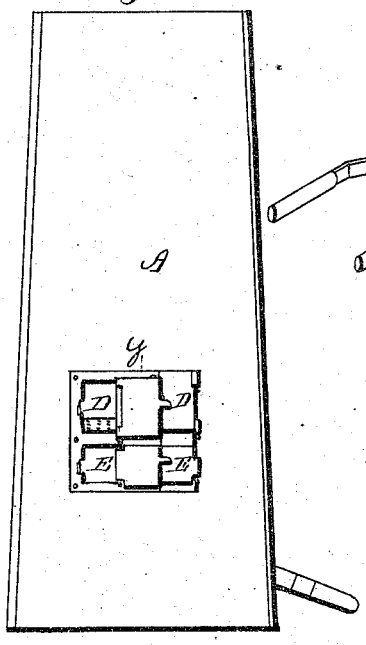


Fig. 5.

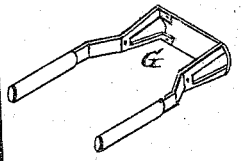


Fig. 2.

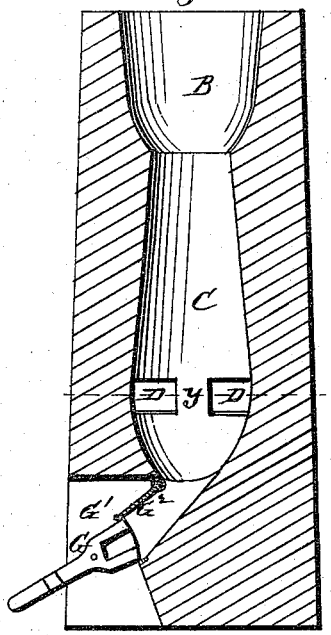


Fig. 7.

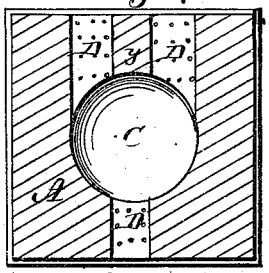


Fig. 3.

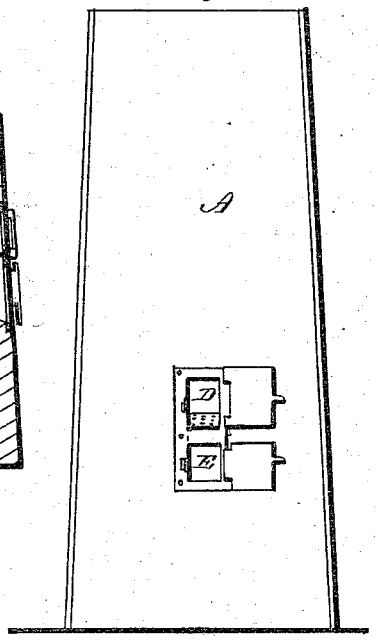
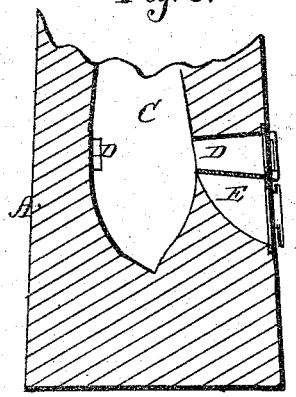


Fig. 6.



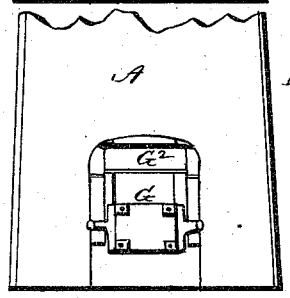


Fig. 4.

WITNESSES

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UNITED STATES PATENT OFFICE.

FREDERICK COLE AND DAVID D. L. McCULLOCH, OF KANKAKEE, ILLINOIS.

IMPROVEMENT IN LIMEKILNS.

Specification forming part of Letters Patent No. **160,878**, dated March 16, 1875; application filed July 20, 1874.

To all whom it may concern:

Be it known that we, FREDERICK COLE and D. D. L. McCULLOCH, of Kankakee, in the county of Kankakee and in the State of Illinois, have invented certain new and useful Improvements in Limekilns; and do hereby declare that the following is a full, clear, and exact description thereof, as set forth in the accompanying drawings and the letters of reference marked thereon, making a part of this specification.

The nature of our invention consists in the construction and arrangement of a limekiln, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which our invention appertains to make and use the same, we will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figures 1 and 3 are side views of our limekiln. Fig. 2 is a longitudinal vertical section of the same. Fig. 4 is a front view of the lower part of the kiln. Fig. 5 is a perspective view of the draw-door, and Fig. 6 is a section through one of the furnaces. Fig. 7 is a horizontal section of the kilns, showing the position of the furnaces.

A A represent the walls of the kiln, in the upper part of which is a large opening, B, forming a reservoir or hopper, where the kiln is fed with stone. The interior or cylinder C of the kiln is conical in shape, whereby the heat is so distributed that no lime is made in the hopper; hence no lime can stick there and obstruct the stone from feeding the kiln, which often occurs in kilns now generally used. D D are the furnaces, with draft-passages E E underneath. These are arranged two on one side of the cupola, with a wall, *y*, between, as shown in Fig. 1, and one furnace and one draft-passage, D E, on the opposite side of the cupola, arranged directly opposite the wall *y*, so that a direct cross-draft is avoided between the furnaces, and the fire is distributed to make a uniform heat on the bottom and throughout the kiln. The draw of our kiln is constructed with a double-lever door, G, pivoted in the sides of the draw-opening G^1, and operating in conjunction with an inclined hinged door, G^2. In case of any obstruction in the draw of the kiln while closing the double-lever door G the hinged door G^2 will give way to such obstructions and allow of the lever-door being closed.

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

1. The two furnaces D D and wall *y* between, on one side of the cupola, in combination with the single furnace D on the opposite side, whereby a direct cross-draft is avoided, and the heat in the cupola is evenly distributed, as set forth.

2. In combination with the cupola of a limekiln, the door G^2, hinged at its top, and the door G, provided with extended arms, and pivoted under the hinged door G^2, substantially as and for the purposes set forth.

In testimony that we claim the foregoing we have hereunto set our hands this 10th day of July, 1874.

FREDERICK COLE.
DAVID D. L. McCULLOCH.

Witnesses:
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W. C. DURHAM.