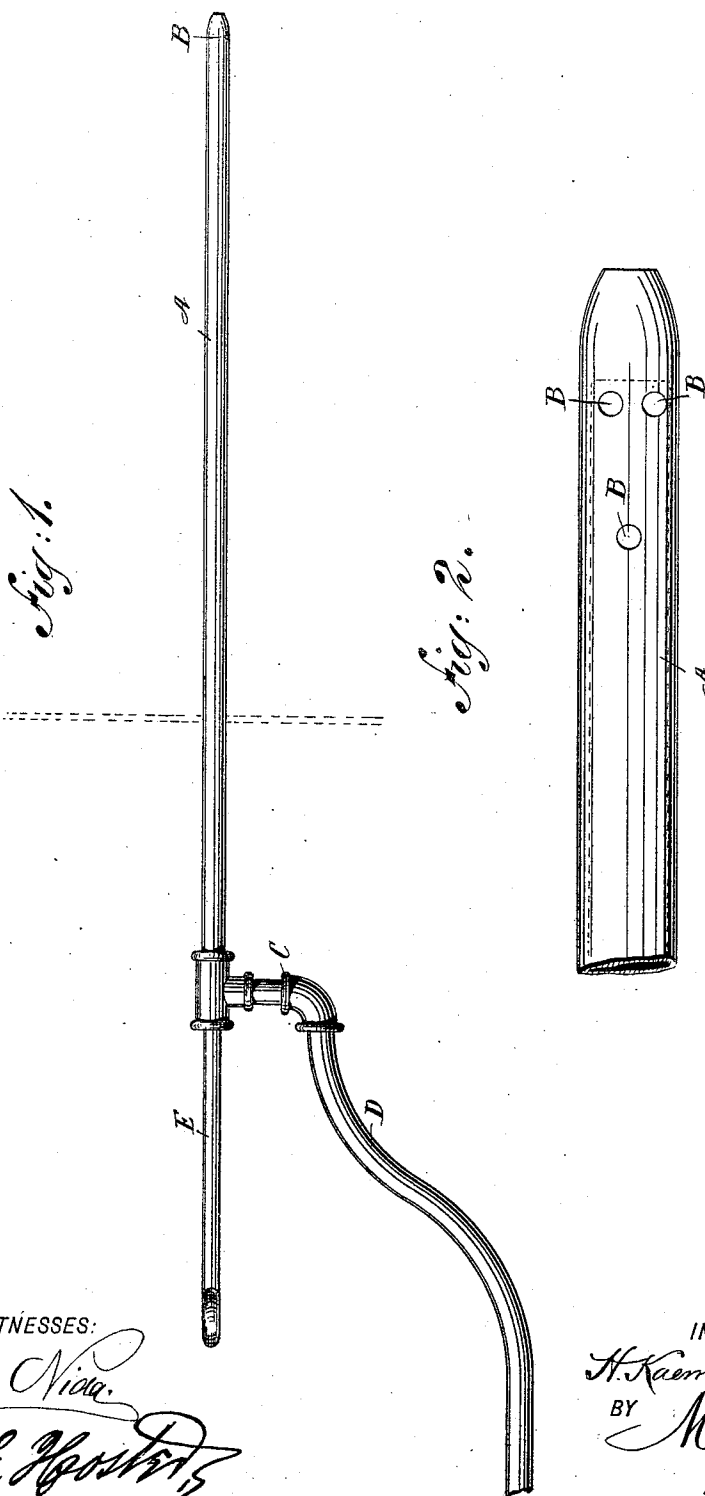


(No Model.)

H. KAEMMERLING.
METHOD OF CLEANING RETORTS.

No. 536,877.

Patented Apr. 2, 1895.



WITNESSES:
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HERMAN KAEMMERLING, OF GIRARD, KANSAS.

METHOD OF CLEANING RETORTS.

SPECIFICATION forming part of Letters Patent No. 536,877, dated April 2, 1895.

Application filed August 22, 1894. Serial No. 520,973. (No model.)

To all whom it may concern:

Be it known that I, HERMAN KAEMMERLING, of Girard, in the county of Crawford and State of Kansas, have invented a new and Improved Method of Cleaning Retorts, of which the following is a full, clear, and exact description.

The invention relates to zinc smelting furnaces; and its object is to provide a new and improved process for conveniently and thoroughly cleaning the retorts of the residuum, ashes, &c., after the last draw of metal, and before charging the retort with fresh ore.

The invention consists in the method hereafter described and claimed.

The invention also consists in certain parts and details, and combinations of the same, as will be hereinafter fully described and then pointed out in the claim.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in both views.

Figure 1 is a side elevation of the apparatus; and Fig. 2 is an enlarged bottom view of the nozzle end of the pipe.

Heretofore the residuum, ashes, &c., contained in a retort after the last draw of metal was made, and before the retort was again charged with fresh ore, was removed by the use of steam under a pressure of about eighty pounds, the steam being passed through a long iron pipe connected to the steam hose leading to the boiler, the said pipe being inserted in the retorts so that the escaping steam forced out the refuse. With this method, considerable steam was required to accomplish the desired end, especially where a large number of furnaces were in operation. At the same time, the refuse removed from the retort was very inconvenient to handle, as it still retained a high degree of temperature. With my improved process, the refuse is lowered in temperature at the time it leaves the retort, so that it can be conveniently moved to a place of discharge.

As shown in the drawings, I provide a pipe

A, formed at its forward, closed, and somewhat rounded off end, with apertures B, at the bottom, so that water passed through the pipe is sprayed through the said apertures. The rear end of the pipe A is provided with an elbow C, connected by a hose D, with the discharge pipe of a force pump of any approved construction, so that water under pressure passes from the pump through the hose D and elbow C, into the pipe A, and out of the apertures B, in jets or sprays. From the rear end of the pipe A extends a handle E, adapted to be taken hold of by the operator, for conveniently manipulating the pipe so as to introduce the forward or nozzle end into the retort, and to move the said nozzle end into contact with the residuum, ashes, or other refuse.

It will be seen that when water is sprayed by the pipe A into the heated retort, a sudden generation of steam takes place, and the expansion of this steam drives out all the refuse. At the same time the latter is wet by the water, and flows into the pits in a partially cooled condition, thus permitting of conveniently handling it. It will further be seen that by the water issuing from the pipe A, the floors in front of the furnaces are sprinkled and consequently cooled so as to make it more comfortable for the workmen while introducing the pipe A into the retort.

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

The herein described method of cleaning retorts which consists in discharging jets of water under high pressure into the hot retort throughout the length thereof to generate steam and loosen and force out the residuum and continuing the discharge till the residuum is cooled and washed out, substantially as described.

HERMAN KAEMMERLING.

Witnesses:

F. W. STENCK,
AUSTIN HAWLEY.