J. H. KELLEY.

Brick-Kiln.

No. 195,895. Patented Oct. 9, 1877.

Fig 1

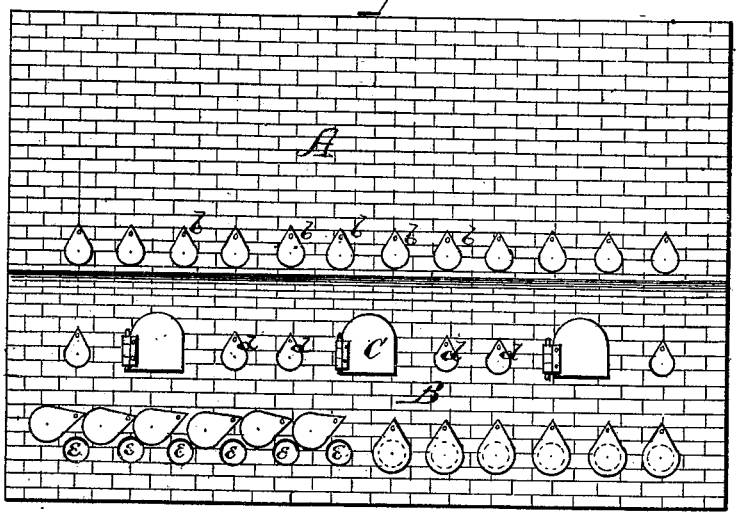

Fig 2

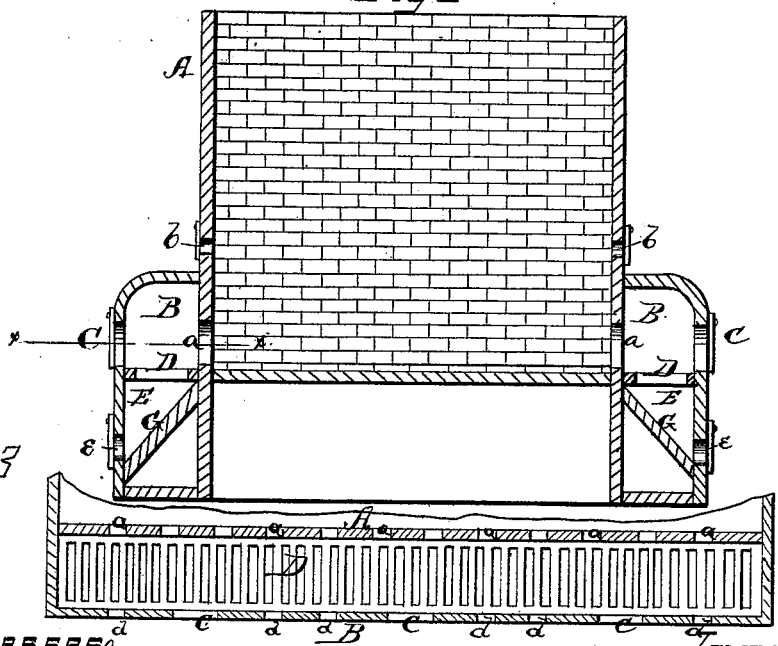

Fig 3

Witnesses

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UNITED STATES PATENT OFFICE.

JEHIEL H. KELLEY, OF MUNCIE, INDIANA.

IMPROVEMENT IN BRICK-KILNS.

Specification forming part of Letters Patent No. **195,895**, dated October 9, 1877; application filed February 22, 1877.

To all whom it may concern:

Be it known that I, JEHIEL H. KELLEY, of Muncie, in the county of Delaware and State of Indiana, have invented certain new and useful Improvements in Brick-Kilns; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

The nature of my invention consists in the construction and arrangement of a kiln for burning brick, lime, tiling, &c., as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a side elevation of my kiln. Fig. 2 is a transverse vertical section of the same. Fig. 3 is a horizontal section through one of the furnaces.

A represents the kiln proper, in which the articles to be burned are placed. This kiln may be made of any suitable dimensions, and is on the outside, along two opposite sides, provided with furnaces B B, extending the entire length of the kiln. Each furnace or fire-arch B communicates with the interior of the kiln A by a series of apertures, *a a*, corresponding in number with the arches of the kiln, and each furnace or fire-arch has a suitable number of fire-doors, C. In a twelve-arch kiln only three of these fire-doors on each side are needed. *d d* are suitable draft-openings into the fire-arch or furnace B, at suitable distances apart, and located between the fire-doors C, as well as near the ends of the furnace. Above each furnace is a series of draft-openings, *b*, leading into the kiln, these draft-openings corresponding in number and location with the arches *a a*, as shown. D is the grate of the furnace, under which is the ash-pit E. The bottom G of the ash-pit inclines outward and downward, thereby making the ash-pit self-cleaning, as the ashes will settle down and pass out through openings *e*, which also form draft-openings. The draft-openings *b*, *d*, and *e* are all provided with suitable doors or dampers for regulating the various drafts, as may be desired.

By this construction of the kiln the operator has no cold air to contend with, because the fire is all on the outside of the kiln in the fire-arches, and when the doors C are opened the air, rushing in, will all become heated before it enters the kiln. The operator can burn the furnaces on both sides at the same time, and not, as in ordinary kilns, first one side and then the other. There are no coals in the kiln to shell or damage the brick. It saves labor, ime, and fuel, and the improvement can be attached to any brick, tile, or lime kiln.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The combination of the kiln A, the exterior fire-arches B B, with openings *a* and fire-doors C, the ash-pit E, with inclined floor G, and the draft-openings *b d e*, all constructed and arranged substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

JEHIEL H. KELLEY.

Witnesses:

GEORGE R. GAMBLE,

ELIAS E. MATTHEWS.