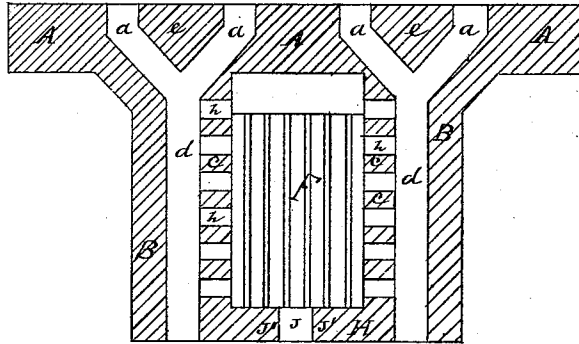


E. W. BINGHAM.
BRICK-KILN.

No. 186,706.

Patented Jan. 30, 1877.

Fig. 1



WITNESSES

William P. Ramhall
Alfred Hall

INVENTOR

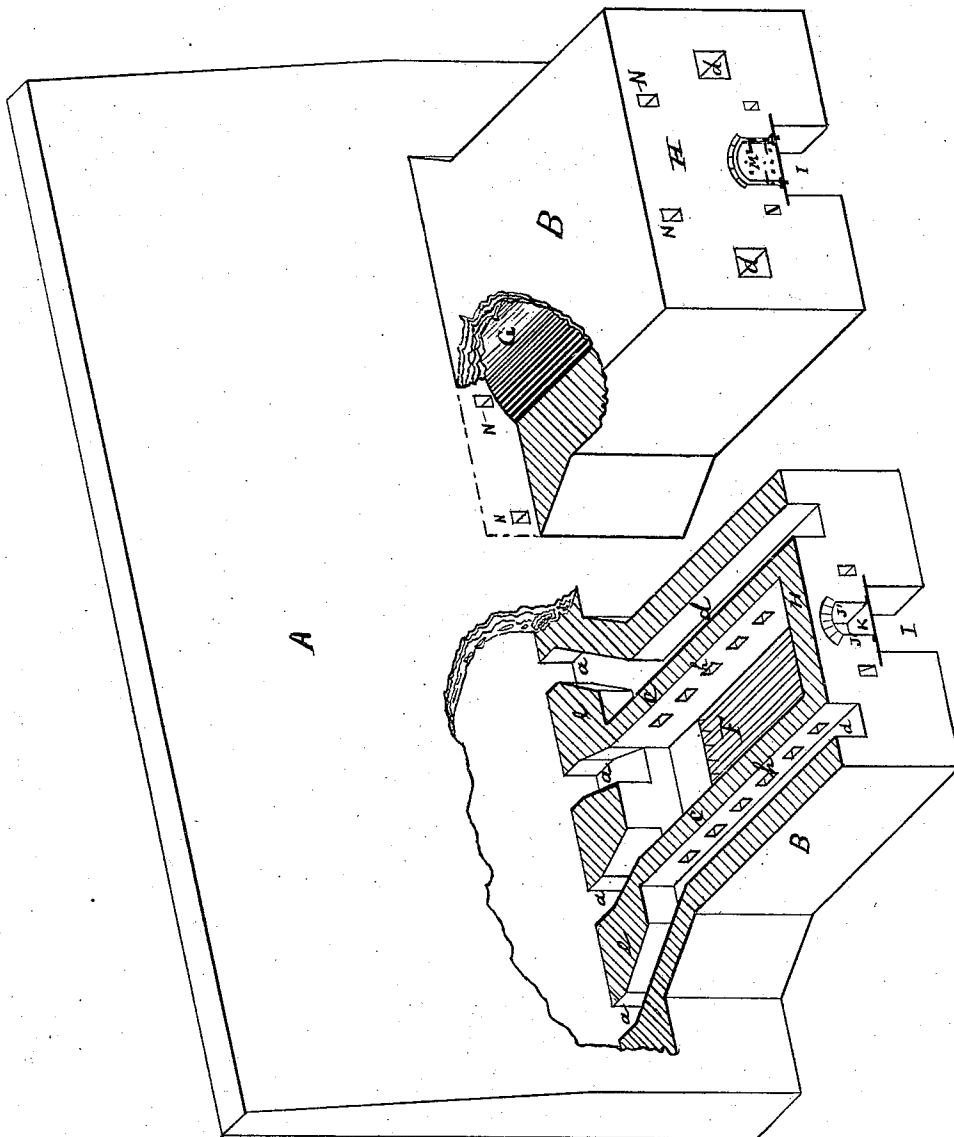
Ed. W. Bingham

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Fig 2.



