

(No Model.)

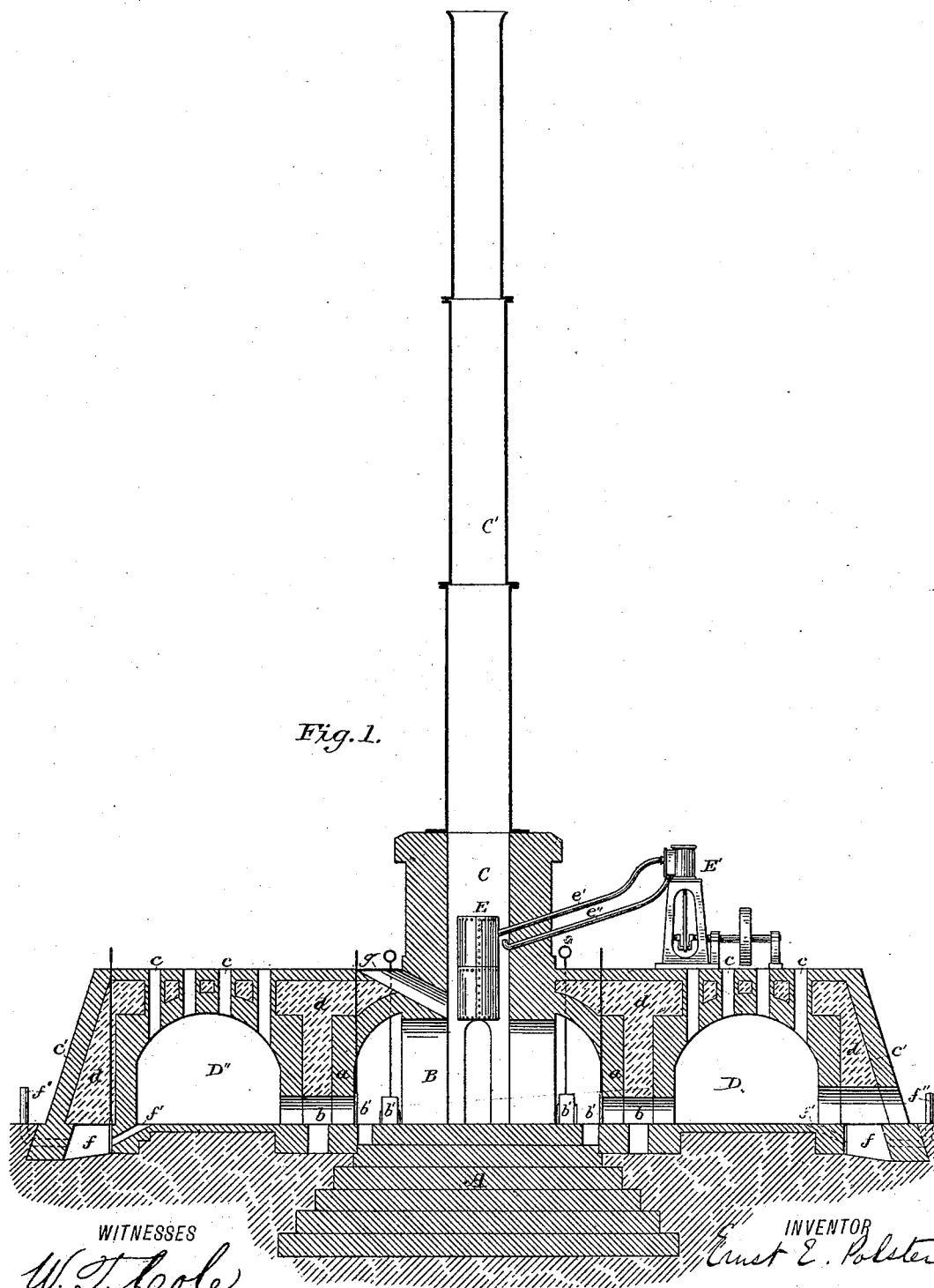
2 Sheets—Sheet 1.

E. E. POLSTER.

BRICK KILN.

No. 264,334.

Patented Sept. 12, 1882.



WITNESSES

W. T. Cole.  
Geo. Bacon

INVENTOR

Ernest E. Polster,

By his Attorneys,

W. J. Thomas.

(No Model.)

