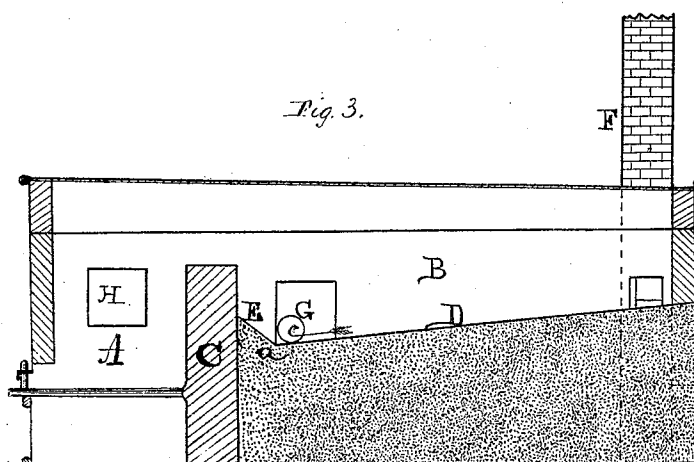
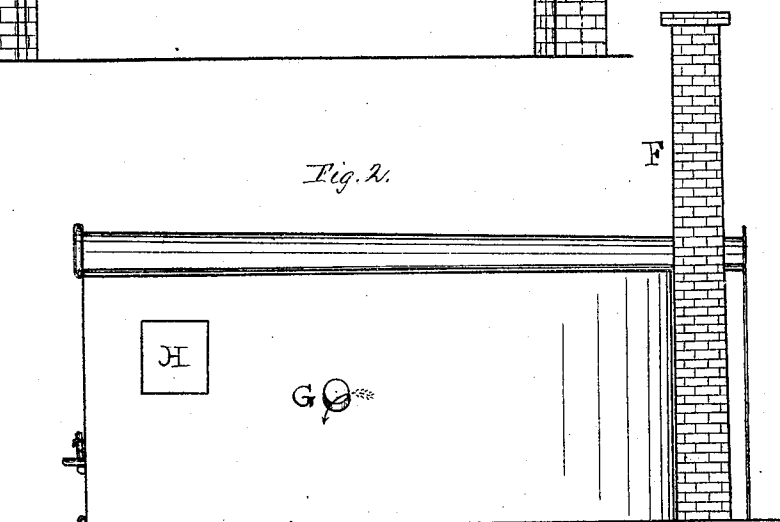
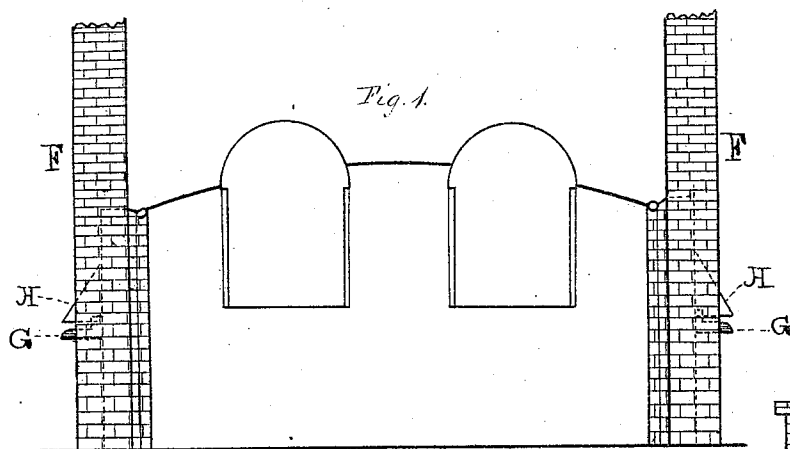


I. J. CONKLIN.
 Improvement in Furnaces for Heating Metal, &c.
 No. 132,139. Patented Oct. 15, 1872.



Witnesses:
 Jacob E. Schiedt

Harry W. Wiedersheim

Inventor:

Ira J. Conklin
 by John A. Wiedersheim
 atty.

UNITED STATES PATENT OFFICE.

IRA J. CONKLIN, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN FURNACES FOR HEATING METAL, &c.

Specification forming part of Letters Patent No. **132,139**, dated October 15, 1872.

To all whom it may concern:

Be it known that I, IRA J. CONKLIN, of the city and county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Furnaces for Heating Iron, &c.; and I do hereby declare the following to be a clear and exact description of the nature thereof, sufficient to enable others skilled in the art to which my invention appertains to fully understand and use the same, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1 is a front view of the device illustrating my invention; Fig. 2 is a side view thereof; and Fig. 3 is a longitudinal vertical section.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to furnaces for heating iron for rolling-mills and other industries; and consists in the bottom of the furnace being lower at the bridge than at the door, whereby the piles will be uniformly heated, and cinders discharged from the bottom on its sides. It also consists in a bank for protecting the bridge from the action of the cinders. It further consists of two chimneys for taking the draft from the sides of the furnace, in order to increase the draft and regulate the flame and heat for uniform action of the fire. It also consists in openings in the sides of the furnace communicating with the bottom thereof, for discharge of cinders from said bottom on its sides. It also consists in the arrangement of the piles of iron endwise to the flame whereby advantages are gained, as will be set forth. It also consists in the mode of discharging cinders from the bottom of the furnace on its sides.

Referring to the drawing, A represents the fire-chamber; B, the heating-chamber; and C, the bridge. D represents the bottom of the chamber B, which is inclined from the front to rear, so that it is lower at the rear or end toward the bridge than at the door or doors, and the bottom is continued upward against the bridge, so as to form a bank, E. F represents two chimneys which are arranged at the sides of the furnace at the front end thereof, and communicate with the chamber

B at the bottom D, (see Fig. 3,) said chimneys being employed instead of the single chimney at the top of the furnace as heretofore. In the sides of the walls of the furnace at the lowest point of the bottom, as at *a*, there are formed openings G, which may be provided with chutes or spouts for discharge of cinders in chamber B of the furnace. A stoke-hole, H is provided on each side of the fire-chamber, so that access is had to said chamber on both sides, whereby the fire may be perfectly controlled.

In operation, the piles are arranged in the furnace endwise or longitudinally. The flame and heat act on the piles, and follow them longitudinally, whereby the former are not checked, as in the transverse arrangement heretofore practiced. The piles thus receive the heat equally and effectively, so that there is a great saving of fuel, labor, and dockings. As the flame and heat rise and pass over the bridge, they are directed toward the bottom of the chamber B, and before reaching the chimneys act regularly on the piles, even to the lowermost ones, so that every pile is uniformly heated without any portion thereof escaping the action of the fire. The chimneys increase the draft, and by their duplication permit regulation of the flame and heat in case one side of the fire should be greater or less than the other side.

The cinders in the chamber B are directed down the bottom D to the openings G and pass out automatically in streams through said openings.

The invention is readily applicable for heating iron of any length and thickness, and with uniformity, reliability, and economy.

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

1. The bottom of the furnace, inclined so that it is lower at the bridge than at the door, for the purpose set forth.

2. The bank E against the bridge, substantially as and for the purpose described.

3. The arrangement of two chimneys with the furnace, substantially in the manner and for the purpose set forth.

4. The openings G in the sides of the fur-

nace, communicating with the bottom thereof, substantially as and for the purpose set forth.

5. The arrangement of the piles of iron endwise to the flame, for the purpose set forth.

6. The mode of discharging cinders from the bottom of the furnace on its sides, as set forth.

The above signed by me this 15th day of July, 1872.

IRA J. CONKLIN.

Witnesses:

JOHN A. WIEDERSHEIM,
HARRY M. WIEDERSHEIM.