W. RAMSEY.

DEVICE FOR FEEDING STEAM TO FURNACES.

No. 190,367. Patented May 1, 1877.

Fig. 1.

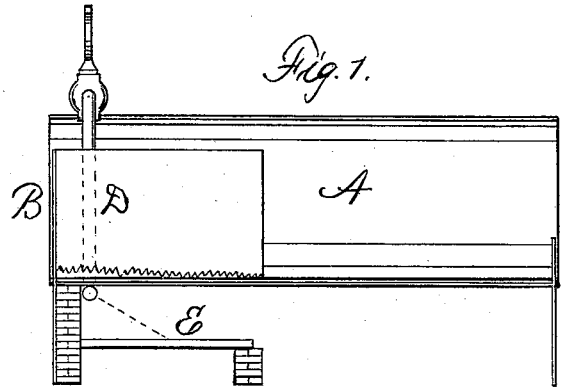
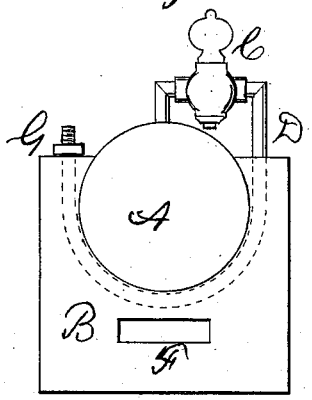


Fig. 2.



Witnesses
B. Pickering
H. M. Brudner

Inventor
William Ramsey

UNITED STATES PATENT OFFICE.

WILLIAM RAMSEY, OF DAYTON, OHIO.

IMPROVEMENT IN DEVICES FOR FEEDING STEAM TO FURNACES.

Specification forming part of Letters Patent No. **190,367**, dated May 1, 1877; application filed July 5, 1876.

To all whom it may concern:

Be it known that I, WILLIAM RAMSEY, of the city of Dayton, State of Ohio, have invented an Improved Smoke-Consuming Furnace, of which the following is a specification:

The object of my invention is to arrange a steam-pipe in connection with a steam-boiler furnace, for the purpose of jetting steam onto the fuel in an oblique direction to produce perfect combustion, the said steam-pipe being so related to the steam-boiler that it shall be protected from burning.

The accompanying drawings are made part of my specification, in which like letters designate like parts.

Figure 1 is a side elevation of the steam-boiler and furnace, with a portion cut away to show the interior of the furnace. Fig. 2 is a front elevation of the same.

A represents a steam-boiler; B, the furnace-front, and E the grate-bars. To the top of the boiler is connected the steam-pipe D, which extends closely around the lower portion of the boiler, as shown by dotted lines, Fig. 2, and terminates just above the side wall, where it is held by a nut. Within this steam-pipe is placed a stop-cock, C, the use of which being to regulate the force of the steam-jet. A series of orifices, preferably about ten inches apart, are drilled into the steam-pipe at an angle which will direct the steam onto the fuel obliquely, as shown by the dotted lines, Fig. 1, extending from the steam-pipe to the grate.

In attaching my device to a furnace I first make holes through the sides of the furnace for the vertical parts of the pipe; then form a piece of pipe of the form of a semicircle, which will fit closely onto the boiler, and when thus fitted drill the holes at the proper angle for the steam-jets. The circular piece of pipe is then placed against the boiler close to the brick lining of the front, (see Fig. 1,) and then the vertical parts of the pipe are connected, one end being threaded for the nut G, by which the pipe is drawn up snugly against the boiler, and the other is attached to the top of the boiler, or is connected to the engine induction-pipe, as may prove most convenient. As a steam-pipe arranged inside a furnace is subjected to a heat that would prove destructive, I therefore secure the pipe in immediate contact with the steam-boiler, and thereby preserve it from destruction.

The operation is thus: The steam passes from the boiler through the steam-pipe, and issues obliquely therefrom through the small orifices at the bottom of the same onto the fuel, thus producing a partial disintegration, and by carrying the air over the incandescent fuel very complete combustion takes place.

I am well aware that it is not new, broadly, to induct a jet or jets of steam (or air) into a boiler-furnace, for the purpose of insuring perfect combustion; but I am not aware that the improved construction and arrangement of parts herein described has been ever before known or used; hence

What I claim, and desire to secure by Letters Patent of the United States, is—

In combination with the steam-boiler A and furnace B, the pipe D, provided with stop-cock C, issuing from the top of the boiler, and passing under and in close contact with the same through furnace B, the pipe D being provided with perforations, through which jets of steam may be forced, obliquely, upon the burning fuel, the force of said jets being regulated by stop-cock C, substantially as and for the purpose herein shown and specified.

WILLIAM RAMSEY.

Witnesses:

B. PICKERING,

P. H. GUNCKEL.