2 Sheets—Sheet 2.

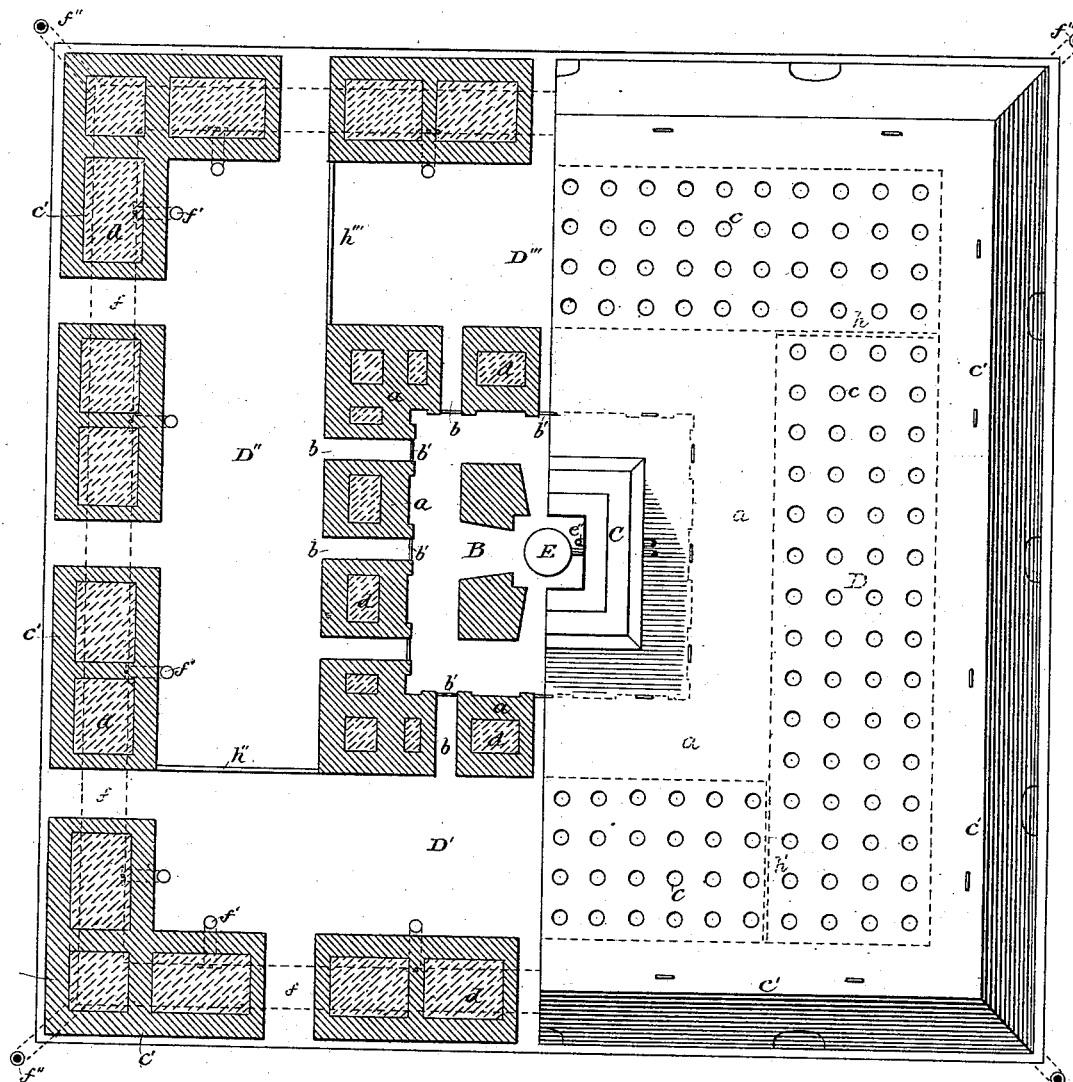
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Fig. 2.



WITNESSES  
*W. J. Cole*  
*Levi Bacon*

INVENTOR  
*Eust. E. Polster,*  
By his Attorneys  
*W. J. Howard*

# UNITED STATES PATENT OFFICE.

ERNST E. POLSTER, OF BALTIMORE, MARYLAND, ASSIGNOR OF ONE-HALF  
TO GEORGE W. FRANK, OF SAME PLACE.

## BRICK-KILN.

SPECIFICATION forming part of Letters Patent No. 264,334, dated September 12, 1882.

Application filed March 4, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, ERNST E. POLSTER, a subject of the Emperor of Germany, residing at Baltimore, in the State of Maryland, have  
5 invented certain new and useful Improvements in Brick-Kilns; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it ap-  
10 pertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to progressive brick-  
15 kilns; or such as are provided with a series of furnaces which are used successively or progressively in the operation of burning brick.

The invention relates more particularly to the construction of the furnaces and channels  
20 or flues connected therewith, whereby all dampness is extracted from the brick and conveyed to the atmosphere. It also relates to the use, in connection with the kiln, of a steam-generator inclosed by the smoke-stack, which gen-  
25 erator is heated by the products of combustion escaping into the stack, this steam-generator being used in connection with an engine for driving machinery appertaining to the brick-  
yard.

30 The invention relates, further, to other details of construction and combinations of parts, as hereinafter described.

In the accompanying drawings, Figure 1 is a vertical longitudinal section of my invention.

