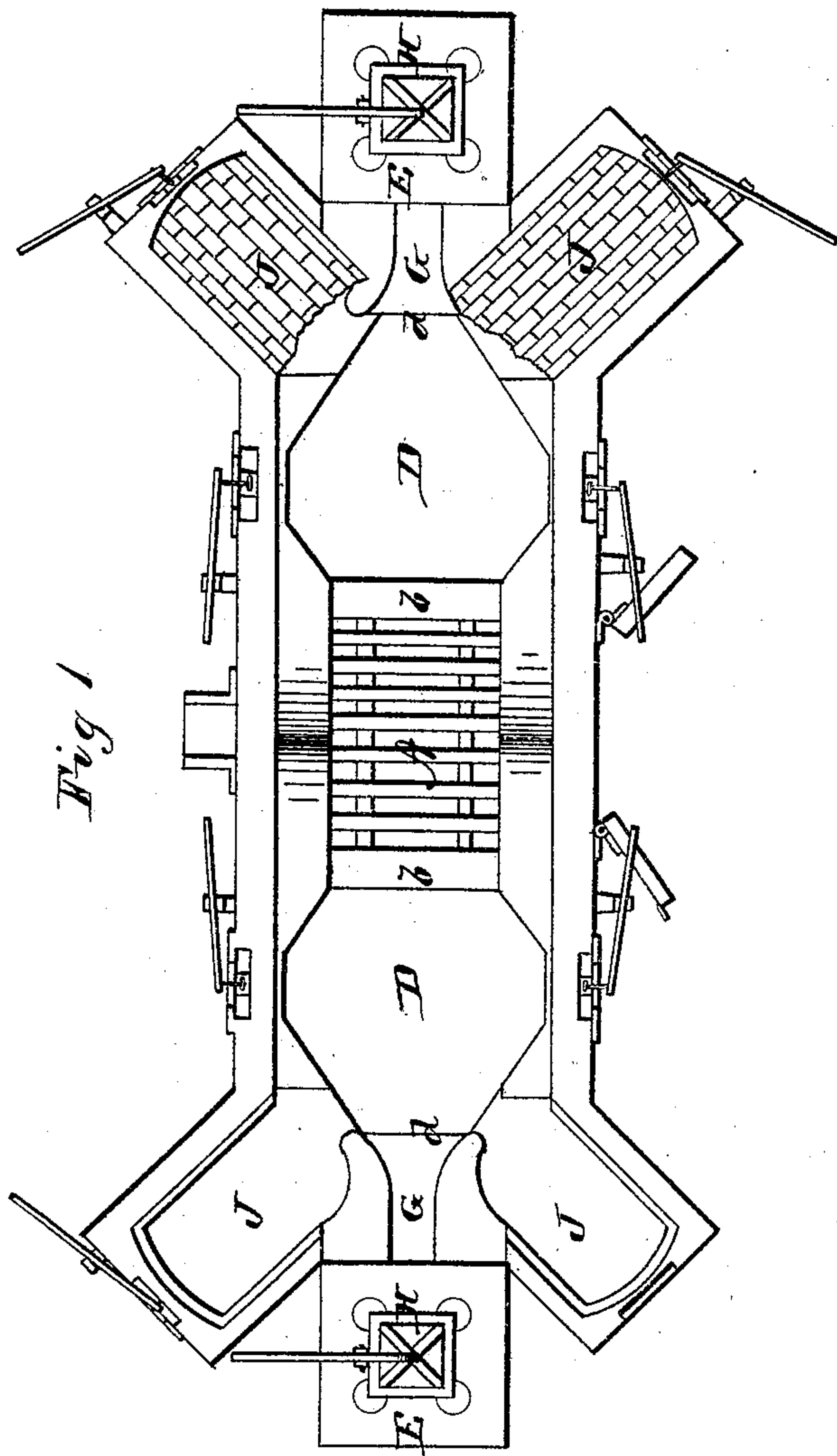


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**Reverberatory-Furnaces.**

No. 147,159.

Patented Feb. 3, 1874.



WITNESSES.

*A. L. Curran*  
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INVENTOR.

