

M. Z. Evans.

Fixing Furnaces.

N^o 95,450.

Patented Oct. 5, 1869.

Fig. 1

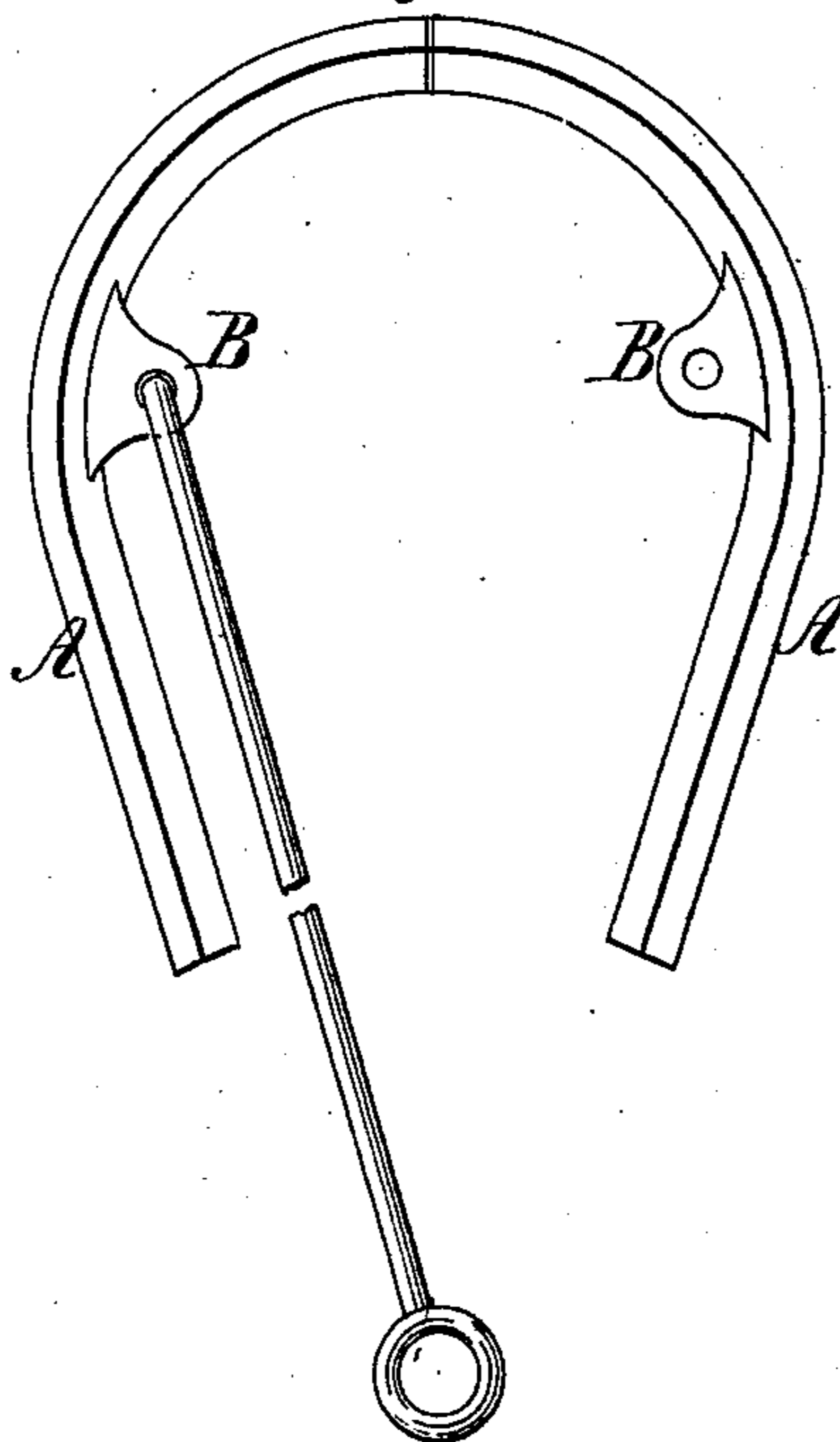
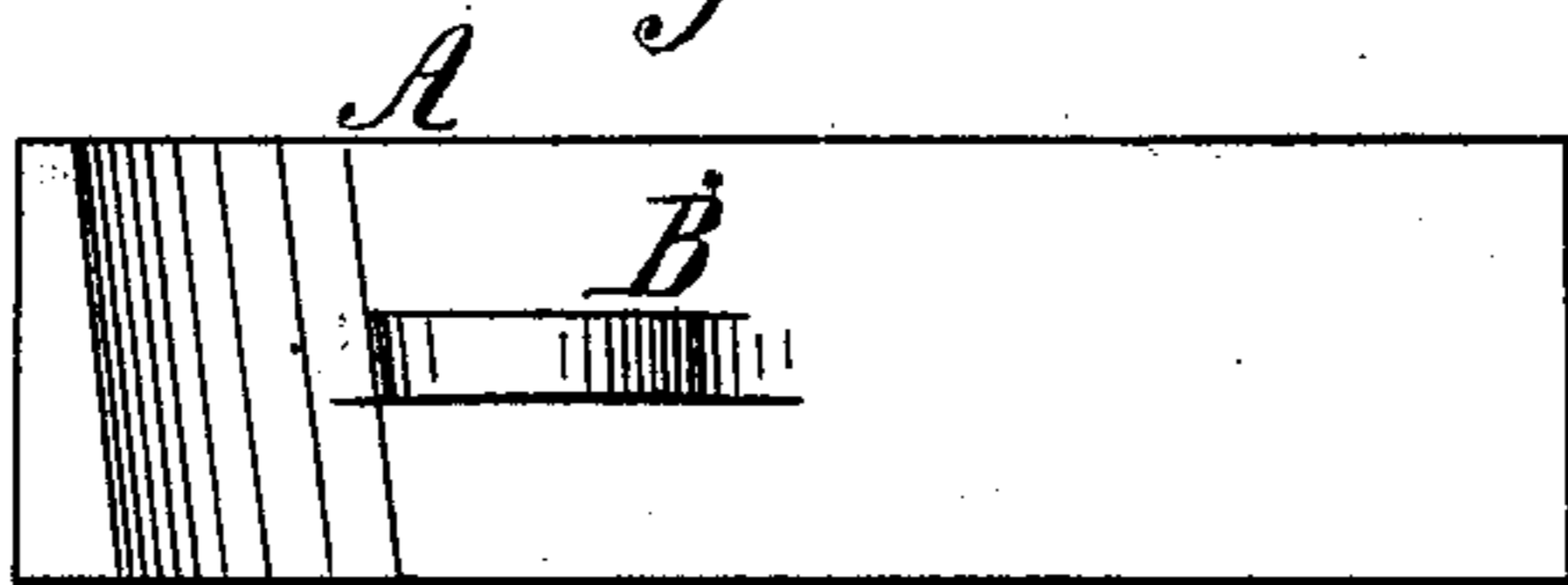


