

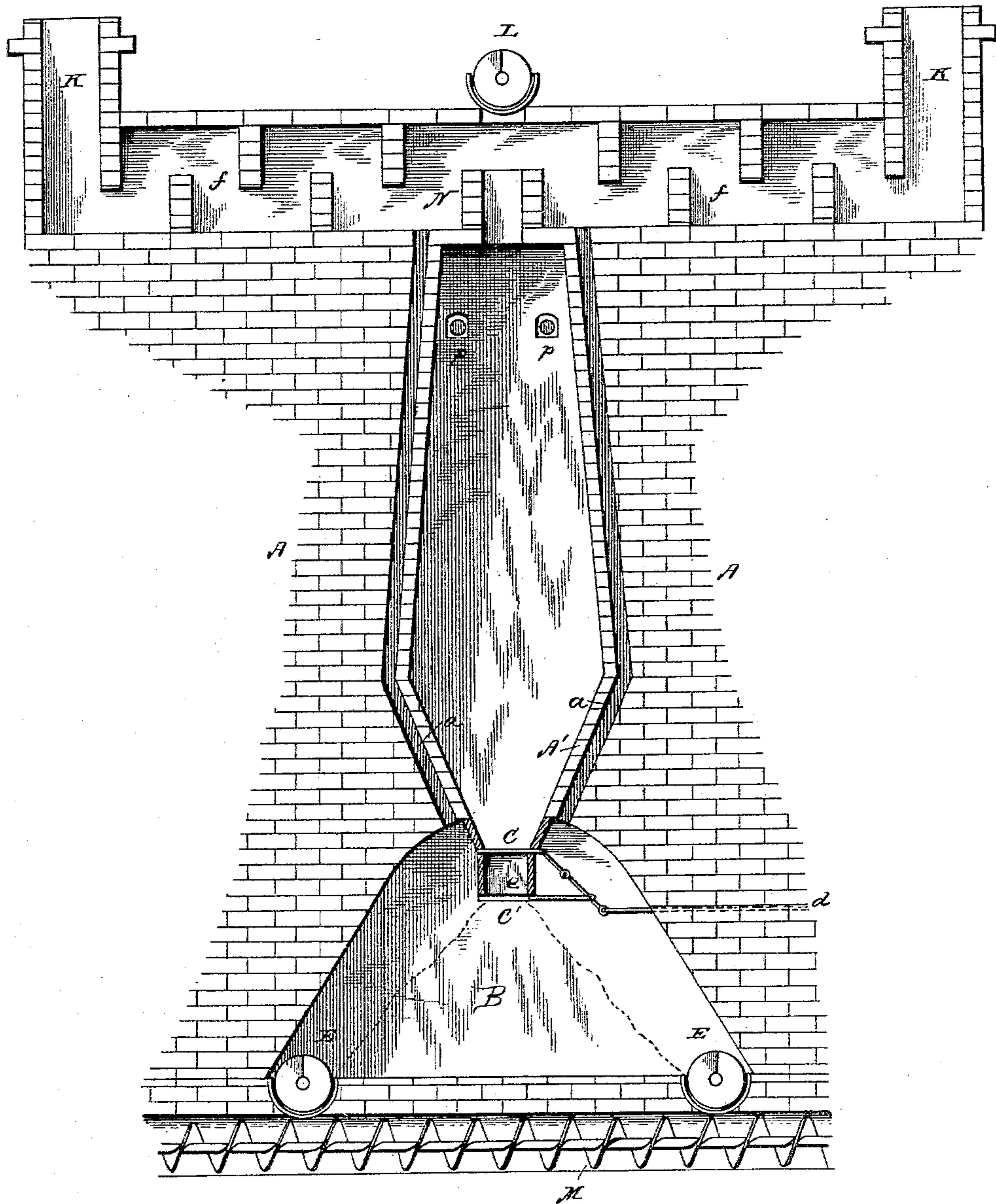
(No Model.)

H. MATHEY.

MANUFACTURE OF LIME OR CEMENT.

No. 369,354.

Patented Sept. 6, 1887.



Witnesses

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# UNITED STATES PATENT OFFICE.

HENRY MATHEY, OF RONDOUT, NEW YORK.

## MANUFACTURE OF LIME OR CEMENT.

SPECIFICATION forming part of Letters Patent No. 369,354, dated September 6, 1887.

Application filed January 4, 1887. Serial No. 223,365. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY MATHEY, a citizen of the United States, residing at Rondout, in the county of Ulster and State of New York, have invented certain new and useful Improvements in Kilns for the Manufacture of Lime or Cement; 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.

My invention relates to kilns for burning lime or cement; and it consists in certain details of construction and operation, as will be hereinafter described, and pointed out in the claims, and illustrated in the accompanying drawing.

In the several patents heretofore granted to me for the manufacture of lime or cement the crushed material has first undergone a calcination while under agitation. In my present device I propose to dispense with the cylinder or other means of agitation and calcine the material in a vertical or stationary kiln.

To this end the kiln A is provided with an interior cone-shaped chamber, A', having a reciprocating double slide, C C', at or near its bottom, a drawing and cooling chamber, B, screw-conveyers E M, and air-ducts a, similar in construction to that shown in another application filed of even date herewith. The top of chamber A' terminates in a neck, N, through which the material falls into said chamber. At a suitable distance below the top of chamber A, (and at one or two sides,) I place vapor-burners P, by means of which the heat is generated for calcining the stone. The stone is conveyed directly from the crushers by means of a conveyer, L, to the top of the kiln, and fed in a stream through neck N to chamber A'. As the material falls, it is met by the heat generated by the burners, and the water of crystallization and carbonic-acid gases dispelled. I have provided two stacks, K, one at each side of the top of the chamber, for carrying off the dispelled gases. I have also provided a series of dust-chambers, f, on each side for collecting the dust or fine material that may be carried away by the draft.

The ducts a extend from the chamber B upward, and terminate in the dust-chambers on either side, and serve to create a draft of air, as described in my application before referred to. The process of oxidation and cooling the material in chamber B is also the same. It will be observed that a space is left between slides C C'. This is to provide a certain amount of material to be deposited in chamber at a given time, the better to enable all the material to come in contact with the air and prevent choking in the lower part of chamber A, as well as afford time for the conveyers E M to carry away the calcined product. The two stacks K afford an equalizing-draft and prevent the heat rising directly to the feed. By this means I am enabled to dispense with the cylinder referred to in my former patents.

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

1. A kiln consisting of a receiving-chamber, a cooling-chamber having air-ducts, as described, the passage between said chamber being alternately opened and closed by slides, forming a receptacle, whereby a given amount is fed into the cooling-chamber at a given time, as set forth.

2. A kiln consisting of a receiving-chamber provided with a neck at its top and slides at its bottom, as described, a cooling-chamber provided with air-ducts, and a stack and series of dust-chambers on each side of the neck of the upper chamber, as set forth.

3. In a kiln, the combination, with the upper and lower chamber, the dust-chambers, and stacks on each side of said upper chamber, of means for conveying the crushed material directly to and above the center of the dust-chambers and upper chamber of the kiln, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY MATHEY.

Witnesses:

G. WEBSTER,

CHAS. REYNOLDS.