WITNESSES

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G. Alfred Hall

INVENTOR

UNITED STATES PATENT OFFICE.

EDWARD W. BINGHAM, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN BRICK-KILNS.

Specification forming part of Letters Patent No. **186,706**, dated January 30, 1877; application filed December 11, 1876.

To all whom it may concern:

Be it known that I, EDWARD W. BINGHAM, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Brick-Kilns, which improvement is fully set forth in the following specification and accompanying drawings.

Figure 1 is a horizontal section through the middle of the furnace and kiln-wall eyes. Fig. 2 is a perspective partly-sectional view of the kiln, slightly modified from the sectional view, Fig. 1.

The object of my improvement in brick and tile kilns is to enable a furnace constructed against the exterior face of the side wall of the ordinary rectangular brick-kiln to be of small width and depth, and yet communicate with several separate kiln-arches, situated both to the rear and to either side of said furnace; to construct peep-holes in connection with a furnace built against the exterior face of said kiln-wall; and, finally, to construct the front of a furnace in a superior manner, all as hereinafter fully shown and described.

In the drawings, A is one of the side walls of the kiln. B is a furnace built against the exterior face of said kiln-wall. *cc* are the inner side walls of the furnace, and *hh* are perforations through these side walls, connecting the fire-chamber with the flue *d*. These side flues *d*—one on either side of the furnace-chamber—terminate in the rear against the pier *e* or solid portion of the kiln-wall, separating two kiln-wall eyes or arches, and are there brought into communication with said kiln-arches by bent kiln-wall eyes *a*. F represent the grates in the furnace-chamber, located a few inches lower than the openings *h*, so that the fuel may not choke them up. G is the arched top of the furnace-chamber, and rests upon the side walls *cc*. H is the front of the furnace, and has the usual doorway J above the grates, for fuel, and the larger doorway I below the grates, communicating with the ash-pit. N are straight peep-holes, which pass through the furnace-walls from the front above the arched or covered tops of the furnace-chamber and flues, and through the kiln-wall, and open into the kiln-arches immediately above the inner mouths of the kiln-wall eyes *a*, as

shown in Fig. 6, whereby an unaffected and reliable view is obtained throughout the length of every kiln-arch.

Heretofore, in kilns having furnaces built against their walls after this principle, it has been the custom to construct peep-holes so as to look through the furnace or some other chamber and on through the kiln-wall eye into the kiln-arch; but this plan is not always practicable, and does not give so reliable a prospect, because of the glare from the super-heated walls of said chamber or kiln-eye passages.

The draft out of the furnace into the several kiln-arches is to be regulated in any of the usual ways.

The object of this construction, therefore, is mainly to improve and cheapen the burning; and to enable a furnace built of advantageous size and proportions to communicate with several kiln-arches located to the rear and to either side of the furnace, and out of a direct line with said furnace-flues and chamber; and to enable the operator to readily inspect the condition and temperature of the kiln-arches in a superior manner, and without interference from the higher-heated furnace-chambers and kiln-wall eyes; and to furnish a superior pattern for the fronts of furnaces.

I do not herein claim any part of the door or door-frame described in this application, it being my intention to embrace said inventions in a future application.

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

1. The combination, with a furnace built against the exterior face of the kiln-wall, and communicating with several independent kiln-arches, through the bent kiln-wall eyes *a* of the straight peep-holes N, arranged substantially as shown and described.

2. The combination of the furnace-chamber F and flue *d*, having communicating passages with the furnace-chamber, and communicating with two or more separate kiln-arches through the bent kiln-wall eyes *a*, substantially as shown and described.

3. The combination, with a furnace built against the exterior face of the kiln-wall, and having the side flues *dd* and lateral passages

communicating therewith, of the bent eyes *a a*, whereby said furnace communicates with more than two separate kiln-arches, substantially as shown and described.

4. The combination, in the furnace B, of the flues *d d* abutting against the kiln-wall pier and the bent kiln-wall eyes *a a*, substantially as shown and described.

5. In a kiln having passages or eyes passing through its walls toward a furnace built against

the exterior side of said kiln-wall, the peep-holes N N, adapted to looking through the furnace and kiln walls into the kiln-arches set of green brick, substantially as shown and described.

EDWARD W. BINGHAM.

Witnesses:

WILLIAM L. BRAMHALL,
G. ALFRED HALL.