Fig. 2



Witnesses

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United States Patent Office.

MORGAN Z. EVANS, OF ORMSBY, PENNSYLVANIA.

Letters Patent No. 95,450, dated October 5, 1869; antedated October 1, 1869.

IMPROVEMENT IN FIXING PUDDLING AND BOILING-FURNACES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, MORGAN Z. EVANS, of Ormsby, in the county of Allegheny, and State of Pennsylvania, have invented a new and useful Improvement in "Fixing" or Repairing Puddling-Furnaces; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to puddling and boiling-furnaces, and applies to the process called by furnace-men "fixing," which is performed as occasion may require, in the way of repairs, after the furnace has been in operation for some time, when not in use; and

It consists in the use of curved plates in the furnace, which, when placed together, correspond in form to the shape of the furnace, on the outside of which the "fixing-mortar" is placed.

In the accompanying plate of drawing—

Figure 1 represents two curved plates standing edge-wise, and placed together as they stand when in use in the furnace, representing the shape of the furnace.

Figure 2 shows the inner side of one of the plates.

Similar letters of reference indicate corresponding parts.

Puddling-furnaces are usually "fixed" with pulverized ore, or a sort of mortar made of such ore, put on by what are called "dabbers," a kind of tool for that purpose. This is a tedious and imperfect operation, and requires about double the quantity of the

pulverized ore that I find it necessary to use by my improved method.

In carrying out my invention, I use the plates A A, which, when placed on edge, as represented in the drawing, determine the shape of the furnace on the inside.

These curved plates are placed on the "hearth," and the pulverized ore-mortar is placed around them in a compact mass.

When the "fixing" has become sufficiently hard to allow of the removal of the plates, they are drawn out one at a time by hooks made for the purpose, which are inserted into holes in the lugs B B, on the inside, as seen in the drawing.

By this method of "fixing," a vast amount of time and about one-half of the ordinary expense in ore are saved, as compared with the old system.

Having thus described my invention,

I claim as new, and desire to secure by Letters Patent—

In combination with a puddling or boiling-furnace; the curved plates A A, substantially as and for the purposes herein shown and described.

The above specification of my invention signed by me, this 27th day of February, 1869.

MORGAN Z. EVANS.

Witnesses:

AUGUST AMMON,

H. ZEDEL,

JAMES W. PASTORIUS.