

(No Model.)

J. H. BEIDLER.

BRICK KILN.

No. 278,080.

Patented May 22, 1883.

Fig. 1.

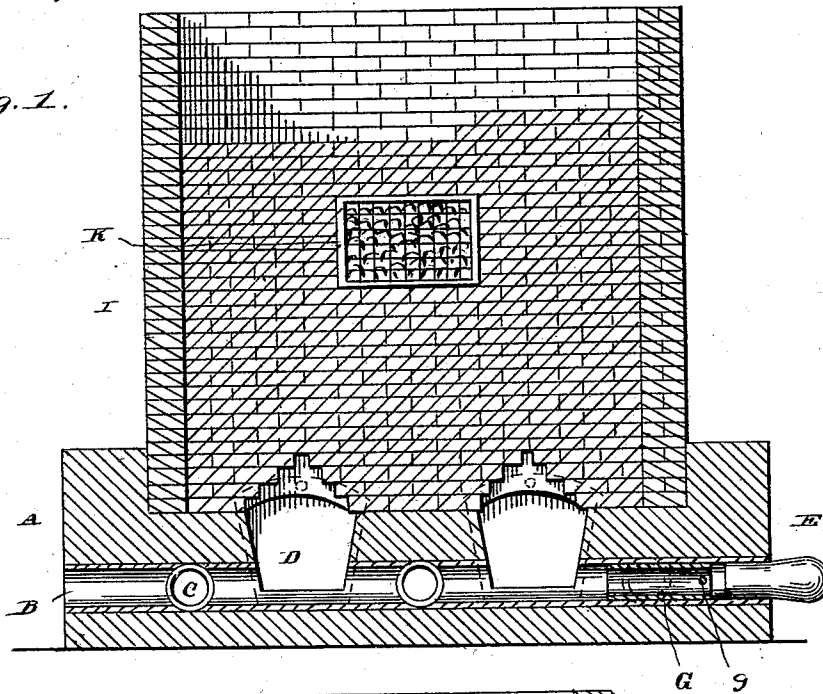
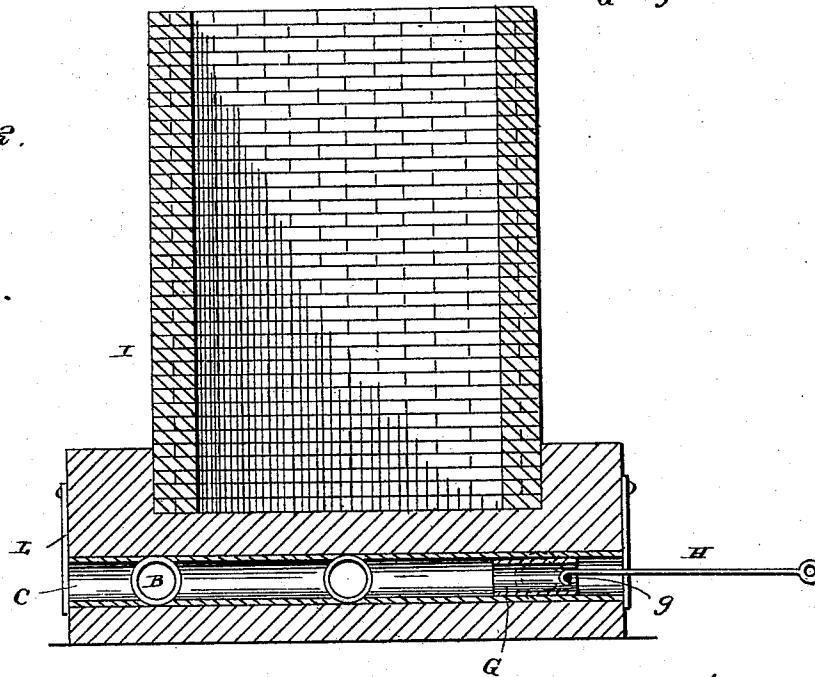


Fig. 2.



Witnesses.

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BRICK-KILN.

SPECIFICATION forming part of Letters Patent No. 278,080, dated May 22, 1883.

Application filed February 8, 1883. (No model.)

