

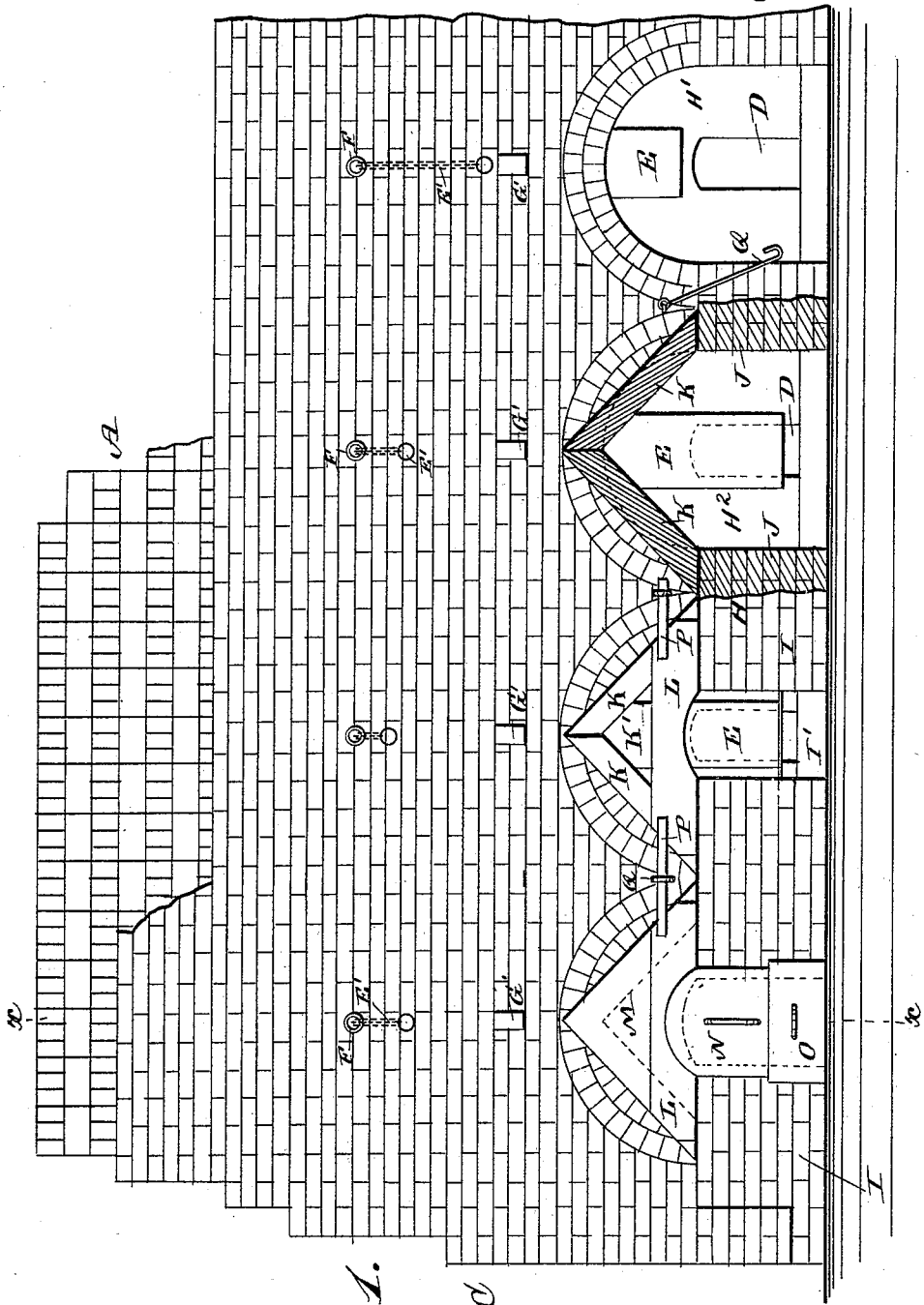
(No Model.)

2 Sheets—Sheet 1.

G. M. HARRIS.  
BRICK KILN.

No. 346,653.

Patented Aug. 3, 1886.



WITNESSES:

*Theo. G. Hooster.*  
*Co. Sedgwick*

*Fig. 1.*

INVENTOR:

*G. M. Harris*

BY

*Munn & Co.*

ATTORNEYS.

