(No Model.)

J. O'BRIEN.

KILN FOR BURNING BRICK.

No. 315,822. Patented Apr. 14, 1885.

Fig. 1.

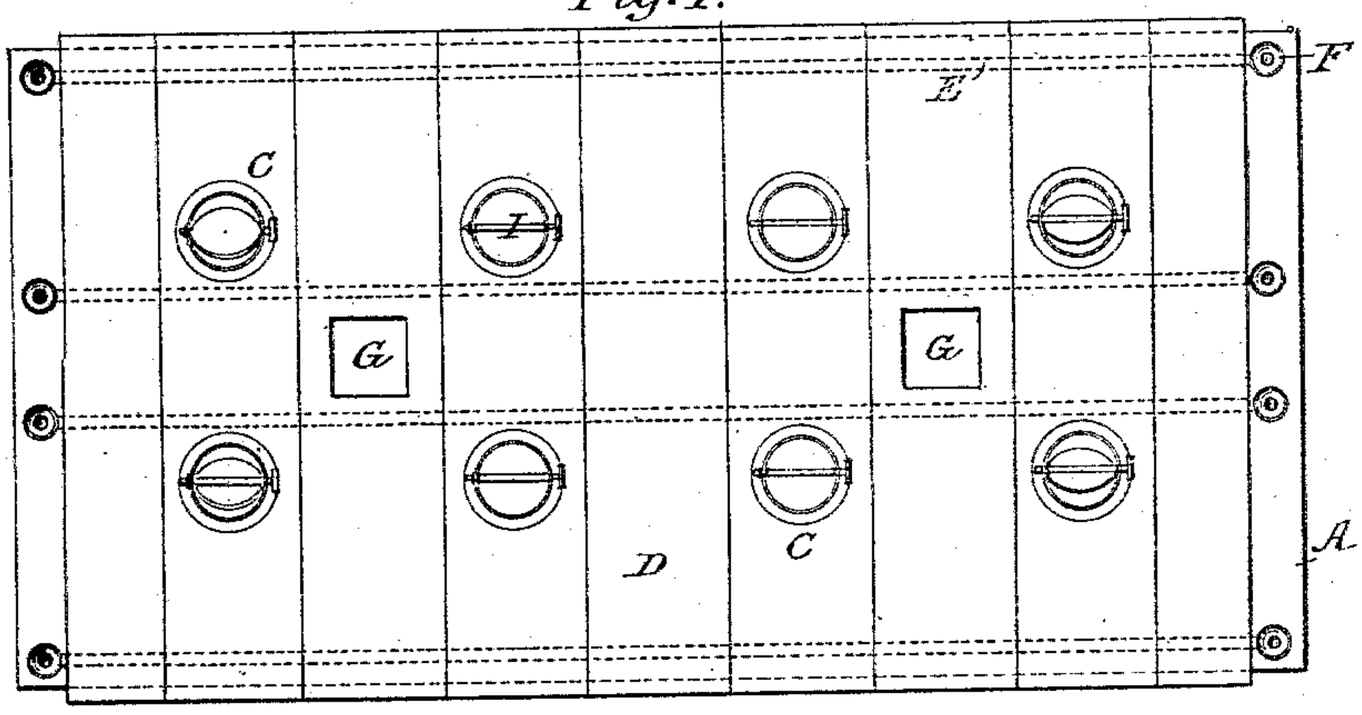


Fig. 2.

