

(No Model.)

M. SAYRE.
LIMEKILN.

No. 534,451.

Patented Feb. 19, 1895.

Fig. 1.

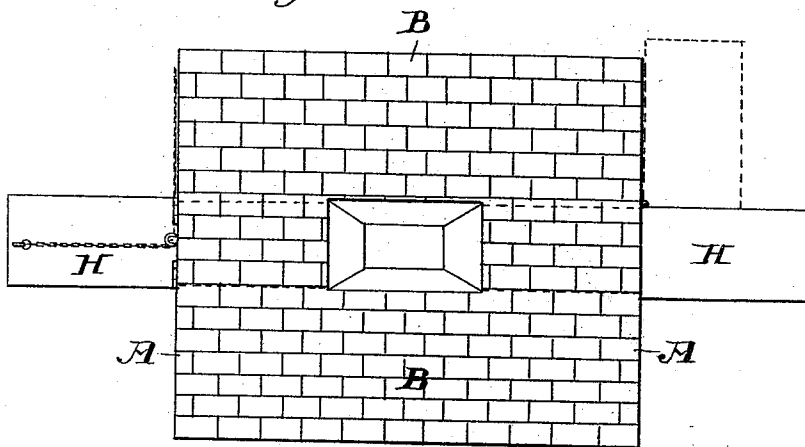
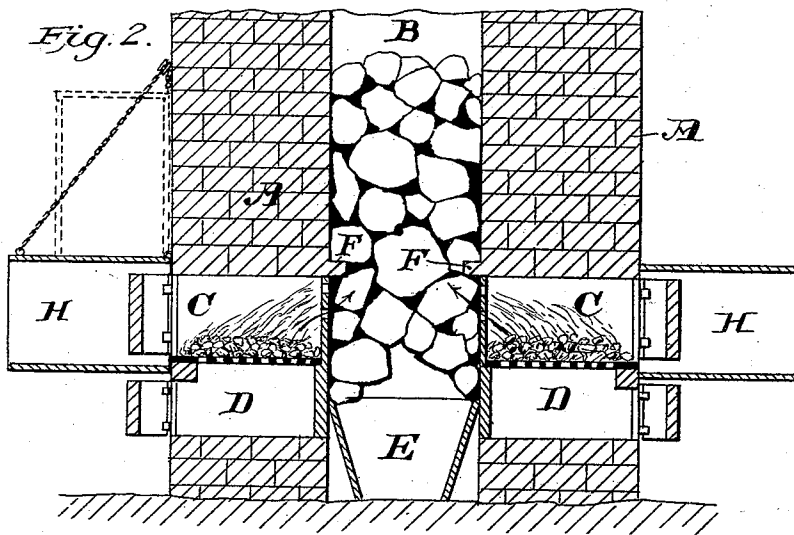


Fig. 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

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LIMEKILN.

SPECIFICATION forming part of Letters Patent No. 534,451, dated February 19, 1895.

Application filed December 21, 1894. Serial No. 532,586. (No model.)

To all whom it may concern:

Be it known that I, MARCUS SAYRE, a citizen of the United States, residing at South Orange, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Limekilns; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of this invention is to secure increased draft to the fire chambers and prevent or diminish the escape of hot air therefrom, occasioned by back draft, and to secure other advantages hereinafter referred to.

The invention consists in the improvements hereinafter described and in the combination and arrangement of the parts composing said improvements.

Referring to the accompanying drawings in which similar letters of reference indicate corresponding parts in each of the figures where they occur, Figure 1 is a plan view of a lime kiln embodying my improvements; and Fig. 2 is a central vertical section of the same.

In said drawings, A, designates the side walls, and B, the end walls of said kiln. Said side walls are generally greater in length than the end walls, and contain the ovens or fire chambers C, and ash-pits D; and E, designates a hopper-shaped opening at the base of the kiln through which the lime is withdrawn. F, designates inward projections at the top of the fire chambers which form the ordinary abutments for the lime-stone G, to rest upon. All these features are old.

H, designates, what for convenience I will denominate a draft flue, which is open at both ends and pivotally connected with the wall of the kiln in front of the fire chambers or ovens, at each side, as shown, and at the inner end fits snugly to the wall of the kiln around the mouths of said fire chambers or ovens. These draft flues serve to induce an increased draft to the fire chambers and the cold air entering said flues acts as a cushion to prevent the hot air from escaping outward, whereby I am enabled to utilize more perfectly than heretofore said hot air in the manufacture of

lime. For convenience, said draft flues are hinged to the wall of the kiln so that they may be swung upward, as indicated, out of the way when the fires are to be drawn or for any other reason, and means, as *a*, are arranged for holding them in such position, though they may be arranged to swing sideways, if preferred, with equal facility, as will be readily understood.

It has been found, in practice heretofore, that a large amount of hot air was constantly escaping outward, and especially was such the case when the doors of the fire chambers were open, as they usually are when using wood as a fuel, as the draft is dependent upon such being the case in that event; and in replenishing the fuel, the escape of hot air at times is so great that it is difficult to get nearer than five or six feet of the mouth of the ovens and hence the operation is attended with great discomfort and no little danger. I have found, by the application and adoption of my improvement that I obtain a stronger draft and that these difficulties and waste are entirely overcome, resulting in a material saving of fuel, as will be obvious. The outer ends of said draft flues may, if desired, be provided with a door, in order that they may be closed, when deemed advisable. Said flues may be permanently built with the kiln, if preferred.

Having thus described the invention, what I claim as new, and wish to secure by Letters Patent of the United States, is—

1. In a lime kiln, the combination with the fire chambers or ovens, of a draft flue surrounding the openings of said fire chambers and projecting outwardly therefrom, as described, and for the purposes set forth.

2. In a lime kiln, the combination with the fire chambers or ovens, of a draft flue hinged to the wall of the kiln and surrounding the openings of said fire chambers and adapted to swing upon said hinges, as described, and for the purposes set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 17th day of December, 1894.

MARCUS SAYRE.

Witnesses:

OLIVER DRAKE,
ROBERT SOLLBERGER.