

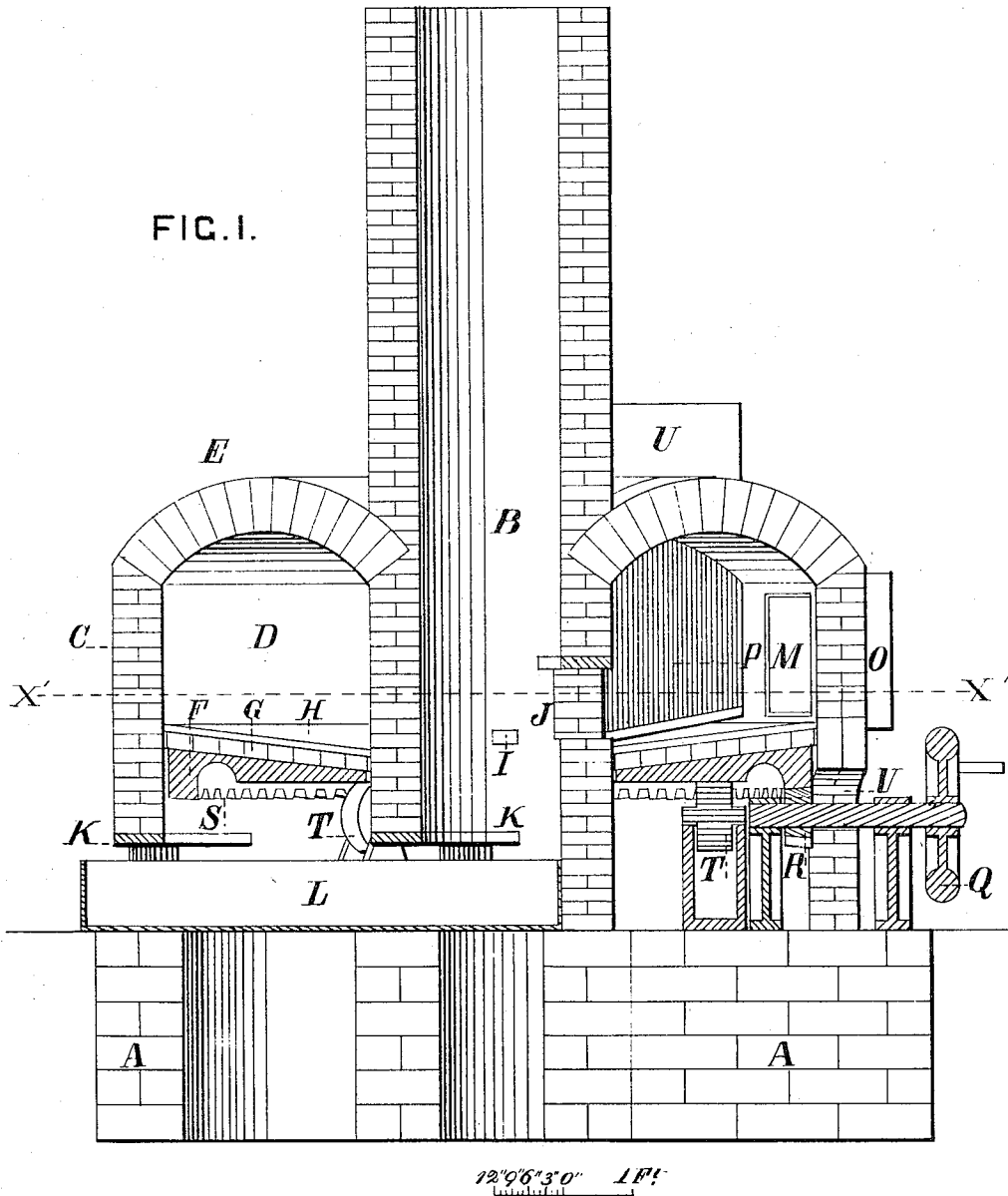
H. RAGOT.