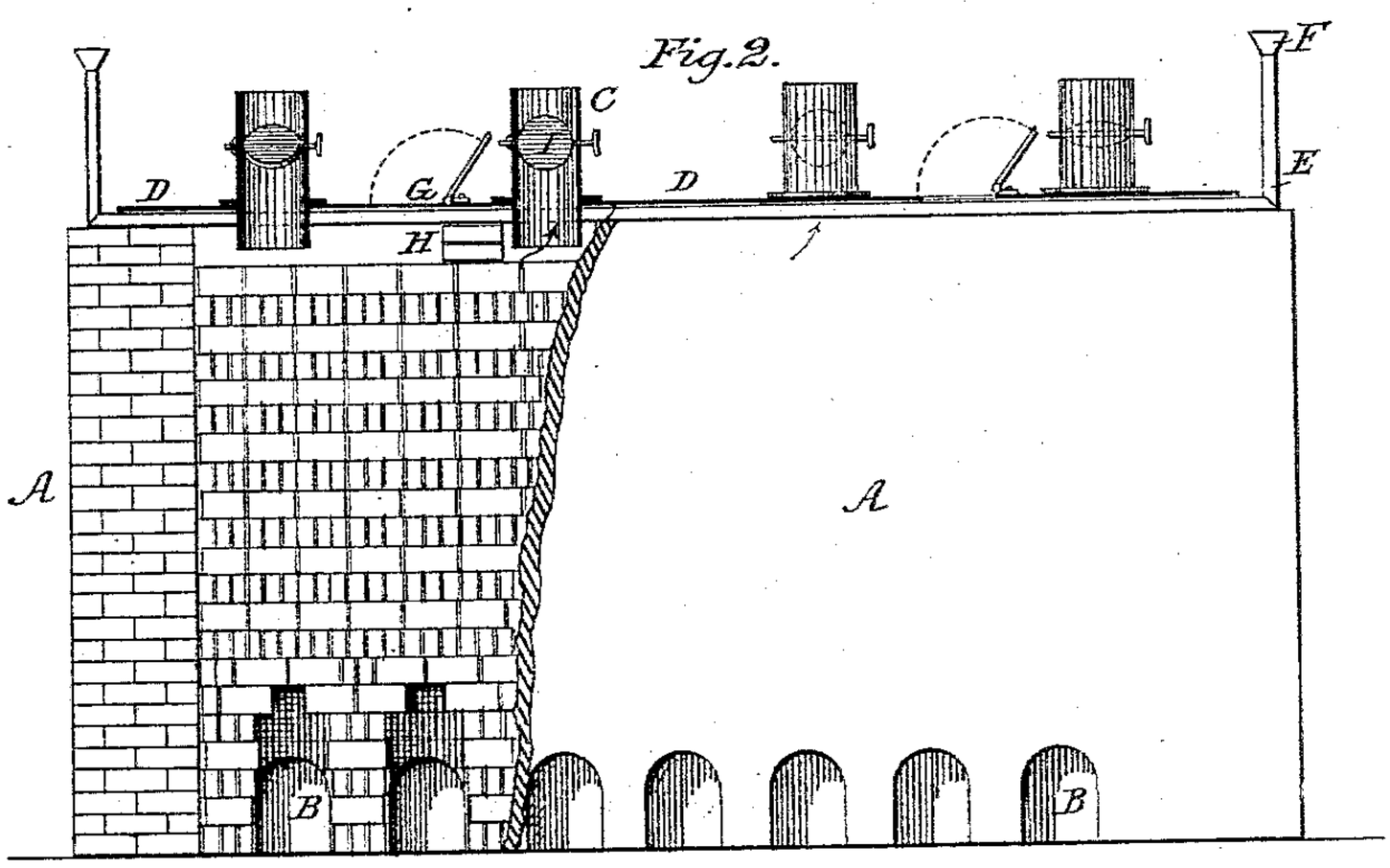
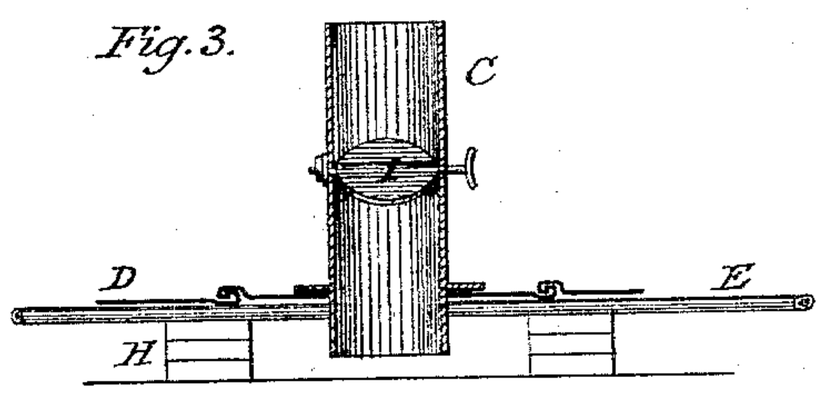


Fig. 3.



Witnesses.
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UNITED STATES PATENT OFFICE.

JOHN O'BRIEN, OF TURNER'S FALLS, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO DANIEL THOMAS, OF SAME PLACE.