To all whom it may concern:

Be it known that I, JACOB H. BEIDLER, a citizen of the United States, residing at Mount Pulaski, in the county of Logan and State of Illinois, have invented certain new and useful Improvements in Brick-Kilns, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in brick-kilns, and has for its objects to provide, first, for introducing to the fire-arches atmospheric air in regulated quantities, whereby the proper amount of oxygen may be supplied in order to effect a thorough and perfect combustion of the fuel; secondly, to provide for maintaining an equal amount of heat throughout the entire kiln; and, thirdly, in supplying combustible material or fuel to the "load" or mass of brick being burned. These objects are accomplished by the means illustrated, the same consisting of forming the bed or foundation for the kiln of clay or cement, and in building up in the same a number of longitudinal and transverse air passages or conduits communicating with each other and with the fire-arches, and supplied with suitable devices for regulating the influx and the direction of the air. It further consists of a suitable crate or cage constructed of incombustible or fire-proof material and adapted to contain a quantity of coal and to be placed at any convenient point of the kiln, the load being built up around it.

In the accompanying drawings, forming a part of this specification, and on which like letters of reference indicate corresponding features, Figure 1 represents a longitudinal vertical section of my improved kiln; Fig. 2, a transverse vertical sectional view of the same.

In the drawings, the letter A indicates the basis or foundation of my improved kiln, the same being constructed of clay or cement, and the letter B indicates a series of longitudinal conduits or air-passages constructed of tubular tiles placed in the body of the base. Running transversely through the foundation A of the kiln is a series of air-conduits, C, formed of the same material and constructed in the same manner as that above described. This series of conduits is located below the level or plane of the bed of the kiln, and is so situated

as to lie between the fire-arches D, which latter are also formed in the base of the kiln.

The letter E indicates a plug or valve, which is adapted to fit in the conduits B and C, and by which the quantity of atmospheric air admitted to the fire-arches is regulated.

The letter G designates another valve, the same consisting of a short tubular section adapted to fit snugly within the conduits, and provided at any suitable point with a cross-rod, *g*, the latter serving to engage with a suitable rod, H, by means of which the said valve is moved along the conduit in such manner as to entirely or partially close the communication between the longitudinal and transverse conduits, the object of which is also to provide for regulating the influx of air.

The letter I indicates the walls of the kiln, the same being of the ordinary or any approved construction and built upon the foundation A, the latter being properly leveled off at a suitable distance below its surface for this purpose. Within these walls is built or arranged the load of bricks to be burned, the same being placed within the kiln in the ordinary manner.

In some instances, as will hereinafter appear, it is desirable to provide the kiln with fuel at one or more points in the load, and for this purpose I construct a cage or crate, preferably of iron, in the form of grating or cross-bars, within which is placed a quantity of fuel. The fire-arches are provided with doors L, by which they may be partially or wholly closed, according as circumstances may require.

I have ascertained that when the wind is blowing somewhat high the kiln on that side opposite to the point of the compass from which the wind is coming becomes relatively cooler than the diametrical side of the kiln. This frequently results in producing an inferior quality of brick, as those which occupy the portion of the kiln which becomes cooled by the wind, as above stated, do not receive sufficient burning, while those on the opposite side are apt to be overburned. To prevent this difficulty I have arranged conduits in such a manner that, no matter in what direction the wind is blowing, an increased amount of draft may be supplied to the fire-arches, and a greater degree of heat maintained for the purpose of making the fire hottest near the side of the kiln which is sub-

jected to the cooling action of the wind. The sliding valves G are arranged so as to cut off the draft and direct it to the desired end of the fire-arches.

5 In some sections of the country the wind is known to blow from one point for a considerable length of time, and when this is the case the kiln being loaded has placed within the load one or more of the fuel-crates K. This
10 fuel becomes ignited by reason of the accumulated heat, and the blaze penetrates the mass when the bricks have become somewhat contracted, and thus serves to keep up the additional amount of heat required to counteract
15 the cooling effects of the wind, this latter device being used only in extreme cases when the valve mechanism and conduits above alluded to are insufficient for this purpose.

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

1. In a brick-kiln, the foundation, constructed of clay or cement and provided with fire-arches having suitable doors, and a series of
25 longitudinal and transverse conduits arranged

at right angles with each other and communicating with the fire-arches, in combination with suitable valves whereby the draft may be wholly or partially cut off at one or more sides, so that the air may be fed from any quarter of
30 the compass, substantially as and for the purpose specified.

2. In a brick-kiln, the combination of the foundation, provided with fire-arches, and the series of air-conduits and regulating-valves
35 with the removable fuel-crates, substantially as shown and described.

3. The combination, with a brick-kiln, of one or more removable fuel-crates adapted to be placed in the load or between the bricks
40 being burned, whereby additional fuel and its resulting heat are supplied, as and in the manner set forth.

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

JACOB H. BEIDLER.

Witnesses:

JNO. W. SEYFER,

THOS. A. BEGGS.