Metallurgic Heating-Furnace.

No. 159,039.

Patented Jan. 26, 1875.

FIG. 1.



WITNESSES.

Wm. W. L. Dyre
Jos. D. Patten

INVENTOR.

Henry Ragot.
By Johnston & Brindley,
his attorneys.

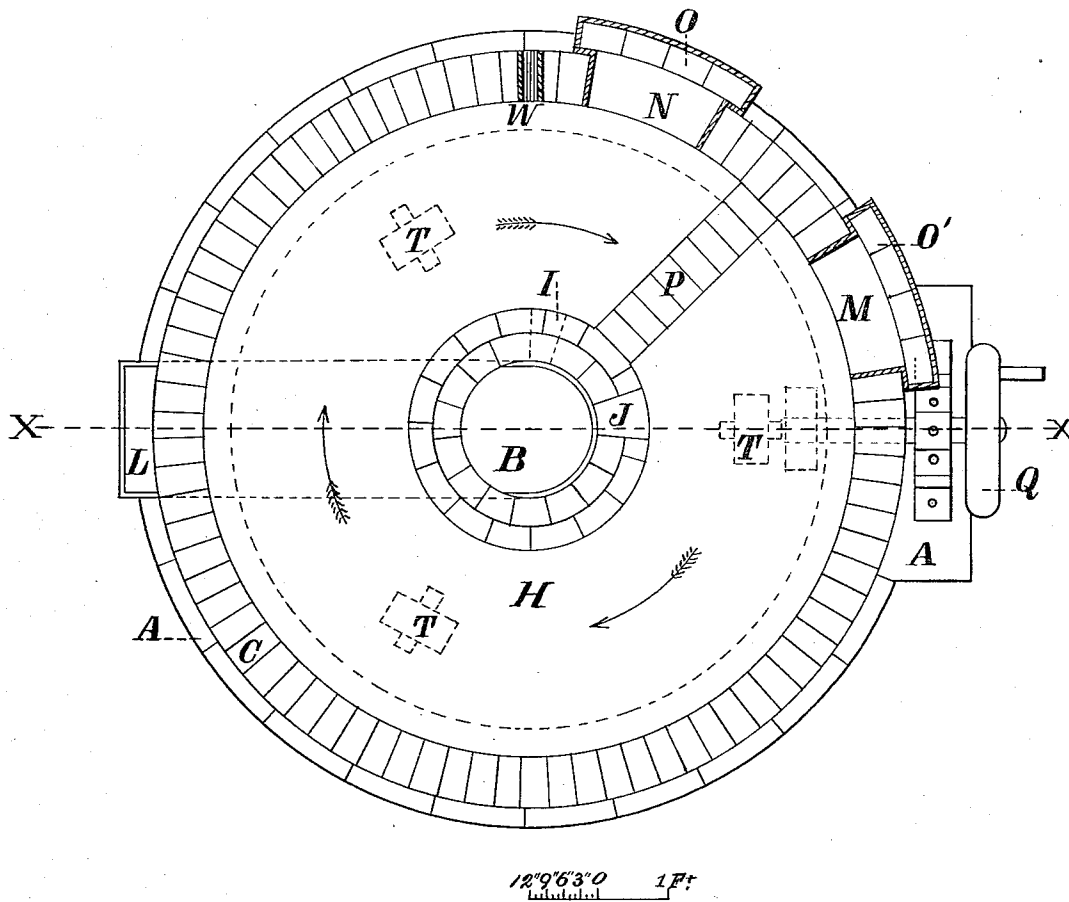
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FIG. 2.



WITNESSES.

Wm. W. S. Dyre.
Jno. D. Patten.

INVENTOR.

Henry Ragot.
By Johnston & Grindlay,
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UNITED STATES PATENT OFFICE.

HENRY RAGOT, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN METALLURGIC HEATING-FURNACES.