KILN FOR BURNING BRICKS.

SPECIFICATION forming part of Letters Patent No. 315,822, dated April 14, 1885.

Application filed December 9, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOHN O'BRIEN, of Turner's Falls, in the county of Franklin and Commonwealth of Massachusetts, have invented a new and useful Improvement in Kilns for Burning Bricks, of which the following is a true and full specification.

My invention relates, principally, to the construction of the kiln and to the manner of securing it by a temporary covering, so as to insure a more perfect burning of the bricks.

As a general thing, kilns for burning bricks are constructed pretty much alike—that is, the sun-dried bricks are set up loosely over arches built to receive the fire, the heat from which passes up through the open bricks and out at the uncovered top, and the sides of the kiln are built up close and are daubed with clay to make them air-tight. The arches which run through the kiln are filled with dry wood and a fierce fire continued for several days. The top of the kiln being open, the smoke and heat rise with a strong draft, but not in any regular direction, often leading off diagonally in one or another direction, the consequence of which is that there are many places in the kiln which are not subjected to the degree of heat necessary to make hard bricks, and a greater or less number of soft or white bricks are left unburned, which are comparativly of small value. The draft, too, in a burning kiln is very much affected by the wind.

To obviate these difficulties and enable the burner to direct and control the draft uniformly through the kiln is the object which I accomplish by my invention..

In the drawings, Figure 1 is a plan or top view of the kiln, showing iron plates, pipes, flues, &c. Fig. 2 is an elevation of the kiln, partly in section. Fig. 3 is a detail showing pipe, flues, &c.

Similar reference-letters indicate like parts in all of the figures.

Referring to drawings, D are the metallic plates which cover the kiln. They are provided on their long edges with half-lock turns, by which they are united together, so that when stretched across the space inclosed by the walls of the kiln they form a continuous sheet, which may be readily and easily disconnected and taken off. The plates D, which compose the said covering, are supported between the main walls of the kiln by metal pipes E, which rest upon the said main walls and intermediate shallow walls or piers, H, the latter serving as intermediate bearings to prevent the pipes from sagging.

C are the flue-tops, formed of joints of pipe of galvanized iron or other suitable material, which are located at suitable points and inserted in the iron plates D. These pipes forming flues are provided with dampers I, which may be adjusted by the attendant to suit circumstances. When the covering is to be removed from the kiln, the flues are detached and laid aside. Two or more openings, G, are formed in the metal covering at suitable points for observation of the condition of the burning brick. These openings are provided with doors formed in any suitable manner, with slides preferably, so they may be opened or closed at will. The metal covering is to be placed over the burning kiln at any time after the steam or water smoke has disappeared. The iron pipes which form the direct support for the covering are to be filled with water, which will prevent them from warping or burning under the influence of the intense heat required while the brick are being burned. At the angles and other points on the main walls of the kiln, as shown in the drawings, the pipes E may be turned upward and terminate in funnels F, into which water may be poured to fill the said supporting-pipes. When convenient, the supporting-pipes may be supplied with water from a tank or other water-supply, in which case the said pipes must be provided at proper points with suitable cocks for turning on and cutting off the water.

It may be supposed that the sheet-iron forming the covering of the kiln from the intense heat would be warped and distorted and rendered useless; but this would not be the case, as I have found in practice.

By properly manipulating the dampers I in the flues the heat may be kept under complete control and directed to parts of the kiln where most needed.

In practice I have found that a kiln of brick with my arrangement as described may be more evenly and thoroughly burned in about half the time required while burning by the ordinary method.

I am aware that kilns covered by arches of bricks have been used, and make no claim to such; but I find by experience that the saving of time and fuel and the reduced number of soft bricks more than compensate for the cost of this covering, which two or three men can place in a couple of hours, while the iron can apparently be used for an indefinite number of kilns.

I claim—

1. In a kiln for burning brick, a temporary or removable covering of iron, having suitable openings for watching the burning, and suitable flues having dampers to control the draft.

2. The water-pipes E, provided for the support of the metal covering arranged upon the top of the kiln, as and for the purpose set forth.

3. The combination, with the temporary metal roof or covering, formed of strips or sheets joined together by half lock-joints, substantially as described, of the supporting-pipes adapted to be filled with water, as and for the purpose set forth.

JOHN O'BRIEN.

Witnesses:
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