C. H. MORGAN.

Fire-Bricks for Annealing Furnaces.

No. 208,483. Patented Oct. 1, 1878.

FIG. 1

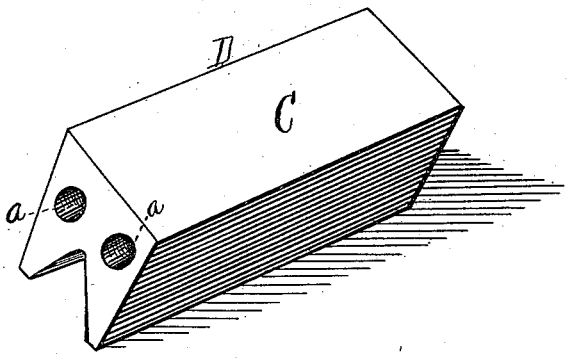


FIG. 2.

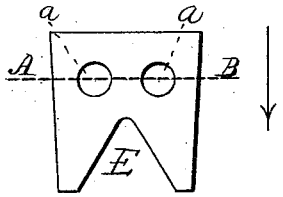


FIG. 3.

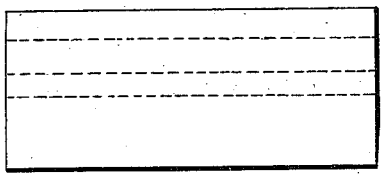
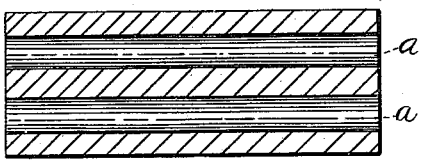


FIG. 4.



Witnesses,

Thos. H. Dodge

E. E. Moore

Inventor.

Chas. H. Morgan

UNITED STATES PATENT OFFICE.

CHARLES H. MORGAN, OF WORCESTER, MASSACHUSETTS.

IMPROVEMENT IN FIRE-BRICKS FOR ANNEALING-FURNACES.

Specification forming part of Letters Patent No. **208,483,** dated October 1, 1878; application filed August 1, 1878.

To all whom it may concern:

Be it known that I, CHARLES H. MORGAN, of the city and county of Worcester, and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Fire-Bricks for Annealing-Furnaces; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and in which—

Figure 1 represents a perspective view of one of my improved fire-bricks for annealing-furnaces. Fig. 2 represents an end view; Fig. 3, a side view; and Fig. 4, a horizontal section on line A B, Fig. 2, looking in the direction indicated by the arrow, same figure.

To enable those skilled in the art to which my invention belongs to make and use the same, I will proceed to describe it more in detail.

In the drawings, C indicates the top of the improved fire-brick D, which is made with two holes, *a a*. These holes extend entirely through the brick, as fully indicated in dotted and full lines, Figs. 3 and 4.

The under side of the brick is cut out, as indicated at E, and the top of the brick is made a little wider than the lower forked bottom, whereby a good and firm joint is secured on each side of the bricks when they are placed in position in the furnace.

I prefer to make the bricks about twelve inches long, four and one-fourth inches deep, and about the same in width, and I have found that when they are arranged so as to constitute an arch twenty feet in length and ten bricks in width a very desirable and convenient annealing-furnace is produced.

It will be understood that necessary supporting-bars, when required, may be employed to give strength to the arches, and that the fire is placed underneath the arch composed of the perforated fire-bricks D, and is so arranged that the flame can pass up at each side, and then over the entire arch, whereby a very uniform heat is brought to bear upon the perforated fire-brick D for heating the wire as it passes through the holes *a a*.

The action of the heat upon the wire passing through the holes *a a* is very even, while the wire strands passing through the holes *a a* are protected from injurious gases arising fron the fuel in a more perfect manner than by the old mode in use previous to my invention, which consisted of metallic blocks or tubes arranged upon the tops of a solid fire-brick arch. Then, again, there is greater economy in the use of my said invention, since the old iron tubes or blocks would soon burn out and require replacing; and even when not in use but a little while, and before they were burned out, they were liable to warp and twist out of place, thereby rendering the action of the annealing operation imperfect, all of which objections are obviated by my present invention.

Having described my improvements in fire-brick for annealing-furnaces, what I claim therein as new and of my invention, and desire to secure by Letters Patent, is—

A fire-brick for annealing-furnaces provided with longitudinal holes for the passage of the wire to be annealed, substantially as shown and described.

CHAS. H. MORGAN.

Witnesses:
E. E. MOORE,
THOS. H. DODGE.