Specification forming part of Letters Patent No. 159,039, 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 Heating-Furnaces; 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 heating-furnaces used in the manufacture of iron and steel; and consists of a circular furnace provided with a flue or stack in its center, and its bottom mounted upon rollers, and so arranged that it can be rotated, its heating-chamber furnished with a sand-box and a charging-door, and a door for withdrawing the charges, the charging and withdrawing compartments of the heating-chamber being separated through the medium of a partition-wall, the said heating-chamber being heated by means of a suitable gas or heat generator of any of the known forms.

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 the furnace at line *x* of Fig. 2. Fig. 2 is a horizontal section of the furnace at line *z* of Fig. 1.

In the accompanying drawings, A represents the foundation-walls of the furnace. B represents the stack. C represents the outer side wall of the furnace, and E the crown of the same. The bottom of the heating-chamber D consists of a disk, F, provided with cogs S, which gear into teeth of the wheel R of the shaft V, on the outer end of which is a hand-wheel, Q, for rotating it. The disk F is mounted on rollers T, so that it can be easily rotated. The upper side of the disk F is covered with brick G, on which is formed the bottom H, which is formed in the usual way and of the ordinary material. The heating-chamber D is provided with an opening, M, and door O', for charging the chamber with the "piles" of iron or steel. The heating-chamber is also provided with an opening, N, and door O, for "drawing" out the heated piles. Between the

openings M and N of the heating-chamber D is a partition, P, dividing the charging-compartment of the heating-chamber from the drawing-compartment. On the right-hand side of the door O is an opening, W, for the inlet of heat or gas from the heat or gas generator, which may be of any known construction. The stack B is furnished with an opening, J, for allowing the waste heat to escape into it, and also with an opening, I, which is used for drawing off the slag into the slag-box L, which can be withdrawn from the chamber K and emptied at the will of the operator. The piles are placed in the furnace through the opening M, consecutively, the bottom H being rotated in the direction indicated by the arrows shown in Fig. 2. When the furnace is fully charged, and the first charge placed in it has been sufficiently heated, it is withdrawn, and the bottom H is then rotated until the space occupied by the withdrawn charge is opposite the opening M, when a fresh charge is put in the furnace to take the place of the charge which has been withdrawn, and in this manner is the withdrawing and charging continued at the will of the operator. The crown of the furnace is furnished with a sand-box, U, which communicates with the interior of the heating-chamber, the said box being provided with a valve for regulating the flow of the sand into the heating-chamber, the sand being used for the purpose of forming bottom, and also for a flux in the heating process.

The advantages of my improvement consist in economy of room and fuel, uniformity of work in the heating process, and saving of time and labor.

What I claim as of my invention is—

1. A circular heating-furnace, provided with a partition charging and drawing door and central flue, around which rotates the bottom of said furnace, the travel of said bottom being from the charging-door toward the inlet or flame and drawing-door, the heating-chamber of the furnace communicating with a fire-chamber or gas-generator and with the central stack, substantially as herein described, and for the purpose set forth.

2. A circular heating-furnace, provided with a partition-wall, having the charging-door arranged on one side of said partition and the

drawing-door and inlet of the heat or flame on the other side of said partition, substantially as herein described, and for the purpose set forth.

3. A circular heating-furnace, provided with a central flue and rotating bottom, with the opening communicating with said central flue, arranged opposite or nearly opposite the charging-door, substantially as herein described, and for the purpose set forth.

4. A circular heating-furnace with a rotating bottom, provided with a sand-distrib-

uting chamber, substantially as herein described, and for the purpose set forth.

5. A circular heating-furnace with a central flue and revolving bottom, having a slag-discharging opening communicating with said flue, substantially as herein described, and for the purpose set forth.

HENRY RAGOT.

Witnesses:

A. C. JOHNSTON,
JAMES J. JOHNSTON.