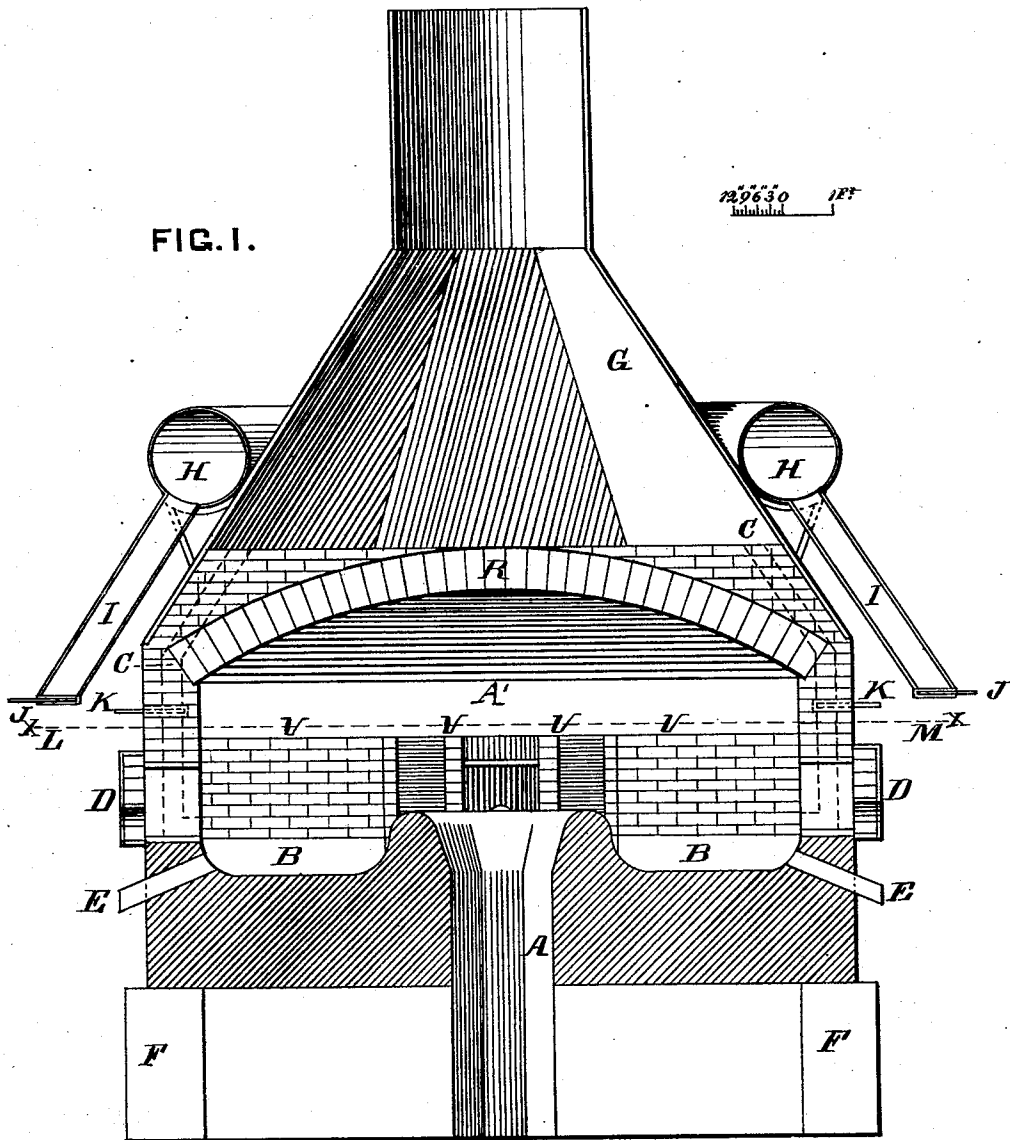


H. RAGOT.
Puddling-Furnace.

No. 159,040.

Patented Jan. 26, 1875.



WITNESSES.

Wm. W. S. Dyre,
Jno. D. Patton

INVENTOR.

