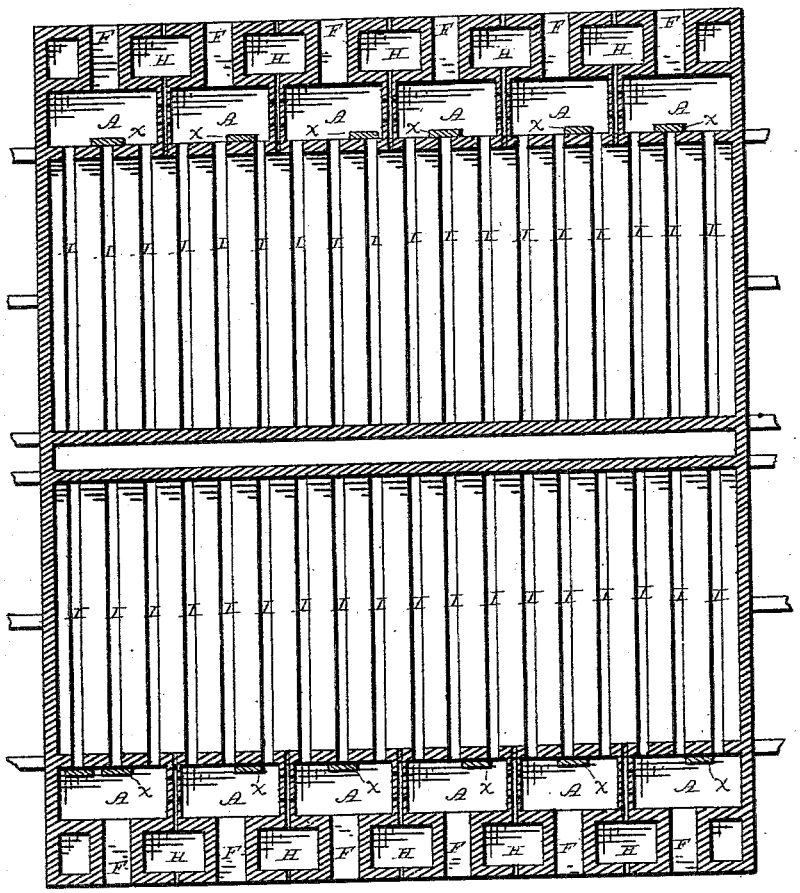
(No Model.)

G. D. WILGUS.

KILN FOR BURNING BRICKS, TILES, &c.

No. 303,198. Patented Aug. 5, 1884.

Fig. 1.



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UNITED STATES PATENT OFFICE.

GARRARD DAVIS WILGUS, OF LEXINGTON, KENTUCKY.

KILN FOR BURNING BRICKS, TILES, &c.

SPECIFICATION forming part of Letters Patent No. 303,198, dated August 5, 1884.

Application filed May 5, 1884. (No model.)

To all whom it may concern:

Be it known that I, G. D. WILGUS, of Lexington, in the county of Fayette and State of Kentucky, have invented certain new and useful Improvements in Kilns for Burning Bricks, Tiles, &c.; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawing, which forms part of this specification.

My invention relates to an improvement in kilns for burning bricks, tiles, &c.; and it consists in the combination of the furnace, the air-chambers connected therewith, and the eyes which extend through the brick, with the fresh-air flues which are placed between the furnaces, as will be more fully described hereinafter.

The object of my invention is to provide a kiln for burning brick, tile, and other such articles, in which each furnace is connected with an air-chamber, and each chamber fed with air which has been heated to a greater or less degree, and thus insure perfect combustion, thereby obtaining a greater heat from a less amount of fuel than can be done in kilns of the ordinary construction.

The accompanying drawing represents a horizontal section of a kiln embodying my invention.

F represents the furnaces, which are placed on opposite sides of the kiln, and which are separated from each other any desired distance by means of the chambers H, through which the air passes to the air-chambers for the purpose of becoming heated. The inner end of each furnace is connected with an air-chamber, A, which air-chambers may be entirely separated from each other by means of suitable perforated partitions, or all of them may be connected together, as may be seen fit. The products of combustion pass through the inner end of the furnaces directly into these air-chambers, where they are met by a suitable quantity of fresh air, which passes through the chambers H, and becomes heated to a greater or less degree in its passage through. This heated air mingles with the products of combustion and insures a more perfect combustion and a greater heat than can be produced if the hot air were not fed, as is here shown. Connected with each air-chamber A are a suitable number of eyes, I, which form the openings made through the bricks when packed in a kiln in the ordinary manner. Through the center of the kiln extends a larger passage or eye, for the purpose of insuring an equal distribution of the heat through the kiln. The furnaces and air-chambers are only made high enough to give space for firing, in the usual manner, and are arched over with brick and covered with earth, so as to retain the heat. The kiln may be made the usual height, or any height that may be preferred, and they are arched over with brick, and made self-supporting, or provided with a sheet-iron roof, which is covered with earth or ashes, so as to retain the heat. The smaller eyes I do not communicate with the cross central eye except through the small spaces usually left in setting brick in kilns for burning.

In order to regulate the distribution of the heat and cause it to be equal throughout the kiln, sliding doors X may be used in connection with the central eye alone, or with all of the eyes leading from the air-chamber, as may be preferred. In practice it will be found that the sliding door over the central eye will be sufficient. These doors will be operated by means of a poker directly through the furnace, and will consist of fire-stone or any similar material. When the doors are moved so as to close any one of the eyes, the heat will be forced through the other two.

Having thus described my invention, I claim—

1. The combination of the furnaces F, the hot-air chambers H, provided with perforations, the chambers A, and the perforated partitions which are placed between the chambers A and connected to the chambers H, substantially as shown.

2. In a kiln, the combination of the furnaces, the air-chambers connected with their rear ends, the hot-air chambers placed between the furnaces, and provided with perforations through which the air passes, the eyes which connect with the air-chambers, and the cross central eye, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

GARRARD DAVIS WILGUS.

Witnesses:

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