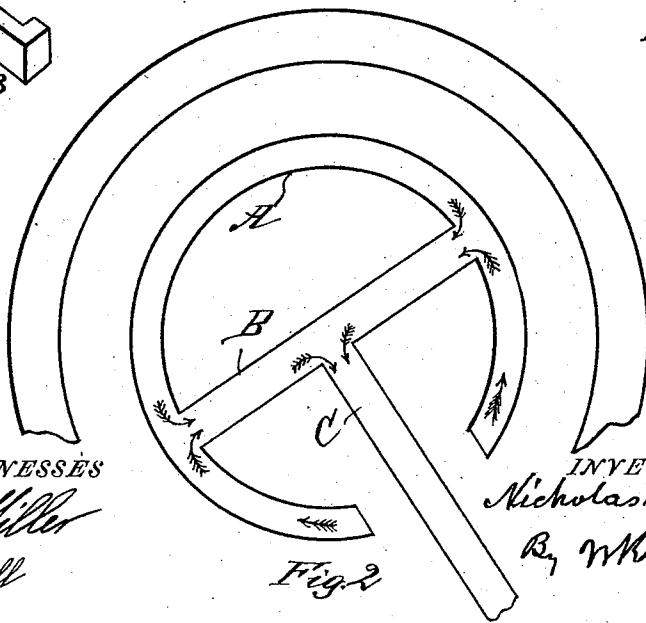
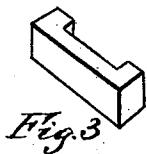
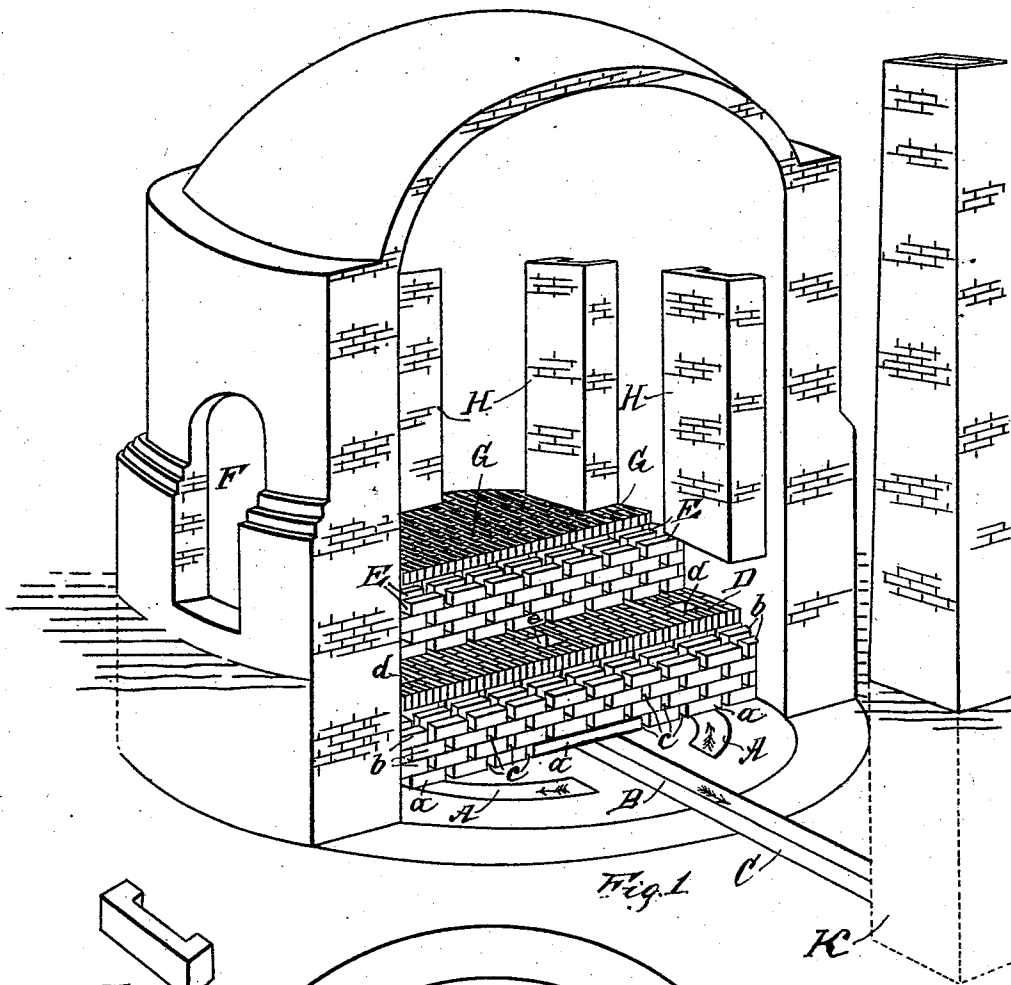


(No Model.)

