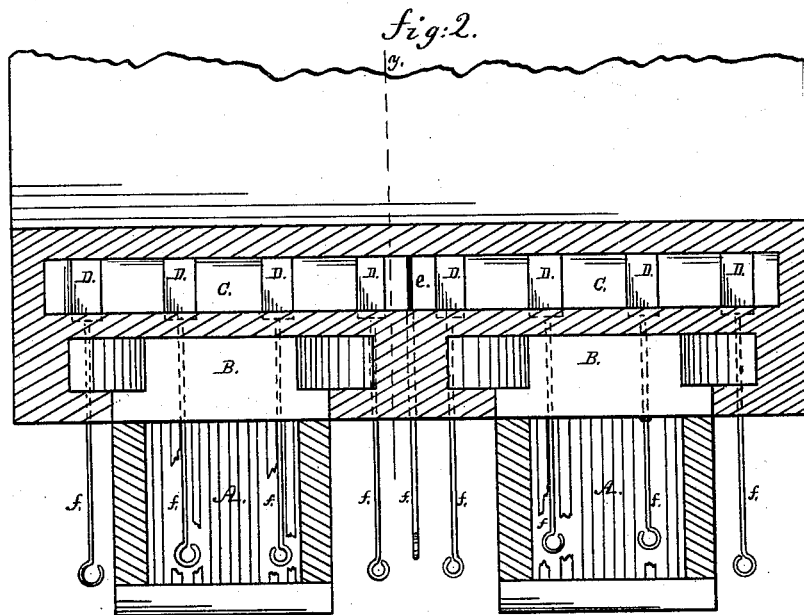
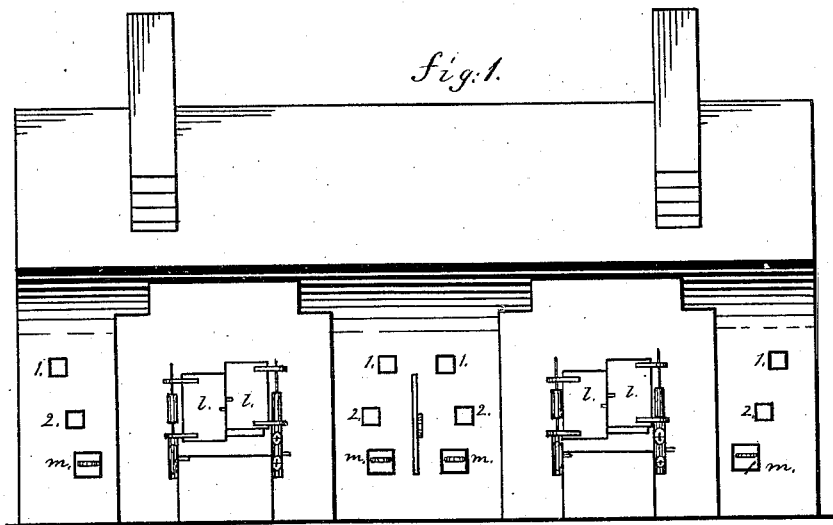


W. S. COLWELL. Furnace for Brick-Kilns.

No. 168,617.

Patented Oct. 11, 1875.



Witnesses

James Johnston
H. Le Johnston

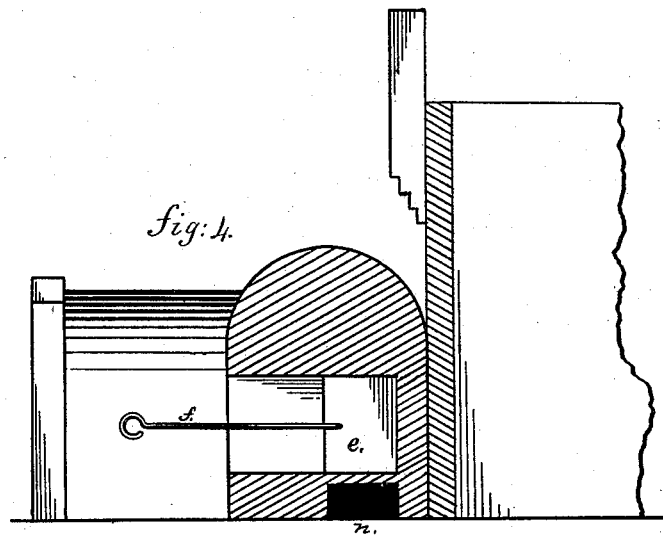
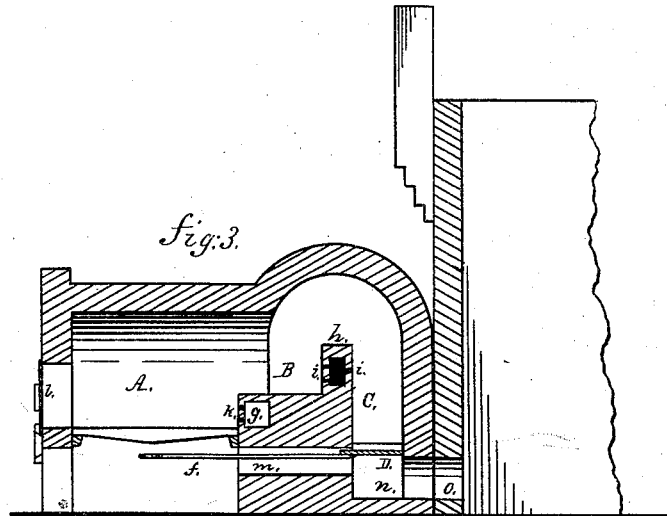
Inventor