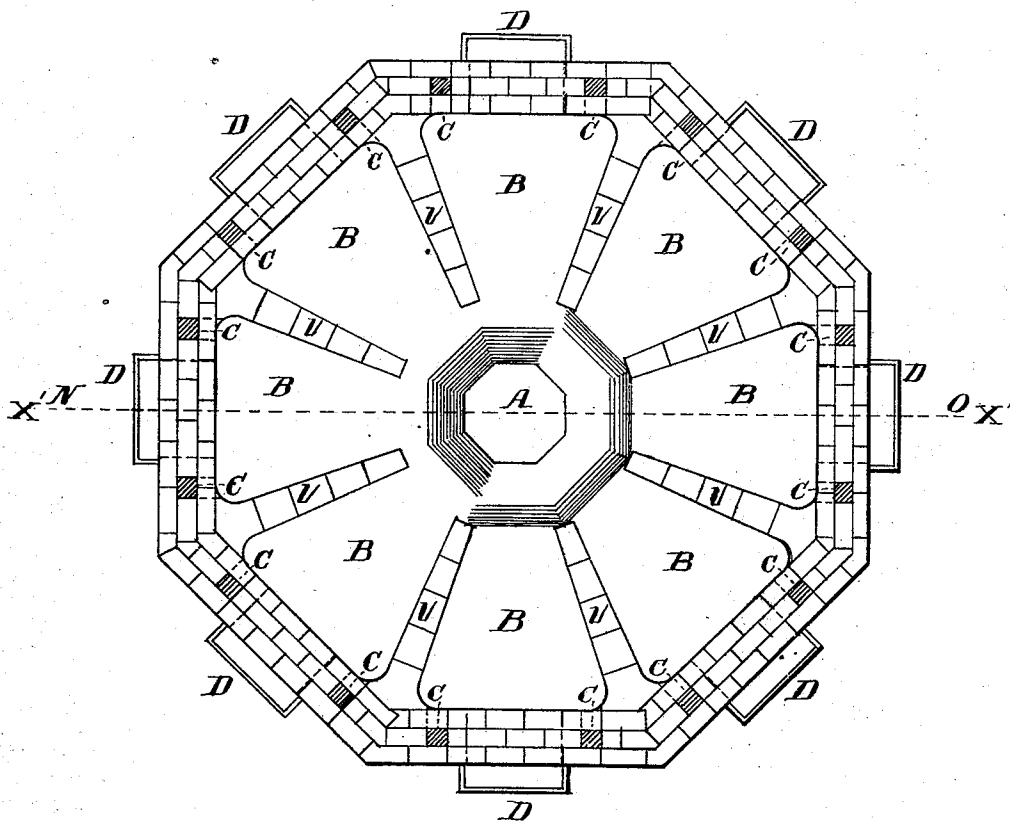
Henry Ragot.
By Johnston & Brindley,
his attorneys.

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FIG. 2.



129630 1Ft

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UNITED STATES PATENT OFFICE.

HENRY RAGOT, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN PUDDLING-FURNACES.

Specification forming part of Letters Patent No. **159,040**, dated January 26, 1875; application filed March 4, 1874.

To all whom it may concern:

Be it known that I, HENRY RAGOT, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a certain new and useful Improvement in Puddling-Furnace; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

My invention relates to an improvement in puddling-furnace; and consists of a single chamber, with a central heating or fire chamber, the former being divided into a series of puddling-compartments, provided with flues for carrying off the waste heat into the stack of the furnace, the said furnace being also provided with a blast-pipe, having branches directly above the door of each of the puddling-compartments.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

In the accompanying drawings, which form part of my specification, Figure 1 is a vertical section of my improvement in puddling-furnace, as indicated at line N O of Fig. 2. Fig. 2 is a transverse section of the same at line L M of Fig. 1.

In the accompanying drawings, F represents the foundation upon which the furnace is built, which furnace, when viewed in horizontal section, is octagonal in form, and is provided with a center flue, A, which communicates with a fire-chamber or gas-generator, for supplying the necessary heat to the puddling-compartments B of the chamber A'. The crown R of the furnace forms a section of a sphere, as indicated in Fig. 1. The puddling-compartments are formed through the medium of partition-walls V, built upon lines radiating from the center of the flue A, as shown in Fig. 2. Each compartment is furnished with two flues, C, for carrying off the waste heat. D represents the doors of the several puddling-compartments, and E the openings for drawing off the "slag" therefrom. G represents the stack of the furnace, with

which the flues C communicate, the latter being furnished with valves or dampers K. Around the stack G, at a point above the crown R of the furnace, is placed a blast-pipe, H, operated by a fan or other suitable air-blast device now in common use, which is not shown on the accompanying drawings, for cold air. This pipe is provided with a series of branches, I, the lower ends of which are provided with valves J. These branches project downward from the pipe H, and are arranged so that one comes directly in front of the door of each of the puddling-compartments, and are used for the purpose of preventing the workmen from becoming overheated, and also for furnishing the desired amount of air to each puddling-compartment during the operation of puddling and boiling the iron. The puddling-compartments are provided with "fix" and "bottom" in the ordinary manner, and are charged with the pig-iron in the usual way, which, when melted, is manipulated as in the ordinary process of puddling.

The advantages of my improvement in puddling-furnace consist in economy of heat and room, and uniformity of action in all of the puddling-compartments, one furnace being equivalent to eight single puddling-furnaces. Another very important advantage consists in providing a means for furnishing the requisite amount of air to each puddling-compartment, whereby the process of bringing the iron to "nature" is greatly facilitated, and at the same time the puddler prevented from becoming overheated during the operation.

Having thus described my improvement, what I claim as of my invention is—

A puddling-furnace having a series of working-chambers, said furnace being provided with the pipe H, having branches I, with valves J, and operated by a fan or other air-blast device, substantially as and for the purpose set forth.

HENRY RAGOT.

Witnesses:

A. C. JOHNSTON,
JAMES J. JOHNSTON.