N. MERLEY.
BRICK KILN.

No. 527,703.

Patented Oct. 16, 1894.



WITNESSES

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UNITED STATES PATENT OFFICE.

NICHOLAS MERLEY, OF CANTON, OHIO.

BRICK-KILN.

SPECIFICATION forming part of Letters Patent No. 527,703, dated October 16, 1894.

Application filed May 28, 1894. Serial No. 512,655. (No model.)

To all whom it may concern:

Be it known that I, NICHOLAS MERLEY, a citizen of the United States, and a resident of Canton, county of Stark, State of Ohio, have
5 invented a new and useful Improvement in Brick-Kilns, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification.

10 My invention relates to an improvement in brick kilns, and particularly to that class known as down draft kilns, for burning street paving brick.

15 The object of the invention is to provide means by which the brick may be more evenly burned, throughout the kiln, especially at the bottom portion.

With this object in view, my invention relates to certain features of construction and
20 combination of parts as will be hereinafter described and claimed.

Figure 1 of the accompanying drawings is a view in perspective of a brick kiln, illustrating my invention. Fig. 2, is a plan of the
25 flues under the kiln. Fig. 3, is a perspective of the brick used in the upper floor.

A represents a circular flue in the ground beneath the kiln connected by a cross flue B, and C, a flue leading from the cross flues B to
30 the stack K.

The flues A, B and C are bridged by tile *a*. Shown in Fig. 1. Above and over the flues is built series of walls *b*, having apertures as *c*. Upon these walls is placed a solid brick pavement G, having apertures *d* and *e*, that register with the flues A, B and C, the number and arrangement of these openings to be determined by the location or draft of the stack. On this paved floor D is provided a series of
40 apertured walls E, similar to the walls D. Upon these walls E is placed an open pavement or floor made of brick, having a recess in one side as shown in Fig. 3.

F represents the fire box which may be
45 built either inside or outside of the kiln, and H represents the bag, which may be constructed on any of the well known and approved plans.

In operation the kiln is fired in the usual
50 way, the flame and heat passing from the fire box F into and up in the bag H, which extends from the grate bars to the top of the brick to be burned, which are put into the kiln in the usual way, the heat passing over

and down through the brick, and floor G, to 55 the apertured walls E, that form a kind of so called checker work, the progress or flow of the heat being retarded by the solid or paved floor D, there being no exit except through the provided apertures *d* and *e*. The walls 60 E or checker work become incandescent, the smoke all being consumed or substantially so, and thereby saving large quantities of coal. The apertured walls *b* are provided to support the floor D, and to retard the too 65 rapid flow of heat to the flues A, B, C, the result of which is to render the wall E and the floor G incandescent, and to retain the heat in that section of the kiln, the object of which is to so raise the heat at that point that the 70 bottom row of brick will be as thoroughly burned as any above that point, the result being that substantially every brick in the kiln will or can be burned and vitrified to that degree necessary for street paving, the surplus 75 heat passing down through the holes *d* and *e* to the flues A, B, C, therein, to the stack D.

As heretofore constructed there was not sufficient resistance to the flow of the heat, or in other words it dropped too suddenly into 80 the flues, and away from the brick, losing a large amount of heat, greatly to the damage of the lower portion of the brick in the kiln, which resulted in a large production of brick not suitable for street pavers, and therefore 85 a large loss in value of time and material.

Having thus fully described the nature and object of my invention, what I claim is—

1. The combination in a down draft brick kiln, of the fire box F, and bags H, of the series of apertured walls *b* and E, the upper 90 floor G, the intermediate floor D, having apertures *d* and *e*, and the flues A, B and C, substantially as described and for the purpose set forth.

2. The combination in a down draft brick kiln, of the fire box and inside bag of the lower series of apertured walls *b*, the upper series of apertured walls E and the middle floor, having apertures to register with the 100 flues A, B, C, substantially as described and for the purpose set forth.

In testimony whereof I have hereunto set my hand this 12th day of May, A. D. 1894.

NICHOLAS MERLEY.

Witnesses:

W. K. MILLER,
BURT A. MILLER.