W. S. Colwell

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Witnesses
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A. K. Johnston

Inventor
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UNITED STATES PATENT OFFICE.

WILLIAM S. COLWELL, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN FURNACES FOR BRICK-KILNS.

Specification forming part of Letters Patent No. 168,617, dated October 11, 1875; application filed September 20, 1875.

CASE C'.

To all whom it may concern:

Be it known that I, WILLIAM S. COLWELL, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Furnaces for Brick-Kilns and other purposes; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

My invention relates to an improvement in furnaces for brick-kilns and other purposes; and consists in a peculiar arrangement of gates and partitions with relation to the heat-chambers and fire-flues of the kiln.

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

In the accompanying drawings, which form part of my specification, Figure 1 is a front elevation of my improvement in furnaces for brick-kilns and other purposes. Fig. 2 is a top view or plan, representing the crown of the furnace removed. Fig. 3 is a vertical section of the furnace. Fig. 4 is a vertical section of the same at line *y* of Fig. 2.

In the drawings, A represents the fire-chamber of the furnace; B, the spreading-chamber; C, the heat-chamber; *g h*, hollow bridge-walls. 1 are flues leading into the hollow bridge-wall *h*. 2 are flues leading into bridge-wall *g*. The chambers in the hollow bridge-walls communicate with the fire-chamber A and spreading-chamber B through the medium of apertures *i k*. *l* represents the fire-doors, which are so hinged that the doors can be raised, so as to allow the current of air to sweep over the fire in the chamber A. *m* are openings for observing the condition of the fire-arches.

The operation of the fire-chamber A, chambers B and C, hollow bridge-walls *g h*, and the hinges of the doors *l* are fully described in Letters Patent No. 166,749, granted me August 10, 1875. Therefore I will not further describe

them, but refer to said recited Letters Patent with relation thereto.

Below the bottom of the heat or combustion chamber C is a chamber, *n*, communicating with the chamber C through the medium of the openings in the bottom of said chamber, which openings can be opened and closed through the medium of gates or valves D. The chamber C may be divided into a series of compartments by movable partitions *e*. The gates or valve D and partitions *e* are manipulated by means of rods attached to them. The operator, in opening the gates D or moving the partitions *e*, draws the rod *f* toward him, and, in closing the gate D and dividing the chamber C into compartments, pushes the rods from him toward the kiln.

By this arrangement of gates and partitions with relation to the chamber *n* and chamber C the operator is enabled to so control the heat of the furnace as to direct the entire heat of a furnace or furnaces upon any one part of the kiln, or he may distribute the heat of a furnace or furnaces, at his pleasure, through all parts of the kiln. The heat of the furnace enters chamber C, and passes from it into chamber *n*, and from it is distributed into the fire-flues *o* of the kiln.

Having thus described my improvement, what I claim as of my invention is—

1. The gates D and chamber *n*, in combination with the fire arches or flues *o* of the kiln and the chambers C B A of the furnace, substantially as herein described, and for the purpose set forth.

2. The movable partitions *e*, in combination with the gates D, chamber *n*, fire flues or arches *o*, and chambers C B A of the furnace, substantially as herein described, and for the purpose set forth.

W. S. COLWELL.

Witnesses:

JAMES J. JOHNSTON,
A. C. JOHNSTON.