Alexander McBride
Arch for Lime Kiln

No. 121,183. Patented Nov. 21, 1871.

Fig. 1.

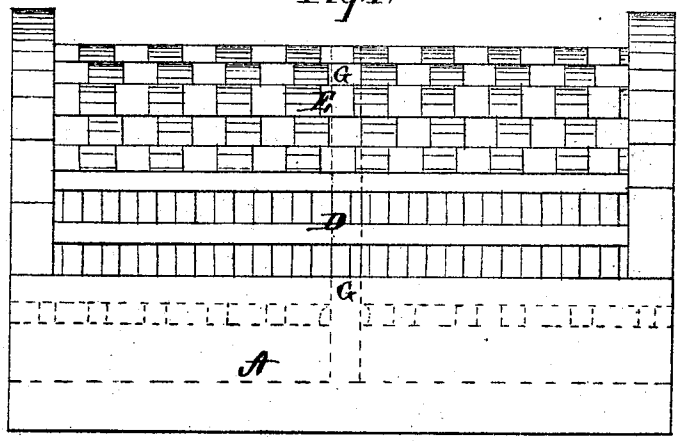
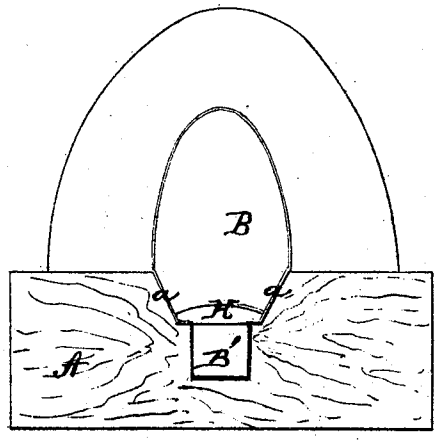


Fig. 2.



Witnesses.
Jas. E. Hutchinson
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Alexander McBride
per
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UNITED STATES PATENT OFFICE.

ALEXANDER McBRIDE, OF LOWELL, MICHIGAN.

IMPROVEMENT IN ARCHES FOR LIME-KILNS.

Specification forming part of Letters Patent No. 121,183, dated November 21, 1871.

To all whom it may concern:

Be it known that I, ALEXANDER McBRIDE, of Lowell, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Arches for Lime-Kilns; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon which form a part of this specification.

The nature of my invention consists in the construction and arrangement of an arch for lime-kilns, as will be hereinafter more fully set forth.

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

Figure 1 is a side elevation, and Fig. 2 an end view of my kiln.

A represents a solid body of masonry, upon which the kiln rests, and also serving as a floor for the kiln. In this body of masonry is formed a coal-ditch, B, with two inclined or beveled jaws, *a a*, for throwing in the coal, under which is the ash-pit B′. D D represent the walls, with the same circular top E placed on the same, said walls and top being made with openings all through them, as shown in Fig. 1, and open at the ends. In the center of the arch is placed a vertical partition, G, dividing the arch into two equal parts, and above the ash-pit B′ is a grate, H, convex on its upper surface.

This arch possesses the following advantages in burning marl or shell-lime: It passes through under the marl the full length of the kiln. The sides D D are made so as to be a permanent wall, yet having fire-flues passing through the whole body, so that the fire will penetrate directly to all the marl lying next to the floor of the kiln. The top of the arch not only emits the fire through all parts, but, being of a semicircular form, the fire-flues are so shaped that it throws the fire in all directions through the marl. By firing at each end the fire has a more equal draught. It can be used as a half arch, or, where many arches are used in the same kiln, the top only may be used, leaving out the side walls, so that the circles can stand close together on a solid wall. The partition in the center of the arch stops the circulation of air from one end to the other, and causes the draught to pass upward. The top E being of semicircular form, setting on the two square jaws, makes it a permanent and convenient arch for laying the marl over, and giving it a bearing to sustain the marl, keeping it up to its place while burning.

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

In the lime-kiln herein described, the solid partition G, in combination with the perforated arch E, inclined jaws *a a*, and convex grate H, when constructed and arranged substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 1st day of May, 1871.

ALEXANDER McBRIDE.

Witnesses:

WALTER CLARK,

J. W. WATERS.

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