

S. BUNN.
Improvement in Puddling-Furnaces.

No. 114,641.

Patented May 9, 1871.

Fig. 1.

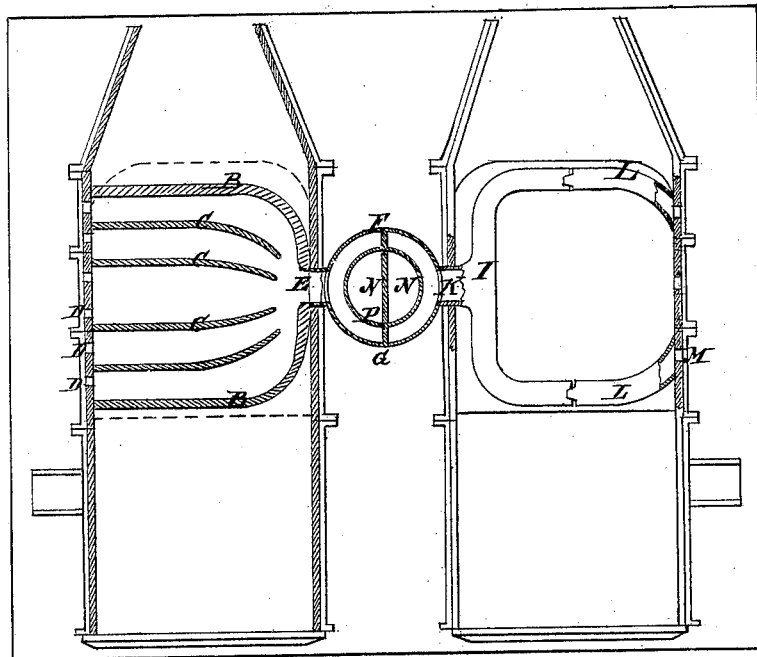


Fig. 2.

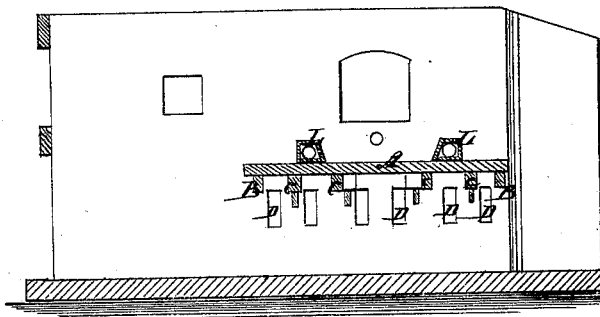
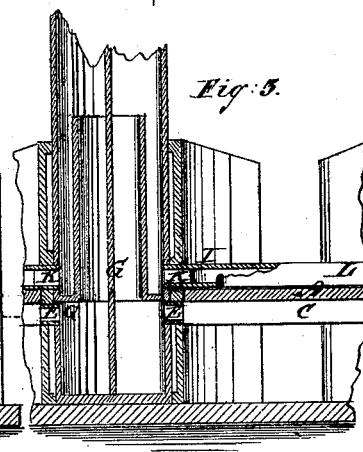


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

SIMEON BUNN, OF BELLEVILLE, ILLINOIS.

IMPROVEMENT IN PUDDLING-FURNACES.

Specification forming part of Letters Patent No. 114,641, dated May 9, 1871.

To all whom it may concern:

Be it known that I, SIMEON BUNN, of Belleville, in the county of St. Clair and State of Illinois, have invented a new and Improved Puddling-Furnace; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification.

This invention relates to improvements in furnaces for boiling and working pig metal into wrought-iron; and it consists in a cooling device applied to the under side of the bottom plate, and improvements in the arrangement of the chills placed above the bottom plate for the protection of the latter, the said improvements being intended to make the chill more efficient and durable.

Figure 1 represents horizontal sections of a pair of boiling-furnaces, with the chimney between them. Fig. 2 is a longitudinal vertical section on line *x x* of Fig. 1, and Fig. 3 is a transverse vertical section.

Similar letters of reference indicate corresponding parts.

A is the bottom plate of the furnace, on the under side of which I arrange the curved ribs or flanges B, extending from the front side when the air is admitted through holes D to the other side, where an opening, E, is made to the chimney F; and between these flanges B, which are placed near the ends of the bottom plate, I arrange others, C, beginning at the opening D, but stopping a little short of the side where the air escapes to the chimney. These flanges C are placed at suitable intervals between the outer ones, for causing an equal distribution of the air admitted under the bottom plate, and also causing a regular and uniform draft along under the bottom, for cooling it.

The bending of the flanges of each side of the center toward those of the other side and toward the escape-passage E, as shown, causes a more intense action of the air under the center of the plate, where the work is greatest.

The lower section of the chimney F is divided at G for preventing any change in the condition of the heat in one furnace from effecting the other.

The passages N for the escape of the currents from below the bottom plates are also divided from the passage O for the currents escaping from above the bottom plate by the tube P and a flange, Q.

I propose to construct the chill for the upper side of the bottom plate by making one forked or branched hollow casting, I, extending from the orifice K, discharging into the chimney, to each end of the bottom or thereabout, and about to the center transversely, where each branch is jointed to a short section, L, extending to the front wall, and curving toward the center, receiving the air at opening M, one for each.

By thus jointing the branches they will not be so much affected by the warping of the bottom plate, nor will they be so liable to bend or break as when made in one straight continuous piece, extending entirely across the bottom.

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

1. The combination, with the bottom plate, A, of the furnace, of the air-conducting flanges B C, arranged relatively to the air-holes D and escape-passage E, substantially as specified.

2. The forked hollow chill having the branches made in two parts jointed together, and arranged relatively to the air-openings M and escape-passage E, substantially as specified.

3. The arrangement, with the escape-passage E and K, and the chimney F, of the tube P and flange Q, substantially as specified.

SIMEON BUNN.

Witnesses:

PETER BAUER,
HENRY WEBER.