(No Model.)

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Fig. 3.

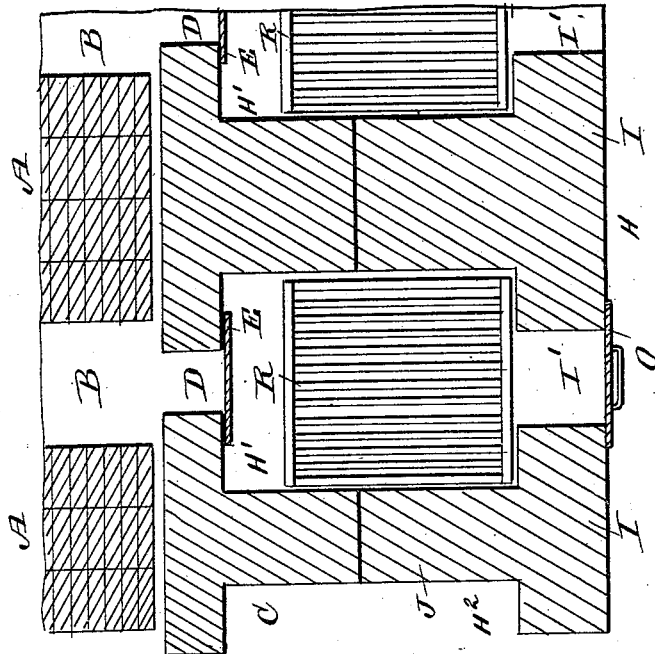
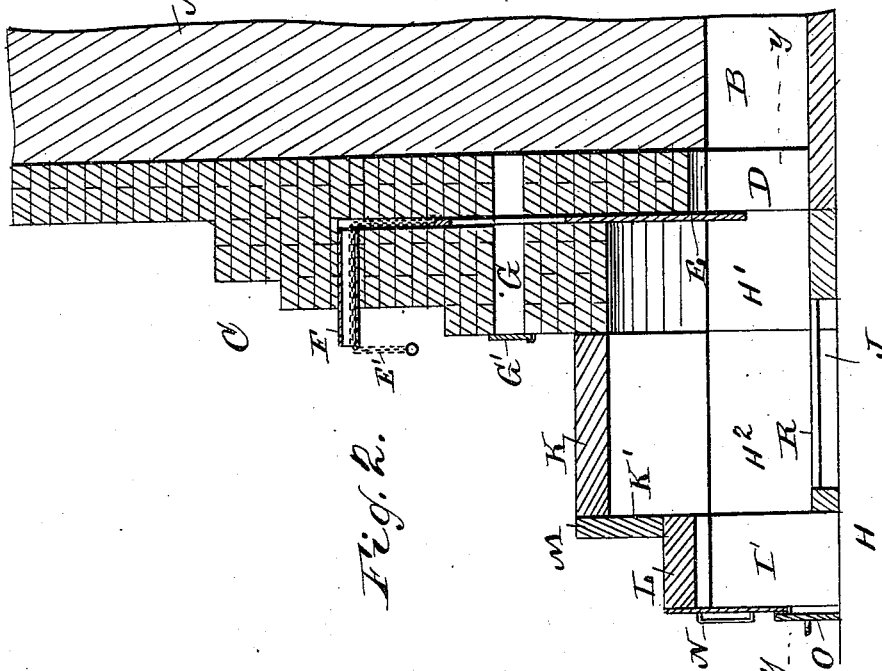


Fig. 2.



WITNESSES:

*Phoebe G. Hooster*  
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INVENTOR:

*G. M. Harris*

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# UNITED STATES PATENT OFFICE.

GEORGE MADISON HARRIS, OF PAWNEE CITY, NEBRASKA, ASSIGNOR, BY  
DIRECT AND MESNE ASSIGNMENTS, TO HIMSELF, JAMES G. MACCLAY,  
JR., AND WILLIAM H. HARRUM.

## BRICK-KILN.

SPECIFICATION forming part of Letters Patent No. 346,653, dated August 3, 1886.

