

UNITED STATES PATENT OFFICE.

GILES EDWARDS, OF TANNEHILL, ALABAMA.

IMPROVEMENT IN APPARATUS FOR FEEDING THE CHARGE TO METALLURGIC FURNACES.

Specification forming part of Letters Patent No. 130,849, dated August 27, 1872.

Specification describing Improvement in Smelting-Furnaces, invented by GILES EDWARDS, of Tannehill, in the county of Tuscaloosa and State of Alabama.

The object of this invention is to graduate readily the amount of fuel and its mixture with the ore, and thus to give the smelter entire control of the quantity and quality of the ascending gases.

Figure 1 is a vertical section of a furnace constructed according to my invention, the section being taken on the line *xx* of Fig. 2. Fig. 2 is a horizontal section of Fig. 1 taken on the line *yy*.

A is the furnace. B represents a feeding-tube placed at the top of furnace and extending down into the center. This tube B is supported by a flange and by ears or lugs at the opening or top of the furnace, and is provided with two sliding valves, C D, above the top of the furnace, which form a charging-chamber, E, in the top of the tube. Around the tube at the top of the furnace sufficient openings, F, are left for the introduction of the ore. The idea is to charge the fuel through the tube B and the ore through openings F.

I am aware that this feeding the fuel through center of tube and the ore around said tube is not of my invention, but the great object which I have in view is to secure a safe and reliable method of conveying the ore and fuel to any

point in the furnace and in varying proportions. This is especially important where magnetic and hydratic brown oxide of iron are smelted at the same time. I accomplish this object by my sliding gates C D.

To render the tube B durable, it is provided with a water-jacket, G, so that a current of water can be constantly forced through it. The valves C D may be operated by the levers H I or by any other means. J is an opening, through which the heated products of combustion may be allowed to escape for generating steam or other purposes.

My improvements have the advantages of being applicable to ordinary furnaces without alteration or blowing out; of adapting them to readily mix the ore and fuel in any part of the furnace or in any proportions; and of thus allowing the operator to control the quality and quantity of the ascending gases.

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

A feeding-tube, B, having a charging-chamber, E, with valve *c* at top and another, D, at bottom, as and for the purpose described.

GILES EDWARDS.

Witnesses:

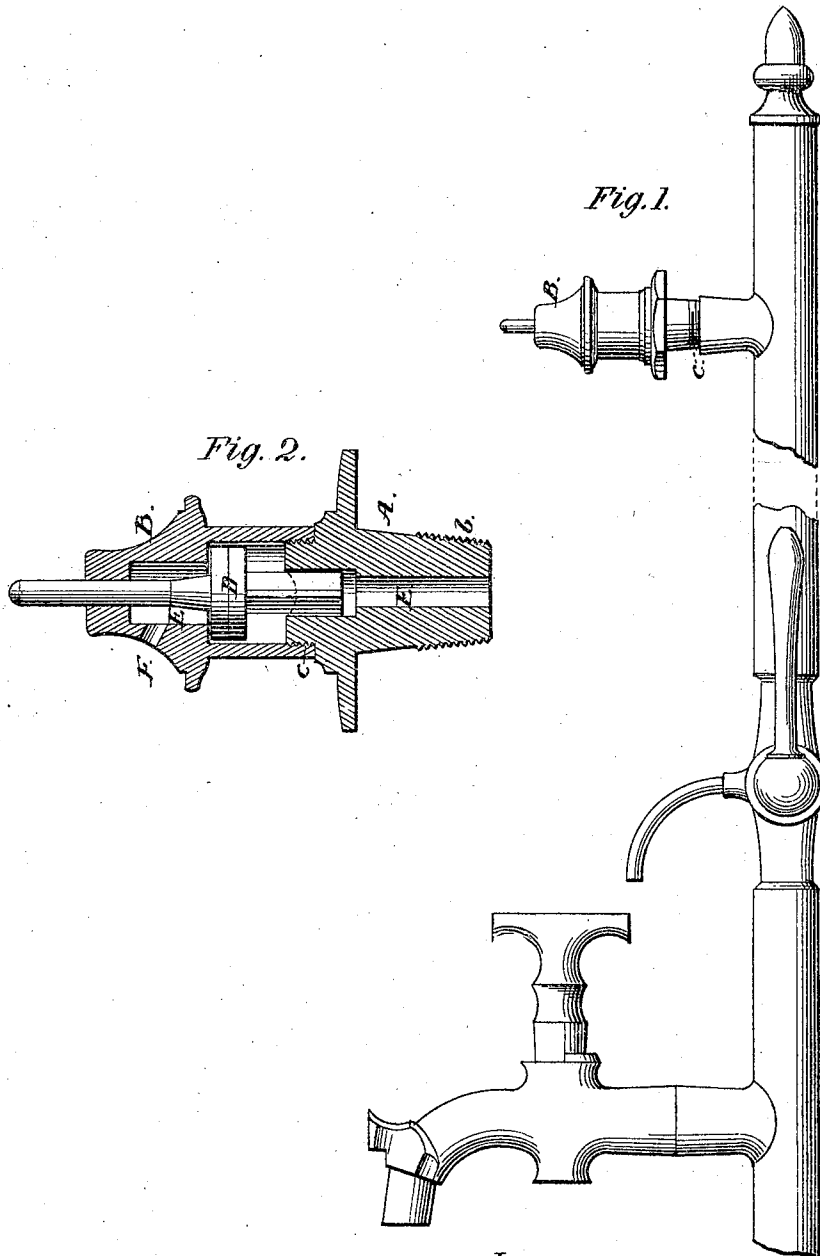
T. B. MOSHER,
W. A. GRAHAM.

H. ENGLISH.

Apparatus for Venting and Draining Water-Pipes.

No. 130,850.

Patented Aug. 27, 1872.



Witnesses.
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