

D. JONES.
FURNACE.

Patented Jan. 30, 1894.

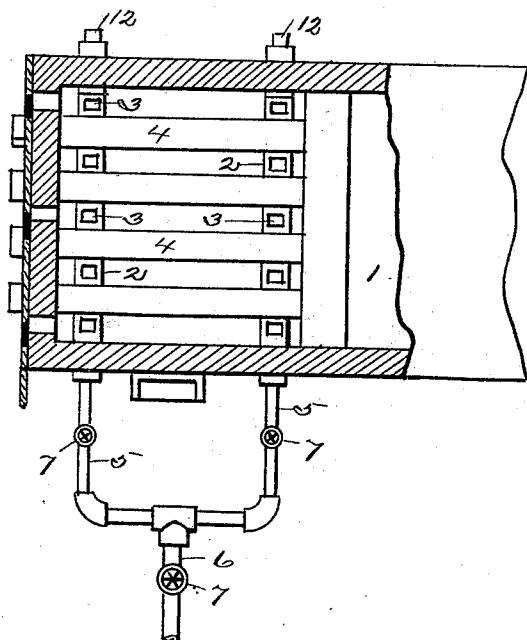
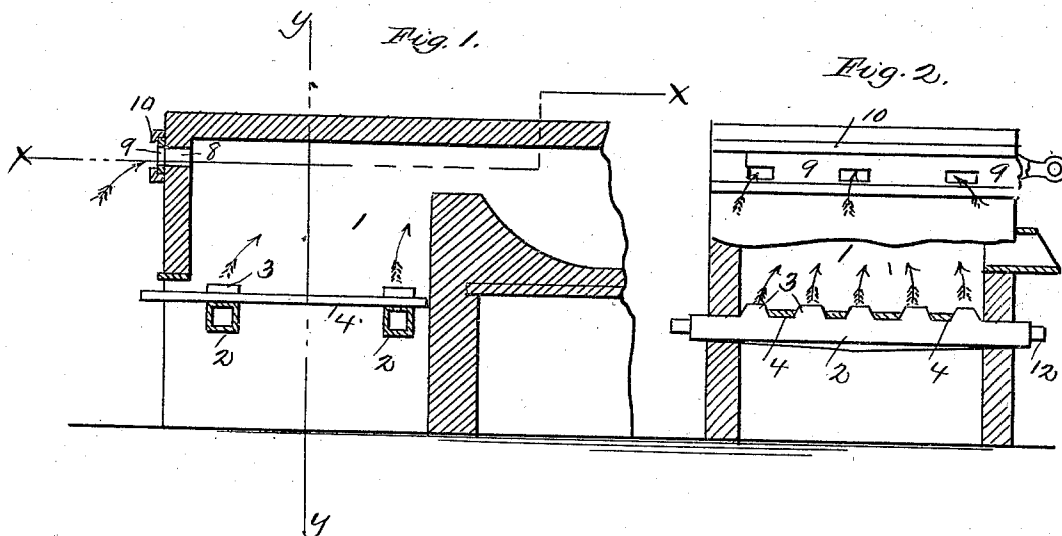


Fig. 3.

Wm. Harrison.
J. A. Hervey.

Rec. *Unsent.*
 Dana Jones
 O. W. Lewis

Q. 2. 2. 2.

UNITED STATES PATENT OFFICE.

DAVID JONES, OF YOUNGSTOWN, OHIO.

FURNACE.

SPECIFICATION forming part of Letters Patent No. 513,641, dated January 30, 1894.

Application filed April 21, 1893. Serial No. 471,322. (No model.)

To all whom it may concern:

Be it known that I, DAVID JONES, a citizen of the United States, residing at Youngstown, in the county of Mahoning and State of Ohio, have invented certain new and useful Improvements in Furnaces; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to an improved means for aiding combustion in heating, puddling or other like furnaces, and consists in certain details of construction and combination of parts as will be fully described hereinafter.

In the accompanying drawings, Figure 1, is a side sectional elevation of the combustion chamber of an ordinary puddling furnace, showing my improved means for aiding combustion arranged therein, which is constructed in accordance with my invention. Fig. 2 is an end elevation partly in section, taken on the line Y—Y. Fig. 3 is a sectional plan view on the line X—X.

To put my invention into practice with a puddling furnace I arrange across the fire chamber 1 of the same two hollow bars 2, adapted to support the grate bars 4, and provided with discharge orifices 3 between the spaces of the said grate bars 4. Attached to one end of each of these hollow supporting bars 2 are pipes 5, which are connected to another 6 leading from a supply of air or steam under pressure. Each of these pipes 5—6 is fitted with valves or cocks 7 for the purpose of regulating and controlling the flow of air, steam or other substance discharged into the

fire chamber of the furnace. The other ends of these bars 2 are fitted with plugs 12, which may be removed if the connecting pipes 5 are arranged at that side of the furnace. At the front of the furnace near the top is a series of openings 8, which may be partly or wholly covered by a sliding plate 9 operating in guides 10, and having registering openings formed through the same.

In operation steam, air or other suitable substance is introduced through the pipes 5—6 under pressure, and discharged into the fire chamber 1 through the orifices 3, thereby aiding the combustion of the solid fuel burning in the said chamber. By admitting the air through the openings 9 at the top of the furnace, the smoke may be burned before passing the bridge wall.

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

The herein described device for aiding combustion in furnaces, consisting of the hollow supporting bars 2 having orifices 3 formed in the top of the same, and adapted to the spaces between the grate bars 4, the pipes 5—6 connected to a supply of air steam or other suitable substance under pressure, the openings 9 arranged at the top of the furnace, and the registering plate, for opening and closing the same, all arranged and combined for service, substantially as and for the purpose described.

In testimony that I claim the foregoing I hereunto affix my signature this 28th day of January, A. D. 1893.

DAVID JONES. [L. S.]

In presence of—

M. E. HARRISON,
JAS. J. MCAFEE.