*Jonathan Ostrander*  
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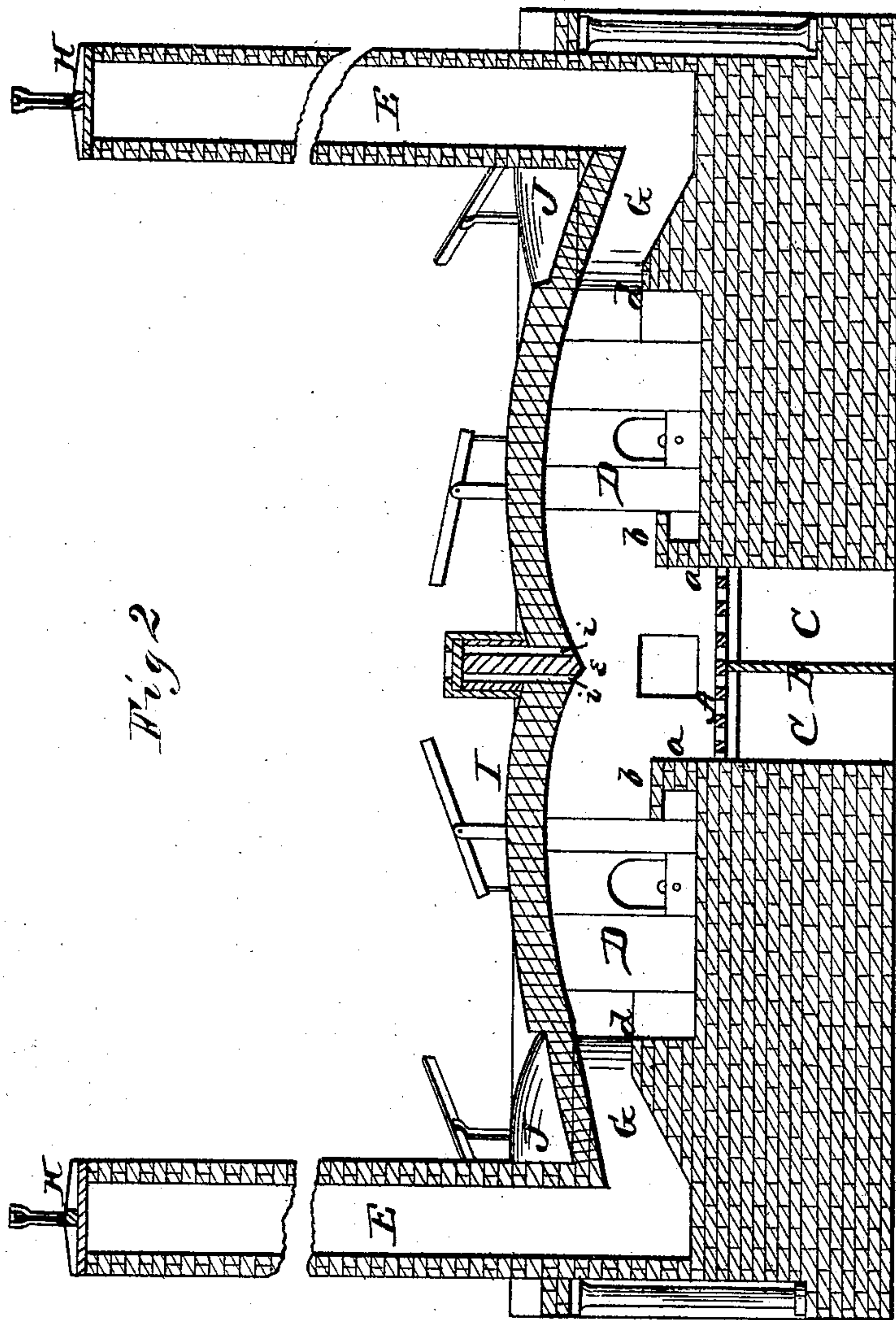
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# UNITED STATES PATENT OFFICE.

JONATHAN OSTRANDER, OF MANCHESTER, VIRGINIA.

## IMPROVEMENT IN REVERBERATORY FURNACES.

Specification forming part of Letters Patent No. **147,159**, dated February 3, 1874; application filed January 23, 1874.

*To all whom it may concern:*

Be it known that I, JONATHAN OSTRANDER, of Manchester, in the county of Chesterfield and in the State of Virginia, have invented certain new and useful Improvements in Puddling-Furnace; and 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 making a part of this specification.

The nature of my invention consists in the construction and arrangement of a puddling-furnace, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a plan view, and Fig. 2 a longitudinal section, of my furnace.

A represents the fire-grate, below which is a central vertical partition, B, forming two separate and distinct ash-pits, C C. At each side of the grate A rises the fire-wall *a*, with fire-bridge *b* at the top, over which the fire passes into the two puddling-furnaces D D. The fire on the single grate A divides and passes in opposite directions through the two puddling-furnaces D D, and the smoke passes out through the chimneys E E at opposite ends of the double furnace. *d* is the flue-bridge, and G the flue, to each chimney. The chimneys are provided with the usual caps H. I is the roof or top of the furnace, which projects downward in the center over the grate, forming a ridge, *e*, to facilitate the division of the fire and smoke in opposite directions over the furnaces D D. On each side of the ridge *e* is a series of apertures, *i i*, to supply draft to the fire, and through which also petroleum may be

injected into the fire to facilitate combustion and increase the heat.

In each ash-pit C a blast should be introduced, one or both of which may be employed as one or both of the furnaces are in operation.

Each of the puddling-furnaces D is provided with two of the usual heating-stoves J J, one on each side of the chimney E, for the reception of the pig-iron.

I lay no claim to the construction of any part or parts of this furnace, as I am well aware that they are, taken separately, all old. My invention is simply the combining of two puddling-furnaces, each having two heating-stoves and one chimney, with a single fire-grate, so that one fire will supply both the furnaces.

By this arrangement I gain the following very important advantages: The cost of erecting the furnace is considerably less than that of two single furnaces, each having a separate fire; room is economized, and a great saving in fuel is effected; there is also a saving in the cost of labor, as it will take less hands to attend to my double furnace than it will to two single furnaces.

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

The combination of two puddling-furnaces, D D, each having two heating-stoves, J J, and one chimney, E, with a single fire-grate and fire, substantially as herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 10th day of January, 1874.

JONATHAN OSTRANDER.

Witnesses:

A. N. MARR,  
C. L. EVERT.