

JOHN Q. MERRIAM.

Improvement in Lime Kilns:

No. 120,307.

Patented Oct. 24, 1871.

Fig. 1.

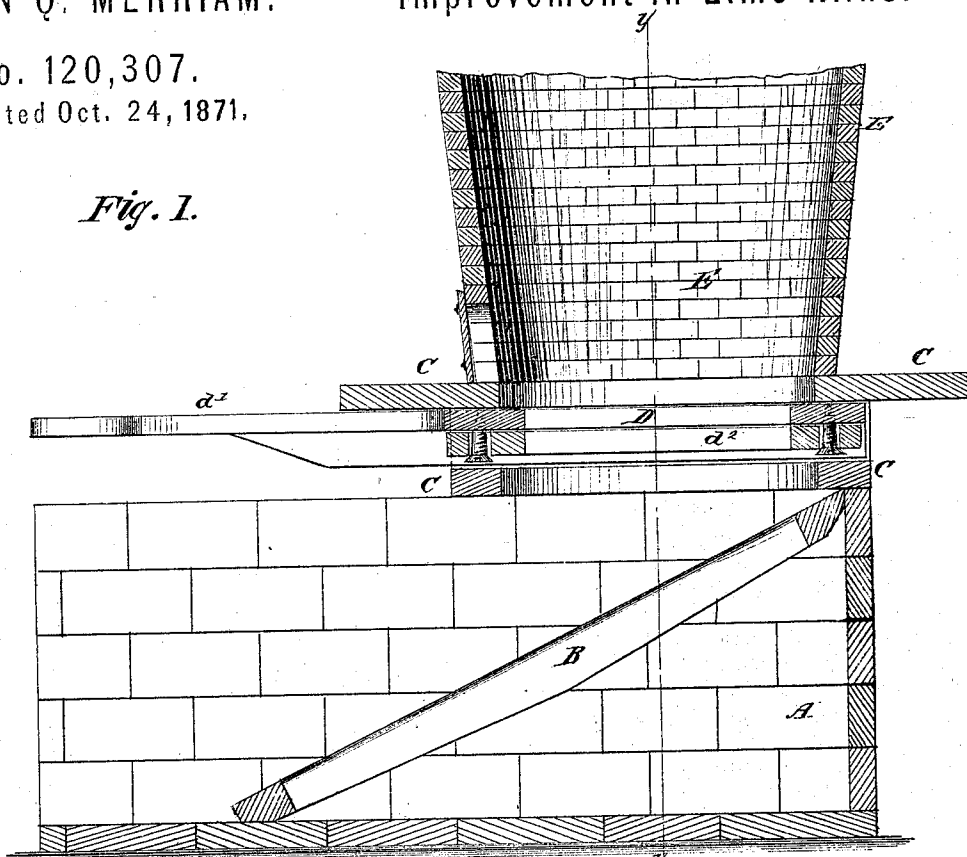


Fig. 3.

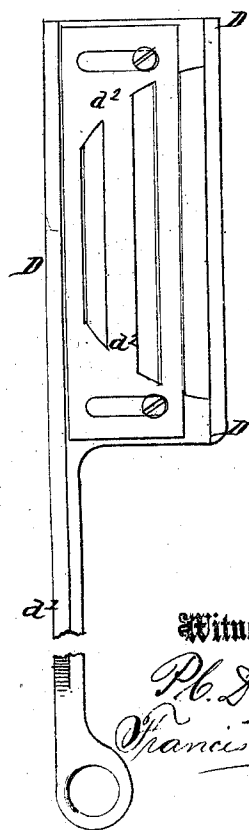
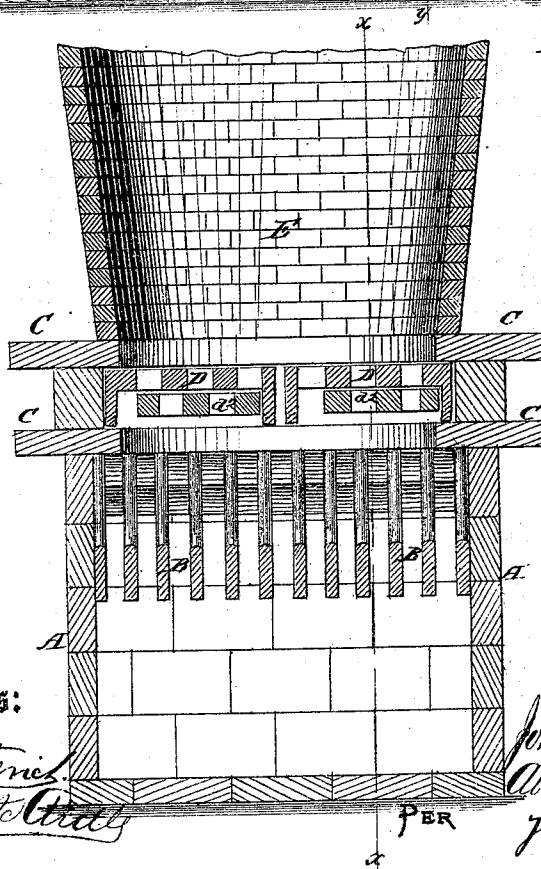