35 Fig. 2 is a plan, partly in section, of the same. Similar letters of reference indicate similar parts in both views.

A is a central brick structure, serving as the foundation for the stack and central portion of  
40 the kiln.

B is a chamber with arched roof, situated over the structure A, and which communicates with the brick-stack C. The walls of the chamber B (represented by *a*) are pierced by chan-  
45 nels *b*, which lead to furnaces D D' D'' D'''. These furnaces are also provided with arched roofs, and, unless partitioned off as hereinafter mentioned, form together a continuous passage or chamber. The roofs are provided with fuel-  
50 apertures *c*. The outer walls are inclined in-

ward and represented by *c'*, these walls, together with the walls *a*, being double, having spaces filled in with earth *d* or other substance. A vapor-channel, *f*, is placed at the base of the  
outer wall, *c'*, which channel communicates, by  
55 means of passages *f'*, with the interior of the furnaces.

E represents a steam boiler or generator, which is suspended within the brick-stack C.

E' is a steam-engine, supplied with steam  
60 through the pipe *e'* from the generator, and exhausting through the pipe *e''* into the stack.

C' is a sheet-iron extension of the stack, which may reach to any desired height, the  
sheet stack being made in sections for purposes  
65 of removal when the kiln is not in use.

The operation of the kiln is as follows: The green brick are piled within the four furnaces D, D', D'', and D''' in such manner as to permit the free passage of fire through or around  
70 them. The four furnaces are separated from each other by means of asbestos or other fire-proof partitions, (shown in dotted lines by *h*, *h'*, *h''*, and *h'''*.) Fire is kindled in one of the furnaces—say D—which is then supplied  
75 with pulverized coal dropped through the apertures *c*. The dampers *b'* being elevated, smoke and the products of combustion pass through the channels *b* to the inner chamber, B, around the steam-generator E, and up  
80 through the sections of the stack C C' to the open air. Dampness from the brick passes in the form of vapor through the channels *f'* into the vapor-channel *f*, thence through the  
vapor-pipes *f''* to the open air. The asbestos  
85 partition *h'* may then be removed and the flame allowed to enter the furnace D', to which pulverized fuel is supplied through the apertures *c*, as before. When the fire has attained full  
90 headway in the furnace D' the partition *h'* may be replaced and the burnt brick withdrawn from the furnace D and green brick substituted therefor. The operation then continues, as  
described, with the furnaces D'' and D''', the  
95 work being continuous—that is to say, the burning of the brick, the removal of burnt brick, and the piling of green brick continuing without interruption. It is to be understood that the dampers closing the connection be-  
100 tween the chamber B and the furnaces, as also

the dampers closing the opening between the furnaces and the vapor-channel *f*, are to be closed as soon as the burning in the furnaces has been discontinued and the corresponding dampers of the furnaces to which the fuel is to be admitted lifted. The vapor-channel *f* carries off all moisture and dampness from the brick, and the work of drying is thereby greatly facilitated.

When it is desired to use the steam-engine without the kiln the fuel to generate steam in the boiler is inserted through the opening *g* in the roof of the kiln, the fire being held upon a suitable grate within the chamber B.

The interior of the different parts of the kiln is reached through suitable man-holes provided for the purpose. The roof of the furnaces may, if desired, be made in removable sections for this purpose.

I am aware of Patent No. 158,085, to F. E. Hoffmann, dated December 22, 1874, and disclaim the construction therein described; but,

Having described my invention, I claim—

1. The combination, in a brick-kiln, of a series of furnaces, a stack, and a vapor-channel having outlets to the open air, with flues effecting communication between the furnaces and stack and furnaces and vapor-channel, respectively, substantially as set forth.

2. The combination, with a series of furnaces, a stack, and a vapor-channel having outlets to the open air, of flues and dampers,

constructed and operating substantially as set forth.

3. The combination, in a brick-kiln, of a series of furnaces, an inner chamber, a stack, flues effecting communication between the furnaces and chamber, and a steam-generator suspended within the stack, substantially as set forth.

4. The combination, in a brick-kiln, of a series of furnaces, a stack, a vapor-channel, and flues and dampers, constructed and arranged substantially as described, with a steam-generator suspended within the stack, a steam-engine, and connections, as set forth.

5. A series of furnaces adapted to be separated by partitions and having their roofs pierced with fuel-openings, combined with a stack, a vapor-channel having outlets to the open air, and flues and dampers, constructed and operated substantially as set forth.

6. The combination, in a brick-kiln, of the stack C and steam-generator E with the fire-chamber B, provided with the fuel-opening *g*, piercing the roof of the kiln and leading under the generator, substantially as set forth.

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

ERNST EDUARD POLSTER.

Witnesses:

D. H. ARTHUR,  
THOMAS LAMPSON.