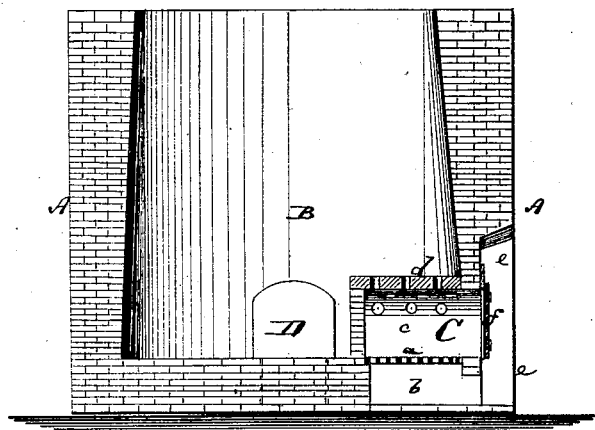


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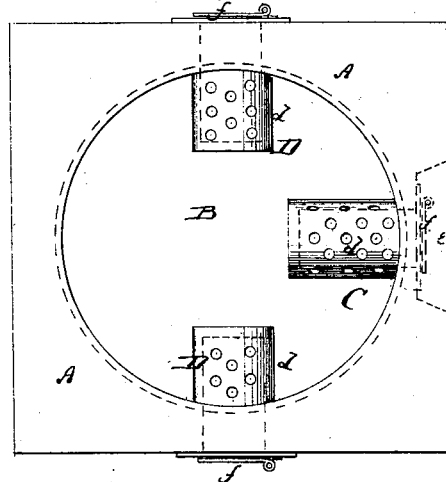
PATENTED AUG 30 1870

*D. Hills, Lime Kiln*

*Fig. 1.*



*Fig. 2*



Witnesses:

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*Alex. F. Roberts*

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PER

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# UNITED STATES PATENT OFFICE.

DAVID HILLS, OF RICHVILLE, NEW YORK.

## IMPROVEMENT IN LIME-KILNS.

Specification forming part of Letters Patent No. 106,818, dated August 30, 1870.

*To all whom it may concern:*

Be it known that I, DAVID HILLS, of Richville, in the county of St. Lawrence and State of New York, have invented a new and Improved Lime-Kiln; 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 drawing forming part of this specification.

Figure 1 represents a vertical central section of my improved lime-kiln. Fig. 2 is a plan or top view of the same.

Similar letters of reference indicate corresponding parts.

My invention relates to lime-kilns; and consists in certain improvements thereon, which will first be described in connection with all that is necessary to a full understanding thereof, and then clearly specified in the claim.

A in the drawing represents the main structure or body of my improved kiln. The same is of suitable height and width. Its inner chamber B is made of truncated conical form, as indicated in Fig. 1, so that the ascending gases will be crowded and retarded to give off the heat. The main fire-place C of the kiln is in front, and consists of a grate, *a*, ash-pit *b*, fire-chamber *c*, and perforated arch *d*. This arch is built of limestone previous to the filling of the kiln.

Wood or other material is burnt in the grate, and serves to burn the lime in the kiln. The ashes fall into the pit *b*.

After the lime has been burnt, the grate is cleaned and the arch broken, when the burnt

lime will fall upon the grate, and thence out of the kiln.

In order to facilitate the removal of the lime I have arranged a recess, *e*, in the front of the wall A, into which the fire-place C is built, as shown.

D D are two other fire-places, arranged on the sides of the kiln. They reach into the chamber B, but not as far as the main fire-place C, and are also provided with perforated arches, grates, and ash-pits. They are arranged to reach the lime where the fire on the main grate would not properly affect the same. Each fire-place is provided with, and can be closed by, a door, *f*.

Lime-kilns were heretofore constructed of inverted conical form, with a fire at the contracted lower end, and without grates or arches.

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

1. The combination, with a body, A, and chamber B, of the perforated and arched fire-places C D D, as and for the purpose described.
2. The combination, with a fire-place, C, of the recess *e*, located in the body A of the kiln, as and for the purpose described.
3. The arches *d*, constructed of perforated limestone, and built over each fire-place, to be removed with the burnt lime, as specified.

DAVID HILLS.

Witnesses:

J. S. PHELPS,  
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