Fig. 2.



Witnesses:

P. L. Dieterich
Francis McCall

Inventor:

John Q. Merriam
Abram J. Dieterich
Attorneys

PER

UNITED STATES PATENT OFFICE.

JOHN Q. MERRIAM AND ABRAM J. DIETRICK, OF FORT SCOTT, KANSAS.

IMPROVEMENT IN LIME-KILNS.

Specification forming part of Letters Patent No. 120,307, dated October 24, 1871.

To all whom it may concern:

Be it known that we, JOHN Q. MERRIAM and ABRAM J. DIETRICK, of Fort Scott, in the county of Bourbon and State of Kansas, have invented a certain Improvement in Lime-Kilns, of which the following is a specification:

Figure 1 is a detail vertical section of our improved lime-kiln taken through the line *x x*, Fig. 2. Fig. 2 is a detail vertical section of the same taken through the line *y y*, Fig. 1. Fig. 3 is a detail under-side view of one of the adjustable and removable sliding grates or bottoms.

Similar letters of reference indicate corresponding parts.

Our invention has for its object to furnish an improved lime-kiln, simple in construction, conveniently operated and controlled, and effective in operation, and which will allow the lime to be drawn off as burned, and from the front, side, or rear parts of the flue as may be desired; and it consists in the construction and combination of the various parts of the kiln, as hereinafter more fully described.

A represents the lower part or draw of the kiln, which is designed to be built of stone, and to be about ten feet long, four feet wide, and four feet high. B is an inclined grate or rack, placed in the rear part of the part A to receive the lime as it falls from the flue. C are two heavy plates of cast iron, made with openings in their centers, and placed one above the other and at such a distance apart as to receive between them the sliding grates or bottoms D. The space between the plates C is left open at the front and rear to allow the bottoms D to be slid out in front or rear, and one at a time or together, to draw the lime from any desired part of the flue or chimney. The bottom D is made of cast-iron, in two parts, slotted to form draught-passages, and each part being provided with a long handle, *d*¹, for operating it. The bottoms D are formed with downwardly-projecting flanges along their side edges

to rest and slide upon the plate C. In the space between the flanges of the bottom D are placed two plates, *d*², a little less in thickness than the depth of the flanges of said bottoms. The plates *d*² are slotted to correspond with the slots of the bottoms D, and are secured to said bottoms in such a way that they may be moved laterally, to partially or wholly close the slots in the bottoms D to enable the draught to be regulated and the fire to be controlled, as may be desired. The chimney or flue E is designed to be made of brick, and to be about twenty-four feet high, and should have a door in the lower part of its front side, through which the lime may be drawn, if desired. Either coke or coal may be used in the kiln as fuel, but coke is preferred, as being better and cheaper.

In charging the kiln about a quarter of a cord of dry wood is put upon the bottom D, upon which is placed a layer, about one foot thick, of lime-stone, then a layer about three inches thick of coal, and similar layers of stone and coal alternately until the flue is filled. The fire is then applied to the wood, and after being lighted about twenty-four hours will have burned about ten or twelve feet above the bottom D, which becomes cool. As fast as the lime is burned it is removed and alternate layers of coal and stone added, so that the kiln may be kept burning continuously.

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

The removable and adjustable sliding bottoms D *d*¹ *d*², constructed substantially as herein shown and described, in combination with the plates C, lower part A, and flue or chimney E, as and for the purpose set forth.

JOHN Q. MERRIAM.
ABRAM J. DIETRICK.

Witnesses:

R. LEONARD,
M. H. LANKURN.

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