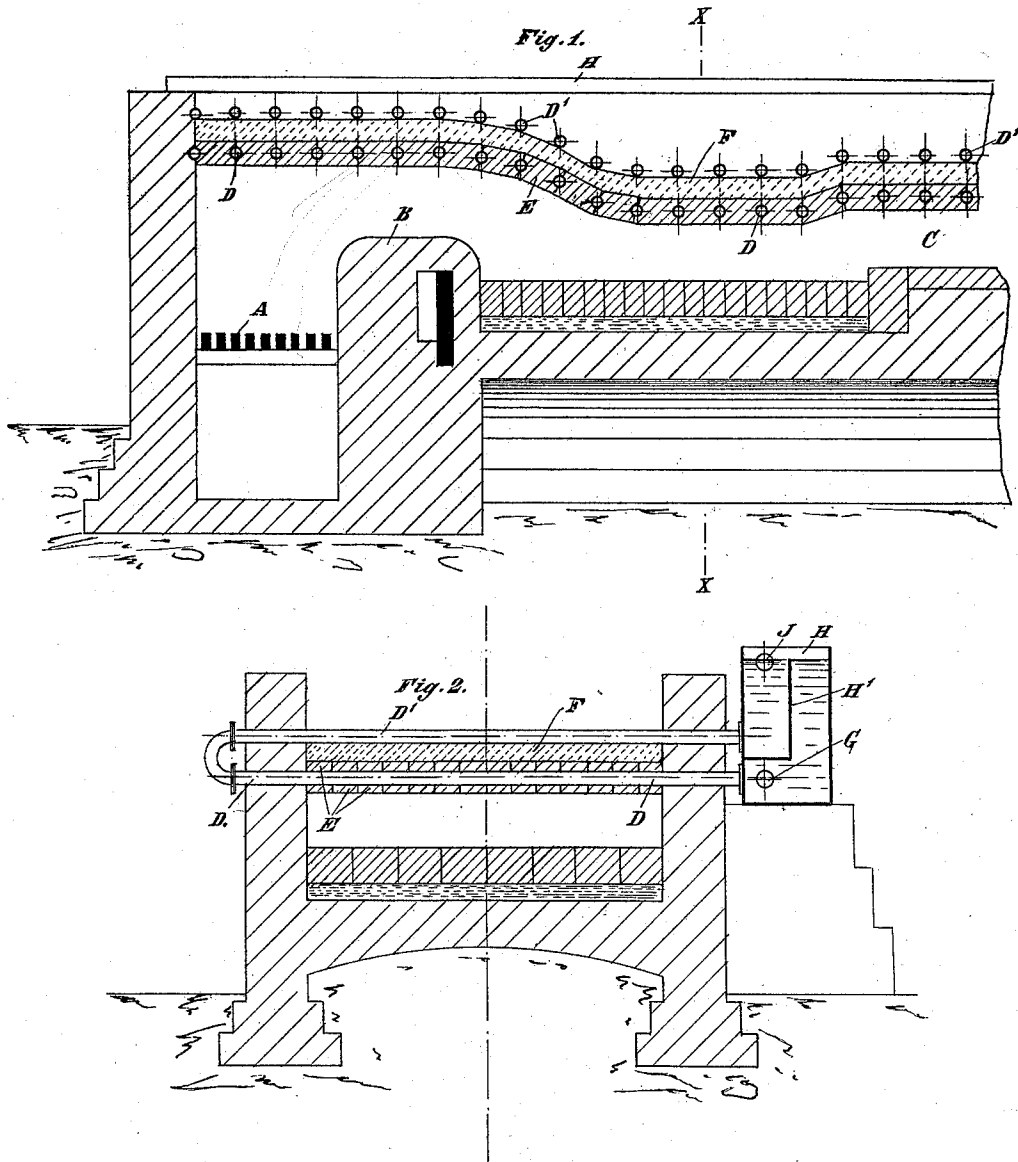


(No Model.)

C. MARTINI.
ROOF OR TOP FOR FURNACES.

No. 535,114.

Patented Mar. 5, 1895.



Attest
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UNITED STATES PATENT OFFICE.

CARL MARTINI, OF LEHRTE, NEAR HANOVER, GERMANY.

ROOF OR TOP FOR FURNACES.

SPECIFICATION forming part of Letters Patent No. 535,114, dated March 5, 1895.

Application filed August 4, 1894. Serial No. 519,507. (No model.)

To all whom it may concern:

Be it known that I, CARL MARTINI, engineer, of 36 Bahnhofstrasse, Lehrte, near Hanover, in the Empire of Germany, have invented new and useful Improvements in Roofs or Tops for Furnaces or Covered Fireplaces, of which the following is a specification, reference being had herein to the accompanying drawings.

The accompanying drawings illustrate one form of my invention, viz., a puddling furnace provided with my new construction of top or roof, and I will now proceed to fully describe my invention with reference to the said accompanying sheet of drawings.

Figure 1 is a vertical central longitudinal section. Fig. 2 is a vertical section on the line $x x$ of Fig. 1.

A A are the fire bars.

B is the fire-bridge.

C is the flue.

D D are the forementioned tubes which constitute the most essential portion of the invention and form in combination with the filling E between said tubes, the top or roof of the fire-place and furnace.

F is a layer of nonconducting or bad heat-conducting material for preventing loss of heat.

In the arrangement illustrated, water is employed to cool the tubes. It flows from the water supply tube G into one part of the trough H, which is divided by a partition H' into two parts. From the first said part of the trough H the water flows at uniform temperature through the tubes D and from these through the return tubes D' into the other half of the trough whence it can be discharged through the tube J.

This invention has the following most important advantages over the usual constructions of tops of fireplaces and furnaces:

The side thrust due to the arched or vaulted form is entirely done away with, because the roof can be made of flat shape even when the

furnace is of very great width and the weight of the brick or stone filling can be distributed uniformly upon the cooled tubes.

In puddling furnaces and other furnaces employed in the iron and chemical industries where the furnace roof is constantly obliged to be renewed or repaired within very short periods of time, this work is considerably facilitated by the use of this invention, because in most cases the bricks can be built in again without the necessity for any centering, while the bricks being besides kept very much cooler, last very much longer than those that are not cooled.

In puddling furnaces, heating and annealing furnaces and similar covered-in fire-places or constructions, the use of a flat roof enables the heating effect to be much better utilized because the heating gases are caused by the flat roof to pass nearer to the article to be heated than can be the case with arched or domed tops. Should however an arched or domed roof or top be desired in special cases, there is no difficulty in constructing the same according to my present invention; only that it is necessary to use tubes which are bent or curved to suit the curvature of the arched or domed roof.

What I claim, and desire to secure by Letters Patent of the United States, is—

In combination with a furnace top, a series of pipes running through the same in pairs one above the other and a supply chamber connecting with the ends of said pipes, said supply chamber having an inlet and outlet and an intermediate partition, substantially as described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

CARL MARTINI.

Witnesses:

FRITZ HARTMANN,

D. EDWARD CRANE,

Both of Hanover.