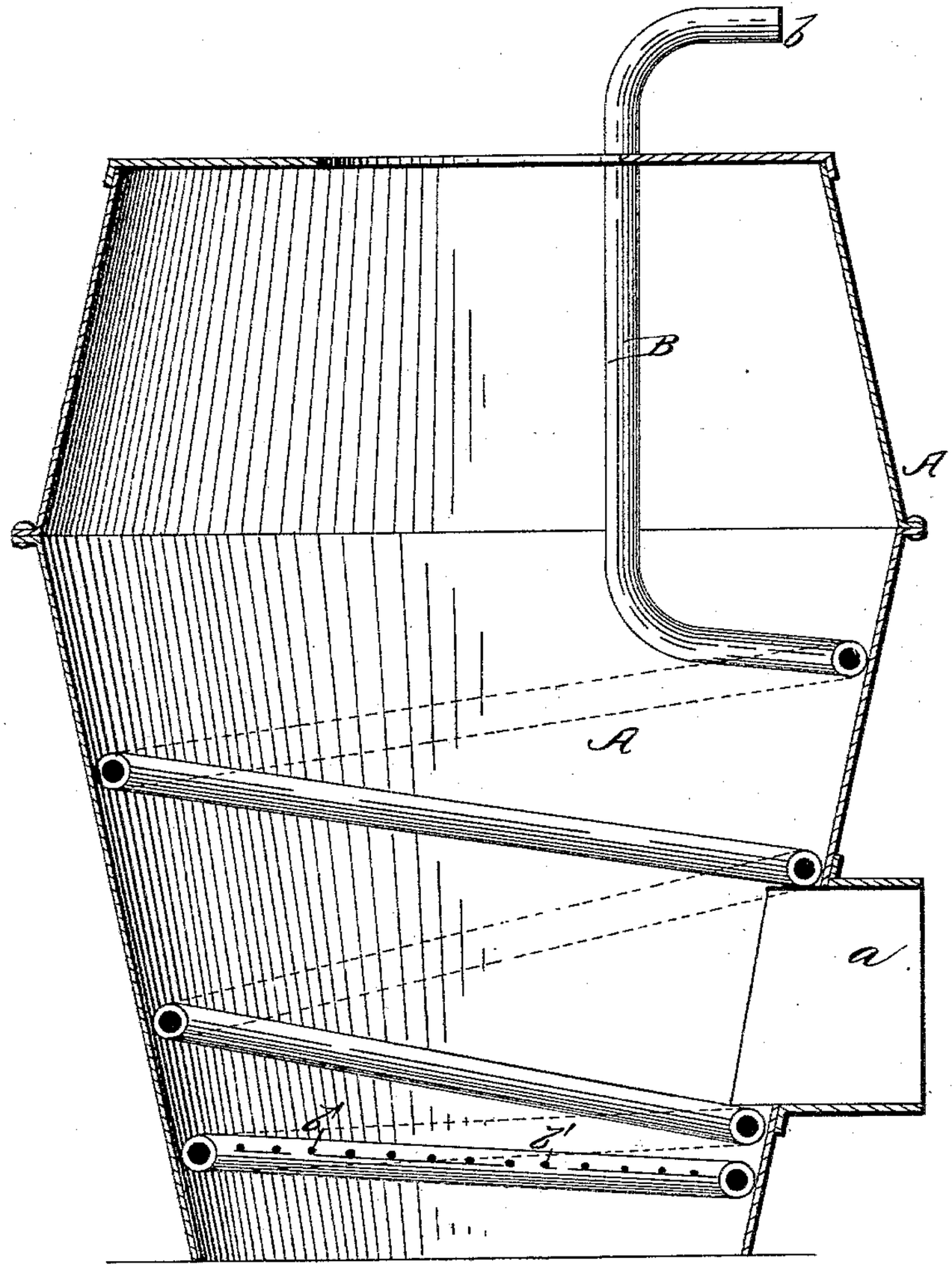
(No Model.)

R. McQUEEN WEIR.

FURNACE.

No. 315,867. Patented Apr. 14, 1885.



Witnesses

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ROBERT McQUEEN WEIR, OF BOONE, IOWA.

FURNACE.

SPECIFICATION forming part of Letters Patent No. 315,867, dated April 14, 1885.

Application filed April 10, 1884. (No model.)

To all whom it may concern:

Be it known that I, ROBERT M. WEIR, a citizen of the United States, residing at Boone, in the county of Boone and State of Iowa, have invented certain new and useful Improvements in Furnaces, of which the following is a specification, to wit:

This invention relates to an improvement in furnaces; and it consists in a pipe coiled around the interior of the furnace-chamber, and having one end communicating with the outer air and the other provided with perforations opening into the chamber, substantially as will be hereinafter more fully described, and pointed out in the claim.

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 accompanying drawing, which represents a vertical section of a furnace having my improvement attached.

A represents a furnace of any of the usual and well-known forms, having a feed-door, *a*, in one side and a grate below, which it is not considered necessary to show in this application. An air-pipe, B, is secured within the furnace, around which it is coiled any desired number of times, and one end opens through the side or top of the furnace, as at *b*, and the other end is closed and provided with a series of perforations, *b'*, which, being located just over the fire, operate as follows: The air from outside the shell is drawn into the coil B, and as it passes around the interior is heated till the oxygen is separated and emerges from the perforations and mingles with the flame and carbonaceous gases from the fire, creating an intense heat, thereby greatly saving fuel, and producing a much better and more perfect combustion.

While the device as herein shown is adapted for use upon any furnace, of whatever form, it is especially adapted to furnaces for heating buildings, and gives a greatly-increased heating capacity with less consumption of fuel, all the gaseous products being burned instead of escaping, as is usual in this class of articles.

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

In combination with a fire-box, a pipe entering it at the top and extending to its bottom in the form of a continuous coil, its upper end being open for the reception of air, its lower end closed, and the bottom coil provided with fine perforations throughout its length, whereby highly-heated air is injected into the incandescent fuel, as and for the purpose set forth.

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

ROBERT McQUEEN WEIR.

Witnesses:

GEO. C. HULL,

R. F. JORDAN.