Application filed October 14, 1885. Serial No. 179,861. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE MADISON HARRIS, of Pawnee City, in the county of Pawnee and State of Nebraska, have invented a new and Improved Brick-Kiln, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved brick-kiln heated by hot air, which is admitted to the kiln from the furnace by ducts or eyes and controlled and regulated by adjustable fire-dampers.

The invention consists of the combinations of parts, including their construction, substantially as hereinafter more fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a front elevation, partly in section, of my improved brick-kiln. Fig. 2 is a vertical cross-section of the same on the line *x x* of Fig. 1, and Fig. 3 is a horizontal section of the same on the line *y y* of Fig. 2.

The bricks, A, to be burned are set up in the usual manner, and form an air-passage, B, for every tier of bricks. In front of these bricks A, I place the clamp-wall C, which is provided with the elongated eyes or ducts D, each of which opens into a corresponding air-passage, B, of the bricks A. The eyes or ducts D can be opened or closed by the hot-air dampers E, placed in front of the ducts D and hung on chains E', which pass through tubes F, placed horizontally in the clamp-wall C, and extending to the front of the kiln.

Vertically above each of the ducts D is formed in the clamp-wall C a peep-hole, G, covered in front with a glass, G'.

The furnace H is formed partly in and in front of the clamp-wall C. The part H' in the clamp-wall C is arched, and forms a permanent part of the wall. The part H<sup>2</sup> of the furnace H consists of the front walls, I, and the partition-walls J, which are covered by the movable inclined slabs K, made of common brick-clay in suitable molds. The front walls, I, are provided with openings I', each of which is covered on top with a slab, L, of common brick-clay. The slab L and the slabs K form a triangular opening, K', which admits

cold air to the inside of the furnace H, and which opening can be closed by the cold-air damper M, resting on the top edge of the slab L.

The opening I' in the front wall, I, of the furnace H can be closed by the movable door N and the ash-pit door O.

The slabs K and L are held in place by the cross bar P, attached to the rod Q, secured to the clamp-wall C.

The furnace H is provided with a grate, R, of usual construction, which rests below the level of the kiln-floor.

The operation is as follows: The hot air generated in the furnace H passes through the ducts D into the passage B, and spreads from there to all parts of the kiln and dries and burns the bricks A. The amount of hot air entering the ducts D is regulated by the dampers E, which can be adjusted from the outside by means of the chains E'. The cold air is admitted through the opening K', formed by the slabs K and L, and the amount of cold air entering the furnace H can be regulated by the dampers M. The movable doors N and O permit a free access to the furnace to attend to the fire on the grate R. The slabs K and L can be moved from one kiln to another and used as often as desired, thereby avoiding the necessity of building a separate furnace, as has been heretofore done in setting up brick-kilns. The bricks A are set in tiers of three, four, or more bricks, according to circumstances, thereby increasing only the thickness of the partition-wall J, as shown in Fig. 3, the other parts remaining the same in size and shape.

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

1. In a brick-kiln, the clamp-wall C, having the duct D and the peep-hole G, in combination with the damper E, the chain E', and the tube F, substantially as shown and described.

2. In a brick-kiln, the clamp-wall C, having the duct D and the adjustable hot-air damper E, in combination with the furnace H, provided with the inclined slabs K, the slabs L, and the cold-air damper M, substantially as shown and described.

3. In a brick-kiln, the clamp-wall C, having the duct D, the adjustable hot-air damper E,

and the peep-hole G, in combination with the furnace H, provided with the slabs K and L, the cold-air damper M, and the movable doors N and O, substantially as shown and described.

5 4. In a brick-kiln, the furnace H, consisting of the part H', built permanently in the clamp-wall C, and the part H<sup>2</sup>, which is formed by the partition-walls J, the front wall, I, and the slabs K and L, substantially as shown and  
10 described.

5. In a brick-kiln, the furnace H, consisting of the parts H' and H<sup>2</sup>, the latter formed of the partition-walls J, the front wall, I, having

the opening I', and the slabs K and L, in combination with the cold-air damper M, the doors 15 N and O, and the grate R, substantially as shown and described.

6. In a brick-kiln, the furnace H, provided with the partition-walls J, the front walls, I, and the slabs K and L, in combination with 20 the cross-bar P and the rod Q, substantially as shown and described.

GEORGE MADISON HARRIS.

Witnesses:

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JOHN B. RAPER.