

HENDERSON ROSS & JOHN H. CLEMENS.

Improvement in Furnaces for the Manufacture of Iron and Steel.

No. 118,279.

Patented Aug. 22, 1871.

Figure 1.

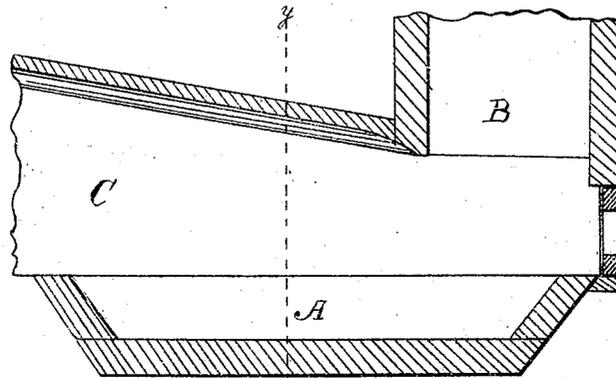
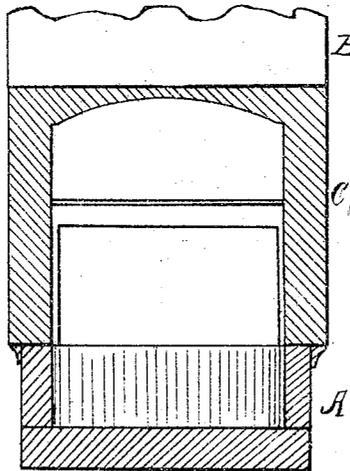


Figure 2.



Witnesses:

Parker & Sweet, Jr.
J. D. Patton

Inventor:

Henderson Ross
John H. Clemens
By *L. Johnston* their attorney

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118,279

UNITED STATES PATENT OFFICE.

HENDERSON ROSS AND JOHN H. CLEMENS, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN FURNACES FOR THE MANUFACTURE OF IRON AND STEEL.

Specification forming part of Letters Patent No. 118,279, dated August 22, 1871.

To all whom it may concern:

Be it known that we, HENDERSON ROSS and JOHN H. CLEMENS, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Furnaces used for the Manufacture of Iron or Steel; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon.

The nature of our invention consists in providing the neck and lower part of the stack or chimney of furnaces used for the manufacture of iron or steel with a water-box, which is supplied with water in any suitable manner, said box being used for the purpose of preserving the lining of the neck and stack or chimney of the furnace.

To enable others skilled in the art to make and use our invention, we will proceed to describe its construction and operation.

In the accompanying drawing which forms part of our specification, Figure 1 is a vertical and longitudinal section of a puddling-furnace provided with our improvement, the working fire-chamber and upper part of stack broken away. Fig. 2 is a transverse section of the same at line *y* of Fig. 1.

We construct the furnace in the ordinary manner, and provide it with all the appendages common to furnaces used for the manufacture of iron or steel; but in the neck C and at the lower end of the stack or chimney B we place a water-box, as shown at A. This box is supplied with water in any suitable manner, and is susceptible of being removed at the will and pleasure of the operator. By furnishing the furnace with a water-box, as herein described, it will be found that the lining of the furnace-neck and stack will be greatly preserved by the heat acting on the water in the box A and by cooling down the slag which flows into the box, the slag at suitable times being discharged from it.

What we claim as of our invention is—

A furnace used for the manufacture of iron or steel provided with a water-box, as hereinbefore described, and for the purpose set forth.

HENDERSON ROSS.
JOHN H. CLEMENS.

Witnesses:

A. C. JOHNSTON,
JAMES J. JOHNSTON.